INDEPENDENT INQUIRY INTO THE ENVIRONMENT PROTECTION AUTHORITY

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FOREWORD

The Environment Protection Authority is an important institution to Victoria and one that Victorians value highly and trust. It is a part of the whole of government system of environment protection.

Its work over the past 45 years has contributed to Victoria's much envied liveability, prosperity and wellbeing. Many of us take for granted clean air and water, the diversity of our urban and regional environments, our clean green agricultural produce, the safe disposal of waste and protection from pollution. We expect these to always be there.

Yet it is not enough to rely on past achievements nor be complacent. The focus and framing of this inquiry was firmly on the future. The EPA has a critical role to play as we respond to the global and natural forces which are creating opportunities and presenting real challenges for Victoria.

A level of pollution is a necessary byproduct of many otherwise socially and economically productive and beneficial activities. A level of regulation is needed to keep it within acceptable limits and managed by safe practices.

The EPA can and must be influential in playing its role as both protector and regulator to contribute to a healthy environment that is fundamental to Victoria's future prosperity and liveability, the health and wellbeing of our community, our economic growth and competitive advantage.

Our vision for the EPA is for it to proactively protect human health and the environment by reducing the harmful effects of pollution and waste. Significantly, this reaffirms the intent and focus on protecting human health established for the EPA on its inception in 1971.

This vision is underpinned by a philosophy of prevention and improvement. How the EPA achieves this will necessarily evolve and respond to changes in our understanding of existing and emerging risks, and improvements in our ability to mitigate these.

Our ambition is for the EPA to be a modern, agile regulator, whose expertise is sought to inform the strategic decisions that will shape our state, our economy and our communities. It must be 'at the table' when key decisions are made and demonstrate mature judgement through its advice and interventions. It must contribute to achieving equitable environmental outcomes for Victorians, but cannot do this alone, requiring the support of a whole of government environmental justice framework to deliver maximum benefit.

The EPA's scientific expertise distinguishes it from other regulators. It must use this strength to build understanding of the risk posed by new pollutants, to advise and inform government, business and communities as they balance competing demands and seek to respond to increasingly complex problems and past legacies.

Beyond the EPA, we are all protectors of the environment in which we work, live and play and we each must play a role. In recognition of our shared responsibility, we recommend the introduction of a general duty as the cornerstone of reform.

It is a powerful tool and proven way to shift the EPA's regulatory focus squarely onto prevention. To be effective the EPA must be focused on preventive action to identify, educate and work with others to reduce the risk of harms before they occur and improve outcomes over time.

To achieve this requires change and leadership. The EPA needs modern legislation that provides the clarity of purpose, tools, authority and contemporary governance arrangements, complemented with the necessary capabilities and resources, to support it to be a confident regulator that continually strives for better practice. It must enhance its scientific and technical capability, embrace technology, use all the tools in its kit and be willing to act decisively.

It has been our privilege to undertake this inquiry over the past 10 months. It would not have been possible without the support and assistance of many.

We met many passionate people throughout Victoria who welcomed the inquiry process and who, in good faith, placed their trust in us. They shared their insights and concerns, and challenged and inspired us. As we travelled around the state, we saw and heard many things that made us appreciate the complex operating environment in which the EPA must work. Thank you to all who so generously participated in and contributed to our inquiry.

Thank you to the EPA Chairman, advisory board, management and staff for their openness and willingness to engage as we challenged ideas. We also appreciated their assistance with organising the site visits which were invaluable.

Our sincere thanks to the inquiry team. The Secretariat director, Sarah Stephen, brought her knowledge, experience, and commitment as we navigated our complex task. The secretariat team and our advisors supported us with their expertise, professionalism and hard work.

We are optimistic for the future of the EPA. It is staffed by capable people with a strong sense of purpose and commitment to achieve the EPA's mission. The transition will be energising and challenging, and the organisation must continue to adapt and evolve. We believe our recommendations provide the foundations for the future: for a successful and highly respected EPA.

It is now for the Victorian Government and the EPA itself to act decisively to bring this vision to life in order to realise the potential of the EPA and to build on the desire and momentum for change that was so evident during this inquiry.

We commend this report to the Minister for Environment, Climate Change and Water and the people of Victoria.

Penny Armytage
Chair

Jane Brockington
Deputy Chair

Janice van Reyk
Member

EXECUTIVE SUMMARY

> *The most alarming of all man's assaults upon the environment is the contamination of air, earth, rivers, and sea with dangerous and even lethal materials.* Rachel Carson (1962, *Silent Spring)*

The EPA – from then to now

Victoria's Environment Protection Authority began operating in 1971. It was the first EPA in Australia and the second in the world.

Creating this new organisation was a bold step, taken to tackle the growing environmental consequences of Victoria's industrialisation. Pollution and waste impacts that were once considered inconsequential or inconvenient were now seen as unacceptable. The Victorian community began to understand the dangerous, and often long lasting, negative impacts of pollution and waste on health and the environment.

> *Another reason for this legislation is the rapidly increasing volume of waste entering the environment from our growing society and the highly complex problems resulting from it. It is abundantly clear that we place State government in a better organisational position if we are to cope with the problems which are certainly developing.* (Second reading speech for the Environment Protection Bill 1970[1])

From its inception, the EPA has played an important role in mitigating the effects of the worst forms of air, water and land pollution. Today Victorians experience many of the benefits from these efforts – with cleaner air to breathe, and environments in which to live and work, providing a much-envied liveability. The EPA's work – to control pollution, increase awareness and support better practices – reduces impacts today and also means that a better legacy is passed on to future generations.

The world has changed significantly over the past 45 years. So too, has the EPA, and its governing legislation, the *Environment Protection Act 1970* (EP Act), has been extended and adapted over time. The focus remains on managing pollution and waste but the problems and the demands on the EPA continue to change.

But, what about tomorrow? What environmental challenges will arise? What does the environment protection regulator need to be and do? What will the community expect? What powers, tools and resources will the regulator need to best serve and protect the next generation of Victorians and beyond?

Our inquiry

These are the core questions we explored during the 10 months of our inquiry. The Minister for Environment, Climate Change and Water asked us to examine and advise on the future of the EPA – what it will need to address both present and future environmental risks.

We were asked to consider: the EPA's roles relating to public health, environment protection and the regulation of greenhouse gas emissions; the appropriateness of its governance structures and resourcing; the scope and adequacy of its powers; and its role in environmental justice.

Our terms of reference also asked us to investigate Victorians' expectations of the EPA. The findings draw on the insights of the Victorian public, interest groups, industry, scientists, local government, other government partners and regulators, and a range of expert analysts and academics. We collected their views through an extensive program of consultation, including via stakeholder roundtables, community forums in 10 regional and 7 metropolitan locations, site visits around the state, direct meetings with state and local government officeholders, community representatives and industry leaders, and more than 200 written submissions. We also commissioned expert advice including independent social research[2] to gauge community attitudes.

Our findings and recommendations are presented in this report in four parts:

- Part A details the changing context of environmental challenges and of community expectations.
- Part B focuses on the purpose of the EPA, and what it should be doing.
- Part C examines how the EPA performs its functions, and the powers and tools it needs.
- Part D identifies the governance and institutional arrangements and the expertise and other capabilities that the EPA will need to fulfil its mandate.

Part A: Background and context

Trends and emerging challenges

> *The expected population and economic growth, pollution, food supply, rapid urbanisation and the emergence of new energy resources (as well as climate change) and adapting to a future which is uncertain, will challenge our existing strategies that we have developed to manage impacts on the environment and human health and wellbeing.* (Arthur Tsekouras submission, p. 2)

We first identified the major trends that will affect the EPA's role and activities in managing pollution and waste risks to human health and the environment. Four trends stand out:

- the changing economy
- population growth and urbanisation
- the changing environment
- technological change.

Since 1971 Victoria's economy has changed dramatically from being Australia's leading manufacturing base to being largely services-based, albeit maintaining a sophisticated industrial niche (including medical technologies, pharmaceuticals and new energy). The expansion of the food and fibre sectors, with increasing scale, intensification and industrial processing, has complex environmental implications, both in the short and longer term.

In 1970, Victoria's population was 3.4 million.[3] Now, Victoria's population is projected to rise from approximately 5.8 million in 2015[4] to 10 million by 2051.[5] Melbourne's population was 2.7 million in 1973.[6] Melbourne's population is expected to increase from 4.4 million in 2015 to 7.7 million in 2051.[7] This growth is having profound impacts – denser and closer living, increasing waste, increasing traffic, overburdened infrastructure, declining air quality, exposure to legacy contamination and the erosion of the buffers that once insulated residential and commercial zones from industrial and agricultural smells, noise, traffic and pollution. The environmental challenges are becoming more complex and pressing, and require more sophisticated responses.

There are growing pressures on Victoria's landscape, waterways and air from population growth, more intense activity and climate change. *The State of the Environment Report 2013* determined that Victoria's environment was deteriorating across most indicators.[8]

Looming over everything is climate change, recognised as the defining environmental challenge of the 21st century. At its core, it is a pollution problem, the consequence of rising greenhouse gas emissions from human activity.

Responsibility for dealing with the effects of our changing climate – including more powerful and frequent extreme weather events – weighs heavily on state agencies, including the EPA. The 2014 Hazelwood mine fire in the Latrobe Valley highlighted how extreme events of any form (fire, flood, heat, drought or storms) can create acute difficulties for communities and industry, and pressures on state agencies, in particular, emergency services. Emergency management is now a major and growing activity for state agencies, requiring new skills and tools for prevention, response and recovery, including the swift deployment of authoritative advice.

Technology has delivered new insights, providing data and digital tools to track key environmental indicators and inform timely, collaborative action by agencies. And technology means greatly enhanced capability to anticipate, prevent and mitigate risks. At the same time, some old hazards – like asbestos – will remain with us for decades, despite technological advances. Innovation has also created new problems such as e-waste, the impacts of intensive agriculture and the unknowns of emerging nanotechnology and coal seam gas extraction.

The traffic of the digital economy has transformed business and it has also heightened community expectations of what information a government agency like the EPA should share and the services it should provide. Community attitudes have similarly changed, with increasing recognition of principles of environmental justice – the notion that the burdens of environmental pollution should be fairly distributed, and that all citizens should have access to the public health benefits of a clean environment.

The challenges facing the EPA in 2016 and beyond may be less visible than those it dealt with in 1971, but they are no less dangerous, and are often more complex to track, isolate and contain.

What we heard from the community

To understand what the EPA of the future should be, we first asked Victorians. We heard many views – from the general public, the engaged community, business, professionals and academics – reflecting the different perspectives and interests of the EPA's stakeholders.

Universally, and unequivocally, Victorians told us that the EPA is important and that they want an EPA that protects their health.

The social research conducted for the inquiry revealed that Victorians '… feel strongly that the environment should be actively protected and that government should take the lead in that endeavour'[9]. Businesses are not always trusted to do the right thing, and Victorians therefore expect government to act to protect their health and amenity, and the environment. Many Victorians also recognise the strong links between the environment and 'liveability', and between the environment and health (see figure 3.2, chapter 3).

Some sectors of the community also want the EPA to champion and advocate on environmental issues. Others prefer that it focus on the health impacts of noise, odour and dust, fearing that these core issues might be overlooked in the pursuit of more ambitious agendas.

Many submissions affirmed the value of the EPA in strong terms. For example:

> *The EPA plays an incredibly important role for Victorians in helping to keep our environment clean. The value of this cannot be understated.* (Centre for Aquatic Pollution Identification and Management submission, p. 2)

There were also negative views of the EPA's performance and, while this inquiry was not a performance review of the agency, there are lessons to be learned from these observations. Overall, Victorians want the EPA to be a strong, independent environmental regulator that keeps them safe from harm. They want the EPA to have capacity to defend their health and way of life against those whose activities might put it at risk. Expert observers are unanimous, however, that the EPA simply cannot meet these expectations while it is 'hobbled' by the present legislation. The EP Act is long overdue for 'drastic overhaul' and modernisation.[10]

Stakeholders also want an EPA with strong scientific and technical capabilities. The EPA must have scientific credibility, with suitably qualified personnel and high quality hardware enabling it to monitor the health of the environment and to understand risks to human health. The EPA must have the capability and the authority to guide and advise businesses on their pollution and waste, and to provide that counsel fairly, impartially and transparently. Victorians also want a local presence, in rural, regional and metropolitan areas.

While there was substantial consensus on lofty aspirations for the EPA, unsurprisingly there were widely diverse views on what its job description should be, how it should go about its work and how effectively it has operated to date.

Some want an EPA that will take stronger, faster action against environmental offences and press for heavier penalties on the perpetrators. Others want the EPA of the future to nudge industry more gently into compliance. There were visible tensions in the business and industrial sphere between those who recognise the need for effective regulatory oversight and those who oppose any increase in regulation. Some argued that businesses experiencing problems should be able to contact the EPA for advice without fear of penalty. Others in the business sector argued for a more level playing field, with a broader and more consistent application of the rules to all.

Many felt the EPA should focus more on the core aim of preventing harm to public health, quality of life and the environment.

Some were frustrated about perceived 'buck passing' between the EPA and other government organisations, including on issues such as noise complaints. We heard criticisms of the EPA, or 'someone', for not stepping up to take charge. But in delivering this critique, many also recognised that the EPA's performance was hampered by a lack of resources.

> *The EPA has a number of technically strong staff but is under resourced.* (Australian Contaminated Land Consultants Association submission, p. 10)

We concluded that fundamental changes are needed so the EPA can address the challenges of the future and meet community, industry and government expectations.

Part B: What should the EPA be doing?

> *Victoria must build an EPA which is effective, far-reaching, and credible, to serve as a model which other states can emulate. Health must be integral in these considerations since any project that has environmental impact also poses a potential human health risk.* (Doctors for the Environment Australia submission, p. 3)

> *The EPA requires the support of sound scientific intelligence and continual research in order to be able to set realistic and appropriate performance standards for industry and diffuse pollution sources.* (Coliban Water submission, p. 2)

> *A major component of EPA's effectiveness (or otherwise) comes down to community and industry knowing what the EPA's role is, when to call them, and what to expect when EPA arrives.* (Community and Public Sector Union Victoria submission, p. 31)

The community recognises that a healthy environment is vital for the safety and wellbeing of individuals and families. It is also vital for Victoria's future prosperity. Environmental health is the foundation of liveability, productive natural resources and tourism.

Based on what we heard and learned, we recommend strengthening the EPA's focus on protecting public health and anticipating and preventing harms.

Why we need environmental regulation

The community expects government to set a high priority on public health and safety, and to address environmental problems and market failures to promote other social objectives. And all sections of the community understand, and accept, that environmental regulation is essential to prevent harms from pollution and waste.

What we need is an environmental regulator that is proactive and acts strategically in identifying and mitigating environmental risks, always mindful of the community's social and economic objectives and the need to minimise the regulatory burden for industry.

Clarifying the EPA's objective, principles and functions

Achieving this requires an updated, expanded, well-defined legislative framework. We recommend a separate EPA (Establishment) Act that should include: a clearly-defined objective for the EPA; clear and workable decision making principles; reframed functions focused on preventing pollution and waste impacts; and new governance arrangements. Legislated functions will underwrite the transformation required in the EPA's approach, operations and culture.

A clear objective that specifies the protection of human health – and the environment – by reducing the harmful effects of pollution and waste is vital to define the EPA's scope of activities. Its task is best described as that of harm reduction. Human health and the environment are, obviously, interrelated. They must be the focus of EPA's protective responsibility. This aligns with community expectations. It is also an affirmation of the '… paramount obligation of the State to protect human health'.[11]

To help the EPA achieve this objective, we propose seven decision making principles. The EPA must consider economic, social and environmental factors, as well as proportionality, generational equity, primacy of prevention, responsibility, evidence and accountability.

Having laid out the broad boundaries of the EPA's future task, the next step is to consider its functions: the work it does to achieve its objective. In framing these, we wanted to achieve two key ambitions: a proactive focus on prevention; and a dynamic and adaptive approach to the regulatory toolkit. These were central concerns in an overwhelming number of submissions from all sectors.

> *EPA … must go beyond its core regulatory function to guide business towards measures targeted at liability prevention and precaution.* (BP Australia submission, p. 3)

The EPA needs to influence and inform strategic policy development across government. It also needs to take a stronger role in informing and educating businesses and the community about risks to the environment and about how to prevent harmful impacts. Outreach of this kind will improve compliance, and enhance community awareness of environmental conditions and the risks the EPA manages.

The current EP Act gives the EPA some 27 separate powers, duties and functions. We recommend a simplified suite of 10 general functions:

1. Monitor and identify impacts and risks to public health and the environment
2. Proactively adapt tools and instruments to prevent and reduce impacts and risks
3. Advise government
4. Lead, coordinate and collaborate with local governments, joint regulators and other government agencies
5. Develop and set environment protection standards ('goal posts')
6. Set compliance obligations and seek to improve performance to reduce harms from pollution and waste
7. Support compliance
8. Report to, educate and engage with the community on managing risks and the condition of the environment
9. Monitor compliance and enforce the law
10. Evaluate the effectiveness of regulatory interventions.

The EPA's functions are to varying degrees shared with other agencies with responsibility for the environment – in particular, the Department of Environment, Land, Water and Planning (DELWP) and Sustainability Victoria. Much closer attention needs to be paid to ensuring effective collaboration in the areas of overlap.

The EPA (Establishment) Act will be complemented by a comprehensive overhaul of the EP Act, to modernise and implement other specific reform elements laid out in this report.

The EPA as a science-based regulator

The community expects the EPA to apply its expertise to identify and assess environmental risks, address economic, social and environmental considerations, and then determine the appropriate outcome for '… community wellbeing and the benefit of future generations'.[12] Protecting the environment is difficult. Risk can never be entirely eliminated. And how do the costs of vigilance weigh against the benefits? Weighing the risks, costs and benefits of environmental regulation is further complicated by scientific complexity and uncertainty.

The capacity to make these assessments is the EPA's defining characteristic. The EPA is a science based regulator, assessing risk and determining acceptable standards of pollution control, management and mitigation. The trust that Victorians place in the EPA is founded on their confidence in the EPA's scientific expertise, which sets the EPA apart from other Victorian regulators.

Understanding the impacts of pollution and waste depends on having the necessary science. The EPA of the future must expand its scientific capacity and, potentially, its monitoring networks. We recommend a review of the adequacy of the current monitoring capability, noting in particular concerns about air quality.

Establishing a legislated position of Chief Environmental Scientist to the EPA will enhance the EPA's scientific standing. The Chief Environmental Scientist will advise the Chief Executive Officer and Victoria's Chief Health Officer.

Public health experts are concerned that, despite growing understanding of the risks posed by pollution, the level of investment for protection against these risks has diminished, both in Victoria and elsewhere in Australia. There is disturbing evidence that many of Victoria's environmental indicators are in gradual and long term decline[13] and that there will be an increasing requirement for the EPA to manage risks to human health.

We propose consolidating and enhancing the Victoria's environmental health capabilities, so the EPA can monitor, identify and assess health risks. This will involve a close working partnership with the Department of Health and Human Services (DHHS), and in particular, with the Chief Health Officer.

The EPA's role within Victoria's environment protection regime

The role of the EPA in securing a healthy environment sits within the wider context of work done by a range of local, state and national agencies. Environment protection involves a framework of regulation, policy setting and programs across government. The EPA cannot do it all. It must work with other parts of government on how best to tackle complex issues. The EPA also needs to inform government planning and decision making so that risks are identified and managed early, with improved outcomes for human health and the environment.

The EPA works with other areas of government: DHHS, DELWP, Sustainability Victoria, the Department of Economic Development, Jobs, Transport and Resources (DEDJTR), emergency services, and local government. There are over 40 separate Acts covering various aspects of environmental regulation in Victoria.

Some overlap between the work of various players is inevitable, given the complexity of natural systems and their interplay with human activities: 'Environmental problems and opportunities can be complex, involve many different actors or parts of society, and span communities and borders.'[14] That said, the community expects the responsible agencies to work collaboratively, to avoid duplication and fill regulatory gaps.

We recommend new and strengthened legislative mechanisms for collaboration, coordination and joint regulation. Victoria already uses this approach to address complex issues such as climate change, road safety and child protection. To that end, we recommend an overarching Environment Protection (Integration and Coordination) Act. This Act will establish a set of objectives and principles for all relevant agencies, and provide mechanisms for clarifying roles and responsibilities and for coordinated monitoring and reporting.

As part of this integrated system, the EPA will continue to play its distinctive role in preventing harm from pollution and waste.

The EPA needs to help deliver environmental justice to communities disproportionately impacted by pollution and waste. To that end, we recommend strengthening the rights of third parties to appeal EPA decisions and to take legal action to prevent or remedy environmental harm if the EPA fails to act. But, fundamentally, achieving greater environmental justice depends on wider government policy and action.

Responding to the challenge of climate change

The Victorian Government has committed to act to reduce the state's greenhouse gas emissions. This action will need a whole-of-government approach.

The EPA has the power, under the EP Act, to regulate the emission of these gases. But its primary tool for doing so – the state environment protection policy (Air Quality Management) – is not effective in its current form. As a matter of priority, we recommend that the Victorian Government clarify the EPA's role and direct its activities for regulating greenhouse gas emissions, and provide the EPA with appropriate statutory instruments to give effect to its role. And the EPA must be involved in developing Victoria's regulatory response to climate change.

The EPA's role in emergency management

Emergency management is another area in which the lines of responsibility and communication between agencies must be clear.

Victoria's emergency management approach has been considerably strengthened since the devastating Black Saturday Bushfires of 2009. All agencies are expected to help each other in response to large-scale and complex emergencies.

As a consequence, the EPA has increasingly become involved in emergency situations. Because of its scientific expertise, the EPA is uniquely placed to provide advice across all phases of emergency planning and prevention, response and recovery. The 2014 Hazelwood mine fire in the Latrobe Valley highlighted the imperative for the EPA to play this role in an effective, timely way.

To that end, we recommend clarification of EPA's specific role in emergency response. Its contribution as an expert advisor must be clearly distinguished from other aspects of emergency response.

The general responsibility for crisis management and response should remain with emergency services best placed to undertake these functions. Arrangements should be put in place to ensure that the EPA can focus on rapidly deploying scientific and technical advice. We recommend that the EPA should be removed as the control agency responsible for pollution of inland waters.

Taking a strategic approach to land use planning

A large proportion of the problems that the EPA routinely deals with arise from poor land use planning decisions. The sites on which people live and work, the quality of the soil and water around them, the buffers between various land use zones, the corridors they will travel and the systems that manage their waste all have a direct bearing on health and living conditions.

The EPA does not regulate land use. However, it needs to ensure that decisions are informed about environmental risks. Reform is necessary to give the EPA a statutory role in strategic land use planning – the long term decisions about how land is used – as well as advising in some circumstances on individual planning permit applications.

Good planning now, with effective and influential EPA input, will reduce public health and amenity risks in the future. Bringing to bear the EPA's unique environmental expertise will ensure that the competing interests and varied risk-profiles of different land users – households, businesses, factories – are evaluated and, as far as practicable, balanced.

We recommend creating a statutory trigger to ensure that the EPA can participate in strategic land use planning, for example, in evaluating structure plans. In particular, the EPA should be involved in strategic planning processes undertaken by the new Victorian Planning Authority, to be defined as a statutory requirement in the VPA legislation.

The EPA also needs to simplify its own regulatory standards and guidelines for planning, to make them easier to understand and apply. We recommend other changes to ensure that, as land use pressures increase, appropriate buffers are created and maintained around waste facilities, landfills and other scheduled premises.

But we do not consider that the EPA should license wind farms. The obligation to obtain a licence should continue to apply only to activities that pose a significant risk to human health or the environment. However, EPA-appointed auditors can play a valuable role in providing authoritative assessments of wind farm noise as part of planning processes.

Part C: How should the EPA perform these functions and achieve its objective?

> *The shift in paradigm of environmental harm has left the legislative framework around environment protection outdated and inadequate. This has resulted in the EPA not having the right legislative tools to keep up with current environmental challenges.* (Law Institute of Victoria submission, p. 2)

> *Essential to good regulation is the judgement to know which regulatory tools to employ in which combination for which issues. It is also important that those tools are selected and deployed confidently and decisively, and with an understanding and appreciation of the context in which both the EPA and the people it seeks to influence operate.* (Eric Windholz, Monash University submission, p. 5)

To anticipate, manage and prevent environmental and health risks, the EPA needs a range of tools that reflect current expectations and regulatory best practice, and that equip it to adopt a proactive, preventative approach.

The reforms we recommend will:

- strengthen prevention
- hold polluters to account
- strengthen management of legacy risks
- introduce a new approach to standard setting
- deploy a wide range of regulatory instruments
- strengthen regulation of the mining sector
- build local response capacity through local government.

In making our recommendations, we were mindful of the regulatory burden that they will impose. Where strengthened or new regulation is proposed, it is because we consider the need to prevent harm warrants the additional regulatory burden that these proposals may involve.

The EPA must seek to minimise the regulatory burden when carrying out its functions to achieve its objective, both through the tools that it uses and how it uses them.

Strengthening prevention

We recommend a general duty to take reasonably practicable steps to minimise risks of harm from pollution and waste. The general duty should be phased in, starting with the largest polluters and highest risk sites. In time, the duty will apply to all Victorians, recognising our shared responsibility and the significant cumulative impact of pollution across many activities, including small scale activities.

A general duty of this kind has a long history in Victoria's workplace safety legislation. Since 1985, every Victorian employer has been under a duty to provide for its employees, so far as reasonably practicable, a safe working environment. We recommend that the general duty be subject to the same reasonableness qualification.

Other recommendations include: expanding the licensed cohort, fixed terms for new licences; periodic review of licences to ensure existing facilities do not escape the standards required of new players; new post-closure licensed category; requiring licence holders to develop pollution incident plans; and notification of pollution incidents.

Holding polluters to account

Compared with other jurisdictions, the EPA initiates relatively few prosecutions and secures few enforceable undertakings. As a result, the EPA is widely perceived as being risk averse and reluctant to seek substantial penalties.

The EPA took more than two years to lay charges for environmental breaches relating to the Hazelwood mine fire in early 2014. As Environment Victoria argued in its submission to us, such delays '… reduce public trust in the EPA's ability to effectively regulate pollution and respond quickly to major breaches of the Act'.[15]

For the EPA to maintain its credibility as our environmental regulator, it must act more confidently, more assertively and – above all – more quickly in enforcing sanctions for breaches. And the range of sanctions available needs to be strengthened and expanded.

We recommend the EPA adopt a whole-of-organisation commitment to strengthen procedures and resourcing for prosecutions. We also recommend expanding the range of sanctions and increasing severity including:

- substantially increasing the maximum penalties for breaches under the EP Act
- allowing for civil penalties as an alternative to prosecutions
- reviewing the application of enforceable undertakings, accounting for best practice by other regulators
- allowing courts to fix fines to take account of the economic benefits of non-compliance.

Managing legacy risks

Like other economies with a significant history of settlement and industrial activity, Victoria has a toxic legacy of waste and pollution. Contaminated sites range from old mines and industrial sites to petrol stations and dry cleaning operations.

System reform – of both planning and environmental regulation – has been called for in a number of recent reviews. We recommend that a comprehensive reform process should be a priority, to improve integration, provide for risk-based regulatory approaches and address gaps in the system. Currently there is no integrated database recording potentially contaminated sites in Victoria. We propose that DELWP develop such a database, based on site history information and other data held by government.

Asbestos is pervasive in our built environment and a serious concern for builders and renovators. The community requires clear and consistent advice on how to manage risks – and if asbestos is removed, how to do this safely and dispose of the waste responsibly. The EPA's enhanced environmental health capability will strengthen risk information for the community and government. Further, we propose changing the Prescribed Industrial Waste levy settings for asbestos, to reduce incentives for illegal dumping and support responsible disposal of asbestos waste.

A new approach to standard setting

Environmental standards in Victoria are currently given statutory force through state environment protection policies (SEPPs) and waste management policies (WMPs). These instruments have been a core component of environment protection since 1970. As found by an earlier review,[16] we concluded that these policies are, in many instances, unclear and difficult for decision makers to apply. It is also difficult for the regulator to update standards in line with evolving scientific and technical understanding.

We propose phasing out SEPPs and WMPs, with the component parts split into new fit-for-purpose instruments, including technical standards that the EPA can evaluate and update in a more timely manner.

Deploying a wider range of instruments

Economic instruments are used both to pass on environmental costs and to encourage behaviour change. Ranging from pollution charges and tradeable permits to environmental offsets, they are designed to provide 'market signals' to consumers, business and industry. We consider that such economic instruments have valuable potential as a regulatory tool, and recommend that load-based licensing and other instruments should be more actively considered by the EPA and the Victorian Government.

In the future, the EPA can harness and capitalise on better data – enlisting it for detection, investigation and evidence. We recommend that EPA licensees be required to make available to the public their emissions monitoring information. Data can profoundly change how the EPA regulates, enabling it to develop deeper insight into risks, the impacts of non-compliance, and the impacts of interventions. We also recommend that the EPA should pursue opportunities to work with the government's new Behavioural Insights Unit on innovative approaches to support compliance.

Strengthening mining regulation

Mining activities pose both immediate and long term environmental threats if they are not managed appropriately. Mine fires, acid drainage, heavy metal contamination and leaching, processing chemicals and erosion and sedimentation all loom as grave potential threats. Some of the most serious environmental incidents have been associated with mining operations: in 2014, the Hazelwood mine fire burned for 45 days, spreading thick smoke and ash over towns in the Latrobe Valley.

Stakeholders expressed concern about the current regulatory arrangements for Victoria's mining sector. The EPA's expertise and experience is not sufficiently used in the environmental regulation of mines. This is in striking contrast to other industries of similar risk profile or scale. Industries of a similar level of risk should be treated alike.

We recommend the EPA play a greater role in regulating the mining sector. The EPA should be involved at every stage – in the planning, operation and rehabilitation of mine sites. The EPA should be the primary regulator of environmental issues related to mining, just as WorkSafe is the primary regulator for occupational health and safety issues on mine sites. This will also assist in addressing concerns about the potential conflict of interest of having the primary mining regulator – Earth Resources Regulation – in the same department that seeks to develop the industry (DEDJTR).

A broader and more effective local response

Many people across Victoria, from urban areas to far-flung communities, have concerns about waste and pollution in their areas, and its impact on their health and wellbeing. Concerns of this kind deserve quick and effective responses.

The EPA cannot deliver timely responses to localised pollution and waste issues efficiently – and this creates a gap in service and protection for the community.

Local government is well trusted by the community as a source of advice and uniquely placed to deliver timely responses to local concerns, particularly to amenity and waste issues. This is consistent with the principle of subsidiarity; 'decisions should always be taken at the lowest possible level or closest to where they will have their effect'.[17]

But local government needs clearly defined responsibilities, proper authorisation and resourcing. We propose clearly delineating the respective roles of the EPA and local government in environment protection. The role given to each should reflect its particular strengths. As part of this approach, we propose introducing a statewide network of local government environment protection officers based in local government, with appropriate funding from state government, and authorised under the EP Act to respond to smaller scale, localised pollution. We propose that DELWP bring a proposal to government about how this could be achieved.

This approach will provide all Victorians with a significant new level of protection and local response. The EPA will continue to regulate all higher risk pollution issues, as well as providing technical support, training, and capacity building to support local government's expanded protection role.

Part D: What institutional arrangements and capabilities are needed to support the EPA?

> *It is anticipated that community expectations and knowledge will increase with respect to amenity and environmental concerns. The future EPA needs to be resourced and equipped to respond to community expectations and be capable of delivering effective environmental protection.* (Moreland City Council submission, pp. 1–2)

> *We need an EPA that is accountable but strong and independent and the current governance arrangements need to be modernised to ensure that this is the case. (Michael Nugent submission, p. 2)*

Those we consulted commonly invoked the same language of aspiration for the EPA of the future: independent, consistent, trusted, expert, accountable. Clarifying the EPA's roles and expanding its range of regulatory tools go only part way to fulfilling these aspirations. The EPA of the future must also have the governance structures, capabilities and funding base to make these reforms happen.

Establishing effective governance arrangements

> *The EPA's statutory independence and standing as an 'authority' is valued … to impartially and objectively deal with environment protection issues is a key factor in its achievements to date and should be preserved in the future.* (Planning Institute of Australia – Victoria submission, p. 1)

Good governance is fundamental for an organisation to perform effectively. For a regulator, governance arrangements also need to ensure integrity of regulatory decisions, accountability and transparency to support public confidence.

The importance quite properly attached to the EPA's independence requires that it be formally established as an independent statutory authority. The EPA's accountability to the Minister for Environment, Climate Change and Water means that there should be clear legislative provision for the Minister to request advice and for the EPA to provide advice of its own motion.

Current governance arrangements under the EP Act are widely acknowledged to be inadequate. They have been supplemented by a range of committees appointed by the current Chairman but the organisation needs modernised governance arrangements established in legislation. We propose that this be done as part of the EPA (Establishment) Act.

The EPA needs a governing board that provides it with influence and strategic direction, and oversees the organisation's corporate governance. We recommend that the Board comprise seven members, to be appointed by the Governor in Council on the recommendation of the Minister for Environment, Climate Change and Water. The membership should include at least one member with qualifications or experience in science or engineering, and one in health. The Minister for Health should nominate the member with qualifications or experience in health.

The Board's responsibilities and functions should be set out in legislation and must be clearly distinguished from those of the Chief Executive Officer – who should have the primary responsibility for regulatory decision making.

The governance structure should also reflect the EPA as a specialist, science-based regulator, and its key role alongside DHHS in protecting human health. We propose creating a Science, Engineering and Health subcommittee of the Board, comprising members of the Board with appropriate expertise together with external scientific, engineering and health experts, including the Chief Health Officer. Other recommendations include appointing a Chief Executive Officer with scientific or engineering qualifications or experience; and appointing a Chief Environmental Scientist, reporting to the Chief Executive Officer.

The EPA's capability needs

The capabilities of the EPA's personnel are critical if it is to operate as a proactive regulator and provide authoritative information and advice within the government and to the community. A range of new capabilities will be required for the future and we recommend that a full capability assessment should be an early priority.

The EPA must invest in the multi-disciplinary capabilities and technical expertise of its staff. We have identified priority areas for investment in people, including the key areas of: environmental health, science and engineering expertise, legal, regulatory design, and critical support disciplines such as data and analytics capabilities.

With a key new focus on influencing and informing strategic decision making across government, the EPA will need staff with a mature understanding of policy processes and specific skills in areas such as land use planning. The EPA also needs to have high order communication skills to meet the community's growing demand for information.

Investment in people must be accompanied by continuing investment in systems and hardware that keep it abreast of developments in science, data, communications and technology. We recommend that the EPA develop a digital data, technology and analytics strategy.

Funding for the future

To ensure the EPA has the necessary capabilities, it must have the appropriate level of funding from appropriate sources. Many stakeholders told us that the EPA simply does not have the resources to meet even its current responsibilities. They were also concerned that the present funding mix relies too heavily on fees, levies and fines paid by the very entities that the EPA regulates. The 'self funding' model sends the wrong message about the regulator's independence.

The EPA will need increased resources to support its stronger role in prevention. We propose increased funding to enable effective delivery of the reforms and the new operating model for the future. In particular, we propose that additional funding is needed to support the EPA's future roles including: enhanced scientific and environmental health expertise, increased outreach to communicate the obligations imposed under a general duty, support for local government enforcement, a stronger role in land use planning, and new technologies.

As we raise in our recommendations for a broader and more effective local response, local governments will also need increased resources to support the increased functions we propose. The EPA collects considerably more revenue than it is permitted to use for operating purposes. For the most part, it does not have direct access to the revenue it collects from fees, charges and fines. At the same time, the EPA has not received an annual appropriation from the state budget since 2012–13. Instead, it increasingly relies on market-linked investments, which are volatile and uncertain, and on levies and fines that give rise to the potential for conflict of interest.

We consider the EPA's current funding mix to be both inappropriate and unsustainable. We recommend a reformed funding model. Core public good functions – such as scientific research and environmental monitoring – should be funded independently. In most jurisdictions, these functions are funded from general tax revenue through annual budget appropriations. In Victoria, successive Victorian governments have opted instead to dedicate revenues from landfill levies to fund environment protection activities, including the EPA.

Broadly-based levies on waste can be a legitimate alternative to general tax revenue as a source of funding. But we observed that these levies are failing in their primary regulatory objective of reducing disposal to landfill. The widespread incidence of illegal dumping of wastes, to avoid landfill costs, is undermining both the regulatory and the revenue objectives of landfill levies.

To address these concerns, we recommend redesigning Victoria's landfill levies – both the Municipal and Industrial Landfill levy and the Prescribed Industrial Waste levy – to ensure that, as well as generating revenue for environment protection, they create real financial incentives for everyone – households as well as businesses – to reuse, recycle and dispose responsibly of waste wherever practicable. This is important for community acceptance of these levies as a source of funding for environment protection activities.

The EPA of the future

Our recommendations will make the EPA of the future the strong protector of public health and the environment that Victorians expect – and need – it to be. The changes we recommend will strengthen the EPA's scientific base and modernise its governing legislation, giving it a clear objective to protect human health and the environment by reducing the harmful effects of pollution and waste. They will provide for early and strategic consideration of environmental issues across government through improved coordination mechanisms, clarify the EPA's supporting role in Victoria's emergency management framework and better manage environmental risks in Victoria's land use planning system.

The EPA of the future will be able to assist the government's objectives in tackling climate change and environmental justice. The EPA will also have a stronger and broader range of tools, the key being a general duty. This will be in addition to a stronger licensing regime, taking bolder steps against wrongdoers, improving our approach to tackling contamination, modernising standard setting and expanding the use of economic and other instruments. Finally, the EPA of the future will have a modernised governance structure to help it navigate the complexities of today's environment, as well as the additional capabilities and funding it will need to fulfil its greater role.

These recommendations are an important start in setting up the EPA for the future – to ensure that the EPA continues to make a vital contribution to Victoria's future liveability and economic prosperity. Victoria will face increasing levels of pollution and waste, and the complex problems that come with this. And the EPA must be bold and innovative, and have clear authority, to deal with them.

INQUIRY RECOMMENDATIONS

Clarifying the EPA's objective, principles and functions

RECOMMENDATION 5.1

Undertake a comprehensive overhaul of the *Environment Protection Act 1970*, including to establish two separate pieces of legislation:

i) Create a standalone EPA (Establishment) Act to facilitate role clarity and strengthened governance

ii) Create a modernised Environment Protection Act, which applies to the EPA and other entities charged with reducing pollution and waste impacts.

RECOMMENDATION 5.2

Prioritise creation of the EPA (Establishment) Act which defines, as a minimum, the EPA's objective, decision making principles, functions and governance structure.

RECOMMENDATION 5.3

Establish a statutory objective for the EPA to protect human health and the environment by reducing the harmful effects of pollution and waste.

RECOMMENDATION 5.4

Establish a simplified set of legislated decision making principles for the EPA that encompasses the following elements:

i) Balancing of economic, social and environmental considerations

ii) Primacy of prevention

iii) Proportionality, recognising the importance of a risk-based approach to regulation

iv) Intragenerational and intergenerational equity

v) Shared responsibility, including recognition of the importance of the polluter pays principle

vi) Evidence-based decision making that accounts for the precautionary principle

vii) Accountability and access to decision making, noting the importance of procedural fairness, transparency and access to information.

RECOMMENDATION 5.5

Establish ten high level functions for the EPA:

i) Monitor and identify impacts and risks to public health and the environment

ii) Proactively adapt tools and instruments to prevent and reduce impacts and risks

iii) Advise government

iv) Lead, coordinate and collaborate with local governments, joint regulators and other government agencies

v) Determine and set environment protection standards ('goal post' standards)

vi) Set compliance obligations and seek to improve environmental performance

vii) Support compliance

viii) Report to, educate and engage with the community on managing risks and the condition of the environment

ix) Monitor compliance and enforce the law

x) Evaluate the effectiveness of regulatory interventions.

The EPA as a science-based regulator

RECOMMENDATION 6.1

Establish a legislated Chief Environmental Scientist position within the EPA's senior executive structure.

RECOMMENDATION 6.2

Create a consolidated and enhanced environmental health capability for Victoria within the EPA, with appropriate governance arrangements recognising its critical relationship with the Department of Health and Human Services.

RECOMMENDATION 6.3

The EPA assess the adequacy of its air and water monitoring networks, particularly in relation to air quality, and consider options to improve data sharing and accessibility, and community communications.

The EPA's role within Victoria's environment protection regime

RECOMMENDATION 7.1

Establish a high level Environment Protection (Integration and Coordination) Act to improve coordination and collaboration across government on environment protection, and associated public health issues, including by:

i) Setting shared objectives and principles for whole-of-government decision making, including environmental justice principles

ii) Clarifying the respective roles and responsibilities of key government agencies charged with environment protection, including the EPA

iii) Establishing a formal mechanism, led by the Department of Environment, Land, Water and Planning, to support whole-of-government consideration of environment protection and environmental issues impacting on human health and wellbeing, including:

   a. identifying strategic priorities

   b. collaborating on risk assessment and analysis of options, informed by the EPA and other relevant sources of expert advice

   c. coordinating deployment of tools available across government, as appropriate to different issues.

RECOMMENDATION 7.2

Implement, through the Department of Environment, Land, Water and Planning, measures to coordinate environmental management in Victoria, in partnership with the EPA and other agencies responsible for environmental, public health and other liveability outcomes, including:

i) statewide environmental monitoring

ii) a statewide spatial data system

iii) statewide reporting of health, environmental and liveability outcomes.

RECOMMENDATION 7.3

Develop, through the Department of Environment, Land, Water and Planning, a whole-of-government approach to environmental justice, setting out high level objectives and principles to support consistent decision making across the Victorian public sector.

RECOMMENDATION 7.4

Clarify that the test for third party standing for review of decisions under the *Environment Protection Act 1970* (reviewable by the Victorian Civil and Administrative Tribunal) matches section 5 of the *Victorian Civil and Administrative Tribunal Act 1998*.

RECOMMENDATION 7.5

Strengthen third party rights to allow persons whose interests are affected or any other person with the permission of the court to seek a court order to restrain or remedy breaches of environment protection laws (civil remedies).

Responding to the challenge of climate change

RECOMMENDATION 8.1

Confirm the nature and extent of the EPA's role in regulating greenhouse gas emissions within Victoria's wider whole-of-government policy settings.

RECOMMENDATION 8.2

Ensure the EPA has the appropriate statutory instruments to give effect to its role in managing greenhouse gas emissions, as determined by government and informed by advice from the EPA.

EPA's role in emergency management

RECOMMENDATION 9.1

Confirm the EPA's role as a technical advisor across the continuum of the State Emergency Response Plan – prevention, response and recovery.

RECOMMENDATION 9.2

Remove the EPA as the control agency responsible for pollution of inland waters, and transfer these responsibilities to appropriate first responders.

Taking a strategic approach to land use planning

RECOMMENDATION 10.1

Create a statutory trigger, potentially via a Ministerial Direction under the *Planning and Environment Act 1987*, to require responsible authorities to seek early advice from the EPA on strategic planning processes (such as, but not limited to, scheme amendments, rezoning and structure planning) that involve significant human health and environmental risks or development in close proximity to a licensed facility.

RECOMMENDATION 10.2

Require, as part of its establishment legislation, that the Victorian Planning Authority refer strategic planning processes (such as, but not limited to, scheme amendments, rezoning and structure planning) to the EPA including where such processes consider development in close proximity to a licensed facility, including waste facilities.

RECOMMENDATION 10.3

Develop, as a priority, strengthened land use planning mechanisms that establish and maintain buffers to separate conflicting land uses, avoid encroachment problems, help manage health, safety and amenity impacts, and ensure integration with EPA regulatory requirements.

RECOMMENDATION 10.4

Together, the EPA and the Department of Environment, Land, Water and Planning simplify and better integrate EPA regulatory standards and obligations that are to be applied through the planning system, including through the creation of mandatory, measurable and enforceable planning controls that land use planners can more readily understand and apply.

RECOMMENDATION 10.5

Amend the existing *Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria* to require a statutory environmental audit of noise be undertaken for approval and compliance.

Strengthening prevention

RECOMMENDATION 12.1

Introduce a general duty to minimise risks of harm to human health and the environment, as the cornerstone of a preventative focus for the EPA. Specifically:

i) the duty would require a person to take reasonably practicable steps to minimise risks of harm from pollution and waste

ii) introduction of the duty would be staged, with its application limited initially to those entities that operate under EPA licences or works approvals, and entities registered under a new registration scheme to be based on WorkSafe's dangerous goods notification

iii) breach of the duty would give rise to criminal penalties, civil penalties and/or civil remedies

iv) breach or threatened breach of the duty would provide a uniform trigger for the issue of remedial notices

v) compliance with the duty would be underpinned by statutory codes of practice, and advice from the EPA.

RECOMMENDATION 12.2

Expand the cohort of activities requiring a works approval or licence to include all activities with significant impacts on human health or the environment, regardless of the type of hazard posed.

RECOMMENDATION 12.3

Introduce new tools, including:

i) fixed terms for new licences and a statutory mechanism for regular reviews of licences

ii) a new post-closure licence category (or a new form of post closure instrument) for landfills and high risk contaminating activities

iii) a requirement for EPA licensees to prepare and implement pollution incident plans

iv) a requirement for all businesses to notify pollution incidents to the relevant authority (either the EPA or local government).

Holding polluters to account

RECOMMENDATION 13.1

The EPA develop an overarching prosecution strategy to strengthen its processes, procedures and resourcing to facilitate timely prosecution.

RECOMMENDATION 13.2

The EPA review how it applies enforceable undertakings, taking account of best practice by other regulators.

RECOMMENDATION 13.3

Expand the range, and increase the severity, of sanctions by:

i) increasing the maximum penalties for criminal offences

ii) fixing separate maximum penalties for individuals and corporations

iii) empowering courts to fix fines which take account of the economic benefits of non-compliance

iv) introducing a civil penalty regime as an alternative to prosecution.

RECOMMENDATION 13.4

Modernise the inspection and enquiry powers for EPA authorised officers (including local government environment protection officers) to provide powers equivalent to those of safety regulators.

Managing legacy risks

RECOMMENDATION 14.1

The Department of Environment, Land, Water and Planning develop a comprehensive statewide database of sites that pose a high risk to the community because of their past use, which should link to other relevant government data sources including information held by the EPA.

RECOMMENDATION 14.2

Integrate and strengthen planning and environmental regulation of legacy contamination, through a reform process led by the Department of Environment, Land Water and Planning to provide a more consistent, risk-based approach to risk screening, assessment and remediation requirements and ongoing compliance mechanisms.

RECOMMENDATION 14.3

As part of reform of the Prescribed Industrial Waste Levy, give specific attention to addressing illegal dumping and supporting responsible disposal of asbestos.

A new approach to standard setting

RECOMMENDATION 15.1

Replace state environment protection policies and waste management policies with a simplified approach to standard setting that allows for timely review and updating of standalone elements, including:

i) overarching policy settings to be established by the Department of Environment, Land, Water and Planning

ii) technical standards to be determined by EPA.

Deploying a wider range of instruments

RECOMMENDATION 16.1

Remove the current barriers to introducing a load-based licensing scheme (licence fees restricted to cost recovery and fee caps) from the *Environment Protection Act 1970* and actively consider their use, together with the full suite of economic instruments available to the EPA.

RECOMMENDATION 16.2

Require EPA licensees to make emissions monitoring information available to the public.

RECOMMENDATION 16.3

The EPA work with the Department of Premier and Cabinet's Behavioural Insights Unit to design and test new, innovative approaches.

Strengthening mining regulation

RECOMMENDATION 17.1

Strengthen and formalise the EPA's role in mining regulation under the *Mineral Resources (Sustainable Development) Act 1990* by:

i) Requiring the EPA to advise on environmental considerations with respect to all mining licence applications, renewals and extensions, including on setting of bonds and environmental conditions

ii) Requiring Earth Resources Regulation to refer mining work plan applications and variations to the EPA, including rehabilitation plans, for determination of appropriate environmental management conditions, consistent with the mining licence

iii) Making the EPA responsible for compliance and enforcement of the environmental conditions in the mining licence

iv) Requiring care and maintenance conditions be established for inactive but still licensed mine sites, with the EPA to be responsible for compliance and enforcement of these conditions, and creating a statutory duty for mining operators to inform authorities if mining operations become inactive

v) Requiring Earth Resources Regulation to seek the EPA's advice on all applications for reductions in, or the return of, rehabilitation bonds

vi) Making the EPA responsible for compliance and enforcement of environmental elements of remediation requirements in the mining licence conditions.

A broader and more effective local response

RECOMMENDATION 18.1

Establish a new statewide network of local government environment protection officers to address localised pollution and waste complaints, appropriately authorised under the *Environment Protection Act 1970* with clearly defined statutory roles and governance arrangements, including to streamline provisions relating to litter, noise and septic tanks.

RECOMMENDATION 18.2

Through the Department of Environment, Land, Water and Planning, bring a proposal to government to provide funding to local government to meet the additional costs of local government environment protection officers.

RECOMMENDATION 18.3

Provide, through the EPA, oversight, strategic coordination, standard setting, technical support, training and capacity building to local government to support its expanded local protection role.

Establishing effective governance arrangements

RECOMMENDATION 19.1

Establish the EPA as an independent statutory authority with a Board as the governing body that has the following features, to be legislated as part of the EPA (Establishment) Act:

i) appointed by the Governor in Council on the recommendation of the Minister for Environment, Climate Change and Water

ii) comprising seven members including:

   a. a member with qualifications or experience in science or engineering

   b. a member with qualifications or experience in health, as nominated by the Minister for Health

iii) with functions to:

   a. determine the EPA's strategic direction

   b. provide oversight of the EPA's corporate performance

   c. provide oversight of the discharge of the EPA's regulatory approach

   d. respond to, and report against, any statement of expectations from the Minister

   e. provide advice to the Minister and respond to requests from the Minister

   f. appoint the Chief Executive Officer and monitor the Chief Executive Officer's performance

   g. establish subcommittees as required for good governance and appointing their members, and also members of the Science, Engineering and Health subcommittee

iv) a Science, Engineering and Health subcommittee of the Board that is:

   a. appointed by the Board

   b. chaired by a Board member with science or engineering qualifications and experience

   c. comprising members of the Board with science/engineering and health expertise and also external scientific, engineering and health experts, including Victoria's Chief Health Officer,

   d. to advise the Board.

RECOMMENDATION 19.2

Establish the Chief Executive Officer of the EPA as a legislated position under the EPA (Establishment) Act:

i) appointed by the Board

ii) with applied science or engineering qualifications or experience

iii) with responsibility for regulatory and operational decision making, and for the corporate performance and administration of the EPA, including the appointment of staff.

The EPA's capability needs

RECOMMENDATION 20.1

Require the new EPA Board to initiate a full capability assessment linked to developing new legislation and statutory tools, as a basis for preparing a long term capability and resource strategy.

RECOMMENDATION 20.2

Require the EPA to develop a digital data, technology and analytics strategy, to help guide the EPA's regulatory decision making and investments.

Funding for the future

RECOMMENDATION 21.1

Develop a new funding model for the EPA that provides greater revenue certainty and stability, and reduces reliance on funding sources with conflicts of interest, including consideration of options for the EPA to:

i) continue to receive annual distributions from the Municipal and Industrial Landfill Levy, unless or until a decision is taken to reinstate annual budget appropriations

ii) retain revenues from regulatory fees and user charges that are currently paid into the Consolidated Fund

iii) no longer retain Prescribed Industrial Waste Levy revenues which should be directed instead into the Consolidated Fund

iv) receive additional disbursements from the Municipal and Industrial Landfill Levy to replace market linked investment income replacement grants from the Department of Environment, Land, Water and Planning

v) receive an annual budget appropriation that replaces litter revenue which should instead be paid into the Consolidated Fund.

RECOMMENDATION 21.2

Redesign the Municipal and Industrial Landfill Levy so that it better meets its regulatory objectives and to reduce incentives for illegal dumping, while maintaining a sustainable source of funding for environment protection activities.

RECOMMENDATION 21.3

Reform the Prescribed Industrial Waste Levy (and the associated regulatory framework for transporting, storing and disposing of hazardous waste) to:

i) curtail the growing problem of illegal dumping of hazardous waste

ii) reduce mounting costs of additional compliance activity targeted to illegal dumping

iii) avoid further erosion in the Prescribed Industrial Waste Levy revenue base due to avoidance activity.

RECOMMENDATION 21.4

The Department of Environment, Land, Water and Planning prepare a business case to support an increase in the EPA's future resources levels, to enable it to fulfil the additional functions and responsibilities recommended by this inquiry, including:

i) environmental health and scientific capabilities

ii) activities to support a general duty

iii) EPA coordination and oversight of local government environment protection officers

iv) land use planning expertise

v) investing in up-to-date information, communication and surveillance technologies.

1 Victorian Parliament, Hansard, Legislative Assembly, 12 November 1970, p. 1818 [The Hon. W Borthwick, Minister for Mines].

2 Ipsos Australia 2016, *EPA Inquiry Social Research*, Final report, prepared for EPA Inquiry, January.

3 Australian Bureau of Statistics 2012, *Year Book Australia, 2012: Population size and growth*, Cat. no. 1301.0, http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1301.0~2012~Main%20Features~Population%20size%20and%20growth~47 (accessed 12 August 2015).

4 Department of Environment, Land, Water and Planning 2015, Plan Melbourne Refresh, Discussion Paper, Melbourne, p. 9 (footnote 1).

5 Department of Environment, Land, Water and Planning 2014, *Victoria in future 2015: population and household projections to 2051*, Melbourne, p. 4.

6 Australian Bureau of Statistics, *Regional population growth, Australia – 2012-13*, Cat. no. 3218.0, http://www.abs.gov.au/ausstats/abs@.nsf/products/AC53A071B4B231A6CA257CAE000ECCE5?OpenDocument#PARALINK2 (accessed 12 August 2015).

7 Department of Environment, Land, Water and Planning 2015, *Plan Melbourne Refresh, Discussion Paper*, Melbourne, p. 9 (footnote 1).

8 Environment Victoria 2013, 'State of the Environment report paints bleak picture for the future', http://environmentvictoria.org.au/media/state-environment-report-paints-bleak-picture-future (accessed 10 March 2016).

9 Ipsos Australia 2016, EPA Inquiry Social Research, prepared for EPA Inquiry, January, p. 7.

10 The Strategy Shop 2015, *Report on Submissions to 2015 EPA Inquiry*, Melbourne, December, p. 43.

11 Victorian Parliament, Hansard, Legislative Assembly, 12 November 1970, p. 1825 [The Hon. W Borthwick, Minister for Mines].

12 Section 1B(2), *Environmental Protection Act 1970*.

13 Environment Victoria 2013, 'State of the Environment report paints bleak picture for the future', http://environmentvictoria.org.au/media/state-environment-report-paints-bleak-picture-future (accessed 10 March 2016).

14 Australian Panel of Experts on Environmental Law 2015, *The next generation of Australia's environmental laws*, November, p. 12.

15 Environment Victoria submission, p. 7.

16 EPA Victoria 2013, *Statutory Policy Review*, Final report, Melbourne, July.

17 Cambridge Dictionaries Online.

PART A

BACKGROUND AND CONTEXT

CHAPTER 1

INQUIRY FRAMEWORK

INQUIRY FRAMEWORK

1.1 Background to the inquiry

In 2015, the Victorian Government launched an Inquiry into the Environment Protection Authority Victoria (EPA) to consider how it can protect public health and the Victorian environment, now and for future generations.

Victoria's EPA began operating in 1971. Since then, Victoria's population and economy have grown and changed, creating new and different challenges for the community and the EPA.

In this context, we examined the EPA's role, powers, tools, governance and funding, looking at how the EPA can best tackle the environmental challenges affecting health, liveability and prosperity of Victorians today and tomorrow.

1.2 Establishing the inquiry

In May 2015, Victoria's Minister for Environment, Climate Change and Water, the Hon. Lisa Neville MP, appointed a three-person Ministerial Advisory Committee to conduct the inquiry: Ms Penny Armytage (Chair), Ms Jane Brockington (Deputy Chair) and Ms Janice van Reyk.

The inquiry commenced on 1 June 2015 and was conducted over 10 months, concluding on 31 March 2016, when we submitted this report to the Minister. The Ministerial Advisory Committee was supported by a secretariat drawn from the Victorian Public Service, as well as external experts and advisors.

We operated independently of DELWP and the EPA. Members of the secretariat had direct lines of accountability to the Ministerial Advisory Committee. They included staff drawn from DELWP, the EPA, the Department of Health and Human Services, the Department of Premier and Cabinet and the Department of Economic Development, Jobs, Transport and Resources.

1.2.1 Inquiry personnel

The inquiry team was led by Sarah Stephen, Secretariat Director. The Secretariat staff comprised: Eva Demirdjian, Mark Dess, Michael Dunstan, Shaun Green, Andrea Hay, Annette Jones, Nicola Lansdell, Peter Lyon, Nicole Maloney, Kate Simmons and Sara Wasmer. The Secretariat also drew on the following additional personnel during the inquiry: Amber Brodecky, Cath Grawe, Jenny Flynn, Bridie Hanifee, Steve Martin, Tim Matheson, Romy Nath, Emma Ryan and Emma Smith, and legal interns Kirsti Halcomb and Yaokang Wong.

The Secretariat acknowledges the assistance provided by Tim Eaton, Claire Flatley, Jessica Kerstjens and Fiona Rae at the EPA.

1.3 Scope of the inquiry

Our terms of reference made this a forward looking review. We were tasked with advising on the future challenges for environment protection in Victoria, and recommending changes to ensure the EPA is appropriately equipped to meet these challenges. Our terms of reference asked us to inquire into the appropriate roles, functions, powers and regulatory tools, governance and funding arrangements of the EPA in the future, and community expectations of the EPA as Victoria's environmental regulator.

We were asked to consider six specific matters, together with the overarching issue of 'the best way to combine environment protection with economic viability and minimising regulatory burden'. We received a further specific reference to consider the EPA's role in regulating greenhouse gas emissions.[1] Box 1.1 sets out these matters. We received further written advice from the Minister about considering environmental justice (term of reference 4) in February 2016 (see appendix).

BOX 1.1 KEY ELEMENTS OF THE TERMS OF REFERENCE

The terms of reference specified that the inquiry's scope consisted of the following seven matters, listed in order of priority:

1. the EPA's appropriate role in relation to public health issues, including at least: community concerns such as exposure to asbestos, chemicals and other pollutants; the prevention and management of site contamination, air quality, and water quality in rivers and other waterways
2. the Victorian community's and industry's expectations of the EPA as its environmental regulator
3. the EPA's appropriate role in protecting the environment
4. the ability of the EPA to ensure that the principle of environmental justice is adhered to, the environment is protected for the benefit of the community, and members of the community can be meaningfully involved in, and access fair treatment through, environmental regulation
5. the ability of the EPA's current governance structures and funding arrangements to enable it to effectively and efficiently discharge its powers, perform its duties and implement its required functions
6. the scope and adequacy of the EPA's statutory powers, and the effectiveness and efficiency of the suite of tools available to and utilised by the EPA, in enabling protection of the Victorian community and the environment, particularly in light of recent, new and emerging risks and issues, and
7. any other matter reasonably incidental to these above matters.

In conducting the inquiry, we were asked to:

- consider the best way to combine environmental protection with economic viability and growing sustainable jobs in Victoria, including through improving regulatory efficiency and minimising regulatory burden, and
- seek the views of the community, industry and workers in related industries, local government and Victorian Government agencies, as well as those of other relevant stakeholders.

Climate change was added to the inquiry's scope of work as part of the Victorian Government's response to the 2013 *State of the Environment Report* released in May 2015. The response stated 'The public inquiry into the EPA will also consider the EPA's role in regulating greenhouse gas emissions'.[2]

1.4 How we approached the inquiry

At the outset, we made some key decisions about the inquiry's scope and how we would conduct the inquiry. Our decisions reflected the terms of reference, our status as an independent inquiry and the forward looking nature of the review.

- We examined case studies, operational data and stakeholder concerns, where they indicated or illustrated systemic issues. We used this analysis to inform recommendations about how the EPA can perform more effectively in the future. Because the inquiry was not a performance review of the EPA, we did not investigate or adjudicate specific site issues, problems or complaints, including those relating to EPA statutory decisions.
- The inquiry maintained a record of issues raised in public consultation processes, to help us prepare the final report and recommendations. The inquiry did not involve formal public hearings or the taking of evidence.
- We considered at a high level the legislative framework for environment protection, the core principles and the types of statutory tools and instruments required for the EPA of the future. However, we did not conduct a comprehensive review of the *Environment Protection Act 1970* (EP Act) or undertake a detailed consideration of specific legislative requirements in giving effect to recommendations.
- We provided progress reports to the Minister, but we did not provide written briefings on draft proposals to the Minister or Government before delivering the final report.
- We considered at a high level the practicability of proposed changes when framing recommendations. However, we did not analyse the costs and benefits or implementation requirements of recommendations.

Principles for conducting the inquiry

We used the following principles to guide how we conducted the inquiry.

Engagement and accessibility – to gather information and insights using accessible approaches that maximise input to the inquiry process from across the Victorian community.

Independence – to establish confidence in the inquiry process and the credibility of its report and recommendations.

Rigour and diligence – to undertake thorough information gathering and analysis to preserve our independence in reaching our final recommendations.

Strategic focus – to address the wide ranging terms of reference and deliver a report with practical recommendations within the 10 month timeline.

Efficiency and probity – to meet milestones and inquiry deadlines and operate in accordance with probity standards.

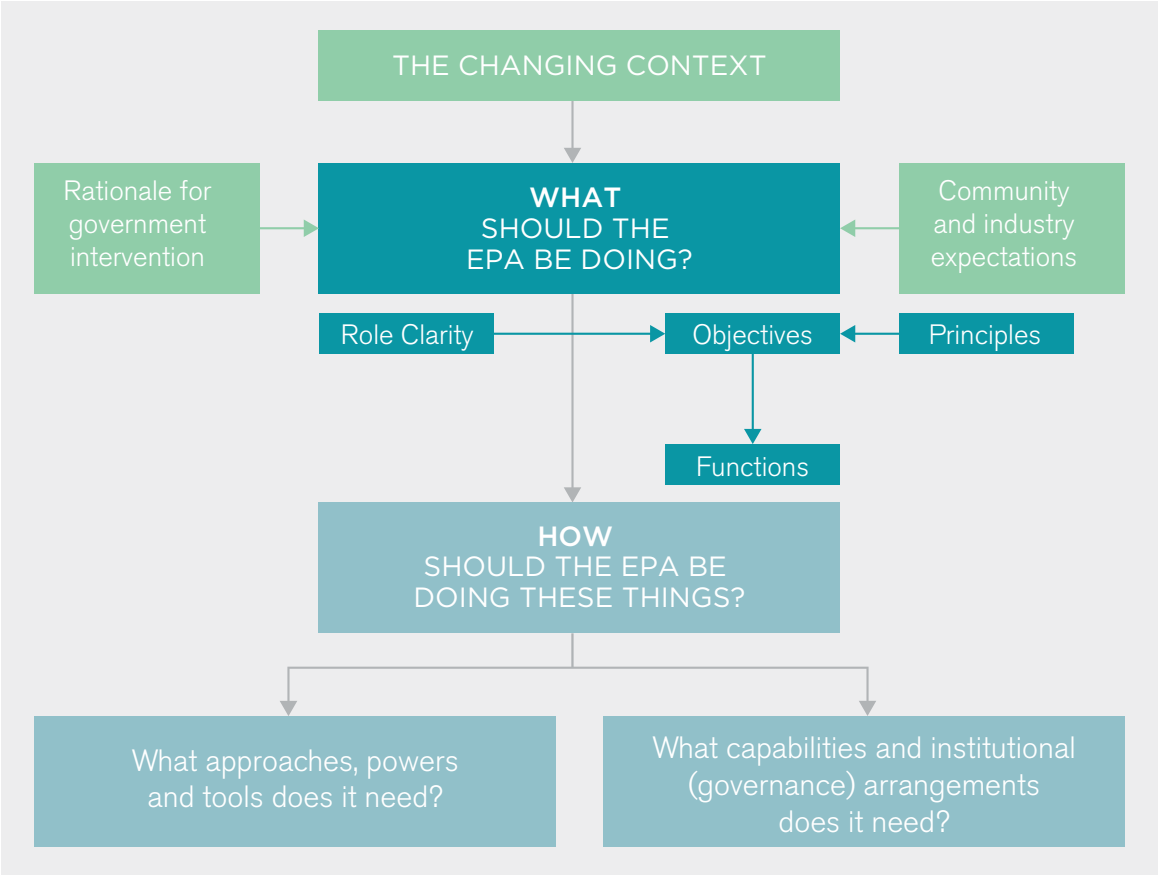
This report is the product of an extensive consultation program and engagement with community, key stakeholders and experts; review of academic studies and research, examination of Victorian Government programs, policy and legislation; examination of other jurisdictions; and expert advice and testing of ideas.

Details of the public consultation program and our targeted engagement of key stakeholders and experts are outlined below.

1.5 Analytical framework for the inquiry

We developed an analytical framework for the inquiry, to organise the key areas of investigation clearly and logically, and to help manage the broad scope (figure 1.1).

FIGURE 1.1 EPA INQUIRY ANALYTICAL FRAMEWORK



Part A of this report presents the context for the review. We examine the changing context facing the EPA of the future. We highlight key trends affecting the economy, population growth and the use of technology, and the emerging environmental challenges that Victorians are likely to face (chapter 2). We also report the key issues and concerns we heard from stakeholders across Victoria as part of our consultations and through written submissions (chapter 3).

Part B of the report focuses on the purpose of the EPA, accounting for its changing operating context and community concerns and views of the priorities for the EPA. In other words, we consider *what* should the EPA be doing? We examine the following issues to help answer this question:

- the rationale for government intervention to address environmental issues (chapter 4)
- expectations about the outcomes of environmental regulation, and the conduct of the regulator – and what these mean in terms of the key attributes required of the EPA (chapter 4)
- the EPA's role, including defining its core objective and the principles it must consider to meet this objective (chapter 5)
- the appropriate range of functions or types of activities that the EPA needs to perform, in particular, recognising its role as a science-based regulator (chapters 5 and 6)
- the EPA's role as one part of a broader environment protection regime in Victoria, and how it works with and influences other agencies (chapter 7).

Based on this analysis, we identify the EPA's appropriate role in key areas identified in the terms of reference, including where complex issues – environmental justice (chapter 7), climate change (chapter 8), emergency management (chapter 9) and land use planning (chapter 10) – require whole-of-government approaches.

Having established *what* the EPA should be doing, **Part C** looks at what tools, instruments and approaches the EPA needs to perform its role in the most effective and efficient way, including how it works with other areas of government (chapters 11 to 18).

Part D of the report identifies the governance and institutional arrangements needed to support an effective EPA (chapter 19). We also consider the organisational expertise and capabilities that the EPA of the future will need to fulfil the regulatory roles outlined in the earlier chapters (chapter 20), and we examine appropriate funding mechanisms and the resourcing implications (chapter 21).

1.6 Public consultation and engagement program for the inquiry

We started the public consultation component of the inquiry by launching a discussion paper, website and statewide program of public consultation. Stakeholders could download the discussion paper, register for events, make written submissions or contribute to discussion forums via the website.

We sought feedback directly from the Victorian community though a broad reaching public consultation program (open from 18 August 2015 to 31 October 2015). During this period, we conducted: a series of stakeholder roundtables; direct consultation with the community in regional and metropolitan locations; a series of site visits around the state; and direct meetings with a broad range of stakeholders across Victoria.

These engagement activities gave us opportunities to better understand local and regional issues and complexities directly from affected community members and industry. Overall, we met directly with more than 600 people during the public consultation program and received 212 written submissions.

We used these inputs from the public consultation program to inform our deliberations, and ultimately, the key findings and recommendations of this report. In keeping with the commitment to an open and transparent inquiry, summaries of key themes and issues arising from discussions at the stakeholder roundtables and the public consultation sessions were publicly accessible on the inquiry website. We published the written submissions we received on the inquiry website in January 2016.

Throughout the inquiry, we had many valuable discussions with senior office-holders across the Victorian public sector, including departmental secretaries, commissioners and heads of statutory authorities, and senior public servants. At the start of the inquiry, meetings with more than 50 senior office-holders in a range of sectors helped to clarify the changing requirements of the EPA, and to explore matters relating to our terms of reference. We held further meetings towards the end, to seek input on specific issues and to consider links between the future task of the EPA and other areas of government.

1.6.1 Community and Industry Advisory Group

We established the Community and Industry Advisory Group (CIAG) required under our terms of reference. It provided a focused forum for exchanging and testing views and to build a shared understanding of key issues among members. CIAG consisted of 15 representatives of peak bodies from the environment, community, industry and business, professional and local government sectors.

In July 2015, CIAG met to discuss the trends and issues influencing the operating environment and the role of the EPA. CIAG met again in December 2015 and discussed some of the key dilemmas at the forefront of our deliberations. The meetings were helpful and informative, providing a range of knowledge, experience and insights. They also highlighted differing views. We published a summary of the discussion at each meeting on our website.

The following organisations were represented on CIAG:

- Australian Industry Group
- Australasian Land and Groundwater Association
- Cancer Council Victoria
- Environmental Justice Australia – Victoria
- Environment Victoria
- Minerals Council of Australia (Victoria)
- Municipal Association of Victoria
- Plastics and Chemicals Industries Association
- Property Council of Australia (Victoria)
- Victorian Employers' Chamber of Commerce and Industry
- Victorian Council of Social Services
- Victorian Farmers Federation
- Victorian Trades Hall Council
- Victorian Waste Management Association
- Victorian Water Industry Association.

1.6.2 Stakeholder roundtables and meetings

We held five stakeholder roundtables in August and October 2015 with:

- peak industry bodies
- environment and advocacy bodies
- local government
- EPA officers
- planning and environment sector professionals.

There were approximately 135 attendees in total across the five events.

The roundtables posed a series of questions aimed at exploring views on the future of Victoria's environment and how this may affect the work of the EPA, and the organisations and communities with which it works. Each roundtable gave specific insights from a sectoral point of view, drawing on their experience and understanding of particular issues and problems.

We also received specific sectoral insights from meetings with stakeholders. The roundtables and meetings with stakeholders complemented the cross-sectoral discussions that occurred through the CIAG meetings.

1.6.3 Public consultation sessions

Throughout September and October 2015, we held 17 community consultations across Victoria in 10 regional and seven metropolitan locations: Wodonga, Shepparton, Werribee, Warrnambool, Coburg, Ringwood, Bairnsdale, Traralgon, Richmond, Horsham, Ballarat, Bendigo, Frankston, Geelong, Sunshine, Dandenong and Mildura. Approximately 280 people attended the sessions.

Public consultation sessions were open to all community members and industry representatives and were supported by a comprehensive advertising schedule and direct recruitment. These sessions posed a series of questions:

i) What are the key environmental challenges for the next 20 years in your community?

ii) What are the implications of these challenges and issues for the future of the EPA?

iii) What are the implications of these key challenges for you and your community/sector?

We engaged Michael Henry, Christine Kotur and Janine Haddow to facilitate the stakeholder roundtables and public consultation sessions.

1.6.4 Site tours and meetings on the road

In addition to the public consultation sessions, we toured sites and met with stakeholders across regional and metropolitan locations. We met with individual members of the community and businesses, indigenous community members, peak industry and advocacy bodies, local government officers, mayors and councillors, water and catchment management authorities, waste and resource recovery groups, industry professionals, culturally and linguistically diverse groups and specialist experts. Altogether, we met with approximately 200 stakeholders at 48 meetings and site tours.

Importantly, these meetings provided opportunities for us to better understand local and regional issues from the perspective of affected stakeholders. The site tours provided a first-hand understanding of locational complexities being managed by the EPA and industry. These tours covered significant areas of industrial activity and 'hot spots', to better understand the landscape and locations of key sites experiencing challenges. Such challenges included encroachment on buffer zones, odour and noise pollution issues, legacy contamination and land use planning and growth pressures.

1.6.5 Local government consultation

Local government meetings were a key component of the public consultation program. We met directly with 22 local governments, including mayors, councillors, and council officers, while we hosted public consultation sessions across Victoria. The local government roundtable held in August 2015 attracted over 30 representatives from local governments. Some issues raised were consistent while others differed between metropolitan and regional local governments.

1.6.6 EPA consultation

The EPA assisted us by responding to requests for background and technical information, organising site visits, guiding driving tours, and bringing together staff for discussions with us.

As provided by our terms of reference, we consulted with the EPA Chairman, Cheryl Batagol, and the members of the Environment Protection Board, Bob Welsh, Ross McCann and Debra Russell, on three occasions during the course of the inquiry. We also consulted with EPA's Risk and Audit Committee, and with the Science and Engineering Advisory Committee, including separate meetings with its chair, Dr John Stocker AO.

We also had two detailed briefing sessions with the EPA Chief Executive Officer, Nial Finegan, together with other senior officers.

The EPA staff roundtable in August 2015 was complemented by:

- meetings with EPA staff at head office and regional offices
- a visit to the EPA's Applied Science Group in Macleod
- attendance at the EPA all staff meeting with the Chief Executive Officer.

These arrangements were useful in providing us with a range of EPA perspectives – Chairman, Chief Executive Officer and staff both at head office and regions. Common issues were raised and were consistent with what we heard from other stakeholders.

1.6.7 Government Reference Group

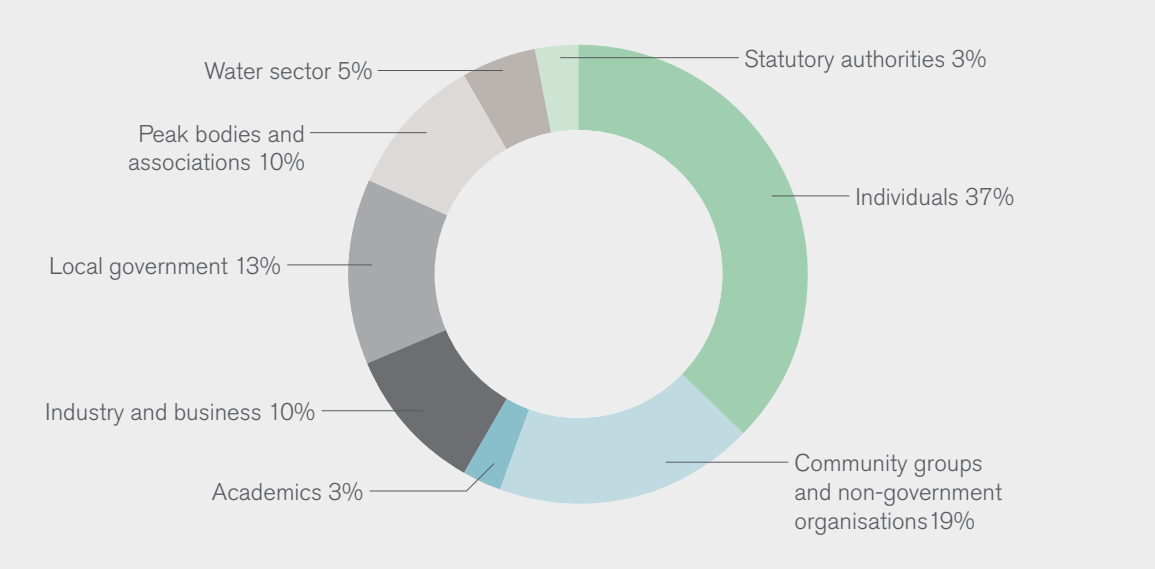
A Government Reference Group was established by DELWP, under the inquiry's terms of reference, and met four times. It comprised representatives from DELWP, the Department of Premier and Cabinet, the Department of Treasury and Finance, the Department of Economic Development, Jobs, Transport and Resources, the Department of Health and Human Services (DHHS) and the Department of Justice and Regulation. The inquiry secretariat attended as an observer and participated in discussions on environmental issues and regulation from a whole-of-government perspective.

1.6.8 Written submissions

We prepared a discussion paper to guide discussions during the public consultation and engagement program. Released on 18 August 2015, it highlighted issues for exploration including: land use planning; public health; emergency management; climate change; and better regulatory approaches.

We received 212 written submissions in response to the paper, from a range of stakeholder groups (figure 1.2). We published the submissions on the inquiry website in January 2016.

FIGURE 1.2 WRITTEN SUBMISSIONS TO THE INQUIRY, BY CATEGORY



The submissions provided a wealth of material for us to consider. As well as reading the submissions, we engaged an independent consultant to review and analyse all the written submissions. This analysis helped us to understand stakeholders' higher order expectations of the EPA, and the key themes and directions from the submissions.[3]

1.7 Expert advice and additional information for the inquiry

We met and sought advice from international and national thought leaders, experts and academics in public policy and best practice regulatory approaches, including for environmental regulation.

We gained valuable insights from the following individuals:

- Professor Malcolm Sparrow, John F. Kennedy School of Government, Harvard University
- Daniel Walsh, Director, New York City Office of Environmental Remediation
- Barry Buffier, Chief Executive Officer, New South Wales EPA
- Mark Gifford, Chief Environmental Regulator, New South Wales EPA
- Tony Circelli, Chief Executive, EPA South Australia
- Jo Gerardu, founder and consultant to the International Network for Environmental Compliance and Enforcement
- Natalie James, Fair Work Ombudsman
- Hon. Bernie Teague AO and Dr John Catford of the Hazelwood Mine Fire Inquiry
- Shoshana Wall, Director, Corporate Relations, Service New South Wales
- Nikki Williams and Shabnam Gill, New South Wales Department of Premier and Cabinet (Behavioural Insights Unit)
- Dominique Darmendrail, General Secretary, International Committee on Contaminated Land
- Peter Nadebaum, Australasian Land and Groundwater Association
- Geoff Lawler, Director City Operations, City of Melbourne
- Adrian Finanzio SC
- Mark Dwyer, Deputy President, Victorian Civil and Administrative Tribunal.

We also commissioned experts to provide us with specific advice:

- Professor Neil Gunningham, of the ANU School of Regulation and Global Governance, provided advice about adopting a general duty, options for reforming environmental law, and regulating diffuse and small point source pollution.
- Professor Michael Buxton and Dr Kath Phelan, of RMIT University's School of Global, Urban and Social Studies, provided advice about land use planning issues relevant to the EPA.
- Mr Eamonn Moran QC PSM provided us with policy and legal advice on legislative arrangements relevant to our deliberations.
- Ms Claire Thomas PSM peer reviewed drafts of the report.
- Ms Pam White advised on governance models.
- Dr Michael Henry and Ms Jennifer Mansfield of the Strategy Shop reviewed and analysed the written submissions.

We examined numerous examples of better practice approaches from other jurisdictions, both in Australia and internationally, and engaged directly with experts and practitioners. This included visits to New South Wales and Queensland, attendance at conferences, and meetings with practitioners. We also drew on the insights and experience of experts in the United States through one-on-one meetings[4] and teleconferences.

We recognise that context is important and that we must account for the specific history and operating conditions that will influence Victoria's EPA into the future. But we were informed and encouraged by looking at how other jurisdictions are tackling similar problems. We did not restrict our focus to environmental regulation, examining approaches from various sectors including occupational health and safety, transport accident prevention and employment regulators. We drew on the experience and innovation of others to identify new ways of approaching the challenges for the future. That said, it is clear to us that no one approach has all the answers – nor can be adopted without duly considering our local circumstances.

We also had many discussions with people throughout the Victorian public sector. We gained invaluable insights into the issues to be addressed by the EPA of the future and informed our thinking about its role and interaction with other parts of the government.

1.7.1 Social research

The public consultation program, while extensive and in-depth, chiefly attracted participants that had previously engaged with the EPA. To understand expectations from the wider Victorian community and their understanding of the EPA, we commissioned Ipsos Australia to conduct social research involving a sample of 600 Victorians.[5] Specifically, this research helped us to establish Victorian public opinion and sentiment about:

- the importance of the EPA
- the magnitude of concern surrounding the environment
- specific environmental issues, both unprompted and prompted
- whether environmental issues in Victoria are deteriorating or improving
- the extent of familiarity with the EPA
- interest in information relating to pollution issues and the quality of the environment
- previous access of information relating to pollution issues and the quality of the environment
- trusted messengers of information about waste, pollution, air and water quality issues.

This research identified general sentiment about the value or importance of the benefits provided by Victoria's environment and the need for government to play a role.

1 Victorian Government 2015, Response to *The State of the Environment Report 2013*, p. 7.

2 Victorian Government 2015, Response to *The State of the Environment Report 2013*, p. 7.

3 The Strategy Shop 2015, Report on Submissions to 2015 EPA Inquiry, December.

4 Conducted by Penny Armytage as part of a personally funded trip to the United States.

5 Ipsos Australia 2016, *EPA Inquiry Social Research*, prepared for EPA Inquiry, January.

CHAPTER 2

CHANGING CONTEXT: TRENDS AND EMERGING CHALLENGES

CHANGING CONTEXT: TRENDS AND EMERGING CHALLENGES

KEY MESSAGES

The EPA of the future will be shaped by four key factors:

- Victoria's changing economy
- population growth and urbanisation
- a changing environment
- technological change.

Since 1971, the EPA's core role has been managing pollution and waste to protect human health and liveability.

The EPA's regulatory approach and tools have evolved and will need to continue to evolve to a system wide approach with a preventative focus.

Changes are required for the EPA to maintain Victoria's liveability and productive capacity.

The future challenges require an informed, science-based and proactive EPA.

2.1 Introduction

Since the EPA was formed in 1971, Victoria has changed profoundly. This change looks set to continue. Our population has grown, and is expected to almost double between now and 2050. The future will bring increased demand for land, higher consumption, busier roads and more waste. The Victorian economy has moved from predominantly manufacturing to services, leaving a legacy of contaminated sites. New industries, such as intensive agriculture and nanotechnologies, create new and potentially unforeseen risks and consequences. And Victoria, like the rest of the world, is not immune to the adverse impacts of climate change.

The EPA, too, has changed since 1971, its focus gradually expanding from controlling obvious sources of pollution to addressing less obvious and more complex problems. At the same time, it has developed more sophisticated ways to achieve regulatory outcomes. In the future, changes in the economy, population, the environment and technology all have implications for the future EPA.

2.2 The EPA over time

Before the 1970s, the Victorian Government's efforts to mitigate pollution were limited, fragmented, ad hoc and infrequent.[1] Action was usually prompted by serious but isolated instances of pollution or because degradation of a particular part of the environment caused problems for an industry or the public.[2] Pollution control responsibilities were spread across various state and local government agencies.[3]

These concerns and problems were apparent in the parliamentary debates about Victoria's – and Australia's – first pollution control legislation, the EP Act.[4]

> *The public at large has begun to realize that it is not only the material things resulting from our industrial development, but also the control of the environment in which we live, which makes for a good life.*[5]
>
> *The power to pollute will in future be restricted. The Earth itself will soon be uninhabitable unless controls are placed on waste management and polluters in general.*[6]

The EPA was established under this legislation and came into effect on 1 July 1971. The EP Act defines the EPA's powers and functions and provides a framework for how it acts to prevent and control air, land and water pollution, and industrial noise and waste. From the beginning, the EP Act and the EPA focused on protecting human health and the environment from the effects of pollution and waste.[7]

Initially, the EPA focused on controlling large sources of air, water and land pollution, chiefly from industrial facilities. It set environmental standards to guide all agencies in preventing pollution[8] – the state environment protection policies or SEPPs. It also licensed premises and prosecuted offenders. It was recognised early on that these regulatory tools needed an EPA with strong scientific capabilities – to determine policies and establish licence conditions.[9]

Over time, the EPA's mission evolved to tackle wider, less obvious sources of pollution and waste. And it developed a wider range of tools for managing risks and reducing harm to human health and the environment. The EPA's evolution can be considered over its nearly five decades as follows.

2.2.1 One source of pollution at a time – 1970 to 1980

In its early life, the EPA used targeted policies and single-issue instruments to combat air, water and land pollution where the cause could be identified. For air pollution, it introduced ambient air quality standards and licence conditions for major emitters. The EPA also prosecuted illegal emissions.

2.2.2 Tackling diffuse sources and more complex problems – 1980 to 1990

In its second decade, the EPA began to recognise the effects on the environment from diffuse sources and expanded its regulatory approach to tackle more complex problems. It established new regulatory instruments for smaller polluters, such as issuing pollution abatement notices to premises exempt from licensing. It also tackled diffuse sources impacting on water quality and air quality, including motor vehicles. Backyard burning was banned in metropolitan Melbourne. It also strengthened controls on large point sources by introducing works approvals to influence the design and performance of major new facilities to reduce pollution impacts.

The *Environment Protection (Industrial Waste) Act 1985* expanded the EPA's remit to include waste management. The EPA could now make statutory industrial waste policies, and introduce regulatory controls for storing, handling, transporting and disposing of industrial waste. Over the same period, the government introduced the first regulatory responses to the problem of land contaminated from past industrial activities, with recognition of its risks in the planning system.

The importance of scientific capability continued to be recognised, and the EPA was restructured into science, policy and operations functions in the mid–1980s.[10]

The EPA also developed a new cooperative approach with industry and the community, with businesses required to prepare environmental improvement plans and engage with the public.

2.2.3 Greater focus on prevention and systemic issues – 1990 to 2000

From the 1990s onwards, the EPA applied its expertise to systemic problems that operated at a global scale, such as ozone depletion and managing greenhouse gas emissions. It also developed a range of new solutions to local pollution problems, such as programs to promote cleaner production. Improved understanding of risks meant that the EPA needed to work with others across government to respond to newly emerging challenges and manage the 'long tail' of past pollution.

Reflecting the emerging focus on prevention, the *Environmental Protection (Resource Recovery) Act 1992* introduced requirements for regional and state plans for municipal, construction and non-hazardous solid waste.

National approaches to protecting health and the environment became more important. The EPA was influential in establishing the National Environment Protection Council in 1995, which introduced cooperative arrangements to set national standards. The Council developed National Environment Protection Measures on air, water, soil and noise pollution, for example.

The EPA also continued its cooperative approach with industry and the community, introducing the accredited licensee scheme to provide more flexibility to businesses with high environmental performance.

2.2.4 More transparency and yet more complexity – 2000 to 2010

The EPA brought greater transparency to its decision making processes. The environment protection principles were added to the EP Act, including the precautionary principle, intergenerational equity, and protection of biological diversity and ecological integrity. Meanwhile, corporate licensing reduced the red tape burden on licence holders.

The EPA engaged with industry and community to address difficult environmental problems, including through neighbourhood environment improvement plans designed to encourage industry and the community to address local issues.

The EPA played a greater role in climate change. The Industry Greenhouse Program and its successor, the Environmental Resource Efficiency Program, required Victoria's top 250 energy and water users to conduct energy audits and improve energy efficiency. Other organisations could use voluntary arrangements, such as sustainability covenants, to reduce their greenhouse gas emissions.

2.2.5 Risk-based compliance and enforcement approach – 2010 to present

Following the 2011 Compliance and Enforcement Review (Krpan Review), the EPA introduced a risk based compliance and enforcement approach. The licensed operator risk assessment model prioritised licensed sites based on risk. The EPA also started piloting earned autonomy to provide incentives to high performing businesses.

A reformed works approval process and environmental audit system also reduced red tape for industry. And the EPA strengthened its focus on community engagement, especially with communities affected by odour from landfill and air pollution from industrial sites and emergency incidents.

2.2.6 Additional drivers of change

These changes in regulatory practice and the development of new tools and approaches reflect improved knowledge and prevailing environmental problems at given times. Major pollution incidents were also influential – the 'discovery' of contaminated land in Ardeer in 1989, the landfill gas impacts at Brookland Greens Estate in 2008 and the Hazelwood mine fire in 2014. Government policies and the findings of external reviews by the Victorian Ombudsman[11] and the Victorian Auditor-General's Office[12] also served as catalysts for changes to the EPA, as did national and international agreements on environment protection (box 2.1).

BOX 2.1 INTERNATIONAL AGREEMENTS ON THE ENVIRONMENT

Global environment agreements have been a feature of environment protection for many years. Although entered into by the Commonwealth Government, many international agreements have implications for state level environmental regulators such as the EPA through complementary legislation and controls.

Given the interconnected nature of problems facing the environment now and into the future, agreements are likely to become more important. This includes the recent 2015 Paris agreement that seeks to keep warming to 1.5°C above pre-industrial levels, half a degree above current warming. Key international environmental agreements include:[13]

Year	Agreement
1973	International Convention for the Prevention of Pollution from Ships
1987	Montreal Protocol on Substances that Deplete the Ozone Layer
1989	Basel Convention for the Control of Transboundary Movements of Hazardous Wastes and their Disposal
1992	Rio Declaration on Environment and Development
1992	Convention on Biological Diversity
1992	United Nations Framework Convention on Climate Change
1998	Kyoto Protocol
1999	Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade
2001	Stockholm Convention on Persistent Organic Pollutants
2015	Paris Agreement under the United Nations Framework Convention on Climate Change

2.3 The challenges of the future

The future will bring new challenges and opportunities for environmental regulators such as the EPA. Four global trends have particular implications for Victoria (figure 2.1) – and for the EPA's role and activities in managing pollution and waste risks to human health and the environment in Victoria. These are: the changing economy, population growth and urbanisation, the changing environment and technological change.

FIGURE 2.1 THE CHALLENGES OF THE FUTURE

30 YEARS AGO	TODAY	IN 30 YEARS
Changes to our size and demographics		
Victoria has a resident population of around 4.2 million people in 1986. Regional Victoria has been growing faster than Melbourne for over a decade. Women have a life expectancy at birth of 79.5 years, while for men it is just 73.2 years.	Now the fastest growing state in Australia, Victoria's population sits at around 5.8 million people. Melbourne is growing faster than the regions. Women's life expectancy is 84.7 years in 2013, while men can expect to live to 80.7 years.	Victoria houses a population of around 9.4 million people. Melbourne experiences the majority of this growth, while growth in regional areas is focused on city centres. Life expectancy is around 89.5 years for women and around 87.0 for men.
Changes to our key industries		
Manufacturing is the biggest industry in Victoria in 1986. employing 19% of the state's workforce.	Health care and social assistance is now the biggest industry in Victoria, accounting for 13% of the workforce.	Victoria continues to capitalise on its strong service sector, exporting our knowledge and expertise to the world.
Health care and social assistance is the fourth largest industry by employment, with an 8% share of the workforce.	Manufacturing has not kept pace, with a 9% share of the workforce, though it remains the state's second largest employer.	Continued growth and structural change in Victoria's economy sees a further shift away from goods-producing sectors towards services.
Changes to our environment concerns		
Environmental issues are centred on localised concerns such as pollution, pests, rising salinity and protecting wilderness areas.	Broader environmental challenges are now high on the agenda, including climate change, water quality, land, degradation, native vegetation and biodiversity.	Rapid urbanisation fuels innovation and the quest for sustainable and resilient cities. Sustainability metrics are improved giving rise to smarter environmental decisions.
Changes to our technology		
The Victorian government, business and the community use analogue technology or paper based systems. Computers are gaining a foothold, but with limited data storage and networking capabilities.	Rise of the internet and mobile devices, data sharing and public availability of data offer people an understanding of the world in real time. Business and the community expect regulators to quickly track environmental conditions and outcomes, and respond and engage via traditional and social media.	Technological advances are likely to change Victoria in radical ways, and for the EPA it means using a wider range of data and new technology to monitor trends and predict and prevent risks to the environment and public health, and to widely share this information.

Adapted from: Deloitte Access Economics and Infrastructure Victoria 2015, *From the ground up, Developing a 30-year infrastructure strategy for Victoria*, p. 11.

2.3.1 A changing economy

The EPA's initial focus on large scale industry reflected the heavily industrialised nature of Melbourne's economy in the early 1970s. Since then, the Victorian economy has undergone significant change, reflecting similar trends in other industrial economies through globalisation and domestic deregulation. The Victorian economy is now largely services-based, relying less on manufacturing and agriculture.[14] Manufacturing still plays an important role in the economy, with the largest sub-sector, food and beverage manufacturing, contributing $29 billion to the state economy in 2013.[15]

The Victorian Government has identified priority areas for future economic growth that build on Victoria's competitive advantages: food and fibre, medical technology and pharmaceuticals, new energy technology, transport, defence and construction technologies, international education and professional services.[16]

Environmental regulation needs to respond to changes in the economy to maintain Victoria's productive capacity and valuable natural capital.[17] It also needs to maintain Victoria's high liveability. The Victorian economy benefits from Victoria being an attractive place to visit and live, for example, through tourism, education and some professional services.

The challenges for environmental regulation will differ across sectors in the economy. Specific issues the EPA needs to consider in the future include:

- Intensive agriculture – Identified growth opportunities are likely to involve fewer but larger farms.[18] This may have both positive and negative environmental effects. More intensive agricultural production such as feedlots, dairy and broiler farms can affect the surrounding environment. The effects may range from waste entering local waterways to noise and odour. However, fewer and larger farms may make it easier to manage and identify problems.
- Advanced manufacturing – New materials and technologies may reduce emissions and waste but could have unanticipated longer term impacts. Smaller industrial operations may make it difficult to identify pollution sources.
- Transport – Transport networks are critical to the economy.[19] The EPA will be involved in decisions about major infrastructure projects, to manage noise and air pollution from increased road transport activity. Melbourne is already experiencing increases in road transport (for example, truck vehicle kilometres travelled has risen by 21 per cent in the past 10 years).[20] Forecast increases in the volume of goods passing through the Port of Melbourne[21] will have associated environmental impacts from road traffic.

2.3.2 Increasing population and urbanisation

Victoria's population was 3.4 million in 1970[22] and Melbourne's population was 2.7 million in 1973.[23] Now, Victoria's population is projected to increase from approximately 5.8 million in 2015[24] to 7.7 million by 2031 and then 10 million by 2051.[25] Melbourne's population is expected to increase from 4.4 million in 2015 to 7.7 million in 2051.[26] This growth will place greater pressures on our environment, as well as increased demands and impacts such as:

- increased energy and resource use
- increased waste generation
- higher demand for transport, with air quality and noise impacts
- higher demand for other infrastructure and facilities, with potential noise and other amenity impacts
- higher stormwater pollution
- increased pollution emissions from domestic and business activities
- increased competition for land, with potential impacts from conflicting uses.

Air pollution impacts on health

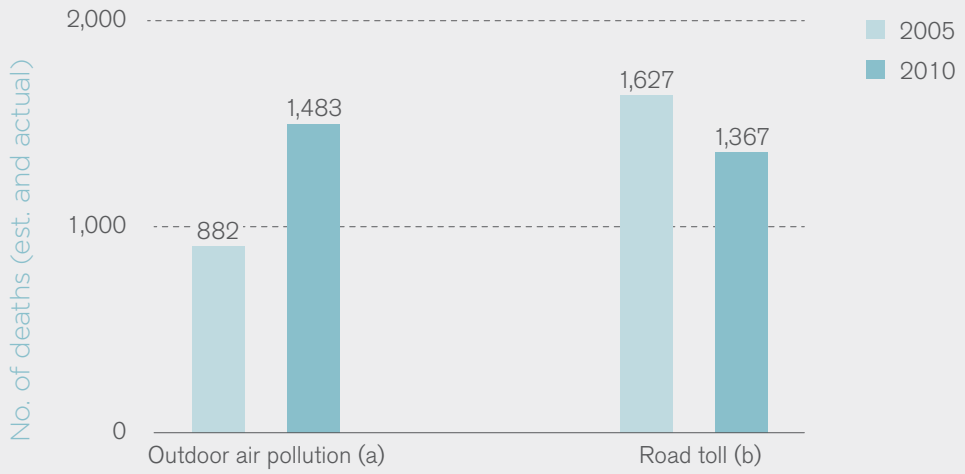
Although Victoria's air quality has improved since the 1970s, air pollution persists and will remain a concern, as sources and patterns change along with changes in industry, population, climate and technology.[27] According to the OECD, estimated deaths from air pollution in Australia rose between 2005 and 2010, and now account for more deaths than the road toll (figure 2.2).[28] The main sources of air pollution in Victoria include motor vehicles (especially diesel exhaust), industrial activity, wood heaters, windblown dust, and bushfires and planned burning.

Work undertaken by the EPA and CSIRO[29] indicates that air quality will remain a serious concern for the future health of Victorians. Emissions linked to domestic and business activities are expected to increase significantly as a result of population growth. The health impacts of air pollution are also likely to worsen because population growth means that more people are being exposed to harm – and we will have an ageing and more vulnerable population.

> *The EPA must look to the successful initiatives implemented in the 20 OECD countries where rates of pollution-related deaths have decreased, to close the gap in health outcomes for Australians and then emerge as global leaders in Clean Air best practice standards.*
> (Clare Walter and Professor Lou Irving submission, p.5)

Climate change may also have an adverse effect on air quality in the long term, with predictions of significant increases in summer smog (ozone) and increased bushfire risk. The EPA and CSIRO study concluded a likely increase in population exposure to fine particles and ozone – two key pollutants of concern for human health – over the period to 2030.[30]

FIGURE 2.2 DEATHS FROM AIR POLLUTION (ESTIMATED) AND ROAD ACCIDENTS, AUSTRALIA



(a) Total number of estimated deaths from ambient particulate matter (PM) and ozone pollution. **(b)** Deaths, all road users (drivers, passengers, pedestrians, motorcyclists, pedal cyclists and those with unstated or unknown user type).

Sources: OECD 2014, *The cost of air pollution: health impacts of road transport*, Paris, p. 7; Bureau of Infrastructure, Transport and Regional Economics 2010, *Road deaths Australia: 2010 statistical summary*, Canberra, p. 2.

Population change and land use conflicts

The bulk of Victoria's population growth will occur within, and on the fringes of, existing urban areas and major regional centres. In particular, the Melbourne metropolitan area is projected to grow to nearly 7.7 million by 2051.[31] For the EPA, this urban growth – both in its size and location – presents land use challenges, such as liveability impacts caused by greater urban density; residential encroachment on industrial and waste facilities; and redevelopment of former industrial sites.

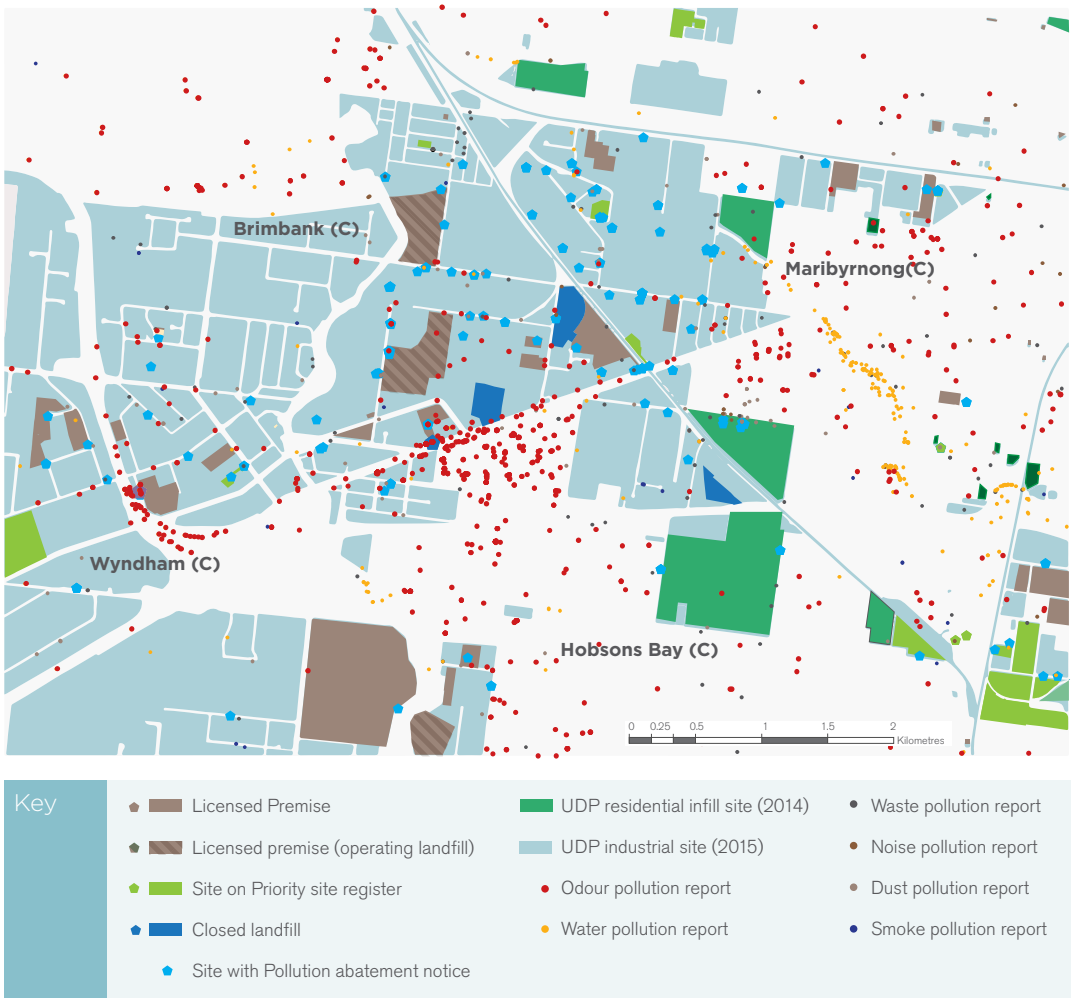
Denser living can create significant liveability issues such as noise pollution. Noise pollution is a major challenge for the EPA, be it noise created by large numbers of apartments in medium and high rise residential blocks, noise affecting residents in mixed-use areas that include entertainment and commercial venues, or transport noise affecting apartment dwellers along main transport corridors.[32]

It is likely population growth will increase land use conflicts between residential and other uses, as traditional 'buffers' are built on or former sites redeveloped. Closer proximity to pollution sources may also increase health impacts and the health burden associated with pollution, especially with an ageing population.[33] Residential areas are encroaching on industrial areas and waste management facilities, which have traditionally been managed using buffers. For example, this is an issue with residential developments in the Brooklyn-Tottenham-Altona North industrial precinct (box 2.2).

BOX 2.2 BROOKLYN-TOTTENHAM-ALTONA NORTH INDUSTRIAL PRECINCT[34]

The Brooklyn-Tottenham-Altona North industrial precinct highlights the issues associated with the close proximity of industrial and residential land – including the pressures of increasing residential development. The precinct, which spans four local governments, is an EPA priority area because of the high concentration of EPA-regulated sites and high number of sites subject to pollution abatement notices.

The map below represents long term residential land supply, EPA-regulated sites and pollution reports.



Source: EPA Victoria, 2016; Urban Development Program, DELWP 2014, 2015; RMIT University, 2015.

The high level of industrial activity already has implications for the health and amenity of nearby residents, particularly residential areas to the south. Currently, nearby residents are concerned about odour from tanneries and dust from landfills and unsealed roads. To ensure industry remains viable in the precinct, the EPA has worked with local councils and other interest groups to address the problems, with mixed results.

Looking ahead, the precinct has six large residential development sites in and around it. Many of these sites are adjacent to premises that will continue to be zoned for industrial use, near EPA-regulated premises, or on or near premises that have been issued pollution abatement notices. The area has also been designated as a waste and recovery hub.

These competing uses will create ongoing work for the EPA, which must enforce buffers around regulated sites and ensure the safe remediation of landfills and industrial sites.

In addition, population growth is driving the conversion of former industrial land to new uses in urban and peri-urban areas for housing and commercial activity. These 'brownfield' sites can play an important role in providing land for new residential development close to existing infrastructure and deliver social, economic and environmental benefits. For example, major redevelopment activity is already projected for major new precincts such as Fishermans Bend (box 2.3). However, many former industrial sites like Fishermans Bend also have significant levels of contamination. For sites such as these, the risks to human health and the environment must be assessed and managed before redevelopment proceeds.

BOX 2.3 FISHERMANS BEND

The 455 hectare former industrial precinct at Fishermans Bend is an example of large scale conversion of former industrial land to residential use. It gives Melbourne the opportunity for major new land uses, including housing, in the inner city, close to existing infrastructure, services and employment.

The precinct has a long history of industrial use, including contaminating activities, and therefore must be assessed and appropriately managed to make it safe for proposed new uses.

The EPA is working with the Metropolitan Planning Authority on a groundwater assessment and monitoring regime, using a precinct-based approach to manage groundwater contamination.

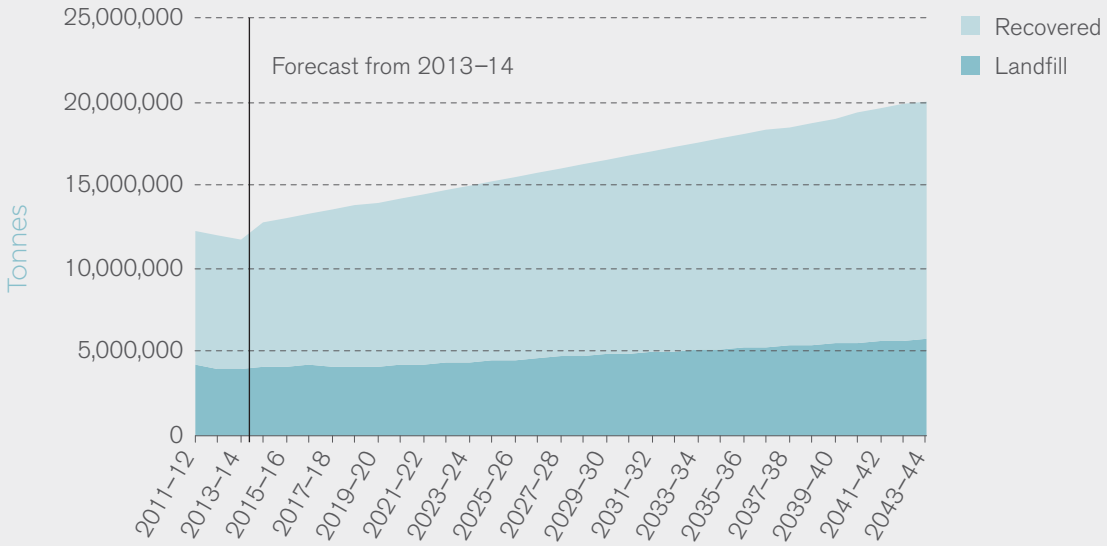
Population growth can exacerbate the health risks arising from past industrial practices, since more people find they are living or working in and around the risks. And understanding and concerns about the impacts of pollution and waste change over time. For example, pollution problems such as landfill gas (which can continue for decades after a landfill's closure), and land and groundwater contamination represent the 'long tail' of past industrial practices. The EPA must continue to deal with these problems into the future.

Waste

> *Over the next 30 years, Victoria is likely to generate over 500 million tonnes of waste (which could fill the MCG around 1,700 times). Of this, around 150 million tonnes (or 50 MCGs) are expected to go to landfill.*[35]

Population growth and increases in consumption will increase the amount of waste generated. Victoria currently produces around 12 million tonnes of solid waste each year, with around two thirds being recycled and the rest going to landfill.[36] Total waste generation is forecast to increase by 63 per cent to over 20 million tonnes by 2044, with waste to landfill remaining fairly constant (figure 2.3), noting that strategies in the Statewide Waste Resource Recovery Infrastructure Plan aim to increase the recovery rate.

FIGURE 2.3 PROJECTED WASTE RECOVERED AND LANDFILLED IN VICTORIA



Note: Past trends and population projections are used to project the tonnes of materials that will need to be managed over the next 30 years, under a business as usual scenario (which maintains the rate of recovery over the past 10 years). These results are indicative only, and do not predict actual tonnages.

Source: Sustainability Victoria 2016, Waste and Resource Recovery Projection Model v2.4.

Since the management of solid waste can have significant implications for human health and environmental health, it represents a continuing challenge for the future EPA.

Future landfill sites must be located and managed appropriately to limit the impacts on human and environmental health. The Statewide Waste Resource Recovery Infrastructure Plan and the Metropolitan Waste and Resource Recovery Implementation Plan aim to consolidate and aggregate waste material streams through a 'hubs and spokes' network of infrastructure facilities. Many of the 'hubs' identified in these plans are sites where the community has already experienced many years of landfill offsite issues, such as noise, odour, litter, dust and landfill gas.

The EPA has been the main agency alongside local councils in addressing offsite issues for existing landfill. These impacts, including odour and dust, will need ongoing management unless there is extensive change to Victoria's current settings. In addition, population growth may mean that more people feel these impacts in the future.

2.3.3 A changing environment

Several environmental indicators used for the 2013 Victorian State of the Environment Report show a poor or declining condition.[37] Australia has one of the highest material resource requirements per capita due to our lifestyle and commodity exports.[38] Measuring how much biologically productive land and water is required to support current levels of consumption and waste production, the EPA and the Commissioner for Environmental Sustainability estimated that the average Victorian requires 6.8 productive hectares to support their lifestyle, more than three times higher than the world average of 2.2 productive hectares per person.[39] If this continues, population growth will multiply our already high per capita ecological footprint and increase the pressure on Victoria's environment.

Climate change will compound this pressure. The Commissioner reported that Victoria is already experiencing the impact of a roughly 0.8°C rise in average temperatures since the 1950s.[40] Victoria's sea level rises have been similar to the global average of 3 millimetres per year since 1993. Victoria is also experiencing more extreme weather events. Between 1997 and 2009, Victoria endured a record-breaking 13–year drought, the longest recorded period of rainfall deficits on record. The summer of 2010–11 saw its highest rainfall on record, leading to major flooding to a third of the state.

And the future projections are alarming. By 2020, very extreme bushfire days are projected to occur twice as often in south eastern Australia, and catastrophic fires could occur twice as often. Other possible effects include increased erosion and storms in coastal areas, and native species losses. Australia also faces the prospect of an average 2,000 more heat-related deaths a year.[41]

Climate change is likely to affect the incidence of pollution and waste. Extreme weather events – floods, storms and fires – may result in pollution themselves, such as air pollution caused by smoke and dust storms. They may also damage existing measures for controlling pollution and waste, such as tailings dams for mining operations. These issues will have implications for the future EPA.

In addition, climate change and population growth will reduce the resilience of Victoria's environment. This also has implications for the EPA, for example, by reducing the amount of pollution that a local environment can tolerate before the ecosystems within it cease to function and the environment deteriorates significantly.

2.3.4 Technological change

> *New technologies are radically transforming the world, particularly in the fields of nano-, bio-, information and communication technologies. This provides opportunities to reduce humanity's environmental impacts and increase resource security but also brings risks and uncertainties.*[42]

Technological change creates both opportunities and risks for the EPA. Some new technologies may result in processes that will reduce pollution and waste while others may create new types of pollution and waste. In addition, new technologies may create opportunities for the EPA to collect, analyse and share data and information about the environment, health, and the risks of pollution and waste. Stakeholders are likely to have expectations about this information and the extent to which, and how, the EPA should make use of these new technologies.

Environmental risks from changing technologies

> *With the benefit of hindsight, it is clear that the introduction of certain technologies in the past (with inadequate regulation) led to tragedy for both human and environmental health (for example, DDT, thalidomide). Incidents such as these have led to increased regulatory controls for the acceptable levels of risk and benefit for food, chemicals and pharmaceuticals.*[43]

Changing technologies are likely to have several implications for the management of pollution and waste. First, they are likely to change the nature of a wide range of industries. In Victoria, for example, new technologies are likely to affect: electricity infrastructure and energy generation (particularly low carbon energy technologies including solar and wind); energy storage; motorised vehicles and aircraft; interchangeable parts and modularity; industry (through new forms of industrial production such as nanotechnology, biotechnology and 3D printing); waste disposal and recycling; agriculture; and food production.

Second, the pace of technological change is likely to increase. In the past 50 years, the world's largest database of unique chemical substances, compiled by the Chemical Abstracts Service, registered one substance on average every 2.5 minutes. Of the 100 million substances in the registry, about 75 million were added during the past decade.[44]

Third, changes in the materials and composition of products may have environmental effects. It may make them more difficult to recycle; for example, the increased use of mixed plastics lowers the percentage of recyclable materials in cars. Similarly, the shorter lifecycle for mobile phones and flat screen televisions generates significant e-waste.

Fourth, many technologies will come with unknown risks. Identifying risks associated with these technologies will likely require large amounts of data over long periods of time.

Keeping up with the pace of technological change, changes in the composition of products and waste and changing risks will be a challenge for the future EPA.

Technologies that change how the EPA operates

> *There is a potential role for the EPA to research and understand the environmental and health impacts of … future technologies to ensure a safe and liveable environment for Victoria.* (Mornington Peninsula Shire Council submission, p. 2)

The new digital economy is already transforming business and community expectations of government about information flows, trust and authority, and timely service provision. This is challenging the EPA to consider how it works with agility, establishes authority and builds community trust, and provides 'quick solutions which are intelligent and predictive – and designed from a citizen perspective – not based on government need or process'.[45]

The EPA uses data for many of its monitoring and enforcement activities. It cannot successfully prosecute a company that pollutes without data about the pollution and the impact of that pollution on public health or the environment. Similarly, it cannot inform the general public, stakeholders and government about the state of the environment without data.

Emerging digital technologies may allow the EPA of the future to resolve these gaps and meet rising expectations of responsiveness and communication to the public. In particular, they present new opportunities for collecting, storing, sharing, analysing and using data. For example, it may be possible for the EPA to receive a more detailed picture in real time about pollution, the environment, human health and how these all interact.

Cheaper, better quality sensors could transmit data from an increasingly wide range of points, such as buildings, cars, industrial equipment, and from within the environment. Remote devices like drones could collect data efficiently, including from hard to reach places. New forms of storage and increased computing power could enable faster scanning and retrieval of data; more sophisticated analytical software could find new insights and understanding; and improved modelling and simulation might help the EPA predict the outcomes of different interventions. Digital and cloud storage could streamline processes and reduce red tape for businesses while allowing government agencies to cooperate on complex environmental management issues. For example, better information about contaminated sites will help to avoid risks to human health and the environment.

Such new technologies can deliver a more accurate picture of Victoria's environmental health, enabling the EPA to make better informed policy decisions, identify risks and prevent harm.

Our understanding of the environmental and health risks of materials and chemicals will evolve as new technologies and science develops, leading to significant changes in the way they are managed.

2.4 Conclusion

Victoria has made significant gains in addressing pollution and waste problems since the early 1970s – through the work of the EPA and other parts of government. But there remain obvious problems to be addressed and the future holds the prospect of new challenges. Victoria will see increases in population and changes in the economy, climate and technologies. In the face of these challenges, the future EPA needs to be better equipped to anticipate and minimise harms – through influence, robust expert advice and new statutory tools.

The EPA also needs to operate as a mature regulator, mobilizing its experience and knowledge so that the right mix of regulatory approaches and tools is applied to deal with problems effectively and with least regulatory burden. These tools and approaches will need to be kept up-to-date and take advantage of new technologies. The EPA's future effectiveness will also involve a broader engagement of the Victorian community in the shared responsibility of environment protection to protect Victoria's liveability, economic prosperity and the environment.

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CHAPTER 3

WHAT WE HEARD FROM THE COMMUNITY

WHAT WE HEARD FROM THE COMMUNITY

KEY MESSAGES

There is overwhelming support from all stakeholders for an environmental regulator.

Different stakeholder groups have different views about the EPA's priorities reflecting their sectoral and individual interests.

Victorians want the assurance of an impartial and trusted EPA with scientific and technical capabilities.

3.1 Introduction

Environment protection plays a critical role in sustaining the health, way of life and prosperity of all Victorians. The EPA directly affects many in the community – those it regulates and those seeking protection for a particular issue – but the whole population has an interest in the effectiveness of the regulatory regime.

The EPA's stakeholders are not homogeneous: they comprise different groups, each with different information, different expertise and different interests or 'stakes'. They also have different experiences of environmental issues and of the EPA. The inquiry terms of reference reflect this diversity, by asking us to seek the views of the community, industry and workers in related industries, local government and Victorian government agencies, as well as those of other relevant stakeholders.[1]

Throughout the inquiry, we heard from stakeholders in various ways – via public meetings, written submissions, visits, roundtable discussions and social research. From our consultations, we identified six broad segments of stakeholders:

- the general community
- the engaged community
- businesses directly regulated by the EPA
- professionals and academics involved in environment protection and environmental health issues
- councils working in partnership with, and in many cases, licensed by the EPA
- other government organisations (box 3.1).

BOX 3.1 WHO WE HEARD FROM

The **general community** comprises Victorians who have not engaged with the EPA or are not concerned about specific issues. This group recognises the benefits of protecting Victoria's environmental assets (to maintain public health, to support future economic growth, to maintain their quality of life and for the environment per se). They see the EPA as something akin to an insurance policy – they understand that processes are in place providing them with a safety net and often they have no cause to think about it any further.

The **engaged community** are interested in particular issues managed by the EPA or in the EPA's operation. They include individuals or groups who have been affected by a polluter, for example, or non-government organisations with an interest in certain environmental outcomes. This group tends to have specific points of view about the EPA's role and/or an environmental outcome.

The **business community** includes large companies and small businesses that engage directly with the EPA, because they are licensed by the EPA or are affected by the EPA's regulatory activities. They also include businesses involved in helping the EPA conduct its activities or working with other businesses to meet their regulatory requirements, such as lawyers and environmental auditors. The business community tends to have perspectives about the EPA's role and how it engages with and regulates them.

The **professional and academic community**, including engineers, planners and lawyers, has expertise in environment protection and environmental health issues. Professionals offer practical insights into how the EPA and the broader system could work. Academics offer insights based on theory, or their knowledge of best practice including what occurs in other jurisdictions.

Local government authorities have a multifaceted relationship with the EPA[2] and therefore bring a range of interests. As managers of waste facilities, for example, they may be subject to EPA regulation and have similar interests to business stakeholders. As local regulators, they work with the EPA on issues such as residential noise, litter and asbestos disposal. They also provide health and safety information to the community. As statutory decision makers on land use planning issues, they seek the EPA's technical input and also make decisions that may have significant implications for the EPA relating to ongoing amenity impacts.

Government partners and other regulators often share expertise and knowledge about key issues that are either integral to or affect the EPA, including environmental issues, health and regulatory practices and activities that may create impacts. These government agencies include Sustainability Victoria, WorkSafe, Metropolitan Planning Authority, DELWP, DHHS and Department of Economic Development, Jobs, Transport and Resources. They bring insights from their experience working on related issues or partnering with the EPA on particular issues.

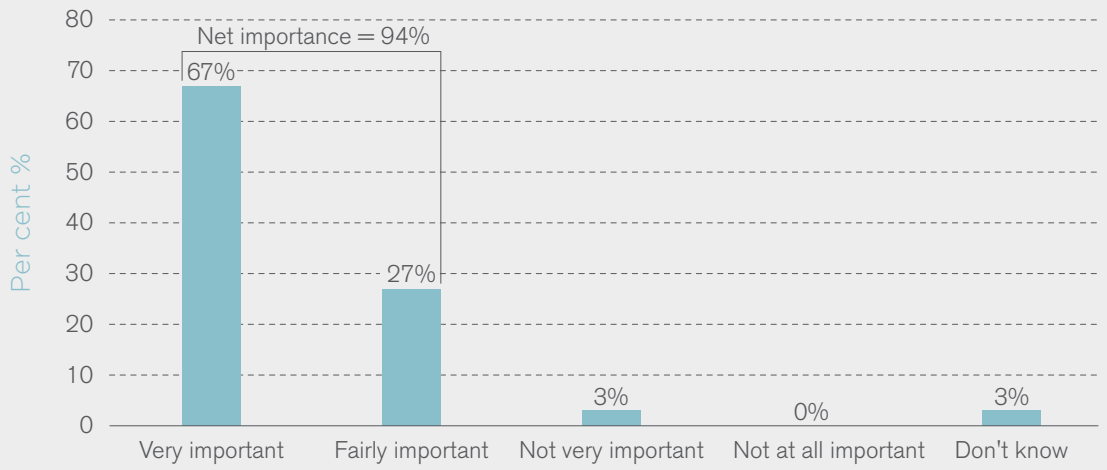
Stakeholder views helped us to understand the challenges the EPA faces now and in the future. Stakeholders shared their experiences and concerns, and gave their views about how the EPA should approach the task of protecting the environment and human health.

In this chapter, we present the key themes that emerged through our consultations, submissions and social research. On some issues, stakeholder views converged, while on other issues there were important differences.

3.2 Victorians think the EPA is important

Respondents to our social research strongly agreed with the statement 'It is important that everyone plays their part in looking after the environment'.[3] However, the research also suggested Victorians do not always trust individuals or businesses to do the right thing. Rather, they support and expect the government to intervene to help protect the environment. According to our social research, '… the Victorian community feel strongly that the environment should be actively protected and that government should take the lead in that endeavour.'[4] Indeed, almost all respondents said it was important for Victoria to have a government agency that protects the environment (figure 3.1).

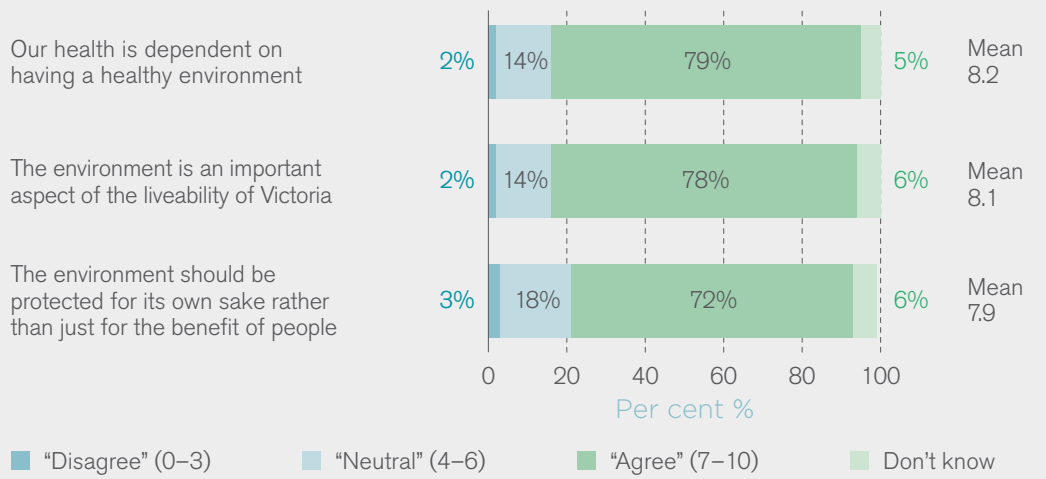
FIGURE 3.1 PERCEIVED IMPORTANCE OF HAVING A GOVERNMENT AGENCY RESPONSIBLE FOR PROTECTING THE ENVIRONMENT



Survey Q17. How important is it for Victoria to have a government agency responsible for protecting the environment? (Weighted (n=606))
Source: Ipsos Australia 2016, *EPA Inquiry Social Research*, prepared for EPA Inquiry, figure 7, p. 16.

Consultations with stakeholders and the social research suggested Victorians want the EPA to maintain Victoria's liveability, including their health and quality of life, the productive capacity of the environment and the environment for its own sake. A significant proportion of the community recognised strong links between the environment and 'liveability', and between the environment and health (figure 3.2).

FIGURE 3.2 LEVEL OF AGREEMENT WITH A STATEMENT



Source: Ipsos Australia 2016, *EPA Inquiry Social Research*, prepared for EPA Inquiry, figure 2, p. 10.

Over a third of social research respondents (36 per cent) included at least one of the three environmental issues (that is, they included at least one of 'access to natural environment for recreational opportunities', 'absence of pollution and waste' or 'a healthy natural environment') in their top three issues affecting liveability in Victoria. This result is significant given the alternatives included transport, healthcare, law and order, housing quality and education. Many respondents (68 per cent) were concerned about environmental issues in Victoria.[5]

We received similar feedback from our public meetings, visits, roundtables and written submissions. Very few participants questioned the EPA's existence and there was near universal respect for the work of individual officers:

> *The EPA plays an incredibly important role for Victorians in helping to keep our environment clean. The value of this cannot be understated.* (Centre for Aquatic Pollution Identification and Management submission, p. 2)

> *I had extensive dealings with senior EPA officers … during the Anglesea coal campaign. I always found them to be accessible, courteous and very fair and believe that this should be publicly acknowledged.* (Andrew Laird submission, p. 1)

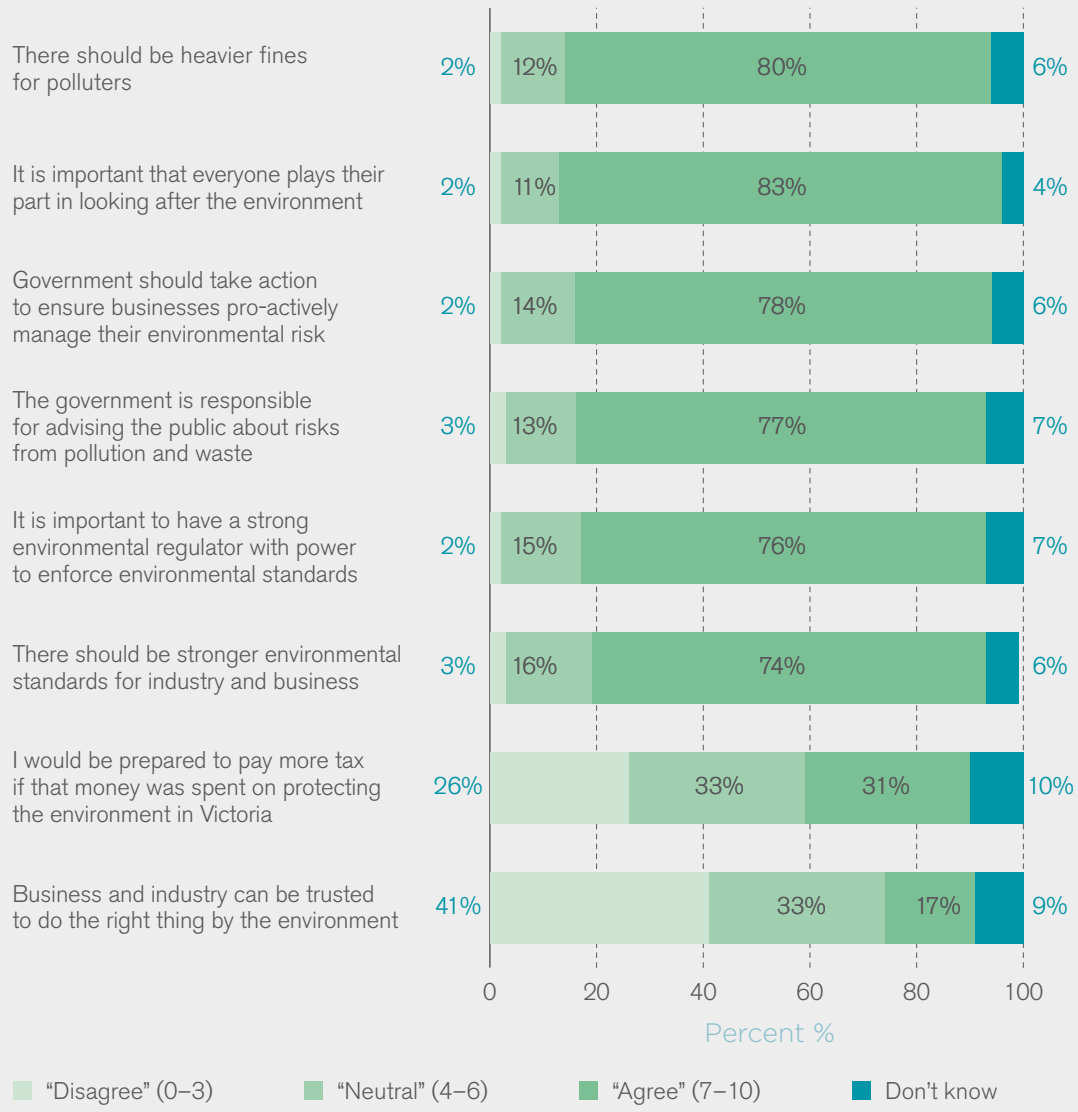
> *The professionalism and technical capabilities of EPA staff has been very apparent, which provides a good foundation for a stronger, transparent and accountable role as both environmental protector and regulator.* (Professor John Stanley submission, p. 2)

Further, many participants agreed on the key values necessary for environment protection. Specifically, Victorians want an independent regulator with the strength and power it needs to protect their health and their way of life:

> *We would like to preserve the level of independence the EPA has from government. It's important to safeguard the ability of the EPA to function effectively in its regulatory capacity.* (Mornington Peninsula Shire Council submission, p. 4)

Our social research also revealed respondents strongly agreed that 'it is important to have a strong environmental regulator with the power to enforce environmental standards'.[6] Victorians also want EPA processes to be fair and impartial with transparent and timely responses and regulatory action (figure 3.3).

FIGURE 3.3 COMMUNITY VIEWS ON ENVIRONMENT PROTECTION



Source: Ipsos Australia 2016, *EPA Inquiry Social Research*, prepared for EPA Inquiry, figure 18, p. 33.

Some stakeholders recognise that regulation pertaining to pollution and waste is an important factor in helping businesses maintain their social licence to operate:

> *It is critical that the public has confidence that the environmental regulatory framework is fit-for-purpose and continues to reflect community expectations concerning the protection of human health and the environment. Policy makers, industry and the EPA all share responsibility for ensuring this is the case. AGL is committed to excellence in environmental performance and we are confident our current environmental management systems can meet evolving regulatory and community standards.* (AGL Energy submission, p. 7)

> *The EPA is viewed as an independent, peak expert agency that is widely trusted and in the best position to explain complex issues in terms that can be understood by the wider community. Establishing the EPA as the regulatory noise authority in this instance would not eliminate community concerns entirely, however we expect it would help restore some community confidence in the process and reduce questions of independence. (Pacific Hydro Australia submission, p. 2)*

Stakeholders want an EPA that demonstrates best practice. One in four submissions suggested possible sources of best practice in environment protection and regulation.[7] They frequently raised practices adopted by EPAs in other jurisdictions and suggested that the government and/or the EPA look towards these when considering what is needed in the future:

> *Viva Energy advocates for the mandatory notification of contaminated site issues to the regulator, with clear and pragmatic threshold triggers. The NSW EPA approach is considered best practice…* (Viva Energy submission, p. 4)

Overall, Victorians want the EPA to be successful. Many participants recognised that the EPA is being called on to better support the different segments of the community and increasingly manage the diverse issues and views about solutions.

FIGURE 3.4 COMMUNITY ASPIRATIONS AND EXPECTATIONS OF THE EPA

Different segments of the community have different views about the EPA's priorities (figure 3.4). They value and prioritise different outcomes and information. They have different perceptions of and tolerance for risk. These contrasting views are part of the context that informs and changes community expectations over time. They have also been valuable to us in identifying critical issues of concern and potential areas for reform.

3.3 Dealing with competing views and interests

Although there was general agreement in terms of high level aspirations for the EPA, we heard many instances in which different stakeholders expressed different views about the EPA: what it should do, how it should do it, and whether it has been successful. These differences, which are apparent in the discussion that follows about the key wants and concerns of stakeholders, are to be expected given the different interests that different stakeholders hold about the issues.

It is not unique for a regulator to face pressure from stakeholders with a variety of perspectives:

> *Regulators, under unprecedented pressure, face a range of demands, often contradictory in nature: be less intrusive – but be more effective; be kinder and gentler – but don't let the bastards get away with anything; focus your efforts – but be consistent; process things quicker – and be more careful next time; deal with important issues – but do not stray outside your statutory authority; be more responsive to the regulated community – but do not get captured by industry.*[8]

Our consultations identified some fundamental differences about the scope of the EPA's task and its decision making principles (figure 3.5). The business and engaged community segments also had different views on specific issues, such as the extent to which the regulator should focus efforts on enforcing regulation versus providing guidance and advice.

FIGURE 3.5 CONTRASTING VIEWS ABOUT WHAT THE EPA SHOULD DO

Some stakeholders want stronger action and heavier penalties. In contrast, others want the EPA of the future to guide industry to comply and support them to rectify issues. Some stakeholders argued that businesses should be able to contact the EPA for advice on what to do without fear of receiving a penalty. They argued the EPA should encourage businesses to come forward with information that could help the EPA to understand problems and find solutions.

A regulator cannot seek to satisfy all stakeholders at all times. Each stakeholder has their own interests and often does not have all the information or the expertise to fully understand an environmental issue. Further, a stakeholder's satisfaction often relates to a policy decision made by government, which is beyond the regulator's mandate.

3.4 Key wants and concerns of stakeholders

Throughout the extensive public consultation program and in the 212 submissions, we heard the views of hundreds of EPA stakeholders. Views range from those pertaining to high level government and policy issues to those pertaining to specific operational practices of the EPA or particular incidents. Rather than attempt to describe every want and concern that we heard, here we summarise the key themes that stood out.

3.4.1 Preventing harm

Many stakeholders supported an EPA that more effectively prevents harm to public health, quality of life and the environment.

> *The regulator can play an equally powerful role in prevention, as it does in compliance and enforcement. Preventing an impact is always better than rectifying an impact. The EPA, as with all regulators, has a unique insight into the range of risks associated with specific activities that have the potential to cause harm.* (Minerals Council of Australia – Victoria submission, p. 6)

Many advocated changing the regulatory approach to focus on preventing pollution rather t han managing it once it occurred.[9] Social research also supported a proactive regulator. Many respondents agreed 'Government should take action to ensure business proactively manage their environmental risk.'[10]

However, being proactive meant different things to different stakeholders, including:

- taking leadership on issues
- advocating for the environment
- taking action before issues arose
- responding to known issues
- being able to influence planning decisions.

Many stakeholders that we met in public consultation forums also had different views about specific changes to the EPA's tools and instruments to become proactive. Some wanted stronger enforcement activity and higher fines to deter businesses and individuals from polluting:

> *They need the ability to levy greater landfill fees and fines against transgressors – the slap on the wrist approach is not enough to punish or change behaviours.* (EcoEnergy Ventures submission, p. 1)

> *The level of fines (for example, for breaches in licence conditions) may not be a sufficient deterrent to encourage companies to invest in better prevention; as such the level of fines should be reviewed. There is some evidence to suggest that NSW EPA have the mechanisms and/or staff levels to implement more fines; hence following the NSW EPA approach on enforcement may be of some benefit in Victoria.* (Australian Contaminated Land Consultants Association submission, p. 11)

These participants frequently referred to the EPA as a 'toothless tiger' that 'needs a big stick'. They argued the EPA:

- has a cautious/risk averse approach to using its powers
- is spread too thin and has resourcing constraints and capability gaps
- has gaps and deficiencies in its toolkit
- lacks clear authorisation from government on environmental regulation.

For others, the preventative task involved expanding the EPA's technical skills and recasting its task from 'policing' to 'influencing':

> *I am concerned that the popular view of the EPA, perhaps prompted by the changes since the Cranbourne landfill, is that it is primarily a police force and that fines and prosecutions are the main methods of protecting the environment … I believe that EPA needs to be given space to monitor, report on and proactively protect the environment rather than focus on police work.* (Cardno Victoria submission, p. 9)

Stakeholders proposed strengthening the EPA's powers, to make it more proactive.[11]

> *EPA powers need to be enhanced to ensure they are proactive and not just a reactive agency* (Bellarine Landcare Group submission, p. 2)

Our consultations suggest that some stakeholders perceive the EPA as ineffective and a 'post harm' regulator, not only because of the nature of its statutory instruments but also because it is often on the 'receiving end' of government and market decisions and left to deal with intractable problems.

3.4.2 The primacy of health protection

Victorians want an EPA that protects their health and that has a stronger focus on health outcomes:

> *The quality of the environment and the impacts of pollution are key to human health and wellbeing and the environment protection and land use planning systems play an important role.* (Planning Institute of Australia – Victoria submission, p. 3)

> *The work of the Victorian EPA has focused primarily on the preservation of the environment itself – an inarguably valid undertaking, as the environment has unmeasurable value in its own right and its protection is the very core of EPA's raison d'etre. However, within the existing framework, health outcomes are viewed as a secondary measure and experience tells us that environmental values are often traded for development; health outcomes should not be traded so easily.* (Doctors for the Environment Australia submission, p. 5)

The engaged community in particular wants the EPA to champion their interests in relation to environmental issues, including protecting their health (box 3.2):

> *If the EPA will not stand up for us, who will?* (Friends of Steele Creek submission, p. 6)

> *EPA should strongly advocate on behalf of community health and wellbeing and defend the community when it comes to polluting commercial ventures.* (Regina Gleeson submission, p. 2)

We also heard the community's concern about the potential risks to health of contaminated land. For legacy sites, the community wanted confidence that risks to their health would be managed and, for some stakeholders, it was important to know that someone would be held responsible.

BOX 3.2 VICTORIANS EXPERIENCING HEALTH IMPACTS

The Voices of the Valley argued for the primacy of health in relation to air pollution, and the EPA's critical 'protective' role in their submission to this inquiry. It described the community's concerns for their health during the Hazelwood mine fire in February 2014.

The Hazelwood Mine Fire Inquiry stated that the 'impact of the mine fire on the community's health was significant with residents suffering many adverse health effects'. It found that 'the Hazelwood mine fire contributed to some increase in deaths in the Latrobe Valley in 2014'.[12]

The Voices of the Valley submission also highlighted the issue of community trust in information that the EPA provides about air quality in the Latrobe Valley.

> *While we continually hear that the air in Latrobe Valley is good (or better than air quality in Melbourne), we are sceptical of how that can that be confirmed when there are so few monitors and those are not really well placed. … If at the times visibility is limited (a crude measure of air pollution), we can look at the EPA website which often will show good quality air. Many members of the community have lost trust in the EPA monitoring, as the perception is that these monitors are placed so that they only monitor what is coming from the mines when the air is blowing a certain way.* (Voices of the Valley submission, p. 1)

The submission argued the EPA must provide the community with information about the quality of the environment when it entails a risk of harm to public health and have strengthened powers to reduce the risk of harm:

- *The Environment Protection Authority must have the power to inform the community of possible health impacts from industrial, fire and Hazmat incidents without waiting for approval from other agencies.*
- *There needs to be tightening of legislation to mandate a compulsory air monitoring regime and a compulsory emissions reporting regime.*
- *EPA needs the authority to go into mines and large industry without notice to ensure that standards are being met at all times.*
- *EPA needs greater power in assessing environmental risks at a planning stage, not just in relation to immediate risks but also in relation to environmental justice, health impacts, climate change and environmental degradation.* (Voices of the Valley submission, p. 2)

Many participants wanted the EPA to focus on health impacts of specific types of pollution, including noise, odour and dust. These issues dominate complaints to the EPA and disproportionately affect certain parts of the community:

> *Traditionally, the EPA has provided expert and specialist advice to local government regarding a range of environmental issues. However, in areas such as noise and odour, this expert and specialist advice is becoming increasingly difficult to access.* (Knox City Council submission, p. 6)

3.4.3 Expert and authoritative advice

Victorians want the EPA to know when, what and where pollution occurs and to understand its likely effects on the environment, health, wellbeing and productive capabilities. Submissions and the public consultation forums suggested stakeholders want the EPA of the future to have a higher level of knowledge and scientific and technical capability.

First, they want the EPA to better monitor the environment for pollution and waste:

> *Recent investigations into the state of air quality in Australia show we are falling behind international best practice, in areas such as standards setting and outcome monitoring. … Monitoring processes need to better reflect the real world spread of pollution exposures, particularly given concerns about environmental justice and there should be some triggers for action in the event of non-compliance.* (Professor John Stanley submission, p. 1)

Second, they want the EPA to have the in-house expertise to provide advice and to possess a much higher level of technical and scientific skill than currently exists. Discussions in 18 of the 21 public consultation forums raised the need for increased scientific and technical capability within the future EPA.[13] Submissions also identified that, high level expertise was seen as necessary for the EPA to be a trusted source of advice and information:

> *The EPA needs to maintain strong technical environmental science expertise. They need to be comfortable as a subject matter expert when dealing with community, business and other agencies. This requires a communicative ability and processes to be able to explain the environmental science behind regulations and process decisions.* (Qenos submission, p. 1)

> *We value the environmental scientific expertise of EPA staff, and the clear identification of subject area experts. We think it critical that the EPA continue to invest in its human resources capacity and continue to build and retain technical expertise. The EPA should invest in having the best experts, and provide appropriate inventive packages for them to stay.* (Mornington Peninsula Shire Council submission, p. 3)

Some participants concluded the EPA either lacked the scientific and technical capability, or that it is not being adequately translated into up-to-date standards:

> *It is widely acknowledged and accepted that the SEPP (AQM) standards are not commensurate to protection of public health and are outdated by over a decade… By failing to account for particle characterisation and significantly underestimating background air pollution, the EPA report misrepresented the risks to the public.* (Clare Walter and Professor Lou Irving submission, pp. 1–2)

3.4.4 Independence, impartial processes and proportionate responses

Stakeholders want an independent regulator that delivers fair and impartial processes:

> *Brimbank City Council values the independent statutory role and status of the EPA. Among communities and industry, the standing of the EPA as an independent authority is valued and respected and should continue and be reinforced. (Brimbank City Council submission, p. 3)*

> *Regulating, monitoring and enforcement of discharges to land, air and water should be the responsibility of a restructured Environmental Protection Authority (EPA) which, like Victoria Police, would be required to uphold environmental protection law and would be insulated by statute from political direction or intervention except by direction published on the Minister's website and in the Victorian Government Gazette.* (Monash Business School submission, p. 11)

For many participants, the formal governance structure underpinned the EPA's independence. Submissions expressed 'strong support for an independent and highly skilled board'.[14]

Equal access to services and information for everyone in the community was viewed as an indicator that the regulator's processes are impartial.

> *Our environmental protection laws need to be fair and equitable both in substance and process. We recommend that environmental justice be incorporated as one of the objects of the EP Act, as well as being embedded into all aspects of the EP Act's administration.* (Doctors for the Environment Australia submission, p. 6)

Stakeholders expect businesses in the same industry to receive the same level of assistance and information if they seek it, and the same opportunities to rectify problems. However, consistent processes and standards across businesses do not mean an inflexible rule-based approach. Stakeholders also advocated risk-based proportionate approaches that account for differences in risks and outcomes, especially about risk-based regulation of landfills, which affect the environment differently depending on their location. The same pollution and waste activities conducted at different locations can affect health and the environment differently:

> *Regulation being applied to closed and existing sites needs to ensure the cost to the community is not disproportionate when compared to the benefits being achieved for the environment. The risk and potential pollution for sites with retrospective application should be clear and defined by the EPA to justify retrospective application of increased standards and long term costs of further monitoring.* (Surf Coast Shire Council submission, p. 6)

> *The retrospective nature of the application of current standards does not match the risk for specific sites and appears to be a blanket application of rules across the state.* (Corangamite Shire Council submission, p. 2)

Stakeholders also raised the importance of balanced and proportionate communication of risks by the EPA:

> *The principle of community right to know must be supported by improved risk communication processes. In many cases the health and environmental risks from contamination are overstated and in many others the known contamination is not communicated and may present potential health risks. Both the regulatory response and stakeholder communication need to be in proportion to the risks.* (Cardno Victoria submission, p. 1)

3.4.5 Level playing field

Stakeholders want effective environmental regulation that holds all to account and creates a level playing field:

> *A level playing field for all industry (both licensed and non-licensed sites) is required through EPA providing clarity and consistent enforcement.* (Australian Industry Group submission, p. 4)

> *Industry wants consistency in a regulator where communication and clarity is the focus.* (Gippsland Water submission, p. 2)

Our consultations suggested stakeholders perceive that the EPA works within an increasingly confined scope of large licensed entities. In particular, stakeholders highlighted gaps in the regulatory framework or toolkit that mean the burden of compliance falls unevenly across an industry sector – and some risks are left unmanaged:

> *EPA's enforcement is failing by targeting generally compliant industry, local government and water corporations rather than recalcitrant offenders that obtain a financial or competitive advantage by offending.* (Greenchip Recycling submission, p. 9)

> *Currently, an undue focus on companies that have an existing relationship with the EPA (for example, permit, licence, works approval etc.) and a poor relationship with companies that 'fly under the radar'. As a result, there is a two tier system of a highly regulated and poorly regulated sector.* (Victorian Waste Management Association submission, p. 3)

We also heard frustration from stakeholders at the use of tools that create perverse outcomes, including differences in arrangements between the states, and that reward businesses that do not do the right thing by the environment:

> *The Victorian EPA should be wary of introducing policy that would place Victorian business activity at a competitive disadvantage to other states. The state EPAs should continue to work with other jurisdictions at an Australian level to maintain an even playing field. Exporting impacts interstate generally does not get a better outcome.* (Qenos submission, p. 5)

3.4.6 Transparency and accountability

The desire for an independent, accountable and transparent EPA was raised in 16 of the 21 public consultation forums. In particular, participants demanded information and engagement with the EPA as a way of judging – and trusting – the EPA's performance. Information and engagement provides oversight and adds to public understanding of the importance of the EPA.[15]

Stakeholders want the EPA of the future to be more transparent, responsive and communicative. The need to increase community engagement, education and advice was a major theme in all but one of the public consultation forums in relation to the future role of the EPA.

> *Furthermore, greater availability of information on the public record about contaminated sites and point source pollution should enhance access to justice and improve enforcement.* (Law Institute of Victoria submission, p. 11)

> *The EPA has a key role to play in providing a level of accountability and assurance that the risks and potential environmental impacts of business activities are being appropriately managed.* (Energy Supply Association of Australia submission, p. 1)

There was a suggestion the EPA could further use businesses' desire to maintain their social licence through requiring greater transparency and accountability:

> *The current lack of public transparency and accountability lets transgressors off the hook of public opinion, fails to use the fear of loss of reputation and social licence.* (Save Our Suburbs submission, pp. 4–5.)

3.4.7 Informing the community

Many stakeholders raised the importance of the EPA educating the community and industry:

> *The EPA is a uniquely trusted expert agency that is in the best position to explain complex issues in terms that can be understood by the wider community.* (Clean Energy Council submission, p. 2)

To do this, it must supply information, advice and guidance that is up-to-date, meaningful and accessible. Our social research confirmed strong community expectations that the EPA as part of government has a role in collecting and distributing this information. In particular, the community wants assurance on those important issues that require expert testing and monitoring, such as air quality, water quality and climate change.[16] This finding is consistent with similar findings for other state-based EPAs. A survey in New South Wales, for example, found similar expectations relating to information about environmental quality.[17]

Survey respondents agreed that 'government is responsible for advising the public about risks from pollution and waste'[18] and the vast majority felt that government should inform the community about pollution issues and the quality of the environment.[19]

Our social research indicated that most of the general community trust the EPA to provide this information.[20]

Close to one in two of all submissions[21] also included comments on aspects of the EPA's capabilities, particularly its expertise, its reporting on data and its communications:

> *… the key value in the EPA data is only apparent once it has been combined with the exponentially growing plethora of environmental data, much of which is collected by sensors (e.g. satellites, in-situ probes, sensors on or in animals, remote sensing drones, etc.). The value of making EPA data openly available, especially in a way that ensures its currency, authority and integrity…* (Centre for eResearch and Digital Innovation, Federation University submission, p. 2)

Specifically, stakeholders wanted:

- information about the environment and its impact on public health when they need it
- information about what to do in an emergency[22]
- guidelines and advice to assist businesses in managing their pollution and waste
- information that gives them confidence that the state of the environment is being monitored in a transparent way
- greater access to EPA's data and expertise.[23]

Clear communication materials are essential to produce outcomes in the field. A number of submissions criticised the EPA website as being too complicated and confusing.[24] Stakeholders expressed concerns about outdated and cumbersome documentation on guidelines, misleading communications and inadequate information and accountability:[25]

> *A current issue identified by VACC is that business owners will not access or use EPA documents and guidelines because they are complex and often too technical. Also, the EPA educational materials are not easy to read …* (Victorian Automobile Chamber of Commerce submission, p. 8)

> *Transparent, plain English guidance material and as well as accessible advice is provided on legal obligations then this is the most effective way to prevent environmental impacts that result from agriculture.* (Victorian Farmers Federation submission, p. 5)

Similarly, stakeholders highlighted the lack of information about pollution:

> *At present, some of the EPA data that is accessible via the EPA Victoria website has limitations in that it is not easily discoverable, not spatially searchable (that is, via a web-GIS interface) and limited by the format in which the data is delivered.* (Centre for eResearch and Digital Innovation, Federation University Australia, submission, p. 1)

Stakeholders believe there is clearly an important role for the EPA to share, collect, analyse and disseminate information and guidance. The pace of new media and technology, and community demand for information means that this is only likely to increase in the future.

3.4.8 Timely responses

All stakeholders want timely responses. At its simplest, timeliness relates to finding the relevant information, locating the right person and being able to speak with the right person. Time spent on these tasks imposes costs on individuals and businesses.

Stakeholders were interested in improved access to information. Some submissions raised concerns about access to staff and perceived difficulties with the call centre:[26]

> *However, one of the main challenges faced by Industry is actually getting in contact with the correct technical expert at EPA, then finding availability in their schedule for a meeting, and subsequently their responsiveness to meeting actions.* (Australian Contaminated Land Consultants Association submission, p. 8)

> *The industry would like to see an industry contact number as opposed to the 1300 number used by the general public.* (Australian Organics Recycling Association submission, p. 2)

> *Water corporations have expressed frustration with using the EPA's 1300 number. Whereas water corporations have each previously enjoyed a dedicated liaison officer to handle queries and help navigate the EPA's internal processes, these positions were discontinued in 2013. As a result, water corporation officers must spend significantly more time on the phone, often talking to numerous EPA officers, in order to progress relatively simple queries. The removal of dedicated liaison officers is a cost cutting measure that results in illusory savings.* (Victorian Water Industry Association submission, p. 12)

Many stakeholders wanted timely decisions:

> *The biggest complaint heard by industry with respect to the EPA is the delay and the resultant costs in processing applications for works approvals. While it is acknowledged that the EPA has brought in a 'fast tracked' process, to address delays for minimal impact applications, the process is still confusing for industry and assistance within the EPA can be hard to find. There are often not enough subject specialists to assist in the preparation of paperwork, leading to frustration and delays.* (Victorian Waste Management Association submission, p. 2)

> *EPA should have an increased focus on timeliness of decision making. Slow decision making by the EPA, either in the approvals or compliance area reduces certainty for industry and increases investment risk.* (Cement Concrete and Aggregates Australia submission, p. 2)

Stakeholders were also concerned about how the EPA prioritises responses to complaints and requests for information. Some submissions raised concerns about the requirement that at least five residents must complain about an incident before an investigation can commence.[27] They wanted timely responses to complaints, breaches and incidents, and timely legal action:

> *The lack of a prosecution by the EPA, 18 months after the fire, should raise concerns about either (1) the ability of the EPA to adequately enforce its own legislation in a timely manner, or (2) the suitability of the legislation itself.* (Environment Victoria submission, p. 7)

> *There is no information about whether or not complaints are acted upon, and no means of tracing the progress of a complaint.* (Sally Weller submission, pp. 2–3)

> *The EPA needs to be a body who can investigate breaches of laws and quickly issue prevention advice and penalties to the guilty parties. The EPA needs to be able to get laws passed without then getting bogged down in politics.* (Beach Patrol Australia submission, p. 2)

Dissatisfaction with timeliness is not uncommon for environmental regulators such as the EPA. Ipsos Australia found the NSW EPA faced similar issues with 'most who participated in this research had some level of frustration or concern regarding responsiveness and/or timeliness'.[28]

Some stakeholders suggested that demand for timely action from regulators is growing with developments in technology and software:

> *Community expectations around communications and timeliness of communication are changing with the emergence of new digital and social media, and businesses and government agencies need to build capacity in these areas to ensure they can keep pace.* (AGL Energy submission, p. 3)

3.4.9 Local presence

Many inquiry participants were frustrated about the lack of presence on the ground, particularly in locations without a regional EPA office. Participants raised the need for 'increased regional presence' at nine of the 10 regional forums. But often stakeholders in metropolitan areas (such as Frankston and Sunshine) and in towns within an hour of an EPA office (such as Ballarat which is supported from the EPA's Geelong office) were just as frustrated as those in remote areas.

The desire for a local presence largely reflects the community wanting an EPA officer to be there, if and when there is a local incident, to observe and validate that the pollution or waste has occurred. The community want the EPA to bear witness to local incidents so that the onus of this does not fall solely to them. They also want the EPA to have the ability to respond to local incidents in a timely manner, based on local knowledge:

> *Adequate resourcing within the organisation – this includes regional staffing for the whole of Victoria, technical experts and consistent interpretation of their own regulatory framework.* (Fonterra Australia submission, p. 2)

> *The EPA should be appropriately funded and resourced, through Increased State Government funding, to ensure It can effectively establish and monitor environmental standards and expectations based on science and community aspirations to the year 2050 and beyond. … An Increased presence In regional areas (for example, Warrnambool, Ballarat, Mildura, Wodonga, Horsham etc.) is critical to ensure problems are effectively resolved before they lead to an impact on the environment.* (Warrnambool City Council submission, pp. 3–4)

3.4.10 Emergency response

Our consultations suggested that there is some confusion among stakeholders about the EPA's role in emergency management. Many stakeholders believe the EPA should have a rapid response capability in an emergency:

> *The EPA hotline is NOT an emergency response tool but an incident recording device that offers no emergency response. There is no emergency response/incident investigation response available 24/7… The EPA hotline needs to be part of the 000 emergency call up facility to ensure that issues are addressed properly.* (Brooklyn Residents Action Group submission, pp. 4–5)

Many submissions suggested the EPA should have a lead role in managing environmental emergencies (such as spills) and a support role in other emergencies (such as bushfires):[29]

> *EPA has an important role in the recovery phase of an emergency.* (Metropolitan Fire and Emergency Services Board submission, p. 3)

Some participants were concerned that the EPA was absent from Victoria's agreed 'all hazards, all agencies' approach and suggested the EPA needed to better build relationships with other emergency services.

Submissions also suggested the EPA help prepare for disasters by contributing to risk committees, emergency response plans, and monitoring and reporting efforts:[30]

> *EPA should be maintaining the database on hazardous chemicals and metallic substances, currently held by WorkSafe. This database should be available online for emergency services at a first responder level.* (Hg Recoveries submission, p. 2)

Some stakeholders advocated a relatively limited role for the EPA, reflecting its specific expertise. They suggested the EPA should provide expert advice, information and technical data to provide stakeholders with a trusted source of advice in emergencies:

> *The EPA's role is not in the emergency services aspects of an emergency. However, the EPA needs to be present to advise other government agencies involved in the emergency. The EPA has a role to play during the investigation when conducting environment monitoring and provide alternative science-based advice. The EPA also needs to be a conduit of communication to the broader community on the environmental impacts of the emergency.* (Victorian Automobile Chamber of Commerce submission, p. 9)

> *The EPA is responsible to inform the community of the state of the environment, but not to act as an emergency response coordinating organisation.* (John Cumming submission, p. 1)

3.4.11 Role clarity and improved coordination/collaboration

The social research demonstrated the community expects 'government' to work together. This desire for a 'joined up' government was also reflected in the submissions and forums:

> *Victorians expect government agencies to work together to protect the environment and implement a whole-of-government environmental policy agenda.* (Victorian Water Industry Association submission, p. 9)

In particular, stakeholders wanted role clarity for the EPA because it is fundamental to the regulator's effectiveness:

> *Equally important, the inquiry (and government) should articulate those things for which the EPA is not (primarily) responsible. My research identified a lack of clarity in the division of roles and responsibilities between the EPA and other regulators within the environmental regulatory space as the most significant factor weakening the EPA's legitimacy.* (Eric Windholz, Monash University submission, p. 3)

Consultations revealed stakeholders' confusion and frustration as a result of a lack of role clarity:

> *The community doesn't really know what we can and can't do – people call us for anything 'environment', including lots of things that aren't within our remit. When we tell them to ring someone else, it drives them nuts. Fair enough too.* (quoted in Community and Public Sector Union Victoria submission, p. 19)

Stakeholders also called for greater collaboration and coordination between departments and statutory authorities. Dissatisfaction with the EPA's efficiency and effectiveness often reflected coordination problems across government in dealing with environmental issues, or concerns that government agencies were not pursuing the benefits of coordinated approaches. Some participants suggested solutions to coordination problems:

> *A place-based approach to addressing environmental protection and land use planning issues together would be an effective way for the EPA to work in partnership with other government agencies. This may be on a site, neighbourhood, catchment or regional level.* (Planning Institute of Australia – Victoria submission, p. 3)

Some stakeholders considered there were opportunities for the EPA to better leverage resources and expertise from within local government and to work more closely with departments such as DHHS on regulation.

Stakeholders were also frustrated at government organisations, including the EPA, 'buck passing' or refusing to 'take charge', particularly when joint or overlapping roles and responsibilities are appropriate.[31] For example, lack of clarity about the roles and responsibilities of the EPA, DHHS and local government contributes to community concern about health risks because of both the perception and the reality that some issues are slipping through the gaps:

> *Local government and other government agencies and EPA continually and currently buck pass issues thus ignoring community concerns and issues.* (Brooklyn Residents Action Group submission, p. 3)

Often the community is less concerned with which agency does what, so long as they are confident that there is no gap and that someone is accountable. Stakeholders want a clear pathway to access the government and a timely response:

> *A more collaborative approach to dealing with environmental issues is required from the EPA this includes working with councils, key state and federal agencies. In Hobsons Bay's experience, when dealing with environment issues (such as contaminated land and airborne emissions), the EPA are reluctant to take a lead role in rectifying these issues, despite the expertise within their organisation and legislative powers available to it.* (Hobsons Bay City Council submission, p. 2)

> *The NSW and SA EPA monitor and investigate wind farms yet the Victorian EPA say it is not their responsibility and refuse to follow up complaints of noise etc. from the Cape Bridgewater wind farm.* (Melissa Ware submission, p. 4)

3.4.12 Adequacy of resourcing for environment protection

Public consultation forums and submissions supported adequate resources for the EPA. Participants called for adequate resources in over three quarters of the public forums.

Some submissions referenced trends that will increase demands on the EPA in the future and argued that the EPA will need increased resources as a result:

> *It is anticipated that community expectations and knowledge will increase with respect to amenity and environmental concerns. The future EPA needs to be resource[d] and equipped to respond to community expectations and be capable of delivering effective environmental protection.* (Moreland City Council submission, pp. 1–2)

In submissions, many stakeholders tempered concerns about the EPA's performance by recognising performance depends on resourcing. Many participants acknowledged the EPA could not meet their expectations without increasing resources.[32]

There is a perception in the community, local government and industry that the EPA's technical expertise has been eroded over time and/or is less accessible to stakeholders (industry and councils). In addition to high expectations of the EPA as a source of scientific expertise, the community expects the EPA to have sufficient resources to be a communicative and responsive organisation:

> *The EPA needs more people and more resources to allow stronger communications and media coverage, more decisive communications and responses to business and consultants.* (Landserv Pty Ltd submission, p. 1)

1 Preamble to the Inquiry terms of reference.
2 Municipal Association of Victoria submission, p. 7.
3 Ipsos Australia 2016, *EPA Inquiry Social Research*, prepared for EPA Inquiry, January, p. 33.
4 Ipsos Australia 2016, *EPA Inquiry Social Research*, prepared for EPA Inquiry, January, p. 16.
5 Ipsos Australia 2016, *EPA Inquiry Social Research*, prepared for EPA Inquiry, January, p. 11.
6 Ipsos Australia 2016, *EPA Inquiry Social Research*, prepared for EPA Inquiry, January, p. 33.
7 The Strategy Shop 2015, *Report on Submissions to 2015 EPA Inquiry*, Melbourne, December, p. 58.
8 Sparrow M 2000, *The regulatory craft: controlling risks, solving problems, and managing compliance*, Brookings Institution Press, Washington, p. 17.
9 The Strategy Shop 2015, *Report on Submissions to 2015 EPA Inquiry*, Melbourne, December, p. 16.
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12 Hazelwood Mine Fire Inquiry Report 2015-2016, Volume II, *Investigations into 2009-2014 Deaths*, p. 18
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14 The Strategy Shop 2015, *Report on Submissions to 2015 EPA Inquiry*, Melbourne, December, p. 7.
15 The Strategy Shop 2015, *Report on Submissions to 2015 EPA Inquiry*, Melbourne, December, p. 61.
16 Ipsos Australia 2016, *EPA Inquiry Social Research*, prepared for EPA Inquiry, January, p. 26.
17 Ipsos Australia 2013, *EPA Stakeholder Survey Report Prepared for the NSW Environment Protection Authority*, p. 41.
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PART B

WHAT SHOULD THE EPA BE DOING?

CHAPTER 4

WHY WE NEED ENVIRONMENTAL REGULATION

WHY WE NEED ENVIRONMENTAL REGULATION

KEY MESSAGES

A robust regulatory framework for the environment contributes to prosperity, liveability and the health of the community.

Given the persistence of some environmental impacts – such as land contamination and biodiversity loss – environmental regulation has long term benefits for economic viability and the health and wellbeing of future generations.

Because pollution and waste are inevitable byproducts of human activity, preventing harm necessarily entails some regulatory burden.

The EPA is expected to:

- support public health, safety and wellbeing, productivity and environmental benefits
- operate with accountability, cost effectiveness, transparency and procedural fairness.

As well as demonstrating commonly accepted principles of best practice regulation, the EPA of the future must be proactive, trusted, innovative, decisive, influential, responsive, adaptive and collaborative.

4.1 Introduction

A key task for this inquiry is deciding the appropriate role for the EPA of the future, as a protector of public health and safety and a protector of the environment (terms of reference 1 and 3). Good regulators are an essential part of maintaining the high quality of life that Victorians, on the whole, enjoy. They help make Victoria the great place it is to live, work and visit.

The EPA's role is shaped by the larger decisions we take as a community on the role of government and the requirements for regulatory interventions. Generally, Victorians accept, and indeed expect, environmental regulation to address market failures (for example, the negative effects of pollution) and to achieve social policy objectives (for example, ensuring one part of the community does not disproportionately bear the effects of pollution). And they view the EPA as important for protecting human health *and* the environment, both now and into the future.

Victorians expect regulation and regulators to be effective and efficient. The EPA must seek to achieve its objective cost effectively, minimising the burden of regulation for businesses and for tax payers.

Recognising the central role expectations play in setting the regulatory framework, our terms of reference asked us to consider '… the Victorian community's and industry's expectations of the EPA as its environmental regulator'. We recognise that expectations do not simply reflect what the community and businesses want; they reflect broader understanding of how government – through regulation – manages the various interests at play in our society and economy, and acts in the public interest, including looking to the interests of future generations.

We also recognise the government and the EPA can and do influence expectations. So expectations can change over time, for example, to account for more information about environmental harms, their risks, and how to manage them.

To understand expectations for the EPA now and into the future, we considered what we heard from the community and businesses, including through social research, and also theory and contemporary analysis about the purpose and rationale for regulation. We also considered the attributes a modern environmental regulator needs to meet those expectations. These factors frame our examination of the EPA's objectives, roles, functions, tools and powers into the future.

4.2 The importance of a healthy environment

Victoria needs a healthy environment to maintain its present and future liveability and prosperity. The environment is our life support system – the air we breathe, the climate and space we live in, the water we drink and the productive land we use.

Before the 1970s, human activity that degraded the environment often occurred unchecked and environmental regulation was the exception. State government attempts to mitigate pollution were limited, fragmented, ad hoc and infrequent. Action was usually prompted by serious but isolated pollution events, or when degradation caused problems for an industry or public utility.[1] As the effects of pollution and waste became clearer, public concern intensified. Communities became aware that their quality of life and health was influenced not only by industrial development but also by the environment.

4.2.1 Human health depends on environmental health

> *We argue that the environment and the ecosystem functions it provides is a vital determinant of human health and wellbeing.*[2]

The connection between human health and the health of the environment is widely accepted:

- In 2013, a health risk assessment of air pollution in Sydney, Melbourne, Brisbane and Perth estimated fossil fuel combustion contributed to 1,600 premature deaths a year, 1,250 visits to hospitals by children with asthma and respiratory illness and 2,500 visits to hospitals for adults with cardiovascular and respiratory disease.[3] In economic terms alone, the costs are very significant: in 2000, health care costs from air pollution from transport in Australia were estimated to be approximately $2.7 billion each year.[4]
- In its 2015 report investigating deaths attributable to the Hazelwood mine fire, the Hazelwood Mine Fire Inquiry noted the '… known health consequences of breathing air contaminated with particulate matter over a prolonged period' and made two principal findings based on epidemiological reasoning and informed by statistical analysis and interpretation:

  > *It is likely that the Hazelwood mine fire contributed to some of the increase in deaths in the Latrobe Valley in 2014.*

  And

  > *It would be surprising if the air pollution caused by the mine fire did not contribute to some deaths.*[5]

- Soil and water contamination can have significant detrimental impacts on health. Children with the highest levels of exposure to toxic air, dust and soils from Broken Hill's lead and zinc mine consistently have the lowest literacy and numeracy scores in years three and five, for example.[6]
- World Health Organisation analysis indicates that at least one million healthy life years are lost from traffic related noise every year in Western Europe. Most significantly, noise disturbs sleep, and contributes to ischaemic heart disease, cognitive impairment of children and tinnitus.[7]

4.2.2 Victoria's prosperity is built on a healthy environment

Government, businesses and the broader community recognise the value of a healthy environment for Victoria's future prosperity. A healthy environment contributes to the economy through liveability, productive natural resources and tourism.

The shift from a heavily manufacturing economy to a more knowledge based economy – based on professional services, medical technology and education – means that liveability will be increasingly important for our economic prosperity.[8]

> *Victoria's attractiveness as a place to live, visit, study and invest is a major strength … Our reputation helps to grow new foreign direct investment and attract more international tourists, international students and skilled migrants.*[9]

The 'productive city' model outlined in current planning for Melbourne's future growth recognises the challenges of population growth and seeks to '… maintain Melbourne's globally-recognised liveability and its role as an efficient business services city, tourism destination and freight and manufacturing hub'.[10]

Our natural resources are also fundamental to Victoria's highly productive agricultural sector, which delivers 29 per cent of Australia's food and fibre exports from only 3 per cent of the nation's arable land.[11]

> *The productivity of Victoria's food and agriculture industries is closely linked to the sustainability of the environment. Well-managed soils, water and a diversity of pollinating insects support Victoria's world-class agriculture industries and our internationally renowned high quality products from a clean environment and safe supply chain.*[12]

Environmental regulation, through the EPA and other parts of government, contributes to maintaining this healthy environment.

4.3 Public policy rationale

> *When markets fail, when harm occurs or is threatened, when risks need to be managed, when public policies require specific remedies, or when trust is fractured, calls are made to government to intervene – to 'regulate'.*[13]

In considering the EPA's future role, it is important to review why governments regulate. Specifically, what drives the need for environmental regulation and what principles and theoretical considerations underpin the decision to regulate? For this inquiry, we reviewed important elements of the conceptual framework for regulation and the specific considerations that will shape the EPA's regulatory role. We address these issues again in later chapters as we examine the EPA's regulatory approach and its statutory and non-statutory tools and instruments.

Generally, governments intervene to manage serious risks to public health and the environment that result from human activity for four reasons. First, free markets will generally not produce enough public goods such as clean air, healthy waterways and the use and amenity benefits of a healthy environment. Rather, governments must intervene to ensure they are provided to the level and standard that the community desires.

Second, governments intervene to ensure those producing negative spillovers or externalities from production (such as pollution and waste) bear the costs of their actions. Many types of pollution and waste, if left unchecked, would have enduring impacts on human health, essential ecosystems and the environment's recreational and amenity benefits. For example, Victorians already live with the consequences of past poor industrial practices which impose costs on and increase risks for the present generation. The 'polluter pays' principle, reflected in Victorian environmental legislation, seeks to avoid these impacts on current and future generations.[14] Similarly, climate change caused by a build-up of greenhouse gases in the atmosphere could have large adverse impacts on future generations, and is now at the forefront of policy agendas around the world.

Third, governments intervene to ensure community resources (such as a forest or a fishery) are not overused for production or recreation. Without government intervention, these community resources can be overused, to the detriment of the whole community.

> *One of the most fundamental public interests to be served is protection of the natural environment.* (Monash Business School submission, p. 6)

Four, governments intervene to provide information about the environment and environmental hazards to address information failures. Without such information, individuals may not be able to manage their own risk of exposure to harm – for example, from contaminated soil or from the presence of hazardous materials such as asbestos.

These reasons may be considered the general public policy rationale for government intervention. But governments may also have other reasons for intervening, such as equity considerations. Health risks from pollution are often disproportionately imposed on those living in less affluent suburbs and/or on future generations. So governments intervene to promote environmental justice, which involves among other elements, the fair treatment within and between generations (box 4.1). The government may also intervene because the environment has an intrinsic value worth protecting for its own sake, regardless of the benefits provided to society.

BOX 4.1 EXPECTATIONS OF INTRA-GENERATIONAL EQUITY

The community expects modern governments to maintain the outcomes of a healthy environment in an equitable manner across the entire community. Specifically, this requirement focuses on situations where certain sections of the community – particularly poorer and disadvantaged communities – bear the brunt of pollution and waste and the resulting risks to health and safety outcomes, wellbeing outcomes and their local environment.

Victoria has well-known examples of hazardous waste sites, freeways or other transport infrastructure disproportionately affecting poorer communities (or creating poorer communities as a result). People in these communities regularly suffer the effects of air pollution, noise, injury risks, and ugliness.[15]

> *Health inequity occurs as a result of unfair, unjust social treatment – by governments, organisations and people, resulting in macro politico-economic structures and policies that create* ***living and working conditions that are harmful to health****, distribute essential health and other public services unequally and unfairly, preventing some communities and people from participating fully in the cultural, social or community life of society.*[16]

In broad terms, these economic and social concerns form the policy context for government when considering environmental regulation. They present government with a complex task in which, '… there will inevitably be value or political decisions to be made, as conflicting outcomes carry with them conflicting or at least different social values as to what is most important'.[17]

4.3.1 The costs and benefits of regulation

Identifying a reason for government intervention is a necessary first step, but it still may not justify government intervention. The benefits of government intervention must outweigh the costs, and the intervention must be the most effective way of achieving the objective (that is, achieves the objective at the least cost).

The costs and benefits of government intervention may be financial, social and/or environmental.[18] In some cases, it is possible to identify and quantify the costs of environmental regulation, such as:

- direct costs to government and regulatory agencies of establishing and administering the regulatory regime
- costs to businesses or individuals of complying with the regulations – the regulatory burden, including licence fees, investments in technologies or actions to meet the regulated standards, as well as the administration and reporting costs or 'red tape' associated with demonstrating compliance
- efficiency costs if resources are reallocated away from higher value uses
- costs to consumers in the form of higher prices for goods and services.

By contrast, it can be difficult to identify and quantify costs and benefits if they are spread across the community and/or accumulate over time (for example, regulating air pollution from diffuse sources). Further, even if costs and benefits are identified, it can be difficult to quantify them, especially social and environmental effects. Benefits such as the avoided cost of harms, for example, cannot easily be assigned monetary values, or valuation is contentious and highly subjective. In many cases, these social and environmental effects are expressed in non-monetary terms.

The costs of regulation depend on the ambition of the government's policy objective. Setting a higher bar for avoiding harms in general entails a greater regulatory cost. The costs of regulation – to the regulator and to those regulated – is also heavily influenced by the design of regulatory tools and the processes implemented by the regulator. To be cost effective, governments continuously look to lower the burden of regulation, including red – and green – tape, while maintaining the outcomes that regulation aims to maintain.

It is worthwhile for governments to consider the costs and benefits of regulation systematically (box 4.2). Further, improvements in technology and data – including better environmental accounting and reporting and more sophisticated predictive modelling – will likely make it easier for governments to consider the costs and benefits of environmental regulation. It should also create a policy and regulatory cycle that facilitates continuous improvement.

BOX 4.2 ASSESSING THE COSTS AND BENEFITS OF ENVIRONMENTAL ASSETS

As recognised by the Commonwealth Government's Office of Best Practice Regulation, environmental impacts may not be given enough weight in decisions and the analysis of environmental policies may be unbalanced. Generally, this is because many of the benefits provided by healthy environmental assets are difficult to identify, let alone to quantify in monetary terms. In addition there is often uncertainty associated with environmental impacts.

The Office of Best Practice Regulation suggests the following framework for considering the environmental impacts of government decisions:

- identify the affected environmental asset/s
- understand how the community values the asset/s
- examine how the asset is changing over time
- state the objective of government action, referring to community values
- examine likely changes to the environmental asset/s and the change in the benefits that it produces, who wins, who loses, etc., as a result of the intervention options considered
- consider uncertainties.[19]

4.3.2 Considering risk in environmental regulation

Increasingly, assessing risk is an important part of government decisions about whether and how much to intervene, and the likely effectiveness of a given intervention. Risk-based regulation improves the 'productivity' of regulating by delivering the best possible regulatory outcomes from the limited resources available to regulators. According to the OECD, risk-based regulation recognises that:

> *[T]he government cannot regulate to remove all risks and that regulatory action, when taken, should be proportionate, targeted and based on an assessment of the nature and magnitude of the risks and of the likelihood that regulation will be successful in achieving its aims.*[20]

Considering risk in environmental regulation requires governments to deal with the potential for long term impacts, affecting not only today's community but future generations. This creates complexity since government must account for uncertain future costs and benefits.

First, government must consider if the risk of a particular event or activity to the outcomes it seeks to maintain is large enough to warrant government intervention, compared with other risks.

> *Risk focused regulation is regarded as being concerned with primarily unacceptable risk.*[21]

We must acknowledge that governments can never entirely eliminate all risks to human health and the environment. And we must be mindful that, as we face a variety of risks and have finite resources, excessive attempts to minimise one risk can result in other risks not being appropriately managed.

> *It may be optimal for society not to mitigate one risk fully, if to do so would impose unacceptable costs and risks elsewhere.*[22]

Many activities – from agricultural and industrial production, to electricity production, to driving a car and purchasing consumable items – create pollution. Our understanding of the risks associated with these activities, and their relative importance, changes over time, including as new risky activities emerge.[23]

Second, government must consider whether the intervention is likely to reduce the risk, which can be uncertain given the complexity of environmental systems and the many factors that contribute to health and the condition of the environment. This uncertainty underscores the critical role that science can play in understanding the link between the intervention and the environmental outcomes, and the importance of ongoing evaluation and measurement of outcomes to inform future action.

Third, government must consider risk when deciding how to intervene. The EPA applies a risk assessment matrix to prioritise its compliance and enforcement activity.[24] Risk-based decisions are required when setting standards, assessing works approvals and licence conditions, prioritising compliance and enforcement activity, or determining how to handle a particular pollution incident.[25]

Integrating risk presents challenges for governments and regulators for several reasons. Community perceptions of risk may be very different from those of decision makers. For example, the community has relatively little awareness of the risks of poor air quality, and its impacts in terms of deaths compared with the road toll. The OECD estimated that air pollution associated with road transport caused 1,483 deaths in Australia in 2010;[26] by contrast, Australia's road toll in 2010 was 1,367.[27]

Similarly, the community's tolerance of risk (that is, the level of risk that they accept as reasonable) may also differ from that of government. In particular, the community may be less tolerant of risk for things that it cannot control[28] – this is particularly significant for an environmental regulator charged with managing risks associated with dispersed pollution such as air quality.

Differences in risk tolerance can reflect knowledge and understanding differences, which the government/regulator may be able to address.

> *Where there is a perception of risk (as opposed to an actual risk), better education of local stakeholders is required.* (Australian Contaminated Land Consultants Association submission, p. 15)

Other times, however, the differences reflect the community's lack of trust in the regulator's actions and information. Therefore, it is vital that the regulator maintain public confidence in its expertise and integrity. In particular, when making their decisions, regulators must communicate, so far as possible, the nature of the risks involved, and the extent to which interventions are likely to manage these risks.

The community's views on risk also change over time. Indeed, '… critical questioning may indicate a more informed and scientifically literate citizenry'.[29] Today's community is more aware of the environmental impacts of human activities, and the risks associated with these impacts. What was once acceptable is now no longer. We accept the need for major changes such as phasing out unleaded petrol or incandescent light bulbs, for example, as well as smaller scale changes such as banning backyard incinerators.

Further, expectations about risk will continue to change over time as new and unexpected issues arise, and as our scientific knowledge increases. The current Parliamentary Inquiry into Fiskville demonstrates this evolution, as it is considering chemical hazards, noting 'the status of PFOS (perfluorooctanesulfonic acid) as an 'emerging contaminant' within the international scientific community, [and the] … need to seek further clarification about the risks posed by different levels of PFOS'.[30]

4.3.3 Uncertainty and the precautionary principle

Assessing the risks, costs and benefits of environmental regulation is frequently complicated by scientific uncertainty. Particular actions, or the use of particular materials or substances, may pose unknown risks of damage to human health or environmental condition. Uncertainty about the future consequences of current actions (that result in pollution and waste) is particularly important where these actions have irreversible consequences.

Currently, the EP Act accounts for this uncertainty via the precautionary principle.[31] The principle states that: (1) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation; and (2) decision making should be guided by a careful evaluation to avoid serious or irreversible damage to the environment wherever practicable, and an assessment of the risk-weighted consequences of various options.

The prevalence of the precautionary principle both in Australia and around the world reflects the generally held expectation that governments should regulate to avoid irreversible harm. However, as the Australian Panel of Experts on Environmental Law noted:

> *The precautionary principle … has been subject to many different interpretations and attempted applications. [And therefore in] precautionary decision making, society should have a say in what level of risk and potential harm is acceptable and, where possible, the agreed level of risk should be clearly set out in law.*[32]

4.4 Community and business expectations of environmental regulation

Our expectations of each other and of business and government are part of the social contract that underpins society. We expect everyone to play their part and 'do the right thing', to abide by the rules and not deliberately act in ways that harm others. Regulators play a key role in setting and enforcing these rules.

For civil society to work, regulators must be responsive to expectations – that is, provide the benefits that the community seeks, and apply the rules fairly – or trust erodes. When regulators do not meet expectations, this can affect stakeholders (in terms of time and regulatory burden, frustration and concern) and society as a whole, including reducing the legitimacy, and thus the regulator's effectiveness and influence.

Regulators should not seek simply to identify and meet expectations. Expectations are not always well informed. They are influenced by what the stakeholders understand and trust. In this context, the regulator's expertise, authority and level of community trust is critically important. This is particularly relevant to the EPA as a science-based regulator that deals with evolving knowledge and changing risk profiles.

Expectations also evolve. As our incomes rise, we are less tolerant of conditions that harm our wellbeing, for example. Similarly, we expect regulators to use available technologies to deliver their services as efficiently as possible. This can help minimise regulatory burdens.

So, regulators (including the EPA) must manage (inform and influence) and meet expectations through time. They must develop relationships with stakeholders, through stakeholder engagement, so they can inform and stay abreast of expectations. They also need to demonstrate capabilities that build trust in the regulator and the information it provides. This information is important in shaping expectations, for example, about acceptable levels of risk and priorities for regulatory interventions.

4.5 Defining expectations of the EPA

In considering expectations of the EPA, we looked at how the regulator organises and conducts itself, and what outcomes or benefits to expect from environmental regulation. We drew on the literature about regulatory governance and on the views we had heard from the community during our consultations. Indeed, the two strands of expectations – outcomes and conduct – are aptly captured by the Hume Residents Airport Action Group (submission, p. 3):

> *We have an expectation that our health is of paramount importance and that our state authorities are acting in our best interest.*

4.5.1 The conduct of the regulator

As with all government agencies, the community expects the EPA to be efficient and effective; businesses expect the EPA to keep regulatory burden to the minimum required to achieve the regulatory objective. The community and businesses expect the EPA to have fair and accessible processes. These expectations cover how the EPA executes its formal statutory responsibilities, how it engages with stakeholders and how it interacts with other parts of government.

The community and business expect regulators to be independent. The EPA is expected to act in the public interest, which means it must navigate between the often competing needs of citizens and regulated entities.

As a science-based regulator, the community expects the EPA to keep standards up to date, to make evidence-based decisions, and to apply risk-based proportionate interventions. Transparency is expected and is an important component in maintaining trust in the EPA.

4.5.2 The outcomes community expects from effective environmental regulation

The EPA's protective task involves creating value for Victorians by maintaining the following outcomes that rely on a healthy environment:

- ***Human health and safety outcomes*** – including clean air and water, soil that is safe to live on, the ability to sleep without being disturbed by excessive noise
- ***Human wellbeing outcomes*** – including clean water for recreation, living environments without excessive and unpleasant odour and noise, a lack of visible waste and litter
- ***Productive use outcomes*** – including land suitable for agriculture, buildings and structures, water suitable for stock and for industrial use
- ***A healthy environment in its own right and for future*** – as a result of functioning ecosystems that maintain themselves through time.

These outcomes are at the heart of governmental environment protection policies and can be categorised in a variety of ways. They also encompass the various 'beneficial uses' currently listed in the state environment protection policies.

The community expects the EPA to maintain these benefits that sustain our standard of living. The *level* at which society expects the EPA to maintain these benefits, however, is more ambiguous. Expectations about the level of benefits are not always clear or consistent or uniform. Different stakeholders will have different views. And there are rarely transparent processes for us to define our tolerance for risk.

Businesses expect the EPA to maintain these outcomes for the benefit of the community. Businesses also benefit from these outcomes. Some businesses benefit directly, for example, certain tourism and fishery operators. Others benefit by virtue of Victoria's reputation as a destination for skilled workers from around the world, which increases population growth and demand for products and services. For government generally, and for regulators such as the EPA, decisions will involve balancing different outcomes, including between economic, social and environmental outcomes. The appropriate level is often a question of risk tolerance and cost. Reducing the risk of harm from pollution and waste is costly and eliminating risk altogether is impossible.

> *The importance of striking a right balance to provide the best outcomes on behalf of the community rather than an organisation, political issue or economic benefit to an individual/organisation was seen as a crucial position that should be maintained, improved and strengthened by the EPA.* (City of Greater Bendigo submission, p. 4)

The community and businesses expect the EPA to apply its expertise to assess risks, address economic, social and environmental considerations, and then determine the appropriate outcome for 'community wellbeing and the benefit of future generations'.[33] This process requires both expert knowledge and mature regulatory judgement. It involves regulatory design and implementation that minimises the burden of regulation. Community and businesses also expect accountability and transparency for these decisions – and that the EPA should test expectations on risk and cost tolerance.

> *A regulator must choose from an array of available strategies that it considers will achieve the greatest net benefit for the community in the most efficient and effective manner, and at the least cost to business and the community.*[34]

However, the EPA acts within a policy context set by government, which helps define expectations and provides a high level framework for decision making. The policy context for environmental regulation and the EPA's key regulatory settings are – and should be – the domain of the executive arm of government.

4.6 What this means for the EPA – the attributes of an effective environmental regulator

Commonly accepted principles of regulatory best practice identify the following key attributes for a strong and effective regulator:

Accountable – Set clear standards and prepare to be judged on the decision making process and outcomes.

Transparent – Open the processes and outcomes to the public and regulated community.

Inclusive – Develop regulation in partnership/consultation with community, business and government.

Authoritative – Maintain an authoritative understanding of the environment and information on the level of compliance.

Proportionate – Ensure regulatory responses are proportionate to the problem they seek to address.

Consistent – Apply decision making processes consistently and predictably to different parties in similar situations.

Effective – Judge risk accurately and introduce regulatory responses that seek to prevent harm or improve outcomes at the lowest cost necessary to achieve objectives.

Targeted – Allocate effort to the areas of most serious harm.[35]

The EPA adopted these attributes as guiding principles.[36] Clearly, they are essential attributes and are consistent with Victoria's efforts over recent years to improve productivity and economic growth by reforming regulatory systems and reducing regulatory burdens on business.[37] This will remain an important focus for the EPA of the future, noting that 'improving regulatory efficiency and minimising regulatory burden' is identified as a key issue in our terms of reference.

We consider, however, that these attributes only partly frame what will be required of the EPA of the future.

The EPA as a science-based regulator

The EPA's fundamental characteristic is it is a **science-based** regulator – capable of assessing risk to the environment and public health, of determining acceptable standards for pollution control, and of providing authoritative direction on risk management and mitigation measures. This scientific and technical expertise has been a defining feature to date and must be maintained and enhanced in the future. In particular, Victoria needs an enhanced environmental health capability to strengthen protection for public health. This expertise underpins the EPA as it exercises its regulatory powers and is necessary for business and community confidence. This scientific base sets it apart from other Victorian regulators.

Strategic attributes required for the future

Reflecting the views of the Victorian community and industry and other stakeholders, and our view of the EPA being more proactive and influential, we identified the following strategic attributes. We consider these as necessary for the EPA as a modern and mature regulator:

- **Proactive** – Regulators have an obligation to anticipate issues and not be passive.[38]
- **Trusted** – For the EPA, 'trusted' is likely to include at least all of the following: *'We trust you' may mean that we believe you can give us the right answers and reliable information. It may mean that we believe that you are honest, and will tell us all that you know. Or it may mean that we trust your judgement, and rely on you for decisions which are wise, impartial, ethical and in the public interest.*[39]
- **Innovative** – *Regulatory policies and interventions should be treated as experiments from which regulators can learn and help shape future strategies.*[40]
- **Decisive and influential** – *Being decisive does not mean being impulsive but rather actively seeking information … To be decisive, we must understand the public interest and as much of a complicated issue as possible so we can make a policy decision that ensures public health and safety.*[41]
- **Responsive and adaptive** – *The operating environment and risks change over time and regulators need to have a flexible and ongoing ability to assess such changes.*[42]
- **Collaborative** – Managing complex risks requires that the EPA involves other parts of government, deploys a broader range of tools, and engages businesses and the community to play their part.

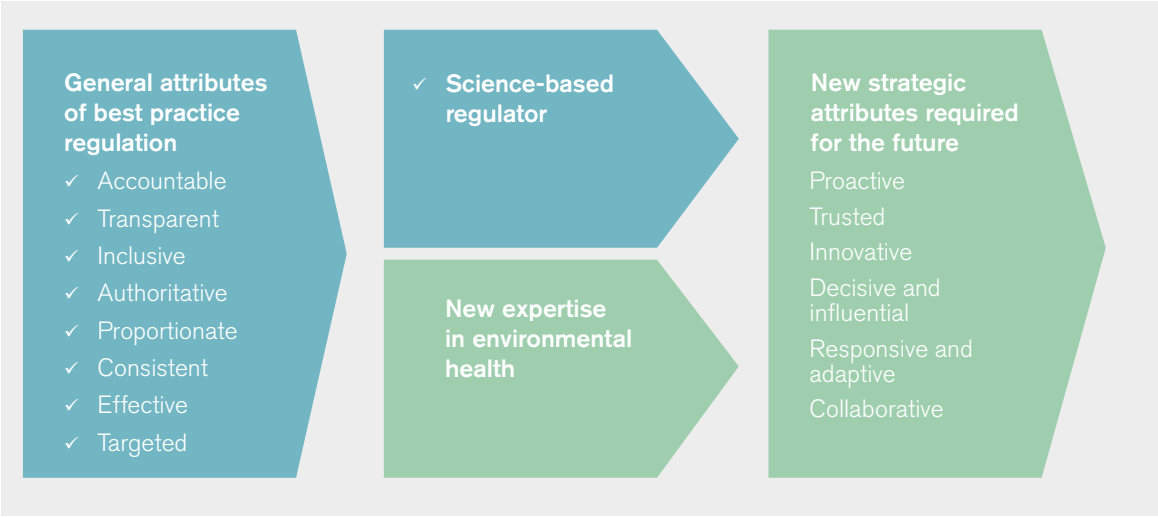
Taken together, this expanded set of attributes provides direction as we consider the scope of activities and functions of the EPA, and the capabilities and governance it needs to effectively use its regulatory tools in the future. These are illustrated in figure 4.1.

In considering the environmental regulation that relates to the task of the EPA and proposing changes to it, we have been mindful that regulation is not the only method by which government can intervene. When we propose strengthening regulation or new regulation, we did so because we consider the risk of harm warrants regulation, rather than a non-regulatory approach, to prevent these harms.

Of course, these issues will be considered fully as part of the usual government processes for preparing legislative and regulatory changes. However, we consider that, on balance, the benefits to the community of harm prevention justify the additional regulatory burden that these proposals may involve.

Regulators can significantly influence the regulatory burden in how they carry out their functions. The EPA must have a clear focus on the outcomes that the community expects from environmental regulation (the health and safety, wellbeing, productive and environmental outcomes) to identify how to best maintain them. How regulation is implemented – including through guidance materials, the method and manner of engagement with those who are regulated, and the method and manner of conducting compliance and enforcement activities – can significantly influence the regulatory burden. Our proposals should be implemented in a way that accounts for the needs of business, and in particular small business.

FIGURE 4.1 BUILDING ON THE EPA OF TODAY TO MEET EXPECTATIONS FOR THE FUTURE



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CHAPTER 5

CLARIFYING THE EPA'S OBJECTIVES AND FUNCTIONS

CLARIFYING THE EPA'S OBJECTIVES AND FUNCTIONS

KEY MESSAGES

Confusion about the EPA's role, and what it should be accountable for, undermines community confidence and reduces its authority and influence.

The EPA has a critically important role in protecting the health and wellbeing of Victorians – this role must be clearly expressed in legislation.

Modern legislation, with legislated objectives and reframed principles and functions, will clarify the EPA's role and strengthen its mandate. Early action to create this legislation sends a clear signal to stakeholders and the broader community, and provides early certainty on the role and focus of the EPA of the future.

The EPA of the future will have a broad range of functions to ensure it is proactive, focuses on prevention and targets the biggest harms.

The EPA must be accountable for the effectiveness and currency of its regulatory instruments.

5.1 Introduction

Throughout our consultations, stakeholders and regulatory experts emphasised the importance of role clarity. Indeed, a key component of the inquiry's terms of reference is to examine the appropriate roles of the EPA – both in specific areas of regulation (including air quality, water quality, asbestos, chemicals, and site contamination) and, more generally, in terms of protecting the environment (terms of reference 1 and 2). Role clarity is important for the EPA, for those it works with and alongside in government, and for duty holders and the general community.

Regulatory experts, and those charged with oversight of regulation, nominate role clarity as critically important: 'Clear regulatory roles are critical to regulator accountability and focus, compliance by regulated firms, predictable decisions and enforcement, and regime legitimacy'.[1] In an extensive inquiry into regulators across a range of sectors, the UK House of Lords found:

> *Clarity enabled regulators to readily understand their purpose 'so that [they] do not march off, wandering around trying to work out what [they] are for' and to focus their mind quickly on the work in hand. In addition, clarity in a remit brought other major benefits:*
>
> - *Increased legitimacy for the regulator*
> - *Greater consistency in regulators' decision making*
> - *A greater likelihood of an internally well-organised, well-run regulator*
> - *Greater opportunities to monitor regulatory performance successfully*
> - *An increased ability for regulated industries and consumers to judge the legitimacy and appropriateness of regulatory policies and actions.*[2]

Stakeholders are clearly confused about the EPA's remit – its objective, role and functions:

> *The 'EPA' brand/remit is not clear.* (Gippsland Water submission, p. 4)

> *Currently it is difficult to know whether the EPA is a regulator, advisor, engager, or all of these.* (Shire of Campaspe submission, p. 2)

> *A major component of EPA's effectiveness (or otherwise) comes down to community and industry knowing what the EPA's role is, when to call them, and what to expect when EPA arrives.* (Community and Public Sector Union Victoria submission, p. 31)

We find the EP Act contributes to this lack of clarity: it contains no objective for the EPA nor a definition of environmental protection more generally.

5.2 Problems with role clarity

We recommend a new legislative framework for the EPA, that clarifies its objective, principles and functions. Role clarity is fundamental to the effectiveness and good governance of any regulator, as recognised in the OECD governance principles:

> *Role clarity is essential for a regulator to understand and fulfil its role effectively. This requires the regulator's objectives, functions and scope to be clear, a mandate that is not conflicting (or provides for resolution of conflict), the nature of the policy role to be defined, and the power to cooperate transparently with other bodies.*[3]

A range of stakeholders raised the EPA's lack of role clarity as a problem, especially in regard to its task as distinct from other parts of government, in particular DELWP and Sustainability Victoria. The general community is confused about the span of the EPA's responsibility for public health and the environment, and how it prioritises issues. Based on its name alone, many assume the EPA manages all matters relating to the environment. Further, the EP Act includes little explicit reference to protecting human health.

Many submissions raised the issue of overlapping roles or unclear boundaries between the EPA and other parts of government.[4]

> *Role clarity is essential for any regulator, but especially for one whose key stakeholders hold different and sometimes conflicting expectations. The Inquiry (and Government's response to the Inquiry) is an opportunity to clarify and affirm the EPA's role, purpose and responsibilities.* (Eric Windholz, Monash University submission, p. 3)

Role clarity is important for formal accountability and to set appropriate community expectations about 'who does what'. It also underpins internal decision making on priorities and scope of responsibility. It is essential for effective regulation, and for establishing the arrangements and relationships for joint regulation, cooperation and coordination that are necessary in a complex operating environment, such as Victoria's broader regime of environmental regulation and management.

> *Local government and other government agencies and EPA continually and currently buck pass issues thus ignoring community concerns and issues.* (Brooklyn Residents Action Group submission, p. 3)

> *There is ongoing confusion between the roles and functions of the EPA and (Sustainability Victoria) in the areas of environmental justice, community education and ownership, waste stewardship and the environment citizenship strategy.* (Municipal Association of Victoria submission, p. 9)

To be most effective, role clarity should be entrenched in the legislative framework established for the EPA. To achieve this, we recommend a new legislative architecture for the EPA, and Victoria's environmental protection regime more generally. In particular, we propose the following changes:

- a new Act that establishes the EPA – as part of a comprehensive overhaul of the EP Act, to clarify powers and incorporate new instruments
- a clear, legislated objective for the EPA that focuses on reducing harms from pollution and waste and protecting both human health and the environment, as an important first step in defining the future role of the EPA
- a refreshed set of decision making principles for the EPA that support its statutory functions and provide greater transparency to duty holders and the community
- a simplified set of legislated functions, consistent with the requirements of a modernised and more proactive focus for the EPA of the future.

5.3 A new Act to establish the EPA

Role clarity for the EPA starts with a separate EPA (Establishment) Act, to sit alongside a modernised EP Act. The EPA (Establishment) Act should define, as a minimum, the EPA's objective, decision making principles, functions and governance structure.

The current EP Act includes establishment elements for the EPA alongside specific provisions for regulatory tools, operated by the EPA and other entities. In itself, the Act's broad ranging nature is confusing. It is also now a very complex and cumbersome piece of legislation.

Victoria's EP Act was the first such legislation in Australia, but it is now the oldest state environment protection act not to have been comprehensively reviewed and re-enacted, despite being amended more than 80 times in its 40 year history. The 2011 Krpan review flagged problems with the complexity of the EP Act:

> *[The EP Act] is now complex and difficult to navigate, and contains drafting which is convoluted and does not meet the principles that apply to modern legislation, including that it be accessible and easy to comply with.*[5]

Many participants to our inquiry had similar views – the EP Act is tired, out of date and confusing. The *Report on Submissions to the 2015 EPA Inquiry* highlighted a '… general consensus that (the EP Act) is out of date and needs a drastic overhaul. Some argued for a complete rewrite of the Act, others suggested that it could be reviewed and made stronger by a severe upgrade.'[6] Further, participants argued '… the government should broaden the statutory and regulatory powers of the EPA with a stronger Act and more effective authority'.[7] For example:

> *The EP Act has become very difficult for users to navigate, is often repetitive and in some instances redundant, and important principles are obscured in very long and complex provisions.* (Law Institute of Victoria submission, p. 4)

> *There is a strong need to overhaul, rewrite and streamline the Act to help ensure that the EPA is current, innovative, adaptive and responsive.* (Australian Industry Group submission, p. 6)

> *We note that the relevant act relating to the EPA's establishment has been amended numerous times, leaving a document that is unwieldy and without clarity of purpose.* (Victorian Trades Hall Council submission, p. 2)

In its current state, the EP Act's guidance on the EPA's role, powers and functions is confusing. It provides powers and statutory functions to a number of different agencies, not just the EPA.[8] And the principles apply to any agency administering the Act – not just the EPA – so they do not support the EPA's specific decision making requirements.

> *The inquiry should review the EPA Act 1970, EPA policies and examine how they can be amended so that they better achieve their objectives... The outcome should be a reduction in costly retrofitting by industry, an increase in public confidence in the EPA and a greater clarity for the EPA in performing its role.* (Alan Just submission, p. 4)

Other jurisdictions address the complexity of roles and responsibilities through a more sophisticated legislative framework. New South Wales has two acts, for example: the *Protection of the Environment Administration Act 1991* covers the administration of the NSW EPA, while the *Protection of the Environment Operations Act 1997* covers the subject matter of environment and health. Inquiry participants supported this approach:

> *[T]he NSW model serves as an appropriate blueprint for what is widely considered a world-class regulatory and legislative framework for environmental protection.* (Law Institute of Victoria submission, p. 3)

Overhauling the EP Act will require significant resources from both DELWP and the EPA. The EPA needs a clear plan for transition, so its important work continues while reforms are implemented.

Our proposed EPA (Establishment) Act allows the government to prioritise framing the EPA's role and new governance arrangements, as part of a staged process of legislative reform.

5.4 Setting clear and workable objectives and principles for the EPA

In considering objectives and principles for the EPA, we recognised that the EPA is not solely responsible for environmental protection; it works with, and alongside, other areas of government. So the EPA's objective should be clear and distinct, to distinguish its role from the roles of others. But the principles for decision making should be consistent across government. These principles should represent 'shared' values and allow for joint regulation.

5.4.1 Establishing a legislated objective for the EPA

We recommend the following legislated objective for the EPA:

To protect human health and the environment by reducing the harmful effects of pollution and waste.

The current EP Act does not provide the EPA with a legislated objective. A legislated objective is consistent with good legislative practice and a foundation for role clarity: 'the statement within an Act establishing a statutory corporation of 'the purposes, objects, functions, powers and duties of the corporation' is of *utmost importance*'[9] (emphasis added).

The Victorian Competition and Efficiency Commission identified the need for role clarity and differentiation and recommended that this should be instituted through legislation in its 2009 inquiry into environmental regulation.[10] The OECD also highlighted this as a general principle of regulatory governance:

> *The legislation establishing a regulatory scheme or framework should be written so that the purpose of the regulator and the objectives of the regulatory scheme are clear to the regulator's staff, regulated entities and citizens.*[11]

Our proposed legislated objective provides this clarity both through its statutory form and its specific focus. It is one part of our overall approach to addressing the EPA's role (as required by our terms of reference). The objective defines, at a high level, our view of the EPA's 'appropriate role in relation to public health issues' and 'in protecting the environment'. It is also our starting point as we considered the EPA's functions, tools, capabilities and resourcing.

There are several key elements to the recommended legislated objective:

- It specifies **pollution and waste** as the broad types of activities/environmental impacts to be managed or regulated by the EPA. This element defines the EPA's scope of activity and differentiates it from other environmental and public health regulators.
- It is framed in terms of **harm reduction** because this best represents the EPA's task, which is to reduce and manage the harms associated with certain activities. It is intended as a dynamic concept that will be responsive to: improvements in understanding of harms; emerging risks; and evolving technologies and approaches for reducing harms.
- It clarifies that **human health *and* the environment** are both the focus of the EPA's protective responsibility and the broad policy outcomes desired. Including the reference to human health in the objective recognises community expectations and, as identified in the Second Reading Speech for the Environment Protection Bill 1970, the 'paramount obligation of the State to protect human health'.[12]

In framing the objective, we considered the following requirements:

- The objective should be closely aligned to the problem(s) that is to be addressed through intervention – in this case, the market failures that arise from pollution – rather than to broader public good environmental conservation goals.
- To assist with role clarity, the objective should clearly distinguish the EPA's primary purpose from those of other entities operating within the broader environmental regulation regime.
- The objective should articulate the ends to be achieved, or the broad policy outcomes desired, but not the means by which they will be achieved.
- To facilitate evaluating the EPA's effectiveness, the objective should be defined in a way that creates a framework for accountability.

Focusing on harm reduction from pollution and waste

The first question for a regulator is what is to control or manage. For the EPA, we defined controlling harms from pollution and waste. Specifically, we defined EPA's regulatory task as 'harm reduction' rather than 'harm elimination' for three reasons. First, it recognises that the EPA's regulatory task involves approving or permitting some level of pollution. The EPA's regulatory role is founded on the decision of government – and implicitly the community – that we accept some level of pollution as an inevitable byproduct of socially useful activity.

Second, it clarifies the EPA's requirement to actively identify and assess risks of harms. It must consider economic, social and environmental factors (for example, the cost of pollution controls, the benefits of industrial activity, or the requirement for waste disposal) and determine, including through consultations with the community, the appropriate level of risk mitigation and control. This will be done dynamically so that it is responsive to changes in understanding of risks and harms, and emerging risks and improvements in mitigation measures.

Third, it focuses clearly on specific market failures and it distinguishes the EPA's role as a specialist regulator from that of other regulators:

> *Rather than broadening and diversifying, the EPA should focus on a few key areas … [so] it will be clear to all stakeholders what the EPA's mandate is rather than the confusion that currently prevails.* (Minerals Council of Australia – Victoria submission, p. 1)

It addresses the general community's confusion about the EPA's role, and the role of other parts of government responsible for managing threats or harms posed by pests and weeds, reduced stream flows or native vegetation clearing (box 5.1). The focus on pollution and waste recognises the continuing importance of these issues as critical risks to the Victorian environment and community, and the requirement for specialised scientific expertise and targeted regulatory interventions.

In our consultations, we heard from some stakeholders that the EPA should be the regulator for 'all the environment' or for all things relating to the environment. This would involve a major reframing of Victoria's current system of environment protection.

> *[W]e see a need for the EPA to expand its role into more broadly protecting the natural environment, including native vegetation as well as considering greenhouse gas emissions including methane as well as carbon dioxide.* (Green Wedges Coalition submission, p. 1)

> *The Trust recommends that private land conservation and protection be recognised and supported by the future legislative and administrative arrangements supporting the EPA as one of the key components to achieving its statutory objectives and responsibilities.* (Trust for Nature submission, p. 5)

> *I see a need for the EPA to expand its role into protecting the environment for nature because all living things depend upon a healthy environment.* (Nina Earl submission, p. 1)

However, we do not support this expanded approach. Instead, we have sought to confirm the EPA as a 'specialist regulator' and to ensure that it is clearly defined as such and appropriately equipped and resourced to perform its specific tasks. We did this after considering the inherent complexity of the EPA's existing core task and the demands of meeting future challenges and community expectations. This task requires specialist knowledge and understanding.

The EPA also needs to operate in the interface between the environment and human health issues. As such, the EPA has a fundamentally different orientation than a regulator charged with, for example, biodiversity protection.

The benefits of a more focused regulator have been recognised in other review processes, but we note that this must be accompanied by effective mechanisms for collaboration and integration with other regulatory frameworks.

> *Regulators were most likely to be effective when they are working towards limited and relatively narrowly defined duties and objectives.*[13]

As part of its remit, the EPA must monitor and manage the condition of key elements of the environment – land, air and water quality – and be mindful of the health of natural systems. However, the EPA is a 'specialist regulator' and the task of biodiversity protection requires a very different set of tools and capabilities. For example, developing threatened species conservation and recovery strategies and other elements of biodiversity conservation have highly specific requirements for information and scientific expertise and involve an array of targeted regulatory and other instruments.[14]

> *[P])aramount to the implementation and operation of any regulatory regime is having a well-developed understanding of the operating environment and risks being addressed. Regulation is not a one-size-fits-all approach, and different strategies and approaches are required to address different risks.*[15]

We recognise that pollution and waste must be defined carefully in the legislation. This will need to capture pollution of the air, land and waterways by emissions, discharges and the production of waste of various kinds, and also of greenhouse gas emissions (noting that greenhouse gas emissions are currently defined as waste in the EP Act).

BOX 5.1 THE EPA'S ROLE IN WHOLE-OF-ENVIRONMENT REGULATION AND MANAGEMENT

> *Environmental issues arise from interactions between human and natural systems, both of which are characterised by considerable complexity and uncertainty. Attempts to achieve desirable outcomes through policy or management interventions in these systems are rarely simple tasks with clear cause-and-effect linkages or single impacts.*[16]

The complexity of the environment, and our interactions and potential impacts on it, provides the strongest argument for why its management and protection is best devolved across government – providing for specialist expertise and targeted interventions, and also for consideration of the environment to be integrated into a wide range of government processes and decision making. Alongside the EP Act, separate legislation addresses specific environmental segments and problems, including: the *Flora and Fauna Guarantee Act 1988*; native vegetation regulations under the *Planning and Environment Act 1987*; the *Fisheries Management Act 1991* and the *Coastal Management Act 1995*. Other parts of government are also responsible for protecting the environment as part of their roles in land use planning,[17] water supply,[18] forestry,[19] mining,[20] and provision of transport.[21] Protecting the environment is complex, reflecting the complexity of natural systems and their interactions with human activities. We better understand this complexity now than when the EP Act was enacted 40 years ago, and Victoria's extensive environment protection framework reflects this understanding.

Retaining this multi-agency approach ensures that:

- the EPA and other key environment regulators, such as DELWP, can bring to their respective tasks the required specialist knowledge and understanding of the market failures and risk, and specifically designed and targeted regulatory tools
- other parts of government bear responsibility for environment protection and continue to integrate environmental considerations into their decision making
- a range of regulatory and other interventions are available to protect the environment, some of which lie in the hands of other regulators, such as land use planners.

To maximise these benefits, the current disaggregated system requires leadership from DELWP and established mechanisms for coordination and collaboration. These issues are important for the effectiveness of the EPA as well as for other parts of the environment protection system. Chapter 7 outlines our proposals for these issues.

Clarifying accountability for environmental risks to human health

> *Australians are suffering ill health and Australia is incurring economic loss because of grossly inadequate assessment and management of the health harms caused by resource and other major developments.*[22]

> *Victoria needs an Environment Protection Authority that does exactly that: protects Victoria's environment with respect to matters that have potential public health consequences, whether today, in the near or long term future, across impact issues such as air quality, water quality, contaminated land and waste.* (Professor John Stanley submission, p. 3)

Next, we need to ask *why* should the EPA control pollution and waste. The clear message from the analysis and advice (from experts, in public consultation discussions and submissions, and in discussions within government) is the primacy of the EPA's role as a protector of human health. We consider the legislation should recognise explicitly this role; the current EP Act does not. Specifically, the EPA's key task is to manage risks of harm to human health as a result of pollution and waste.

Clearly, human health and the health of the environment are very closely linked, but the EPA's primary focus should be on the risk of harm to people. Environmental health, properly defined, is at the core of the EPA task, comprising:

> *… those aspects of human health and disease that are determined by factors in the environment including both the direct pathological effects of chemicals, radiation and some biological agents, and the effects (often indirect) on health and wellbeing of the broad physical, psychological, social and aesthetic environment (including housing, urban development, land use and transport).*[23]

The fields of environmental health and environmental protection overlap, given the intrinsic links between environmental sustainability, ecosystem health and human health outcomes. These fields must be brought together in much of the EPA's work, but the EPA's formal objective should have 'people' as a primary focus.

In its submission to the inquiry, Doctors for the Environment Australia supported formally recognising human health outcomes in the objective of the EPA, noting that this brings an important and different perspective to the consideration of risk.

> *The work of the Victorian EPA has focused primarily on the preservation of the environment itself – an inarguably valid undertaking … However, within the existing framework, health outcomes are viewed as a secondary measure and experience tells us that environmental values are often traded for development; health outcomes should not be traded so easily.* (submission, p. 5)

Human health is also central to the task of environmental regulators in many other jurisdictions, including in other Australian states and territories and overseas.[24]

The Second Reading Speech for the Environment Protection Bill 1970 conceived the EPA in an era of obvious environmental threats to human health and amenity.[25] While there have been some significant improvements in areas such as air quality, environmental protection still requires a focus on risks to public health and to liveability. This focus is reflected in the 'beneficial uses' protected under the EP Act which include health of humans, for example, and lack of noise to allow sleep and household activities/conversation.

We consider that protecting human health will remain the EPA's primary focus for several reasons:

- ongoing advances in scientific knowledge that provide a better understanding of risks, even of substances previously thought to be harmless
- ongoing urbanisation and population growth, which brings human settlement into closer proximity to hazards associated with economic activity and disposal of waste
- the increasing impact of small scale and diffuse sources often with cumulative impacts, making them more challenging to track, monitor and manage
- exponential increases in the development of new chemicals and materials with potential for harms to human health
- the increasing incidence of extreme events, such as bushfires and floods creating pollution and waste hazards and risks to human health
- growing community expectations for risk management, both for better information on, and protection against, environmental hazards.

Recognising the importance of protecting the natural environment

The focus on public health does not mean that there is an implicit devaluing of the natural environment. Indeed, the natural environment – the condition of the air, water and land – is the basis of protective measures and ecological values, which are well recognised within the current system. Further, the ongoing sustainability of the natural environment is essential to human health and liveability, particularly in the context of intergenerational equity.

The EP Act defines 'environment' as meaning the physical factors of the surroundings of human beings including the land, waters, atmosphere, climate, sound, odours, tastes, the biological factors of animals and plants and the social factor of aesthetics. Defined in this manner, including 'environment' in the objective covers odour and noise issues, as well as broader environmental issues that may be significant but have a less tangible impact on health.

Environmental management often involves activities that have social and environmental outcomes. For example, reducing pollution into a river can have recreational benefits, economic benefits (by improving the river's productive capacity and by reducing the need for potable treatments), aesthetic benefits, and environmental benefits (making the river more resilient to other threats, such as climate change) (box 5.2).

BOX 5.2 ENVIRONMENTAL ASSETS, ECOSYSTEM SERVICES AND ENVIRONMENTAL MANAGEMENT

> *Ecosystems are a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.*[26]

The environment is a broad term that encompasses many things including the atmosphere, oceans, forests, waterways, flora, fauna, land, soil and biodiversity. The environment can be thought of as comprising environmental assets. Environmental assets are valuable because they produce 'ecosystem services' on which we depend.[27] Ecosystem services include air filtration services by a forest that provide clean air, for example, and water clarification by a wetland that benefits production processes and recreational users. The space in which we live can also be conceptualised as an environmental asset.

An environmental asset's ability to produce ecosystem services depends on the extent (coverage) of the asset and its condition. Humans can modify the extent and condition of environmental assets positively and negatively; for example, we clear native vegetation for development, introduce invasive species and produce pollution.

Pollution affects the condition of an environmental asset negatively and reduces the asset's ability to supply ecosystem services. For example, pollution of waterways and land may affect their ability to support agricultural and fisheries activity, and also affects tourism. Environmental management involves managing the condition and extent of environmental assets to mitigate human effects.

This broad and varied range of outcomes is currently given statutory definition through the 'beneficial uses' that the EPA must protect. These are set out in state environmental protection policies. The relationship between the condition of the natural environment and human uses and benefits is apparent in these, as follows:

- ecosystem maintenance (aquatic and terrestrial)
- health of other (non-human) forms of life
- potable water supply
- stock watering
- agriculture (production of food and fibre, flora)
- parks and gardens
- recreation
- buildings and structures
- cultural and spiritual values
- industrial water use.

In chapter 4 we summarise these beneficial uses as health and safety, wellbeing, productive and environmental outcomes. These outcomes are also often protected or significantly affected by other agencies, so the EPA must cooperate with other parts of government on how best to 'protect'. Currently, the EPA's role is to research and monitor the natural environment to inform policy and management across government. Better knowledge about complex human – natural system interactions will likely produce better ways of managing issues.[28] The government can encourage cooperation between agencies by including steps in decision making that account for the multiple impacts and/or ensuring connections between related agencies.

A focus on outcomes is central to public sector reform.[29] Translating the EPA's objective and the 'beneficial uses' that the EPA seeks to protect into measurable, achievable outcomes is an important step in the EPA adopting an outcome-based approach. We address this by including a legislated function to evaluate the effectiveness of regulatory interventions.

5.4.2 Providing the EPA with effective decision making principles

The EP Act currently contains 11 principles[30] and as stated in the Act: '[i]t is the intention of Parliament that in the administration of this Act regard should be given to the principles of environment protection'.[31] The principles were introduced in 2001 as part of a broad commitment to build sustainability principles into decision making processes across government. The intention of the principles was to 'assist people to understand [the] Act and provide some real guidance to decision makers as to how it should be administered'.[32]

The EPA's 2014 guideline details how the principles '… inform statutory processes and decisions made pursuant to the Act', and provides guidance on '… how EPA applies the principles when it assesses project proposals and makes decisions on approval applications'.[33] The guideline notes proponents must consider the principles during approvals processes, and also that the principles may be relied on by EPA, the proponent or third parties in their participation in Victorian Civil and Administrative Tribunal reviews or in court appeals.

We note that without principles, the EP Act might be read that: 'as its title suggests, [the EP Act is exclusively concerned] with an unqualified protection of the environment, unqualified in the sense that no consideration is to be given to other desirable goals if they are nevertheless inimical to the environment'.[34]

The principles are clearly intended to be important both as a means of understanding the intention and values that underpin the EP Act and the EPA's role – both what it is tasked to do and how it goes about this.

Reviewing the current EP Act principles

Principles are useful in underlining that regulators are expected to work with a 'multidimensional set of trade-offs'[35] and that all decision making involves some 'balancing' of different values and outcomes. Often, this concept of balancing is about finding some 'optimal point' or 'cluster' that satisfies various values and outcomes, rather than weighting values against each other.[36] Having principles of different character, as in the current EP Act, makes this task difficult. The legislation should distinguish between principles that decision makers must have regard to and general aspirational statements made by Parliament.[37]

The current EP Act principles were derived from various sources and are a mixture of:

- **generic decision making principles that represent regulatory best practice**, such as:
  - i) 'effective integration of economic, social and environmental considerations in decision making processes with the need to improve community wellbeing and the benefit of future generations'
  - ii) that 'measures adopted should be cost effective and in proportion to the significance of the environmental problems being addressed'.[38]
- **longstanding 'universal' environmental values**, including elements drawn from international commitments to ecologically sustainable development from the 1980s that were then enshrined by Australian governments in the 1992 Intergovernmental Agreement on the Environment (IGAE).[39] This agreement was framed as a broad environmental framework 'to guide the development and implementation of environmental policy and programs by all levels of Government'.[40] It was not specific to pollution and waste management.

- **general aspirational statements** with broader application than just the EPA, such as the principle of shared responsibility and community aspirations for environmental quality.[41]
- **specific statements of EPA policy practice and operational considerations**, including reference to the considerations, tools and approaches to be deployed by the EPA, such as integrated environmental management, use of incentive structures, the waste hierarchy, product stewardship, enforcement, access to information and involvement in policy development processes.[42]

These principles do not provide a consistent and comprehensive framework that supports operational effectiveness. Independent expert advice concluded: '[t]he current principles must lead to difficulties in decision making by the EPA'.[43] First, they encompass broad value statements as well as more specific decision making and operational considerations. There is duplication between principles where a single, simplified statement would be more useful.[44]

Second, the principles do not provide the duty holder or the community with a clear view of how the EPA should assess, weigh and judge issues. It is unclear whether the EPA should account for all relevant principles equally, or whether some principles are meant to provide direction on specific areas only, for example. Recent case law suggests that one principle 'has to be balanced against the numerous other stated principles of environment protection'.[45] However, this approach seems to be unworkable with the current principles. Indeed, the EPA itself noted some principles are 'often directly relevant' (sections 1B, 1I and 1J), 'sometimes directly relevant' (sections 1C, 1D and 1E), and some are 'rarely directly relevant' (sections 1F, 1G, 1H, 1K and 1L).[46]

Third, some principles might be considered as outside the scope of the EP Act, and create confusion about the EPA's role and the focus of its powers and functions. For example, biological diversity and ecological integrity are not *fundamental* considerations of the EPA's decision making, in the same way that they are for decision makers with respect to other legislation.[47]

Fourth, some key elements are missing from the principles, such as references to human health considerations that would complement the EPA's regulatory responsibilities for public health. By contrast, other Victorian legislation, such as the *Public Health and Wellbeing Act 2008* includes a principle on the primacy of prevention. Similarly, other acts include stronger statements on equity with specific reference to the issues impacting people and communities.

> *The principle of equity means—*
>
> *(a) equity between persons irrespective of their—*
>
> *(i) personal attributes, including age, physical ability, ethnicity, culture, gender and financial situation; or*
>
> *(ii) location, including whether in a growth, urban, regional, rural or remote area*
>
> *(b) equity between generations by not compromising the ability of future generations to meet their needs.*[48]

Core principles to support EPA decision making

We consider that the EPA needs a refreshed set of principles, aligned to its objective, and providing a practical and rigorous framework for decision making. These principles would form part of a specific EPA (Establishment) Act.

> *If the principles are clearly intended to direct the minds of decision makers to specific issues, clear mandatory language should preferably be used.*[49]

Just as the legislated objective for the EPA clarifies the EPA's role, the principles provide direction on how this role is to be performed. As such, the principles help to set expectations and underpin accountability to government and the community. In particular, they should provide the community with clarity on the values and considerations that will guide the EPA's statutory decision making.

For the EPA, the principles together with the objective, should provide a 'clear and unambiguous mandate' and the basic precondition for effectiveness – to create the 'willingness to take action and fulfil the supervisory [that is, regulatory] role'.[50]

The principles must also align with the EPA's focus on pollution and waste as it affects people and their health and wellbeing, and the importance of prevention.

We propose the following decision making principles for the EPA:

1. **Balancing economic, social and environmental impacts** – This principle guides the EPA's operational decision making as it assesses risks and considers cost effective controls and opportunities for driving continuous improvement. It also guides the EPA's advisory role when informing whole-of-government processes about strategic directions. Any actions must be cost effective, to minimise regulatory burdens.[51]

2. **Proportionality** – Regulatory responses must be proportionate to the problem they seek to address. Strategic decisions must be based on risk assessments so interventions are not only cost effective but are in proportion to the environmental problem. This principle relates to 'fairness', efficiency and to provide confidence on risk management.[52] The Health and Wellbeing Act contains a proportionality principle that comprises two elements; that is decisions:

   (a) should be proportionate to the public health risk sought to be prevented, minimised or controlled

   (b) should not be made or taken in an arbitrary manner.[53]

3. **Primacy of prevention** – The prevention principle calls for action to prevent known risks of environmental harms from materialising.[54] It underpins the proactive regulatory approach required of the EPA to reduce harms to human health and the environment. However, this should be framed as a *preferable* measure; harm mitigation and remediation must be accounted for when considering options for reducing pollution and waste. The Public Health and Wellbeing Act makes this distinction: '… prevention of … (harm) is preferable to remedial measures'.[55]

4. **Intragenerational and intergenerational equity**[56] – The principles should allow the EPA to consider how decisions will affect specific parts of the community (intragenerational equity) and how they will affect future generations (intergenerational equity). This principle is important for providing environmental justice (so that one part of the community does not bear disproportionate costs or benefits of pollution or regulatory responses). The EPA must also account for the activities of past generations and minimise burdens for future generations. As noted above, the principle of equity in the *Transport Integration Act 2010* accounts for both intra- and intergenerational equity.

5. **Responsibility (shared responsibility, producer responsibility and polluter pays)** – The EP Act addresses these issues in a number of the current principles.[57] We propose a single principle that guides the EPA on allocating responsibility to polluters and other third parties. This provides a platform to use a range of tools and to work with a range of stakeholders to reduce harms, including through preventative measures such as a general duty (see chapter 12).

6. **Evidence-based decision making that accounts for the role of the precautionary principle** – This principle guides the EPA on dealing with uncertainty and meeting the requirements for evidence, noting that the Public Health and Wellbeing Act includes both these elements.[58] As a science-based regulator, the EPA will always deal with some uncertainty about the nature and consequences of some environmental impacts, and also of public health impacts. The Australian Panel of Experts on Environmental Law has previously argued for clarifying how regulators should apply this principle.[59]

7. **Accountability and access to decision making** – Accountability is necessary for regulatory authority. We propose a principle for accountability, based on the Transport Integration Act: 'members of the public should have access to reliable and relevant information in appropriate forms to facilitate a good understanding of transport issues and the process by which decisions in relation to the transport system are made'.[60]

These principles relate to the EPA specifically (and would sit in the proposed EPA (Establishment) Act). The principles should be framed to:

- complement the proposed objective for the EPA and therefore match in scope the issues and considerations relevant to its objective
- account for the requirement to consider the protection of human health and the environment
- provide for greater accountability for regulatory decision making.

A reframed EP Act and the overarching environmental legislation proposed later in the report (see chapter 7) should also include general principles. There is no consistent approach to principles across Victorian legislation – even in legislation that deals with the same issues – but we consider there are benefits in identifying consistent high level principles.

The reframed EP Act may also include specific principles, such as the waste hierarchy (which would apply to specific provisions in the Act). Some principles could also have specific reference to, and greater directive power for, certain decisions: '[i]t would be advantageous if the application of the individual principles that go to make up the principles of environment protection could be directed at specific classes of decisions'.[61] As an example, the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* requires that 'the Minister must take account of the precautionary principle' in making a range of decisions'.[62]

5.5 Framing functions for a modern, mature regulator

The proposed legislated objective and regulatory principles for the EPA set the broad boundaries of the EPA's future task. The next step is to consider the *functions* of a future EPA. In this context, 'functions' mean the streams or types of work that the EPA should do to help it achieve its objective and principles. Functions act as a bridge between the high level objective and more specific powers and operational arrangements.

In specifying the functions the EPA of the future will need, we considered two key factors: maintaining a consistent regulatory approach and functions required for a more proactive and preventative role.

Maintaining a consistent regulatory approach

Stakeholders with a long history of working with the EPA commented on the changes in the EPA's regulatory approach over the years. Most recently, the EPA shifted from a more cooperative, client-based approach with duty holders to a stronger compliance and enforcement approach, following the Compliance and Enforcement Review in 2011[63] and other reviews in response to major incidents.[64]

Our aim is to establish a more enduring model for the EPA's functions that can be given legislated form, creating stability and flexibility for the EPA.

Functions required for a more proactive and preventative role

As already discussed, the community expects the EPA of the future to have a strong preventative focus:

> *The EPA … must go beyond its core regulatory function to guide business towards measures targeted at liability prevention and precaution.* (BP Australia submission, p. 3)

This is consistent with the view of regulatory experts, who consider the EPA must be more than just a 'policeman' if it is to manage harms effectively. In particular, Professor Malcolm Sparrow argued regulators must move from compliance to also give attention to risks. This 'anticipation of issues' is critical for reducing harm and should be a regulatory obligation reflected in legislation.[65]

> *A regulator that focuses solely on chasing baddies is likely to rely largely on the compliance toolkit and will inevitably miss newly emerging risks.*[66]

A range of inquiry participants also supported this view.[67]

> *To avoid future environmental problems, the EPA needs to be more proactive rather reactive. The following are necessary for proactive planning:*
>
> 1. *adequate resourcing*
> 2. *adequate environmental monitoring to detect chemicals of concern and to measure temporal trends in pollution*
> 3. *refinement of best practice guidelines and environmental policies*
> 4. *development of strategies to address future problems such as climate change, population growth and more intensive agriculture and forestry*
> 5. *engagement with key stakeholders that can help address these emerging problems.*
>
> (Centre for Aquatic Pollution Identification and Management submission, p. 3)

5.5.1 The case for change to the current functions

There are around 27 separate powers, duties and functions listed in section 13 of the EP Act.[68] We recommend a simplified set of functions for the EPA of the future, consistent with the needs of a mature and modern regulator.

Specific problems and weaknesses in the current list include:

- Many of the provisions are long and not easily understood, largely as a result of multiple amendments over time. This means that there is little clarity for the EPA and transparency for others – both within government and the general community.
- Provisions include a mix of powers, duties and functions. This means some of these are what the EPA must do but others are optional. A simplified list of the generic functions the EPA is expected to undertake would provide a stronger basis for accountability.
- The list includes detailed references to specific activities or types of tools that may be deployed – these should be included as specific provisions in the EP Act.[69]
- The current list confuses the EPA's role relative to other agencies, such as being responsible for promoting 'long range planning in environmental management'.[70]

The current list of 'powers, duties and functions' does not reflect more modern principles of good regulator governance, as identified by the OECD, that:

> *regulatory powers and other functions to be carried out to achieve the regulator's objectives should be clearly specified in the establishing legislation and be appropriate and sufficient to achieving the objectives*

And

> *[t]o reduce overlap and regulatory burden, all regulators should be explicitly empowered and required to cooperate with other bodies (non-government and other levels of government) where this will assist in meeting their common objectives.*[71]

The legislation establishing the NSW EPA contains a short list of eight 'general functions' that provides a good example of a more contemporary approach.[72] The general functions are concise, understandable and transparent. They also send a clear and strong message of accountability and aspiration for environment protection. At the same time, the NSW EPA general functions give the regulator the flexibility it needs.[73]

The EPA of the future needs a new list of functions that supports its range of activities, including new and expanded activities:

- monitoring and environmental scanning for changes in the environment and new risks, to prevent harms and enable early interventions
- advising government on changes to regulatory tools
- supporting compliance with the proposed general duty
- fostering collaboration and joint regulation with other government agencies and with local government
- evaluating regulatory activities and reporting on the outcomes, as well as providing risk information to a community with an increasing demand for information.

Specific functions required to support a general duty

The EPA of the future will need functions to support the general community's compliance with our proposed general duty (see chapter 12). Specifically, it will need to provide training, education and information, much like WorkSafe's functions within Victoria's occupational health and safety system. The *Occupational Health and Safety Act 2004* includes specific functions for this purpose:

- *to cooperate with, and give advice and information to the following persons in relation to occupational health, safety and welfare* (section 7(1)(e))
- *to disseminate information about the duties, obligations and rights of persons under this Act or the regulations and to formulate standards, specifications or other forms of guidance for the purpose of assisting persons to comply with their duties and obligations* (section 7(1)(f))
- *to promote education and training* (section7(1)(g))
- *to engage in, promote and coordinate the sharing of information to achieve the objects of this Act* (section 7(1)(i))
- *to promote public awareness and discussion of occupational health, safety and welfare issues and an understanding and acceptance of the principles of health and safety protection* (section 7(1)(j)).

FIGURE 5.1 EXPANDING THE EPA'S FUNCTIONS FOR ENHANCED PREVENTION AND INFLUENCE

1. UNDERSTAND AND ADAPT	2. ADVISE	3. DETERMINE AND SET
Understand and respond to the changing environment and risks and impacts posed by pollution and waste	**Advise government and work with other agencies to reduce risks and seek solutions to identified problems**	**Set standards to protect the environment, public health and, where practicable improve standards and expectations**
EPA Functions 1. Monitor and identify impacts and risks to public health and the environment 2. Proactively adapt tools and instruments to prevent and reduce impacts and risks	**EPA Functions** 3. Advise government 4. Lead, coordinate and collaborate with local governments, joint regulators and other government agencies	**EPA Functions** 5. Determine and set environment protection standards ('goal post' standards) 6. Set compliance obligations and seek to improve environmental performance
Increased expectations that the EPA will proactively scan for and assess risks, to inform government decisions and will adapt regulatory tools and instruments to prevent and reduce impacts and risks	A more preventative focus that requires the EPA to be 'at the table' to inform and influence strategic government decision making and to identify areas for joint regulation and collaboration	Maintain an up-to-date and effective regulatory framework including by leading work on outcome focused standard-setting

The proposed legislated functions to support compliance and educate the community on managing risks address this need.

5.5.2 Proposed legislated functions for the future EPA

The legislated functions need to make clear how the EPA will perform its task of being a proactive protector of public health and the environment – that is, to describe the generic set of activities that it must perform.

> *The EPA provides a critical regulatory pillar in the State Government's environment protection endeavours. Its key role is to protect the environment from the negative impacts of human activity. The EPA is valued as a regulator, facilitator, educator, researcher and informer.* (Municipal Association of Victoria submission, p. 6)

> *A regulator needs to be constantly self-evaluating, learning and adapting its approach, identifying emerging problems and acting promptly when it does so, and measuring how well it is doing in terms of public engagement and substantive performance.*[74]

We recommend the EPA's establishing legislation set out the following ten functions (figure 5.1). They support an outcomes-based approach and give the EPA a clear mandate to be proactive and influential in protecting human health and the environment. Each activity area expands the EPA's functions beyond its current remit.

4. ENABLE	5. ENFORCE	6. EVALUATE
Enable duty holders and the community to achieve standards and to adopt better behaviours and practices	**Monitor and e(nforce) the law through proportionate and responsive measures**	**Assess the effectiveness of interventions**
EPA Functions **7.** Support compliance **8.** Report to, educate and engage with the community on managing risks and the condition of the environment	**EPA Functions** **9.** Monitor compliance and enforce the law	**EPA Functions** **10.** Evaluate the effectiveness of regulatory interventions
Wider role in supporting compliance particularly with a general duty, and an increased role to meet growing community expectations for information and transparency	Timely, proportionate and effective enforcement responses to build confidence in the system and to deter pollution	Support continuous improvement and inform risk analysis by assessing outcomes, changes in outcomes and the costs of interventions, to maintain government confidence and community trust in the effectiveness of the regulatory framework

1. **Monitor and identify impacts and risks to public health and the environment**
   - Monitor the condition of the environment and critical risk factors for the impact of pollution and waste on the health and safety, wellbeing, productive and environmental outcomes that the EPA seeks to maintain.
   - Conduct research and analyse environmental data to identify relevant impacts and risks, including from changes in industry and community practices and changes in the environment.
   - Monitor identified 'hotspots', and advise on acute impacts caused by emergencies and other incidents.
2. **Proactively adapt tools and instruments to prevent and reduce impacts and risks**
   - Identify priority impacts and risks.
   - Adapt existing tools to more effectively prevent or minimise impacts and risks.
   - Work with DELWP and other agencies to develop new standards and new statutory instruments that better protect Victoria's environment and public health.

3. **Advise government**
   - Provide expert advice and information to government, both on request and proactively, on impacts and risks to public health and the environment and how to mitigate or prevent risks, including:
     - i) to the Minister about priority and emerging risks and impacts on outcomes and the need for changes to environment protection laws
     - ii) to other agencies and authorities to improve decision making and service delivery (for example, advising planning authorities and Victoria's Chief Health Officer)
     - iii) to whole-of-government processes to inform and influence strategic planning and decision making.
   - Provide expert advice to emergency management agencies
4. **Lead, coordinate and collaborate with local governments, joint regulators and other government agencies**
   - Make and implement plans with other agencies to identify and address relevant risks to outcomes when collective action is required.
   - Provide strategic direction, advice, education and support to local governments and other joint regulators to understand and manage relevant impacts and risks to public health and the environment.
5. **Determine and set environment protection standards ('goal post' standards)**
   - Lead the setting and updating of environment protection standards that are required to maintain the health and safety, wellbeing, productive and environmental outcomes that support government policy and respond to an evolving understanding of risks.
   - Help develop national environment protection measures and lead the adoption and implementation of those measures in Victoria.

   'Environment protection standards' are broad environmental standards that should maintain the health and safety, wellbeing, productive and environmental outcomes that the EPA seeks to protect on behalf of the Victorian community. These will be regularly reviewed and updated in response to: changing understanding of risks; emerging risks; and improvements in mitigation measures.
6. **Set compliance obligations and seek to improve environmental performance**
   - Set operational requirements for designing and managing activities with significant impacts and risks to health and safety, wellbeing, productive and environmental outcomes.
   - Grant licences, works approvals and other approvals to proportionately manage risks from pollution and waste.
   - Regularly review licences and other approvals to drive outcome and regulatory improvements consistent with current best practices.
   - Develop codes and other statutory instruments to ensure duty holders take reasonably practicable measures to reduce outcome impacts and risks. This function relates to establishing a general duty.
   - Review and maintain codes to provide up-to-date and user friendly support for compliance.

Compliance obligations set out how duty holders are expected to meet their environment protection obligations. Some documents may have legal force (for example, regulations and licences), while others may not (for example, guidance materials). These will be regularly reviewed and updated in response to: changing understanding of risks; emerging risks; and improvements in mitigation measures.

7. **Support compliance**
   - Maintain clear and up-to-date guidance materials so that duty holders understand their responsibilities.
   - Educate businesses and the broader community on their responsibilities for protecting the environment and the potential impacts of pollution and waste.
   - Work with duty holders to prevent pollution and support compliance with environment protection laws.
   - Train and work with joint regulators to ensure that they effectively support compliance and to provide consistency across the system.
   - Encourage better practice and improved environmental performance by providing information.
8. **Report to, educate and engage with the community on managing risks and the condition of the environment**
   - Strengthen transparency by publishing timely monitoring reports, data and analysis to inform the community about the condition of the environment and risks to the health and safety, wellbeing, and productive and environmental outcomes that they value.[75]
   - Proactively gather information and provide risk information to support community risk management, including data on potential legacy contamination.
   - Promote safe practices in relation to waste and pollutants to protect the environment and public health and encourage long lasting behaviour change.
   - Actively engage with community members and other stakeholders to collect and publish information, including using citizen science and leveraging third party data.
   - Engage community members and other stakeholders in, and provide information about, EPA standard setting and regulatory decision making processes.
   - Provide accessible information systems and use best business practice when engaging with and receiving requests and information from the community and other stakeholders.
9. **Monitor compliance and enforce the law**
   - Take timely and decisive action to ensure compliance with environment protection laws, including licences and approvals.
   - Address non-compliance through responsive measures that allow escalation and de-escalation of measures.
   - Deploy sanctions to deter future non-compliance and build community confidence.

10. Evaluate the effectiveness of regulatory interventions

- Monitor, spatially and temporally, health and safety, wellbeing, productive and environmental outcomes and changes in the operating environment.
- Gather and analyse data on specific regulatory interventions, including costs and resulting changes in outcomes.
- Survey duty holders on their awareness of, and barriers to compliance with, environmental laws.
- Provide advice to government on the effectiveness and efficiency of regulatory interventions in achieving outcomes and identified gaps and weaknesses in instruments and approaches.
- Use lessons to inform continuous improvement in regulatory design and implementation.

These functions reflect the cycle of regulatory activity, starting with understanding the environment, the risks from pollution and waste, and possible solutions. This approach expands the 'traditional' blackletter regulatory approach, which emphasises compliance and enforcement activities. As a modern and mature regulator, the EPA needs opportunities and the capabilities to influence work within government, including enlisting government support for regulatory innovation.

The EPA of the future must remain a strong enforcer to address wrongdoing and to set a strong deterrent effect for others. But enforcement should remain an activity of last resort; strategic advice and early interventions that avoid or minimise problems and support compliance may have a greater and longer lasting impact and be more cost effective than post-harm reactive work.

Setting these legislated functions in the proposed EPA (Establishment) Act provides a basis for:

- guiding internal decision making on priorities and allocating resources
- clarifying the EPA's role relative to other parts of government, as a basis for collaborative activities and joint regulation
- signalling the EPA's role to external stakeholders and setting clear community expectations
- making the EPA more accountable for its activities, including how it balances the requirements for prevention, compliance and enforcement, and incident response activities
- directing appropriate resourcing.

A general provision 'to do all things that are necessary or convenient to enable it to perform its functions' will give the EPA the legislative head of power it needs to undertake such functions.[76] General functions and powers could then be supported by specific provisions that create tools and instruments to address particular matters.

Fully 'inhabiting' these functions will be a product of many other factors, including organisational leadership, government policy setting and authorisation, relationships across government, engagement with external stakeholders about their expectations, and resourcing for capability and capacity building. Ultimately, all this is brought together by organisational culture.

5.6 Distinguishing EPA's functions from DELWP and Sustainability Victoria

> *In order to strengthen the EPA it will be necessary to also improve the role, clarity and effectiveness of the Department of Environment, Land, Water and Planning and Sustainability Victoria.*
>
> *Councils and other stakeholders are currently unclear about the interrelationships between the DELWP, SV and the EPA.* (Municipal Association of Victoria submission pp. 7, 9).

The EPA's role cannot be resolved without considering its relationship with DELWP and Sustainability Victoria. For some years, this relationship has been defined by clearly differentiated roles – for policy, regulation and program delivery.[77] This operating model recognises the interdependency of these roles and therefore the interdependency of DELWP, the EPA and Sustainability Victoria, but it is oversimplified. It also generates some confusion and frustration among stakeholders.

The relationships between functions (policy, regulation and program delivery) and agencies (DEWLP, the EPA and Sustainability Victoria) must be reframed. The EPA of the future plays a more influential role as a key contributor to the whole-of-system response to environmental issues, including in developing policy. Its expanded regulatory toolkit also includes extensive information and education activities to support compliance. Led by DELWP, these agencies must keep working together to ensure strategic decisions draw on the EPA's expertise.

5.6.1 Policy and regulation

In the past, the EPA was involved in developing policy. It prepared state environmental protection policies and waste management policies, and prepared changes to regulations and statutory instruments. These functions were transferred to DELWP following the Victorian Competition and Efficiency Commission 2012 report, *A sustainable future for Victoria: Getting environmental regulation right*.[78] This report cautioned about the risks of regulator involvement in policy making and established a notionally clear demarcation between the tasks of policy making and regulation.

This shift occurred in parallel with the EPA's sharpened focus on compliance and enforcement. But in light of our recommendation to broaden the EPA's focus to become more proactive, we re-examined the EPA's role in developing policy and its relationship with DELWP as lead policy maker. We recommend authorising the EPA to lead the revision and development of statutory instruments and standard setting (including aspects of state environment protection policies and waste management policies), to maintain the effectiveness of its regulatory framework.

Like any regulator, the EPA relies on government (in this case DELWP) to provide high level policy settings and directions for regulatory activity. Our consultations suggested stakeholders broadly understood this arrangement. However, they had some practical concerns about the level of expertise within DELWP and how this may slow the process of reviewing and updating key policy settings. The Municipal Association of Victoria submission observed that:

> *Notionally it would seem that DELWP is the policy and legislative setting body … In reality the Department appears to have little policy impact in terms of issues of interest to the EPA.* (p. 9)

And

> *It is critical that DELWP develop its policy skills and is capable of developing an effective policy framework for protecting environmental values and environmental management. They will, of course, need to be supported by the expertise of the EPA, however, DELWP should be the lead agency.* (p. 22)

A 2014 OECD report takes a broader view of the role of the regulator: 'regulators do undertake important policy functions, by virtue of their familiarity with the regulated sector and responsibility for ultimately carrying out regulatory policy'. Indeed, regulator involvement ensures government policy making is appropriately informed and translated. According to the report, regulators have a 'policy' role at three levels:

> *First, they must develop more detailed (but often critical) operational policy that guides the implementation of higher level policy decisions made by ministers or the legislature.*
>
> *Second, they have to develop and approve some higher level policy, where their authorising legislation has allocated the regulator greater decision making powers.*
>
> *Third, if policy formulation by ministers is to be well informed, effectively implemented and responsive to changes in the regulatory environment, it is critical that the relevant regulator is actively involved early in the formulation and subsequent refinement of policy to support the development process led by the ministry.*[79]

We consider these propositions are sensible. They do not undermine the principle that regulators exist to achieve objectives that government and the Parliament deem to be in the public interest, and they operate using the powers conferred by Parliament. Nor are they likely to risk the EPA's independence in relation to its regulatory decision making.

Acknowledging that the EPA needs to do more than simply focus on 'rules and compliance' is consistent with the models of modern risk-based regulation. It involves 'explicitly embrac[ing] the expert model' and the task of risk identification, and 'orient[ing] one's efforts around the task of risk control'.[80] We consider this a necessary shift to make the EPA a more proactive and preventative regulator.

It is also appropriate for the EPA to advise the government on policy, given its expertise and field experience. This advice will appropriately be about both identified risks and changes required to maintain an effective toolkit.

> *… the experience of regulators in operating the rules can prompt Ministries to review the policy framework within which the regulators operate. Therefore regulators should have a specific and explicit advisory role on government policy.*[81]

We support the general proposition that DELWP and, ultimately, the minister, should be responsible for overarching environmental policy, accounting for government objectives and whole-of-government considerations about coordinating environmental portfolio agencies. However, overarching policy (or big 'P' policy) can, and should be, distinguished from operational policy (or small 'p' policy), which includes setting technical and regulatory standards.

For an outcome-based approach to be successful, the outcomes that the EPA seeks to maintain must align with the high level outcomes that the Victorian Government seeks to achieve. Articulating the outcomes that the EPA seeks to maintain in measurable and achievable terms will often require cooperation with DELWP and other departments whose objectives and outcomes overlap with the EPA's, such as DHHS. We recommend recasting state environmental protection policies and waste management policies to separate technical and regulatory elements from high level policy settings (chapter 15). We consider the EPA should formulate aspects of these policies, given its technical expertise and drawing on its experience in the field. Giving the EPA responsibility for its regulatory instruments also makes it accountable for their useability – that is, how well they meet the needs of decision makers and duty holders – and for their timely renewal and updating.

5.6.2 Education and information – working with Sustainability Victoria

We recommend the EPA conduct enhanced education and information programs that support compliance with environmental regulations, and reduce impacts from pollution and waste outcomes. This will be central to implementing the general duty as a new instrument focused on broad-based action to reduce pollution impacts. We consider the EPA could collaborate with Sustainability Victoria on waste programs.

Sustainability Victoria was established to '… facilitate and promote environmental sustainability in the use of resources'.[82] It has a significant waste management role, with a range of formal responsibilities under the EP Act, including preparing the Statewide Waste and Resource Recovery Plan.[83] Its functions focus on:

- educating and providing information for businesses and the community
- facilitating and promoting environmentally sustainable practices, including resource efficiency
- fostering sustainable markets
- supporting demonstration projects and providing financial assistance to further environmental sustainability
- monitoring and reporting on waste, water and energy targets.

Some of these functions overlap with EPA functions – in particular, relating to community and business information and education. Others could complement EPA functions – relating to grants for market and industry development that might reduce waste streams and impacts more broadly.

The EPA has a mandate to educate and inform under the current EP Act.[84] Its day-to-day working relationships with businesses and its technical expertise position it for education and as a source of authoritative advice. However, its role is currently very limited and has been reduced in recent years, with some programs transferred to Sustainability Victoria in response to resourcing constraints and a shift in priorities.

The EPA will need to more proactively deliver education and information in the future for several reasons. First, our proposed general duty (chapter 12) significantly increases work to support compliance. The EPA will have a positive obligation to educate and inform the community about how to reduce pollution and waste impacts. Like WorkSafe, this is fundamental to its regulatory role and cannot be delegated to another entity:

> *The function of maximising awareness of those rights and obligations is not merely ancillary to the Authority's other functions: it is central and fundamental. Indeed, it seems obvious that the education function is every bit as important as the enforcement function.*[85]

Second, education and information may play a significant preventative role in the longer term, by encouraging best practice beyond minimal compliance and changing norms and expectations.

> *The EPA has a wealth of information and knowledge that they should continue to provide to local governments, business and industry and the community … A more collaborative approach to dealing with environmental issues is required from the EPA this includes working with councils, key state and federal agencies.* (Hobsons Bay City Council submission, p. 2)

We do not consider that these activities will create any conflict with its enforcement roles.[86] They are part of the regulatory continuum that makes for effective regulation.[87]

We consider the EPA may form partnerships with duty holders to improve performance. However, we consider it inappropriate for it to run grant programs because of the potential for conflict of interest (that is, providing grants to those it regulates for compliance, and potentially takes enforcement action against). OECD governance principles agree that this function is not appropriate for a regulator.[88]

We consider it appropriate that Sustainability Victoria leads community education activities about waste (particularly minimising waste and using resources sustainably), given its broad mandate for environmental sustainability. Such 'upstream' interventions may also create additional benefits 'downstream', by reducing waste and pollution. So, these two agencies will need to cooperate on many environmental problems and solutions.

Figure 5.2 describes the respective roles of the EPA and Sustainability Victoria in the future.

FIGURE 5.2 PROPOSED ACTIVITIES OF THE EPA AND SUSTAINABILITY VICTORIA

Sustainability Victoria as market developer	The EPA as pollution and waste regulator
Education ▪ Broad community education on waste reduction and management, including raising awareness and encouraging behaviour change relating to pollution and waste ▪ Across broader environmental objectives, such as sustainable development (which may reduce downstream pollution and waste impacts)	Education ▪ Targeted education and information to support compliance with pollution and waste controls – with enhanced requirements under the proposed general duty ▪ Initiatives do not confer direct financial benefits but can lead to reduced costs by adopting best practice ▪ Initially focused on, but not limited to, achieving compliance standards
Grants ▪ Invests in market development ▪ Picks 'winners' to act as exemplars ▪ Achieves outcomes beyond compliance ▪ Across other environmental sustainability objectives ▪ Seeks voluntary improvements beyond compliance standards	Partnerships/collaboration with industry ▪ Support and advise industry as appropriate
Strategic ▪ Waste planning through the Statewide Waste and Resource Recovery Infrastructure Plan and working with waste and resource recovery groups	Strategic ▪ Developing standards ▪ Supporting role on policy and legislative development

Recommendations

RECOMMENDATION 5.1

Undertake a comprehensive overhaul of the *Environment Protection Act 1970*, including to establish two separate pieces of legislation to:

i) Create a standalone EPA (Establishment) Act to facilitate role clarity and strengthened governance

ii) Create a modernised Environment Protection Act, which applies to the EPA and other entities charged with reducing pollution and waste impacts.

RECOMMENDATION 5.2

Prioritise creation of the EPA (Establishment) Act which defines, as a minimum, the EPA's objective, decision making principles, functions and governance structure.

RECOMMENDATION 5.3

Establish a statutory objective for the EPA to protect human health and the environment by reducing the harmful effects of pollution and waste.

RECOMMENDATION 5.4

Establish a simplified set of legislated decision making principles for the EPA that encompasses the following elements:

i) Balancing of economic, social and environmental considerations

ii) Primacy of prevention

iii) Proportionality, recognising the importance of a risk-based approach to regulation

iv) Intragenerational and intergenerational equity

v) Shared responsibility, including recognition of the importance of the polluter pays principle

vi) Evidence-based decision making that accounts for the precautionary principle

vii) Accountability and access to decision making, noting the importance of procedural fairness, transparency and access to information.

RECOMMENDATION 5.5

Establish ten high level functions for the EPA:

i) Monitor and identify impacts and risks to public health and the environment

ii) Proactively adapt tools and instruments to prevent and reduce impacts and risks

iii) Advise government

iv) Lead, coordinate and collaborate with local governments, joint regulators and other government agencies

v) Determine and set environment protection standards ('goal post' standards)

vi) Set compliance obligations and seek to improve environmental performance

vii) Support compliance

viii) Report to, educate and engage with the community on managing risks and the condition of the environment

ix) Monitor compliance and enforce the law

x) Evaluate the effectiveness of regulatory interventions.

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CHAPTER 6

THE EPA AS A SCIENCE-BASED REGULATOR

THE EPA AS A SCIENCE-BASED REGULATOR

KEY MESSAGES

The EPA must be recognised as a science-based regulator that identifies, understands and responds to increasingly complex risks to public health and the environment posed by pollution and waste. This includes both short and long term risks.

The EPA must also be a trusted source of expert and strategic advice to government, industry and the wider Victorian community.

The EPA requires enhanced in-house science expertise, well networked to the broader scientific community. In particular, it needs a new capability to deal with the public health challenges associated with pollution and waste.

The EPA needs to communicate scientific information effectively to a broad range of audiences.

6.1 Introduction

The scientific nature of the EPA's work differentiates it from other regulators. The EPA is not a scientific research organisation, but applied science is fundamental to its ability to be an evidence-based and influential authority. Its applied science expertise underpins core regulatory functions, including:

- setting environmental standards, through reviews of state environment protection policy (SEPP) and inputs to national environmental policies
- statutory decision making, such as assessing works approvals and licence applications, setting licence conditions, and taking enforcement action
- communicating with duty holders and providing practical, constructive and authoritative advice on how to interpret standards, identify and manage risks, and achieve compliance.

The EPA also requires science expertise to fulfil its functions as a trusted advisor to government and the community, including:

- responding to significant incidents and emergencies
- monitoring environmental conditions over the longer term to identify trends (for example, ambient air monitoring)
- identifying emerging issues (for example, understanding of new risks associated with chemicals and new materials, such as microplastics)
- communicating environmental information to the community (such as the Beach Report and Yarra Watch programs, guidance materials) and building community confidence (for example, EPA Citizen Science Program).

Currently, the EPA's scientific expertise is based primarily in its Applied Science Group. The group comprises 72 staff – including principal experts and senior applied scientists covering water, air, noise, odour, contaminated land and waste – and accounts for around 15 per cent (approximately $12 million) of the EPA's annual budget. The EPA also has a Science and Engineering Advisory Committee comprising senior, internationally recognised science leaders, which provides strategic advice on technical, scientific and other issues.

We envisage the EPA of the future as a proactive and strategic protector of the environment and public health. To do this, it must be able to provide timely and well-informed responses to current problems and maintain up-to-date standards. The EPA receives significant demand from local government and industry stakeholders for advice.

> *There has been a gradual but observable attrition of subject matter experts in the EPA.* (Moreland City Council submission, p. 10)

The EPA must also be equipped to identify emerging problems and develop early interventions to minimise risks. The EPA's in-house science expertise, and its capacity to draw on networks of experts is becoming more important, as knowledge expands about the serious adverse consequences of pollution and waste on health, liveability and productive capacity. It must also address changing community expectations, particularly about the transparency and timeliness of communicating information about risks.

6.2 The need for increased scientific expertise in the EPA

Scientific capabilities are a vital ingredient of the EPA's regulatory integrity and capacity for influence. The reforms we propose throughout this report – strengthening licensing and introducing a general duty (see chapter 12) – need to be underpinned by authoritative science. The EPA's influence within government – 'at the table' as outlined in chapter 7 – and with business and the broader community also depends on its scientific credibility.

> *It is integral to EPA's independence as a Statutory Authority that policy is made based on the best scientific evidence available, and not influenced by political ideology…* (Community and Public Sector Union Victoria submission, p. 28)

We recognise the strong scientific capabilities that the EPA has now, but we also recognise the difficulties of the EPA's task in the future. Our scientific understanding of the impacts of pollution and waste has grown substantially over the decades, both in terms of their 'breadth' (the wide ranging spread of impacts across an environment or society), and their 'depth' (the length of impacts over time). Recent reports into practices and events in Victoria and their impacts on public health illustrate how dangerous environmental risks can be, and the need to adequately prevent or mitigate future problems:

- The **Former Lands Department Chemical Inquiry Report** (November 2015) found sprayers working for the former Department of Lands between 1965 and 1981 were exposed to levels of a highly toxic dioxin (TCDD, a contaminant of 2,4,5-T, a kind of herbicide) to more than double today's standard tolerable monthly intake. The chemical inquiry concluded sprayers (pre-1985) who contracted soft tissue sarcomas or non-Hodgkin lymphomas may have contracted these cancers from TCDD exposure.[1]
- The **Second Hazelwood Mine Fire Inquiry Report** (December 2015) concluded it is likely that the Hazelwood mine fire contributed to an increase in deaths in the Latrobe Valley in 2014.[2]
- The **Parliamentary Inquiry into the Country Fire Authority Training College at Fiskville** interim report noted chemicals used in firefighting training from the 1970s to the 1990s are 'undeniably carcinogenic and toxic'. Indeed, investigations found a higher rate of some kinds of cancers in people who worked and trained at the site.[3]

The causes of future problems are likely to be less visible or immediate than the large smoke stacks and other types of more obvious pollution and waste of the past. Assessing the potential impacts of the millions of chemicals and chemical compounds in existence is a daunting task for environmental regulators across the world, even before accounting for the complex and unknown interactions between chemicals in the environment. And the persistence of many substances, such as inorganic chemicals, creates the potential for a 'long tail' of effects across decades or generations, including cancers, birth defects and other long term health consequences.

Adding to this complexity is the increased pace of technological change, creating new engineering methods, new chemicals and new technologies for industrial practices. For example, new nano materials such as microplastics are very hard to detect or remove.

Despite increases in our scientific understanding, there will always be uncertainty about the causes and effects of pollution and waste. The EPA must address change and complexity in the presence of this uncertainty. The EPA, and the community, must be confident about its scientific capabilities to make the best decision given the circumstances, balancing the potential harms of a substance or practice with the potential costs of restricting or prohibiting their use. That is, the EPA must be able to make robust judgements about the underlying causes of adverse impacts, and seek to avoid harms where they are avoidable.[4]

Maintaining currency of knowledge is, and will continue to be, a challenge for a relatively small regulator. To best face this challenge, the EPA of the future needs stronger scientific capabilities and to tap into global networks. It needs access to data for monitoring. It needs recognised leadership for its scientific work, to provide strategic direction and to effectively and authoritatively communicate scientific issues. And it needs to bring health and environmental experts together to build critical mass to better identify and understand risks to public health from pollution and waste.

6.3 Enhancing EPA's scientific capabilities

Recent EPA reforms have led to a greater focus on data analysis, synthesis and translation. The recently created Applied Science Group brings together the EPA's scientists, engineers, analysts, social scientists and technicians.[5] It has also improved its environmental monitoring and science communication capabilities, for example through its Citizen Science Program.[6]

However, the EPA recognises it still has capability gaps in key pollution and waste issues, especially waste, chemicals, major industries, groundwater, noise and odour.

The EPA needs sufficient expertise at a senior level to perform its advisory functions with authority and to be influential within government.

To address current gaps and to respond to future demands – and to be the more proactive and preventative regulator of the future that we envisage – the EPA needs strengthened capabilities in the following areas:

- **Science to inform operational decisions and regulatory design and review** – Regulatory decisions must be based on relevant information about the level of harm and risk, and a systematic analysis of the evidence. As part of this, the EPA needs to understand the quality and completeness of evidence and any potential biases.[7] Science-based regulatory decisions require '… a contemporary understanding of science, the identification and analysis of issues, the use of logic, and the documentation of risk assessment and risk management advice and decisions.'[8]

- **Science for surveillance and risk scanning** – The recently established Advisory and Intelligence Unit (part of the Applied Sciences Group) is intended to improve the EPA's understanding of the industrial and regulatory landscape, environmental and community impacts, and how best to intervene and make improvements. The unit operates at strategic, operational and tactical levels. This activity will be more important in the future, as the EPA seeks to be more preventative and influential, in particular to support targeted compliance activity for the general duty (see chapter 12).

Box 6.1 demonstrates the potential of this future scanning work. In the future, the EPA will need to expand its capabilities relating to predicting and avoiding pollution, modelling and forecasting business needs and horizon scanning. It will also need improved hardware capabilities in data gathering and analytics technologies (discussed below and in chapter 20).

BOX 6.1 FUTURE AIR QUALITY REPORT[9]

The EPA's Future air quality report is an example of how the EPA, cooperating with other scientific institutions, uses science and analytics to forecast longer term environmental risks and inform preventative measures. The report focuses on likely trends up to 2030. It analyses factors that affect air quality, how they will evolve over time, and their cumulative effects on air quality. Traffic volume is expected to increase, for example, but improved vehicle technology means exhaust pollution is likely to fall.

The report combines expertise in climate science, emissions estimation, atmospheric modelling and population projections, as well as an advanced computer model for predicting trends.[10] The EPA will use the findings to inform future state environment protection policies and the National Plan for Clean Air.

6.4 Leveraging external expertise

The EPA needs internal expertise for its regulatory decision making and to support its advisory and influencing roles. But no organisation can be an expert on every relevant issue. And this will be increasingly so as the issues facing the EPA become more complex and numerous. Given this, the EPA will need to expand its links with independent experts, universities and research facilities, as well as with regulators in Victoria and other jurisdictions.

This approach builds on current EPA practices, such as:

- working with other EPAs across Australia to coordinate specialisation in particular fields and sharing this expertise, for example for standard setting
- developing formal relationships with organisations for specific research areas, such as the Cooperative Research Centre for Contamination Assessment and Remediation of the Environment, the social research group BehaviourWorks, the cooperative green chemistry partnership Victorian Centre for Sustainable Chemical Manufacturing, and the Centre for Aquatic Pollution, Identification and Management[11]
- sourcing international expertise where appropriate and as needed.

According to the EPA, recent partnerships have delivered high impact benefits in the short term (to all partners) and returns on financial investments. They also provided development opportunities for staff, including establishing networks with leading experts.[12] Building on past successful projects, the EPA and its academic partners have identified broader strategic priorities, highlighting the potential for greater financial leverage and expanded opportunities.

The EPA could also use external peer review or independent advice from external experts or organisations. This approach would be particularly helpful to provide additional transparency and confidence for public risk communications (including health warnings) on complex issues.

Other organisations – and not just environmental regulators – are also an important source of expertise.

> *The Discussion Paper recognises the potential for EPA's scientific capacity to be more widely utilised as a source of authoritative and independent advice. We note in this context that entities such as the Department of Environment Land Water and Planning, and its portfolio agencies such as the Trust, have additional but complementary scientific capacity that could bolster EPA capability in appropriate partnerships.*
>
> *Both the Trust and EPA work with a number of key protection agencies in common and this could be built upon.* (Trust For Nature submission, pp. 7–8)

6.5 Monitoring networks

Monitoring networks are necessary to provide data on key indicators (for example, ambient air quality and water quality) as a basis for understanding environmental quality, background population exposures and trends over time. Monitoring can also be used to test and monitor specific point sources. Taken together, these data improve the EPA's ability to identify risk and inform incident and emergency responses. They can also improve practice in the community and by industry, if collected and published in a coordinated and transparent way.

> *The EPA … needs to continue to undertake adequate monitoring of the environment so that emerging issues, such as the appearance of chemicals of concern, are detected and promptly addressed.* (Centre for Aquatic Pollution Identification and Management submission, p. 1)

The EPA already has monitoring technology and technical capabilities. Its air quality monitoring stations, based mostly in metropolitan Melbourne and the Latrobe Valley, collect data on visibility, particulate matter (PM_{10}, $PM_{2.5}$[13]), ozone, nitrogen dioxide, carbon monoxide and sulphur dioxide, for example. The EPA website provides hourly, 24-hour and weekly information on air quality indicators.[14] It deploys monitors to measure general air quality over large areas, localised air quality conditions and for rapid response to incidents.[15] Similarly, the EPA's Beach Report provides swimming advice for 36 beaches around Port Phillip Bay that may be adversely affected by sewerage contamination in storm water after rain events.[16]

To strengthen these monitoring capabilities and take advantage of new technologies, we recommend a review of the adequacy of the EPA's air and water monitoring networks, particularly for air quality, given the public health impacts of air pollution. This review should also consider options to improve data sharing and accessibility and community communications (for example, through SMS or mobile app services).[17]

> *[T]he Victorian EPA must conduct measurements in a manner that is useful and relevant for public health outcomes.* (Doctors for the Environment Australia submission, p. 9)

This review should consider developments in monitoring technology, including cheaper monitors and technologies to deliver monitoring equipment, such as drones.

> *Emerging technology has produced low cost mobile air quality monitoring devices with the capacity to link together and create a vast, accessible network of real time air quality data.* (Clare Walter and Professor Lou Irving submission, p. 4)

Other key considerations for this review of monitoring capability include:

- monitoring with sufficient geographical coverage to provide robust data for all ambient and rapid response needs
- rapid analysis and delivery of information for decision making
- increased capability in modelling and predictive services
- publishing data that is easily understood, fit-for-purpose and meets the community's expectations.

The EPA is currently considering improvements to its air monitoring network, which could be incorporated into a broader monitoring capability review and plan.

6.6 Leadership and science communication: a Chief Environmental Scientist

We recommend creating a new position of Chief Environmental Scientist as part of the EPA's senior executive structure. The Chief Environmental Scientist will provide the EPA and the Victorian community with an authoritative and expert voice on environmental issues. At a practical level, the Chief Environmental Scientist will commission and review advice and conclusions from the EPA's scientific experts and be a key point of liaison for the EPA within government.

The Chief Environmental Scientist position extends the potential of the EPA's existing principal expert structure. First, it will allow the EPA to more effectively deploy its expertise – within government and externally. Second, it provides a voice for EPA's scientific and technical work at the senior executive level, and with the EPA Board – via membership of the Science, Engineering and Health subcommittee of the Board (see chapter 19). Third, it provides greater standing, a potential career path for EPA scientists, and signals to the profession that the EPA takes science seriously.

We consider this role should be an enduring feature of the organisation and therefore that it should be legislated as part of the EPA (Establishment) Act. This approach attaches the appropriate authority to the role. It is based on the model for Victoria's Chief Health Officer, which is a legislated position under the *Public Health and Wellbeing Act 2008*[18] with the following functions and powers:

(a) to develop and implement strategies to promote and protect public health and wellbeing;

(b) to provide advice to the Minister or the Secretary on matters relating to public health and wellbeing;

(c) to publish on a biennial basis and make available in an accessible manner to members of the public a comprehensive report on public health and wellbeing in Victoria;

(d) to perform any other functions or exercise any powers specified under this Act or any other Act or under any regulations made under this or any other Act.[19]

We do not consider that it is appropriate or necessary for the Chief Environmental Scientist to have statutory powers like those of the Chief Health Officer. But detailing the following key functions in legislation is important for transparency:

- to advise the EPA Chief Executive Officer (CEO) on scientific matters relating to preventing or minimising harms from pollution and waste
- to advise the Chief Health Officer, including in response to requests, for example about environmental conditions that may give rise to health risks and on technical assessment of environmental health issues, in the context of incident and emergency response and as part of proactive risk management
- to advise other key functionaries as necessary, such as the Chief Veterinary Officer.

The Chief Environmental Scientist is intended to operate with a sufficient degree of authority to be a trusted source of advice and to provide strategic oversight of EPA's scientific work. The position should therefore report directly to the CEO. We also recommend the Chief Environmental Scientist attends all meetings of the EPA Board's Science, Engineering and Health subcommittee as an observer.

The Chief Environmental Scientist provides the EPA with a clear point of liaison between its scientific experts and those in other key areas of government, such as the Chief Health Officer and the Chief Veterinary Officer. This is important if threats and emergencies require coordinated action across different domains. It will help the EPA to deliver timely advice in response to incidents and emergencies – where EPA data and expertise is needed to inform health assessments and warnings.

The Chief Environmental Scientist will advise the Chief Health Officer directly. This will also allow for coordination of risk communication (for example, relating to asbestos) to ensure consistent messages. The Chief Environmental Scientist will also work with the Chief Health Officer on designing monitoring and surveillance studies conducted by EPA's environmental health group (discussed below) and agreeing on methods to communicate study results.

6.7 Strengthening the EPA's capacity to protect public health

> *A clearer role for the EPA on issues that affect our health and wellbeing. Individual citizens have very little capacity to manage their exposure to pollution. The EPA needs a much stronger role when it comes to protecting human health. Communities need greater clarity around who is responsible for protecting us from noise, air pollution and other things that affect our health and wellbeing.* (Maribyrnong Truck Action Group submission, p. 6)

We propose a strengthened focus on managing pollution and waste risks to prevent harm to public health in Victoria. We reflected this focus in our proposed objective and functions for the EPA, and as we considered the adequacy of its tools, instruments and specialist capabilities. But we also recommend enhancing the EPA's technical capability on public health, to complement other measures to reduce risks to public health.

Despite the growing understanding of the risks pollution and waste pose to public health, public health experts argue investment in protecting against these risks has fallen over time, both in Victoria and across Australia more generally. This is despite growing evidence of the health benefits of environmental protection.

> *Modest improvements in $PM_{2.5}$ in relatively clean regions (North America, Europe) would result in surprisingly large avoided mortality, owing to demographic factors and the nonlinear concentration-response relationship that describes the risk of particulate matter in relation to several important causes of death.*[20]

Past successes in addressing more obvious forms of point source pollution in the 20th Century may have created complacency about these risks, with resources being allocated to more obvious or immediate risks:

> *Environmental hazards rarely result in immediate illness and adverse health outcomes may result from an accumulation of exposures.*[21]

This trend is exacerbated by the lack of data about pollution and waste impacts on public health to track issues, and hence identify these risks:

> *[I]t has been widely acknowledged that evidentiary environmental health information is lacking at all levels of government throughout the world.*[22]

This lack of investment is in contrast to the focus and investment in the clinical healthcare system:

> *As a result of the growth of the individual and predominantly remedial (medical intervention focused) healthcare industry throughout the 20th Century, public and environmental health was relegated to the position of poor cousin, both in popular profile and allocation of resources.*[23]

6.7.1 Consolidating and enhancing Victoria's environmental health capabilities

We consider that Victoria needs an enhanced environmental health capability – to address current and emerging issues, to support the government's commitment to prevention and resilience as priorities for emergency management, and to meet the community's expectations for risk management and more timely and accessible risk information.

We propose establishing a new specialist environmental health group within the EPA that would consolidate and build the expertise currently available in DHHS and the EPA. This will provide a critical mass of expertise, better integrate the work of DHHS and the EPA, and leverage the EPA's understanding of pollution and waste problems and its strong scientific base.

The EPA's existing scientific expertise makes it ideal to host this consolidated and enhanced environmental health group, with relevant staff from DHHS working alongside the EPA's existing scientific staff. We recognise that DHHS will need ongoing resources, to support the Chief Health Officer in liaising with the EPA and to fulfil DHHS's broader public health remit.

The environmental health group will fill critical capabilities that are currently not addressed by either the EPA or DHHS. In particular, the group will need increased technical capabilities and additional resources (see chapters 20 and 21).

We do not propose altering the arrangements for communicating public health risk, which should remain the Chief Health Officer's responsibility. Similarly, DHHS should retain responsibility for wider public health outcomes.

Figure 6.1 summarises how we propose enhancing the EPA's functions to protect public health.

FIGURE 6.1 EPA'S NEW FUNCTIONS FOR PROTECTING PUBLIC HEALTH

1. UNDERSTAND AND ADAPT

Surveillance of the general environment for risks to public health

Increased use of information to support decision making, including through enhanced data capabilities, air quality monitoring and improved data on potential contamination

Interpret information for health impact assessment

Adapt tools, and design and test new tools to be more effective in managing risks and reducing impacts

2. ADVISE

Advise on emerging issues and risks and the requirement for new or adapted tools and instruments

Inform consideration of strategic priorities for the EPA, and influence whole-of-government priority setting

Advise across government on how to adequately assess public health impacts in strategic planning and for significant projects

3. DETERMINE AND SET

Set environmental health standards (in collaboration with DHHS/ DELWP), with greater capability to work on national standards processes

Help determine the obligations for duty holders, including through coordinated processes for mining and land use planning

More timely and up-to-date standard setting to reflect evolving understanding of health risks

4. ENABLE

Support compliance by businesses and the broader community, contributing to reduced impacts and risk of legacy hazards

Provide information for risk communication to support Victoria's State Emergency Response Plan, and for decision and action by Victoria's Chief Health Officer

Community engagement using enhanced communication capabilities, including integrated risk communication with DHHS and increased attention to risk communication as a critical tool for the EPA

Preventative focus, including and addressing perverse incentives for responsible disposal of asbestos

5. ENFORCE

More timely and decisive responses to strengthen deterrence and improve risk management

Regulatory response: high risk, large scale

Targeted, strategic: sector-specific or addressing priority risks, informed by intelligence gathering and analysis

Regulatory response: small-scale, local level (local government, with EPA support)

6. EVALUATE

Assess the effectiveness of interventions on health outcomes

Strengthened environmental surveillance

The new environmental health group's core role can be characterised as 'environmental surveillance' – that is, monitoring to identify health risks, and assessing the extent, seriousness and trends relating to those risks. At present, these tasks are split between the EPA and DHHS: the EPA is responsible for monitoring tasks, and analysis is done by DHHS. Experts argue this arrangement cannot cope with the increased frequency and complexity of emerging environmental risks and issues. Experts also argue that gaps exist where no agency has relevant technical capabilities:

> *Environmental health surveillance is the systematic, ongoing collection, integration, analysis and interpretation of data about environmental hazards, exposure to environmental hazards and health effects potentially related to exposure to environmental hazards in order to prevent and monitor disease.*[24]

> *In general, surveillance will tell us what our problems are, how big they are, where the solutions should be directed, how well (or poorly) solutions have worked, and whether, over time, there is improvement or deterioration in a given condition. Surveillance is … essential to successful sustained public health intervention for the purpose of prevention.*[25]

Integrated advice and information for government and the community

This strengthened and centralised environmental health surveillance group would provide strategic and responsive advice including to:

- support government decision making at the interface between health and environmental management, including advice about the health impacts of significant infrastructure and other projects
- inform critical incident and emergency response, advising the Chief Environmental Scientist and the Chief Health Officer
- inform the development and updating of robust standards, including by strengthening indicators for air quality standards (given the health impacts of air pollution and estimated benefits from improved air quality)
- better meet community expectations for proactive health risk information
- communicate the health impacts of regulatory actions, raising awareness and improving compliance.

> *[T]he EPA can do more to report the human health benefits of its regulatory activities, for example by publicly reporting the impact of various activities in terms of disability adjusted life year (DALY) saved. The recent example of the US EPA investigation into Volkswagen for exceeding vehicle emission standards demonstrated the power of using such human health metrics.* (Victorian Water Industry Association submission, p. 7)

Working on key priorities

The environmental health group will also provide a strong resource for driving action on strategic priorities.

Victoria, working with other states and territories, recently agreed to strengthen national ambient air quality standards.[26] The group could also assist the EPA's contributions to setting noxious emissions standards for new vehicles in Australia, which are made at the Commonwealth level.[27] The EPA's role in national standard setting is considered further in chapter 15.

The group could also contribute to the surveillance and national regulation of chemicals. As Victoria's regulator of the end-of-life of chemicals (that is, pollution and waste), the EPA plays a key role in the regulatory lifecycle of such substances. The EPA, like other EPAs and chemicals regulators in Australia and across the world, must share its knowledge about risks. The environmental health group can strengthen the EPA's work in monitoring emerging issues and keeping abreast of the latest discoveries across the world.[28] This will strengthen the EPA's ability to contribute to national reform efforts to strengthen national chemicals regulation:[29]

> *[W]e believe that the EPA should take a more active role in screening and regulating new chemicals that are used in the state to ensure that these chemicals do not impact human health or the environment. Deregistration and removal of harmful chemicals is a much more effective way to reaching better outcomes rather than reducing pollution. (Centre for Aquatic Pollution Identification and Management submission, p. 1)*

Strategic partnerships

Consolidating expertise will also strengthen relationships with relevant academics, institutions and the broader scientific community. It also strengthens strategic partnerships within government, including a renewed focus on collaborative efforts, such as those carried out under the National Environmental Health Strategy.

There is scope for research partnerships and data linkages across government that strengthen Victoria's environmental health system. One example could be working with the prevention unit at the Coroner's Court of Victoria, which, among other things, seeks to reduce preventable deaths by reviewing, collecting and analysing data on reportable and reviewable deaths.[30] Another example could be working with DHHS to integrate data from sources such as hospital admissions, medical practitioner reports and the Victorian Cancer Registry.

6.8 The EPA and DHHS working together

> *Clarifying the roles and responsibilities between the EPA and the Department of Health and Human services* (including the Chief Health Officer)*, and other agencies… would be beneficial to Victorian communities and industry.* (Planning Institute of Australia – Victoria submission, p. 2)

> *EPA's role in public health issues is inextricably intertwined with other agencies. If the EPA is to leverage other organisations to achieve better environmental outcomes, all agencies need to have clearly defined roles and responsibilities.* (Community and Public Sector Union Victoria submission, p. 17)

Consolidating Victoria's environmental health expertise will strengthen capability, but it must provide a basis for strengthened coordination and collaboration that enhances the capacity of the EPA, DHHS and the Chief Health Officer to acquit their responsibilities.

To this end, the EPA must establish formal and transparent relationships with DHHS and the Chief Health Officer. Currently, these important relationships have no formal basis. Officers in both agencies acknowledge the current arrangements are inadequate. Stakeholders also supported stronger relationships between the agencies:

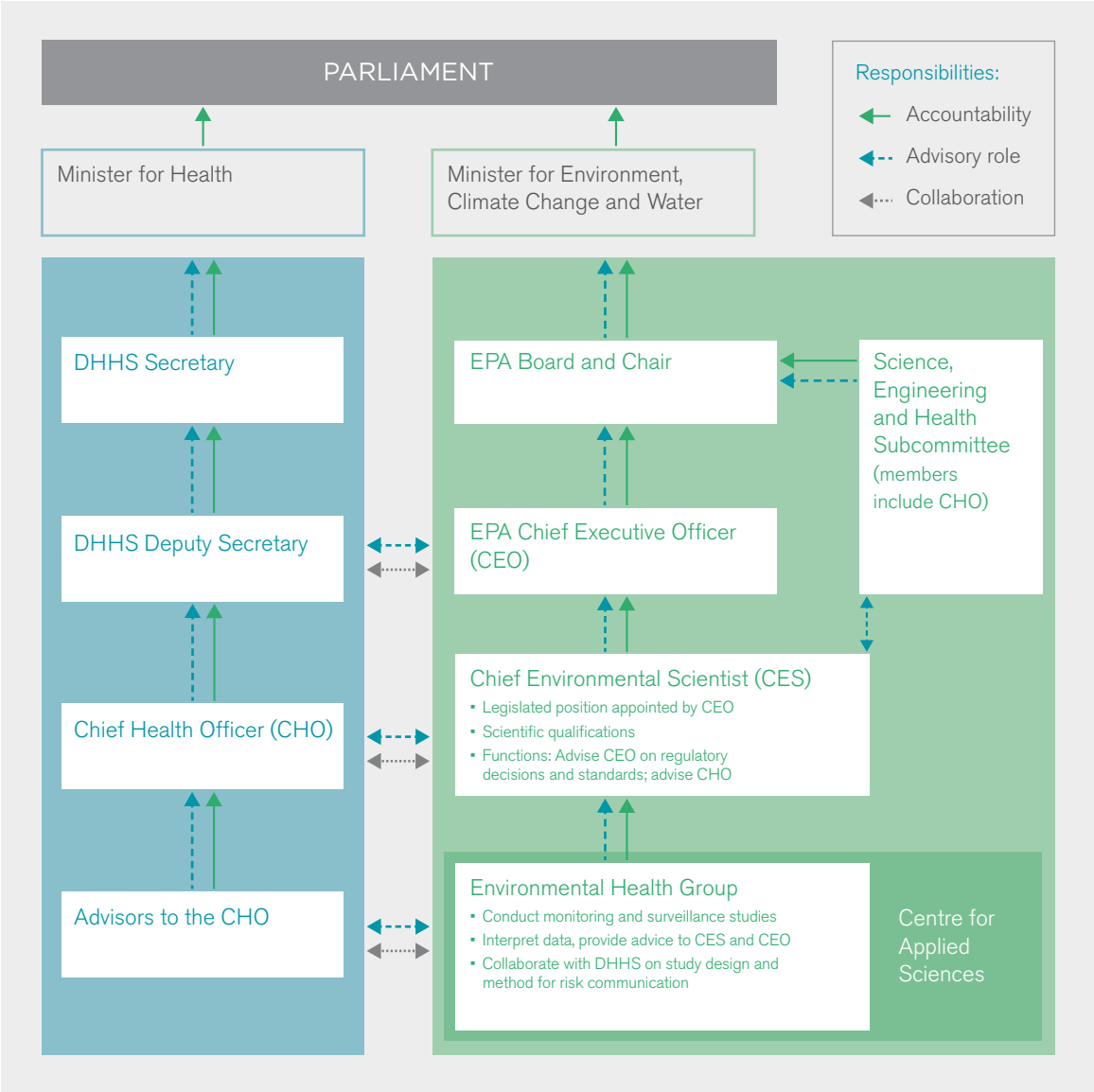
> *DEA strongly suggests that the Victorian EPA formalise a working relationship with the Environmental Health* (EH) *Program of the Victorian DHHS, and to work together in a regular, proactive (rather than reactive) manner for mutual benefit. Because the current nature of the relationship is not transparent, it seems that the collaborative potential of this affiliation is grossly underutilised as a resource.* (Doctors for the Environment Australia submission, p. 6)

We recommend establishing a strengthened, formal relationship between the EPA and DHHS at three levels:

- the Minister for Health nominates a health expert for appointment as a member of the EPA Board (see chapter 19 for our proposed governance arrangements)
- the Chief Health Officer is a member of the EPA Board's Science, Engineering and Health subcommittee
- the Chief Environmental Scientist has a formal legislated function to advise the Chief Health Officer.

Figure 6.2 illustrates the proposed arrangements for managing the governance of the EPA's enhanced scientific and environmental health capabilities, in particular, for the critical relationships with DHHS and the Chief Health Officer.

FIGURE 6.2 PROPOSED GOVERNANCE STRUCTURE FOR THE EPA'S SCIENCE FUNCTIONS



Recommendations

RECOMMENDATION 6.1

Establish a legislated Chief Environmental Scientist position within the EPA's senior executive structure.

RECOMMENDATION 6.2

Create a consolidated and enhanced environmental health capability for Victoria within the EPA, with appropriate governance arrangements recognising its critical relationship with the Department of Health and Human Services.

RECOMMENDATION 6.3

The EPA to assess the adequacy of its air and water monitoring networks, particularly in relation to air quality, and consider options to improve data sharing and accessibility, and community communications.

1 Former Lands Department Chemical Inquiry 2015, *Inquiry into the use of chemical substances by employees of the former Victorian Department of Crown Lands and Survey*, Melbourne, November, pp. 15–8.

2 Hazelwood Mine Fire Inquiry Report 2015-2016, *Investigations into 2009-2014 deaths*, Volume II, Melbourne, p. 90.

3 Parliament of Victoria Environment, Natural Resources and Regional Development Committee 2015, *Inquiry into the CFA Training College at Fiskville*, Interim Report, Melbourne, p. xi. The final report is due by 31 March 2016.

4 Victoria's EPA is not alone in seeking to prevent risks in the face of uncertainty. For example, the South Australian EPA acknowledges that the '… extent of health impacts from noise or other environmental hazards is not yet completely understood, particularly at low levels of exposure' and that there will '… continue to be gaps between insufficient and conflicting evidence of adverse health impacts of pollutant exposure and the government's response', http://www.epa.sa.gov.au/community/our_role_in_protecting_human_health (accessed 10 March 2016).

5 EPA Victoria 2014, *Annual Plan 2014-15*, Melbourne, p. 14.

6 EPA Victoria 2015, *Connecting with the community Annual Report 2014-15 Year Four*, Melbourne, p. 16.

7 Institute of Public Administration 2015, *Regulatory professional capability guidance*, p. 12.

8 Australian Pesticides and Veterinary Medicines Authority, http://apvma.gov.au/node/336 (accessed 10 March 2016).

9 EPA Victoria 2013, *Future air quality In Victoria*, Melbourne, July.

10 EPA Victoria 2013, *Future air quality In Victoria*, Melbourne, July, p. 38.

11 EPA Victoria 2013, *Research and Development Program 2013–16: EPA's strategic research priorities*, Melbourne, p. 5.

12 EPA Victoria 2013, *Research and Development Program 2013–16: EPA's strategic research priorities*, Melbourne, p. 5.

13 PM_{10} is particulate matter 10 micrometres or less in diameter, $PM_{2.5}$ is particulate matter 2.5 micrometres or less in diameter. $PM_{2.5}$ is generally described as fine particles. As a comparison, a human hair is about 100 micrometres, so roughly 40 fine particles could be placed on its width.

14 http://www.epa.vic.gov.au/our-work/monitoring-the-environment/air-quality-bulletins (accessed 10 March 2016).

15 http://www.epa.vic.gov.au/our-work/monitoring-the-environment/monitoring-victorias-air/epa-air-monitoring-network (accessed 15 February 2016).

16 http://yarraandbay.vic.gov.au/beach-report (accessed 10 March 2016).

17 See, for example, the current SMS text alert service pilot for Beach Report updates: http://yarraandbay.vic.gov.au/beach-report (accessed 12 March 2016).

18 Section 20, *Public Health and Wellbeing Act 2008*.

19 Section 21, *Public Health and Wellbeing Act 2008*.

20 Apte J S, Marshall J D, Cohen A J and Brauer M 2015, 'Addressing global mortality from ambient $PM_{2.5}$', *Environmental Science and Technology*, 49, 8057–8066, p. 57.

21 SA Health 2008, *Developing Local government environmental health indicators for South Australia: a discussion paper*, Adelaide, p. 8.

22 SA Health 2008, *Developing Local government environmental health indicators for South Australia: a discussion paper*, Adelaide, p. 6.

23 SA Health 2008, *Developing Local government environmental health indicators for South Australia: a discussion paper*, Adelaide, p. 9.

24 Environmental Health Surveillance 2008, *A feasibility study*, p. 11.

25 Environmental Health Surveillance 2008, *A feasibility study*, p. 15.

26 Agreed Statement, Meeting of Environment Ministers, 15 December 2015, http://www.environment.gov.au/system/files/pages/4f59b654-53aa-43df-b9d1-b21f9caa500c/files/mem-meeting4-statement.pdf (accessed on 10 March 2016).

27 Australia has no regulatory CO_2 emission standards to reduce emissions of greenhouse gas. Australia's current air pollutant (toxic emissions) standards are based on the European standards. State and territory governments regulate emissions from vehicles once they are on the road (in-service).

28 For example, a joint American-Danish study published in 2015 that measured the amount of perfluorinated alkylate substances (PFASs, which are used for stain and water proofing textiles and other substances) in breastfed infants in the Faroe Islands found breastfeeding to be a pathway for PFASs to be passed to infants: Mogensen U B, Grandjean P, Nielsen F, Weihe P and Budtz-Jørgensen E 2015, 'Breastfeeding as an exposure pathway for perfluorinated alkylates', *Environmental Science and Technology*, 49 (17), pp 10466–73.

29 See, for example, the proposal to develop a national standard-setting body relating to environmental risks of industrial chemicals, http://www.scew.gov.au/coag-strategic-priorities/national-waste-policy-and-chemicals/chemical-management-reform.

30 http://www.coronerscourt.vic.gov.au/home/coronial+investigation+process/whos+involved/coroners+prevention+unit/(accessed 10 March 2016).

CHAPTER 7

THE EPA'S ROLE WITHIN VICTORIA'S ENVIRONMENT PROTECTION REGIME

THE EPA'S ROLE WITHIN VICTORIA'S ENVIRONMENT PROTECTION REGIME

KEY MESSAGES

There is a void at the strategic level of Victoria's environment protection framework. Filling it requires a whole-of-government approach to consider complex issues with environmental, social and economic implications.

Precedents demonstrate the value and effectiveness of whole-of-government legislative mechanisms, in particular to prevent or mitigate harms. Managing pollution and waste warrants such an approach given the potential for long term impacts on health, liveability and prosperity.

The EPA must be 'at the table' to inform strategic land use planning and infrastructure decision making.

Environmental justice recognises that the burdens of environmental pollution should be fairly distributed. It is an important issue for government and the environmental regulator must be part of a whole-of-government approach.

Regulatory best practice, including strengthening community rights, will contribute to environmental justice.

7.1 Introduction

Environment protection today involves a framework of regulation, policy setting and programs across government. Over 40 separate acts cover environmental regulation in Victoria, involving various state government agencies and 79 local government authorities.[1]

> *Environmental problems and opportunities can be complex, involve many different actors or parts of society, and span communities and borders.*[2]

The EPA has a key, but distinctive, role in environment protection – it protects people as well as the environment; and it protects health, liveability and prosperity from pollution and waste. It is only one part of Victoria's broader regime of environmental regulation and management, but it has critical interdependencies with other areas of government. In particular, DELWP provides whole-of-government leadership on environment protection,[3] and also has specific regulatory responsibilities, for example, relating to biodiversity protection.[4]

The EPA works as part of a complex regulatory regime featuring other regulators and decision makers (figure 7.1). Improved coordination, across the environment portfolio and as an input to broader government decision making, will maximise the value of the EPA's expertise and expand its influence.

FIGURE 7.1 VICTORIAN ENVIRONMENTAL LEGISLATION

Source: Victorian Competition and Efficiency Commission 2009, *A sustainable future for Victoria: Getting environmental regulation right*, Final report, p. LIV.

These complex institutional arrangements are not unique to environmental management.[5] However, complexity can cause confusion, unnecessary regulatory burden, critical gaps in risk management or oversight, overlapping responsibilities and lack of accountability for managing an environmental outcome. When there is regulatory conflict or ad hoc, uncoordinated approaches, regulation may not deliver the desired environmental outcome, or may cause perverse outcomes.

These problems can be identified in varying degrees across Victoria's environment protection regime. In particular, many inquiry participants were concerned about the lack of 'whole-of-system' consideration of waste management, amenity impacts caused by poor land use planning decisions, and inadequate and ad hoc responses to health risks associated with pollution and waste.

Victoria needs a robust and responsive system to protect human health and the environment into the future, and this will involve transforming the EPA. But, it is not sufficient to deal with the EPA alone.

> *EPA's capacity to deliver environmental and public health outcomes is not independent of other government departments.* (City West Water submission, p. 1)

We considered other models within the Victorian Government where 'joined up government' has been a priority, particularly to more effectively manage risks. For example, for acute risks, the community expects emergency management is 'part of the daily business activities of the agencies [and] … under the new emergency management arrangements, [they] must adopt a more cooperative, coordinated and proactive approach to risk management'.[6] For managing cumulative risks over the longer term, such as climate change, the focus is also on the need for 'whole-of-government policy' and shared principles and priorities.[7]

Outcomes-focused approaches operating across government are being adopted by jurisdictions around the world,[8] and in Victoria. These provide opportunities for: more effective multi-agency action, integrated strategic planning, focused attention on problem solving and achieving major shifts on nominated priorities, and mobilising data across government to measure results. The emphasis is on collective action both for rapid change and where there needs to be enduring effort.

Environment protection requires both a short and longer term focus and often involves cross-cutting issues or problems. As such, it needs to draw on these models for more effective whole-of-government engagement. The community expects measures that enable the EPA to have more influence within Victoria's broader environment protection regime and across government. In particular, we consider the EPA must be more involved in, and provide expert input to, strategic planning and decision making by other areas of government.

7.2 The EPA as part of a broader environment protection regime

Decisions made in many other areas of government can have major implications for environmental protection. For example, decisions on land use planning and infrastructure can create longstanding legacy problems for the EPA to manage.

We envisage an EPA of the future that focuses more on prevention, strategic problem solving and facilitation than on post-harm enforcement. But it must be 'at the table' for strategic government decision making to achieve this. Specifically, the EPA must work with other agencies at several levels:

- with **DELWP** in responding to new risks and adjusting regulatory policy settings, and with **Sustainability Victoria**, to deliver activities that manage pollution and waste, such as program support for regional waste groups
- within the **wider environmental portfolio**, on issues that influence the condition of Victoria's environment, including biodiversity protection, native vegetation regulation, catchment and coastal management and climate change
- with **planning and key economic portfolios**, such as business development, resources and agriculture to ensure long term, environmentally sustainable and economically viable growth and development
- with a range of **social policy portfolios**, given the impact the environment has on all facets of our society (particularly relating to the health portfolio).

7.2.1 EPA's contribution as a mature and proactive regulator

The preamble to our terms of reference asked if the EPA is our environmental protector or regulator or both. The EPA is clearly both; indeed protection is implicit in its regulatory role. However, effective protection involves taking a broad and proactive view of the regulatory task – beyond conventional rule setting, compliance and enforcement – and it requires strategic engagement with other parts of government.

This broader engagement rarely occurs at present. The EPA plays a relatively narrow regulatory role, without significant influence on strategic planning and decision making within government. As a result, it comes in late and, at best, mitigates impacts after decisions have been made. There is a perception that the EPA is simply there to pick up the problems, even when it is clear that its regulatory toolkit is not sufficient or appropriate.

In proposing a greater role for the EPA in strategic decision making within government, we emphasise that it must be a 'mature regulator' – it cannot operate in these forums as a 'narrow' regulator or rule setter, nor as partisan 'champion' for the environment that maintains a single focus. While all parties must understand that the EPA is not a policy setter, it can influence strategic government decisions if it can:

- inform with authoritative expert advice and on-the-ground experience
- balance the social, economic and environmental impacts of both intervention and non-intervention.

We consider the EPA cannot properly acquit its statutory responsibilities for protection without these opportunities to be proactive and collaborative. In particular, it must be able to inform government decision making to:

- maximise opportunities for early interventions that prevent or reduce impacts from pollution and waste – for example, in planning major new waste and transport infrastructure, to address potential amenity and health impacts
- generate collaboration across government on how best to tackle complex issues, and to seek solutions for intractable problems, including deploying appropriate tools and instruments from across government.

7.2.2 Supporting health, liveability and prosperity outcomes

Government policy frameworks for economic development – industrial, agricultural, resource development and tourism – and for urban development and essential infrastructure planning can benefit from considering early the potential implications for human health and the environment. Authorising a more engaged and facilitative role for the EPA allows government to draw on the EPA's expertise. This approach will minimise the risk of decisions that create 'long tail' and intractable pollution problems, which affect Victoria's liveability and the health of Victorians for years to come.

In particular, the EPA must be involved in, and provide expert advice to, government processes for strategic land use planning and major infrastructure planning. The Plan Melbourne Refresh Ministerial Advisory Committee recognised how important whole-of-government coordination is to '… maintain Melbourne's globally-recognised liveability and its role as an efficient business services city, tourism destination and freight and manufacturing hub'.[9] As proposed in the principles for the Plan Melbourne Refresh:

> *Sustainable urban development requires effective coordinating planning and response action across government. Strategic planning processes will be effectively coordinated across government to help apply an integrated approach to addressing sustainability and climate change challenges while supporting economic and social wellbeing.*[10]

To protect the health of Victorians from environmental hazards, the EPA must work closely with other government agencies, both those directly involved in health protection (such as DHHS and WorkSafe) and those who manage potential impacts on health, (such as the Department of Economic Development, Jobs, Transport and Resources and VicRoads).

However, 'shared' responsibilities for protecting the environment and public health can create overlaps and duplication, as well as a real and perceived risk that no one takes charge. Many stakeholders raised concerns about overlaps, gaps and lost opportunities for cooperation in our consultations and submissions. They linked their expectations for a more effective EPA to strengthened whole-of-government approaches.

> *[T]he [current legislative] structure causes difficulties for administrators, including the EPA and DELWP, as it is not often clear which authority is responsible for which Act (particularly where environmental and public health issues intersect). … [this] has resulted in unstructured coordination, and information and data sharing between relevant State and Commonwealth government bodies – such as public health authorities and the Commissioner for Environmental Sustainability – and the EPA, DELWP and Sustainability Victoria as environment regulators.* (Law Institute of Victoria submission, p. 3)

7.2.3 As a protector of the environment

Many of Victoria's environmental indicators are in gradual and long term decline,[11] despite efforts of the government, business, not-for-profit and community sectors. Members of the community and environmental groups raised these concerns, which pose fundamental questions about the EPA's role within the government's approach to environment protection.

We consider it important for the EPA to retain its focus on managing pollution and waste impacts – this approach provides benefits of specialisation and focus. But, the EPA does have an important role in broader environment protection, which DELWP leads. At times, the EPA will work closely with DELWP and other government agencies, to address common threats (such as urban encroachment) or to determine the most effective intervention to manage pressures on natural systems (such as waterways).

7.3 Improving whole-of-government management of environmental risks

The EPA of the future needs effective institutional arrangements to deal with Victoria's complex environment protection framework, including:

- clearly defined objectives
- appropriately allocated roles and responsibilities
- effective mechanisms to promote coordination between agencies and levels of government.[12]

We consider that new and strengthened mechanisms for collaboration and coordination across government are needed in the following key areas:

- **Whole of Victorian Government commitments**, to identify consistent principles and overarching strategies, assess the most effective points for government intervention, and coordinate implementation – for example, on environmental justice or new policy measures to reduce Victoria's greenhouse gas emissions.
- **Complex issues or sectors**, to apply coordinated, systems-based approaches that avoid regulatory gaps, overlaps and perverse outcomes.

- **High level strategic planning**, to ensure that decision making is appropriately informed about potential risks, issues and options early in the process.
- **Major emerging challenges and entrenched problems** that affect various areas of government, to facilitate multi-agency solutions and apply the right mix of instruments.
- **Enhanced information sharing**, to support environmental and public health management and improve transparency and accountability to the Victorian community.

There is value in giving some of these activities a statutory basis through a new legislative framework that applies to all agencies with roles and responsibilities in protecting the environment and public health.

7.3.1 An overarching Environmental Protection (Integration and Coordination) Act

We recommend creating an Environmental Protection (Integration and Coordination) Act – as new overarching legislation for environment protection and management led by DELWP. This legislation will provide a shared vision, objectives and principles that relevant agencies could apply in exercising their powers, and established mechanisms for coordination across government.

> *[T]here is a need for a whole-of-government strategy and approach to environmental protection and improvement that clarifies the roles of all the relevant organisations including EPA, the Commissioner for Environmental Sustainability, the Department of Environment Land Water and Planning (DELWP), Sustainability Victoria and the water businesses. (City West Water submission, p. 1)*

The proposed legislation provides mechanisms for clarifying roles and responsibilities in joint regulation, and coordinated monitoring and reporting. The OECD recognised the need for such formal mechanisms to address regulatory overlap and empower coordination:

> *To reduce overlap and regulatory burden, all regulators should be explicitly empowered and required to cooperate with other bodies (non-government and other levels of government) where this will assist in meeting their common objectives.*[13]

Victoria already has several legislative instruments that provide models for these proposed arrangements. For example, the *Transport Integration Act 2010* provides a vision statement, objectives and principles for separate entities exercising powers or performing functions in a related space. This Act also provides coordination mechanisms by allowing government (through an Order in Council) to bring a public body within the framework, either as part of its general operations or when carrying out particular functions or powers.

The *Child Safety and Wellbeing Act 2005* introduced the Children's Services Coordination Board to improve child protection outcomes. The Board consists of key decision makers from relevant departments and agencies, including Victoria Police, the Department of Premier and Cabinet, the Department of Treasury and Finance, the Department of Education and Training, DHHS and the Department of Justice and Regulation.

A key issue to be considered is the scope of the proposed legislation, and therefore the extent of its effect across government. The EPA's task, and the task of government more broadly, involves considering the environment alongside economic and social factors. That task is also affected by decisions made across a range of portfolio areas. To produce better decision making, the overarching legislation needs to encompass those parts of government involved in the environment, liveability, human health, economic viability and sustainable jobs. It will bring together agencies to work on complementary activity as well as to consider potentially competing interests.

Key areas of government to be involved include:

- entities directly responsible for the environment, including pollution, waste, biodiversity, native vegetation, catchment and coastal management and climate change, such as DELWP, the EPA, Sustainability Victoria, the Commissioner for Environmental Sustainability, Parks Victoria and water authorities
- areas of government that consider environmental issues in their decision making, such as strategic land use planning and major infrastructure agencies
- areas of government with a role in managing environmental risks to human health, such as WorkSafe and DHHS.

Victoria has powerful examples of the benefits of strategic cooperation to enhance outcomes. The Department of Justice and Regulation works closely with Victoria Police, the Transport Accident Commission and VicRoads, for example, to improve road safety. Together, these agencies implement an integrated, multi-faceted approach to road safety, that combines targeting high risk behaviour, enforcing road safety law, improving Victoria's road network, introducing education and public awareness initiatives, and conducting research and development.[14]

The government could take a similar approach to address future challenges affecting the environment, amenity and public health. Examples include dealing with urban growth and densification, or the implications of transitioning to a low carbon economy, including rehabilitating Latrobe Valley brown coal open cut mines.

The *Climate Change Act 2010* provides another model of how the environment can be integrated into broader decision making. Specified government decision makers must have regard to climate change, as follows:

A person making a decision or taking an action referred to in subsection (1) must have regard to [emphasis added]—

(a) the potential impacts of climate change relevant to the decision or action; and

(b) the potential contribution to Victoria's greenhouse gas emissions of the decision or action; and

(c) any guidelines issued by the Minister under section 15.[15]

Government could also strengthen existing general requirements in Victorian legislation[16] that require some consideration of the environment. Ministerial guidelines could include similar provisions for specific direction and consistency.

Health and wellbeing concerns related to noise, odour and dust dominate community complaints to the EPA and were significant in many of our consultations. These problems tend to disproportionately affect certain segments of the community (see figure 10.2, chapter 10). The problems have social impacts, particularly on already disadvantaged communities.[17] As such, they warrant whole-of-government consideration (box 7.1).

They also indicate some key systemic problems in the current environmental protection regime, and reflect the EPA's inability to resolve issues using its toolkit alone. They also show how decisions made in one part of government (including by local government) can produce long term problems that other parts of government must then handle. And they highlight the value of government having adequate processes for involving the EPA in strategic planning, particularly on land use. Population growth will exacerbate these types of problems in the future, unless there are new approaches to avoiding land use conflicts and to resolving or at least improving intractable situations.

The proposed overarching legislative approach is a first step towards addressing some systemic problems and dealing with regulatory overlaps and gaps, but it cannot address all interactions between the EPA and other government agencies. Some issues (affecting health, planning, and noise and odour) will need specific statutory arrangements. We discuss these issues later in this report.

7.3.2 Collaborative solutions to complex or intractable problems

Deploying a whole-of-government toolkit to identify problems and assess alternative approaches – including joint regulation and packaging incentives with education and regulation – will more effectively address complex problems. As well as strengthening risk management and avoiding unacceptable impacts, government has the opportunity to collaborate on seemingly entrenched and intractable problems, and on developing solutions that deliver multiple benefits.

BOX 7.1 COLLABORATION TO RESOLVE INTRACTABLE AMENITY PROBLEMS

The EPA regularly faces local 'hot spot' problems that can persist for many years. These situations often involve entrenched land use conflict and multiple sources of pollution. Generally, the EPA cannot address these issues on its own; the problem may need multiple agencies or a whole-of-government approach.

The Brooklyn Industrial Precinct is an example. The EPA has been working to resolve dust and odour issues here since 2008. The breakthrough came from the EPA working with local government and VicRoads on sealing roads that were significant causes of dust. The EPA used the results from its local air monitoring to make the case for sealing the roads.

The EPA also uses its regulatory powers against businesses contributing to the odour and dust issues at Brooklyn, including:

- issuing remedial notices to undertake improvement works
- taking enforcement action.

Whole-of-government coordination mechanisms can provide a forum for similar problem solving, when the regulator alone cannot achieve traction on the ground, or when progress needs a range of instruments and approaches.

> *Where issues are shared, or the complexity of issues in a particular location warrant it, there should be a process for coordinated action by the EPA, other agencies and local government. Greater use should be made of joint taskforces or similarly convened groups that have a specified task and set timeline to investigate, strategise and implement actions to address environment protection issues.* (Brimbank City Council submission, p. 4)

The government toolkit includes a mix of instruments and tools. The effectiveness of different tools depends on the problems being addressed and the objectives. The EPA's regulatory tools should not be considered in isolation. For water quality, the EPA has traditionally looked at engineering or 'brown' solutions, for example, rather than 'greener' interventions such as those involving native vegetation regrowth or re-establishing wetlands. There are signs that this is changing, driven in part by innovation by the water authorities (box 7.2). Establishing a formal overarching system for environmental management with specific mechanisms to foster collaborative problem solving will enable the EPA to draw on the knowledge and expertise of others and their tools.

BOX 7.2 THE EPA AND DIFFUSE WATER POLLUTION

Victoria's water resources are managed by a variety of agencies with differing objectives and geographical remits. The EPA, which monitors and addresses water pollution, is one of several agencies, which include:

- DELWP (policy, overall water quality, water trading)
- Catchment Management Authorities (program delivery and coordination in catchment to improve riparian environments and water quality)
- water corporations (service providers for waste and drinking water services)
- port authorities and regional coastal boards
- environmental water holders (maintaining environmental flows through market mechanisms)
- Murray-Darling Basin Authority (use limits, environmental objectives)
- local governments, Parks Victoria (water assets, storm water management).

Victoria's rivers and other waterways face threats from diffuse pollution sources, affecting the environment, as well as beneficial human uses such as recreation. No single approach is suitable for all types of diffuse and small point sources of water pollution. A mix of policy instruments across agencies and regulators is likely to outperform any single instrument from a single agency. And the sequencing of policy instruments is probably as important as the instrument mix and targeting.[18]

The EPA of the future needs to be flexible and explore alternative solutions, including with other parts of government. Curbing pollution from urban stormwater drains, for example, may require very different strategies than those to control diffuse source pollution from agriculture.[19]

For example, addressing diffuse pollution from agriculture will involve interventions, such as farm management practices (like farm and nutrient management plans); design or technology standards; and broad scale planning and development control strategies to change land use patterns.[20]

Widening perspectives and using a wider range of tools to tackle diffuse water pollution could also reduce costs for the same result, as argued by VicWater:

> *Melbourne Water's Dandenong Creek offsets project is an example where an upgrade to an Emergency Relief Structure (at a potential cost of $120 million) was offset by an approximately $20 million investment in range of projects to improve the stormwater entering Dandenong Creek, under a program called Enhancing Our Dandenong Creek.* (Melbourne Water submission, p. 5)

7.3.3 Collaboration on information

Improving the evidence base for government decision making requires all relevant parties 'at the table' and consistent and robust data – to identify emerging trends, assess risks and evaluate the effectiveness of interventions over time. The EPA and other agencies with responsibilities for environmental, public health and other liveability outcomes must work together on improved systems for:

- statewide environmental monitoring
- a statewide spatial data system
- statewide reporting of health, environmental and liveability outcomes.

These developments could build on initiatives currently underway within government and in the academic and community sectors. Federation University's Centre for eResearch and Digital Innovation (CeRDI), which works to facilitate data sharing across sectors, notes in its submission that '… the emerging opportunities [for the EPA and other parts of government] in the digital space are significant but collaboration will be important to capture them effectively'.[21] Data sharing highlights the potentially broad scope of collaboration, and of the potential benefits for government and a wide range of Victorians.

> *It is our contention that the EPA also has a role in making this data discoverable to interoperable web portals so that it can be integrated with the plethora of other data that is used to enhance decision making in other disciplines. Such examples extend beyond the soil, water and natural resource management portals developed by CeRDI, to include others that are used by a range of private industries, public agencies and research institutions.*
> (Centre for eResearch and Digital Innovation, Federation University submission, p. 2)

Data development and sharing initiatives within government are underway. The Commissioner for Environmental Sustainability's 'reporting reform' program (tabled in Parliament in December 2015) proposed using State of the Environment reporting as '… a platform for broader change to drive better environmental outcomes'.[22] For the EPA, this approach provides opportunities to better integrate and align data across government; apply digital reporting and spatial mapping; and provide for citizen science input over time.

Similarly, DELWP's Digital First program (a three year transformational program launched in August 2015) addresses the lack of government-wide digital coordination and limited inter/intra department knowledge sharing and data-based decision making. Digital First aims to provide a platform for increased connectivity and collaboration across all agencies involved in environmental protection and management, and to share knowledge between parts of DELWP and government, and with the public.

New digital technologies will continue to disrupt traditional ways of managing data, including new ways of collecting, storing, sharing, analysing and using data to predict outcomes. Data and other digital innovations do and will continue to present the EPA with significant opportunities to more effectively and efficiently navigate the challenges that it faces. Increasingly, the community will expect the EPA to be a digital, data driven organisation, to support its science and regulatory functions and to meet demands for transparency on processes and outcomes.

7.4 Working together on environmental justice

Term of reference 4 asked us to consider how environmental justice might be incorporated into the EPA's work, namely:

> *the ability of the EPA to ensure that the principle of environmental justice is adhered to, the environment is protected for the benefit of the community, and members of the community can be meaningfully involved in, and access fair treatment through, environmental regulation.*

Environmental justice is relatively new in Australia. For this inquiry, we drew on the practice of other jurisdictions (particularly the United States), the work of academics and the views of the Victorian community (box 7.3). In particular, we considered the following objectives: 'that the burdens of environmental pollution should be fairly distributed, as well as equal access to the public health benefits of a clean environment, for all people regardless of their social, economic or political status and [provision of] inclusive processes for decision making in environmental policy and regulation'.[23]

BOX 7.3 THE CONCEPT OF ENVIRONMENTAL JUSTICE

United States

The concept of environmental justice grew out of the United States in the 1980s, in response to poorer and minority communities objecting to heavily polluting industries being placed in their neighbourhoods.[24] It prompted studies and reports into associations between the racial and socioeconomic status of communities and the location of hazardous waste sites and facilities,[25] including a study undertaken in 1992 by the US Environmental Protection Agency.[26] In 1994, President Bill Clinton issued an Executive Order directing federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low income populations, and to develop a strategy for implementing environmental justice.[27]

International law

In 1998, the United Nations Economic Commission for Europe negotiated the United Nations 'Aarhus' Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters.[28] The Convention entered into force in 2001 with the objective to '… contribute to the protection of the right of every person of present and future generations to live in an environment adequate to his or her health and well-being', by guaranteeing the following rights:

- access to information
- public participation in decision making
- access to justice in environmental matters.[29]

Australia

The Australian Charter for Environmental Health, developed in 1999, provides that individuals and communities are entitled to live in a safe and healthy environment.[30] The 2012–15 National Environmental Health Strategy recognises that '… all levels of government and other key stakeholders make decisions, which impact on environmental health policy, regulation, research and practice [and that] many of these decisions are made outside the [health] framework'.[31]

More recently, state and local government agencies in Victoria have begun to examine the elements of environmental justice.[32]

Our consultations demonstrated Victorians recognise and support elements of environmental justice; people are looking for fairness or equity. Indeed, many participants argued '… communities have a right to environmental protection, and it is important that all Victorians are treated consistently and fairly in environmental legislation and practice'.[33]

> *Earlier EJA work on environmental justice highlighted the tendencies for environmental harms and risks to be unevenly distributed across society and across regions. In particular, … the burdens of environmental risks or other impositions fall disproportionately on rural, regional and remote communities as distinct from larger population centres, on working class and poorer neighbourhoods … as distinct from wealthier areas, and fail to accommodate historic injustices against and dispossession of Aboriginal peoples.* (Environmental Justice Australia submission, p. 7)

7.4.1 Whole-of-government approaches are needed

> *For much of its history, Melbourne's western suburbs were effectively treated by governments and regulators as a sacrifice zone where a range of noxious industries could be located with little if any regard for the health and amenity of local residents … While difficult problems remain in some areas (for example, heavy vehicle noise and pollution and localised problems with road dust) over the past few decades, environmental quality in Melbourne's west has improved dramatically.* (Robert Joy submission, p. 5)

Environmental justice issues can be complex and broad ranging; they will take different forms between locations and over time (box 7.4). The interconnected nature of disadvantage, health and the environment, and the key role of land use planning policy and decisions means environmental justice requires a broader perspective. The EPA has a role, but addressing environmental justice goes well beyond the reach of regulation by EPA.

BOX 7.4 ENVIRONMENTAL JUSTICE ISSUES FOR VICTORIA

Pollution impacts have historically been concentrated in areas of existing social disadvantage. Despite significant improvements in recent decades, these are still concerns for communities in parts of metropolitan Melbourne and regional Victoria.

> *Significant clusters of landfills and processing facilities occur in the western region of Melbourne, especially in Werribee, Laverton, Deer Park and Brooklyn, which means that local populations in the west will be disproportionately affected by the additional vehicle emissions and noise from waste trucks.* (Maribyrnong City Council submission, p. 8)

Residents living close to environmental 'hot spots' such as landfills, industrial facilities and major roads are impacted by odour, dust and noise. We heard from communities about the lack of response to concerns. There is also evidence that some communities experience serious health and amenity impacts.[34]

Residents of the coal mining centres in the Latrobe Valley have a reduced lifespan compared with other centres in Gippsland and with Victorians generally – four years for males and two years for females. Evidence suggests these results are consistent with effects from both mining and burning coal, and reflect socioeconomic circumstances.[35] The Hazelwood mine fire revealed the reality of environmental justice issues to the broader Victorian community.

> *Too often the poorer and more vulnerable members of society are exposed to a greater distribution of polluted air. The residents of Morwell can certainly attest to this.* (Clare Walter and Professor Lou Irving submission, p. 13)

> *[F]or too long, people of the Latrobe Valley, who have provided electricity for the state of Victoria and yet remain one of the most economically disadvantaged regions in the state, have accepted that some illnesses are an inevitable cost of working in and living around coal mines and power stations. An environment justice approach recognises that the burden of environmental pollution often falls upon those least equipped to deal with it (or complain about it).* (Dan Musil submission, p. 2)

We consider a whole-of-government commitment and collaboration is necessary to improve specific cases and to influence outcomes more generally. A whole-of-government strategy can set high level objectives on environmental justice. It also allows for consistency on matters such as procedural fairness in relevant processes.

Even with these foundations, however, delivering environmental justice outcomes will not be straightforward. There will inevitably be conflicts and tensions within government and across the community on environmental justice issues. But a whole-of-government approach provides a mechanism to consider these issues more explicitly. It can also guide individual agencies on how to approach their responsibilities.

Stakeholders supported a whole-of-government approach to environmental justice. They expressed aspirations for environmental justice that the EPA could not address alone. Stakeholders were also concerned about ad hoc approaches, emphasising the need for considered attention by government.

> *Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, colour, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. (Doctors for the Environment Australia submission, p. 12)*

> *If environmental justice is a concept that is going to be incorporated either into the EPA's remit or the Environment Protection Act, it will need to be rigorously defined and explained.* (Australian Industry Group submission, p. 5)

> *For the EPA to seriously apply environmental justice they will need a close working relationship with industry as well as a thorough understanding of the community's requirements, which would require significant resources.* (South East Water submission, p. 8)

> *Any concept of environmental justice needs to be able to accommodate site specific and regional circumstances.* (Australian Paper submission, p. 5)

The EPA's pollution complaints are one indicator of how pollution impacts disproportionately affect some members of the community.[36] Indeed, as the environmental regulator, the EPA has a role in mitigating and avoiding impacts. It considers environmental and health risks, impacts and harms on local communities as part of its routine regulatory activity in works approval and licensing decision making and in its ongoing compliance monitoring and enforcement activities. But there are limits to the EPA's toolkit.[37] Often, coordinated action with other parts of government is the only way to avoid impacts and effect change for some entrenched problems, such as 'diesel hot spots'.[38] We do not consider the EPA to be the appropriate agency to lead the implementation of environmental justice principles across government.

7.4.2 Options for whole-of-government responses to environmental justice

We considered the options for whole-of-government approaches to environmental justice.

Policy approach

The Victorian Government could implement a whole-of-government environmental justice policy in addition to, or instead of, a legislative approach. In itself, a policy can support action by identifying consistent principles and priorities. For example, this approach has been used to drive changes on energy efficiency with government policy specifying performance targets and annual reporting requirements. However, a policy may not have the same enduring presence or carry the same weight as a legislated requirement to consider environmental justice principles and outcomes.

As a first step, we recommend DELWP define the Victorian Government's environmental justice commitments and set priorities on key policy issues.

Legislating for whole-of-government decision making

We consider it appropriate to include environmental justice principles in the proposed overarching Environment Protection (Integration and Coordination) Act. This approach ensures government decision making accounts for environmental justice (as specified through the legislation but with potential for application across the whole of government).

The *Climate Change Act 2010* adopts a similar approach. Decisions by government exercising powers under specific legislation[39] must have regard to:

- the potential impacts of climate change relevant to the decision or action
- the potential contribution to Victoria's greenhouse gas emissions of the decision or action
- any guidelines issued by the Minister.[40]

As a potential Charter right

Victoria has had a legislated Charter of Human Rights and Responsibilities since 2006 (Victorian Charter, enacted in the *Charter of Human Rights and Responsibilities Act 2006*). The 2015 Charter review highlighted how such an instrument can influence government policy and decision making:

> *The Charter has been a clear part of building a human rights culture in Victoria, particularly in the Victorian public sector. Over time, implementation of the charter has helped to build a greater consideration of and adherence to human rights principles by the public sector, Parliament and the courts in key areas.*[41]

This Victorian Charter provides that '… it is unlawful for a public authority to act in a way that is incompatible with a human right or, in making a decision, to fail to give proper consideration to a relevant human right.'[42] The most comprehensive approach to embedding environmental justice into all public authority[43] decision making could be via the rights and responsibilities approach in the *Charter of Human Rights and Responsibilities Act 2006*.

Some participants supported this general approach, arguing environmental justice is based on rights to a healthy environment and access to justice:

> *Clean air, soil and water are basic human rights and must be non-negotiable.* (Andrew Laird submission, p. 2)

> *It is morally unacceptable to have some communities living in areas where they experience greater pollution, with no affordable and effective mechanism available to them to resource a legal defence of their right to clean waterways, air and quiet neighbourhoods. (Friends of Steel Creek submission, p. 10)*

Arguably, the Victorian charter contains civil and political rights that already reflect the participatory justice elements of environmental justice. But it does not provide for the more detailed expression of those rights contained in the Aarhus Convention.[44] Nor does it contain any explicit economic, social or cultural rights (which could be argued include a right to a healthy environment) that would reflect the distributive justice[45] or restorative justice[46] elements of environmental justice. However, certain existing rights[47] might extend to consider impacts of government actions or decisions on a person's enjoyment of the environment.

The 2015 review of the Victorian Charter noted '… issues were raised in relation to environmental justice, climate change, sustainable development and a healthy environment'.[48] The review concluded '… inclusion in the Charter of additional economic, social and cultural rights should be considered as part of a future review',[49] echoing the 2011 review, which determined that '… the case for incorporation of additional categories of [economic, social and cultural] rights [had] not been made'.[50]

7.5 Legal rights for communities

We recommend amending the EP Act to:

- clarify third party right to apply to the Victorian Civil and Administrative Tribunal (VCAT) for review of regulatory decisions made by the EPA
- allow third parties to institute civil proceedings and seek court orders to restrain or remedy breaches of the EP Act.

At present, the EP Act gives third parties rights to seek VCAT reviews of a number of EPA decisions, but the law about who can seek these reviews should be clarified. Unlike in other jurisdictions, third parties in Victoria have no statutory entitlement to bring proceedings in the civil courts against a person who has breached, or is threatening to breach, the EP Act.

7.5.1 Why third party rights are important

Public participation and access to justice are key elements of a strong and robust justice system:

> *Environmental issues are best handled with the participation of all concerned citizens, at the relevant level … States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.*[51]

> *The right to challenge environmental decisions made by government and to seek redress or enforcement of decisions made is fundamental to holding governments accountable, and to the rule of law. The right to challenge decisions will often involve citizens or communities seeking public interest outcomes that benefit the wider community, not only themselves as individuals.*[52]

> *[T]he law is there not to be alienating and remote but for the protection and benefit of the community.*[53]

The trend in environment legislation is towards broadening standing and the grounds of review for third parties.[54] Many submissions supported extending third party rights, although this view was not universal.

> *It is important that EPA decisions and processes support the rights of communities to legally challenge decision making.* (Environment Victoria submission, p. 4)

> *Restrictions in the EP Act preventing community participation and merits and judicial review of EPA decision making is a failure to deliver environmental justice.* (Greenchip Recycling submission, p. 16)

> *Currently there are systemic problems with the ability for third party interference and the subjectivity of amenity impacts. These issues add significant cost to Victorian farming business and often lead to lengthy disputes.* (Victorian Farmers Federation submission, p. 6)

> *[O]pen standing laws in environmental statutes can improve environmental protection outcomes, and strengthen the legitimacy of those laws within the community. Third party standing and public interest litigation are also key to providing environmental justice, because it helps ensure fair consequences for those who cause environmental harm, and facilitates community participation the operation of environmental laws.* (Environmental Justice Australia submission, p. 11)

Broadening third party rights gives the community a greater capacity to participate in regulatory decision making and contributes to environmental justice outcomes. But to be effective, third party rights must be carefully designed, to ensure that these rights are balanced against certainty and timeliness of decisions for industry:

> *While [the conferral of third party rights] allows increased citizen participation, it also enlivens the prospect of it being used as a political weapon to delay the construction, or impede the operation, of works.*[55]

7.5.2 Third party review of regulatory decisions under the EP Act

We considered two broad questions about third party rights:

- What decisions can be reviewed?
- Standing – or who should have access to review rights?

What decisions can be reviewed

The EP Act gives VCAT jurisdiction to review the merits of a range of EPA decisions. Of these, works approvals and licence decisions are typically the most significant, and most often challenged. However, the EP Act (section 33B(1)) limits third party rights to review the following decisions:

- to issue a works approval
- to issue or amend a licence in situations where the licence process effectively mirrors the works approval process because a works approval was not obtained
- to remove the suspension of a licence.

We consider it is appropriate to limit third party rights to these 'approval' decisions; we do not propose changing the class of decisions reviewable by VCAT. EPA works approvals assess whether construction, installation and modification of works meets environment protection standards. Works approvals are the core 'approval' decision for the EPA and, as such, are the EPA equivalent to planning permit decisions made under the land use planning framework. Third party rights offer the greatest value for 'approval' decisions because they relate to construction or activities that have yet to commence.

Standing for third parties

We recommend amending section 33B(1) of the EP Act, to set out in full the terms of section 5 of the *Victorian Civil and Administrative Tribunal Act 1998* (VCAT Act) to confirm the broader basis on which a third party may seek VCAT review. This change will entrench the right of third parties to have access to a cost effective and timely forum for reviewing EPA decisions.

The right of third party review of EPA decisions is conferred on 'a person whose interests are affected by the decision'. As VCAT explained in *Dual Gas Pty Ltd v Environment Protection Authority* ('*Dual Gas*'),[56] this phrase was inserted into the EP Act in 1998, to coincide with the commencement of the VCAT Act.

Section 5 of the VCAT Act has a broad definition of when a person's interests are affected by a decision. VCAT concluded there was a clear legislative intent that the broad scope of section 5 of the VCAT Act should apply to applications for review under section 33B(1) of the EP Act. As VCAT noted, section 5 '… provides a very wide meaning to a person's interests that may be affected by a decision'.[57]

In VCAT's view, the express wording of section 5, when read in conjunction with section 33B(1) of the EP Act:

> *… clearly evinces an intention to have a wider and more liberal test for standing for the purpose of Tribunal review proceedings, when compared to the 'special interest' test for standing in environmental matters that applies at common law and for cases of judicial review and similar proceedings.*[58]

In summary, VCAT found:

> *What is required is that the person seeking standing demonstrates a material connection with the subject matter of the decision under review – that is, a genuine interest … this may arise from a genuinely held and articulated intellectual or aesthetic concern in the particular subject matter of the decision, as opposed to a broader environmental concern generally.*[59]

The legal correctness of this decision has not been challenged. In our view, it provides an appropriate test for standing for third party review, while ensuring that standing is not unlimited. However, because VCAT is not bound to follow its own decisions, the position on the standing of third parties in EP Act reviews is still not certain. As VCAT identified in *Dual Gas*:

> *The issue of standing in EPA works approval matters has been a matter of continuing debate for many years, and we consider that legislative clarification or a court ruling may be necessary to provide greater future certainty.*[60]

Amending section 33B(1) of the EP Act to reflect the terms set out in section 5 of the VCAT Act will provide this certainty.

7.5.3 Access to civil remedies for breach of the EP Act

> *The advantages of civil enforcement proceedings as opposed to criminal prosecutions are that it is easier to prove a breach of the law on the civil standard of proof, and that action is taken to restrain wrongful conduct and its environmental impacts before they happen, rather than await and then punish the conduct.*[61]

The regulator has primary responsibility to enforce the law. We envisage the EPA as a stronger regulator in the future, and propose a range of enhancements so that the EPA can take stronger preventative action (chapter 12) and hold polluters to account (chapter 13). Third party access to civil remedies can provide an important safeguard if the regulator fails to act.

The EP Act confers no right of civil action on any third party. By contrast, other jurisdictions (for example, South Australia,[62] New South Wales[63] and Queensland[64]) allow an interested party to bring proceedings to address a breach of the relevant environment protection act.

McHugh J of the High Court said of the New South Wales provision:

> *Under wide standing provisions such as [these], applicants are simply given enhanced access to restrain or remedy breaches of law by respondents. Since the [local council] is already expected to comply with the law, giving a member of the public a right to ensure that the [council] has so complied causes no relevant prejudice to the [council].*[65]

Third party civil remedies also exist for breaches of Federal US environmental law (known as 'citizen suits'), such as air[66] and water[67] pollution controls.

In South Australia, the power for third parties to seek civil remedies for breaches of the *Environment Protection Act 1993* includes breaches of the general duty. Members of the community can seek a court order to prevent a breach of the general duty, or to require the taking of action to make good environmental damage or prevent or mitigate environmental harm. Application to the court may be made by 'any person whose interests are affected by the subject matter of the application',[68] and by 'any other person with the permission of the Court'.[69] The court can only grant permission if it is satisfied that the proceedings are in the public interest, not an abuse of process, and that there is a reasonable case to be made.[70]

At present in Victoria, only the EPA can apply for an injunction to restrain a person from contravening the EP Act or licence, permit or notice conditions, or to compel a person to comply with the EP Act or licence, permit or notice conditions. We recommend adopting the South Australian approach to complement the proposed general duty and to provide third parties access to the same expanded range of civil remedies for breaches of the EP Act as can be sought by the Authority itself (which we recommend in chapter 12).

As in other jurisdictions, we propose that civil remedies will be by court order, rather than through a tribunal such as VCAT. Based on the experience in other jurisdictions, we do not consider that this will create an undue burden on business or a significant impact on the court system.

7.5.4 Is a specialist environment court warranted?

A number of submissions proposed establishing a specialist environment court in Victoria, along the lines of the NSW Land and Environment Court. This was also raised in many of our public consultation sessions:

> *With the exception of VCAT through its Planning and Environment List, which only has limited jurisdiction to review decisions made under the EP Act, Victoria lacks a specialist planning and environment Court or tribunal. As a result, Victoria lacks development of a coherent body of environmental case law. This leads to uncertainty and inconsistency in decision making in Victoria, which ultimately has an impact on the stability and predictability of the regulatory environment in Victoria.* (Law Institute of Victoria submission, p. 4)

> *The submission advocates the creation of a dedicated Land and Environment Court.* (Monash Business School submission, p. 18)

> *Another missing link in this discussion is that of a Land and Environment Court, similar to that which has existed in New South Wales since it was set up under the Land and Environment Court Act 1979 (NSW). In many jurisdictions around the world these specialist Environment courts have been shown to improve decision making on environmental justice, both in terms of consistency of decision making and in use of appropriate levels of sanction.* (Community and Public Sector Union Victoria submission, p. 20)

However, we do not support this proposal. Courts and tribunals in Victoria usually have general jurisdiction. Rather than create specialist bodies, divisions or lists are created within courts and tribunals to develop knowledge and experience in specific subject matters. VCAT, in particular, was established to offer a 'one-stop shop' dealing with a range of disputes.

> *VCAT was established to provide a new structure for Victoria's tribunals and to streamline their operation; to improve access to justice; to facilitate the use of technology and alternative dispute resolution; and to develop flexible and cost effective practices for hearing and determining disputes in its original and review jurisdictions.*[71]

VCAT reviews only a small number of EP Act decisions each year; VCAT has conducted 5–10 reviews a year over the past three years. We do not believe that there is a sufficient case load for EP Act decisions to warrant creating a new court and overturning the general approach adopted in Victoria. We are not convinced VCAT's expertise in this area is inadequate.

If the government wishes to consider this issue further, serious consideration of such a proposal would require a separate inquiry.

7.6 Implementing elements of environmental justice through regulatory best practice

Some elements of environmental justice relating to accountability, transparency and engagement, are simply consistent with regulatory best practice, and are expected of the EPA. We address these aspects of environmental justice in other recommendations on improving regulatory practice (table 7.1).

Accountability and transparency are broadly accepted as fundamental principles for modern regulators and also reflect community expectations of fairness in decision making processes (a key element of environmental justice).

> *Some key participatory tools in Australia's democracy reflect widely accepted rights and responsibilities, such as rights to information, participation and redress. Some tools are institutional, such as access to complaints handling and dispute resolution bodies and processes.*[72]

Access to information, engagement and participation in decision making, and access to justice are all key elements that provide for fairness in government decision making. Many stakeholders saw community engagement as crucial to the EPA's work, to enhance the prospects of both the community and industry being treated fairly.[73]

> *The effective and meaningful involvement of the relevant community not only facilitates environmental justice but it also educates members of the public about their rights and responsibilities regarding the environment.* (Dr Diane Sisely submission, p. 2)

> *The principle of environmental justice is pivotal in the EPA being fair and impartial in dealing with the community and industry.* (Nelson Coastcare submission, p. 6)

Timely and responsive regulation is also an important consideration in the community's view of fair treatment: '… the way in which EPA responds to incidents can, in fact, enhance environmental justice.'[74] Business stakeholders also want timely responses and decision making.

In many cases, EPA operations are already consistent with these principles. Its Environmental Citizenship Strategy seeks to empower the community, business and organisations through accessibility and participation, and by promoting environmental leadership and restorative action.[75] Under the EP Act, the EPA conducts community engagement and consultation in key decision making, standard-setting and policy processes, as well as conducting informal stakeholder engagement.[76] The EP Act also includes some elements of restorative justice through enforceable undertakings and alternative sentencing orders for environmental offences.[77]

However, we consider access to information and processes for complaint and redress can be strengthened. This will require action by government (table 7.1). We also consider there is a case for improving the timeliness and responsiveness of its business processes. In particular, we recommend the Government expand third party rights, strengthen notification and reporting requirements, and invest in improved digital information and communication platforms.

TABLE 7.1: PROPOSALS STRENGTHENING EPA'S REGULATORY PRACTICE CONSISTENT WITH ENVIRONMENTAL JUSTICE

Proposal	Detail	Chapter
Objective for EPA	Revise objective for the EPA in the establishment Act incorporating specific reference to protecting human health	Chapter 5
Decision making principles for EPA	Revise principles for EPA decision making in the establishment Act, including the following elements that support environmental justice outcomes: ▪ Intra- and intergenerational equity, including recognition as the overarching aim of environmental justice ▪ Primacy of prevention ▪ Shared responsibility, including recognising the importance of the polluter pays principle ▪ Precautionary principle, accounting for the importance of evidence-based decision making ▪ Accountability and access to decision making, noting the importance of procedural fairness, transparency and access to information	Chapter 5
Addressing risks to public health	Focus on preventing pollution and waste impacts on public health through a range of interventions dealing with risk relating to: asbestos, chemicals and other pollutants, site contamination, air quality and water quality	Chapter 11
Enhancing local response capabilities	Enhance local response capabilities by funding and empowering local governments to deploy local environmental protection officers with increased powers to address localised pollution and waste complaints and issues	Chapter 18
Land use planning	Measures to strengthen consideration of potential environmental and amenity impacts in land use planning decision making	Chapter 10
Expanded regulation of activities impacting human health and the environment	Expand the cohort of activities requiring a works approval or licence to include all activities with significant impacts on human health and the environment	Chapter 12
	The EPA be made the primary regulator of environmental issues related to the approval, operations and closure of mines	Chapter 17
General duty	Introduce a general duty, breach of which is both an offence and can give rise to civil remedies	Chapter 12
Restorative justice outcomes	The EPA review the Enforceable undertaking guidelines to provide greater flexibility for restorative justice outcomes	Chapter 13
Information and disclosure to the public	Require licensed businesses to make emissions monitoring information available to the public	Chapter 16
	Develop a statewide database of sites that pose a high risk to the community because of their past use	Chapter 14
Third party rights	Clarify the test for third party standing for review of regulatory decisions under the EP Act and add a power for third parties to seek orders to restrain or remedy breaches of the EP Act (civil remedies)	Chapter 7

Recommendations

RECOMMENDATION 7.1

Establish a high level Environment Protection (Integration and Coordination) Act to improve coordination and collaboration across government on environment protection, and associated public health issues, including by:

i) Setting shared objectives and principles for whole-of-government decision making, including environmental justice principles

ii) Clarifying the respective roles and responsibilities of key government agencies charged with environment protection, including the EPA

iii) Establishing a formal mechanism, led by the Department of Environment, Land, Water and Planning, to support whole-of-government consideration of environment protection and environmental issues impacting on human health and wellbeing, including:

   a. identifying strategic priorities

   b. collaborating on risk assessment and analysis of options, informed by the EPA and other relevant sources of expert advice

   c. coordinating deployment of tools available across government, as appropriate to different issues.

RECOMMENDATION 7.2

Implement, through the Department of Environment, Land, Water and Planning, measures to coordinate environmental management in Victoria, in partnership with the EPA and other agencies responsible for environmental, public health and other liveability outcomes, including:

i) statewide environmental monitoring

ii) a statewide spatial data system

iii) statewide reporting of health, environmental and liveability outcomes.

RECOMMENDATION 7.3

Develop, through the Department of Environment, Land, Water and Planning, a whole-of-government approach to environmental justice, setting out high level objectives and principles to support consistent decision making across the Victorian public sector.

RECOMMENDATION 7.4

Clarify that the test for third party standing for review of decisions under the *Environment Protection Act 1970* (reviewable by the Victorian Civil and Administrative Tribunal) matches section 5 of the *Victorian Civil and Administrative Tribunal Act 1998*.

RECOMMENDATION 7.5

Strengthen third party rights to allow persons whose interests are affected or any other person with the permission of the court to seek a court order to restrain or remedy breaches of environment protection laws (civil remedies).

1 Victorian Competition and Efficiency Commission 2007, *Inquiry into environmental regulation in Victoria*, Melbourne.
2 Australian Panel of Experts on Environmental Law 2015, *The next generation of Australia's environmental laws*, Introductory Paper, p. 12.
3 For example, on climate change policy relating to the *Climate Change Act 2010*.
4 *Flora and Fauna Guarantee Act 1988* and *Wildlife Act 1975*.
5 Victorian Competition and Efficiency Commission 2006, *Making the right choices: Options for managing transport congestion*, Final report, Melbourne, September, p. 99.
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CHAPTER 8

RESPONDING TO THE CHALLENGE OF CLIMATE CHANGE

RESPONDING TO THE CHALLENGE OF CLIMATE CHANGE

KEY MESSAGES

Climate change is the most significant environmental issue we face – its importance was a resounding theme in consultations and in submissions.

The Victorian Government is committed to reducing the state's greenhouse gas emissions.

The EPA's primary tool for regulating greenhouse gas emissions – the state environment protection policy (Air Quality Management) – is not effective in its current form.

The EPA needs clear direction from government regarding its role in regulating greenhouse gas emissions and the settings it applies to duty holders.

New statutory instruments to manage greenhouse gas emissions should be developed through a whole-of-government process that includes advice from the EPA.

8.1 Introduction

The Victorian Government's response to the 2013 State of the Environment Report stated that the inquiry would consider the EPA's role in regulating greenhouse gas emissions.[1] According to our term of reference, 'Victoria's environment protection approaches need to be ready to deal with the range of human and environmental impacts and challenges we expect to face in the future'. Climate change is the most significant environmental issue we face and a quintessential example of such future challenges.

Greenhouse gas emissions reduction is a complex policy issue for the Victorian Government for several reasons:

- The Commonwealth Government determines Australia's greenhouse gas emissions reduction targets and the actions to achieve these targets. Victorian Government action to reduce the state's emissions will contribute to meeting the national target rather than deliver additional reductions in atmospheric greenhouse gas concentrations.
- Stakeholders have different views about the Victorian Government's role in reducing emissions. Environment groups generally support strong action by the Victorian Government, but many business groups contend that emissions reduction should be the sole responsibility of the Commonwealth Government.
- There can be tensions between reducing greenhouse gas emissions and encouraging growth in economic activity and employment. In some instances – such as deploying renewable energy or improving energy efficiency – emissions reduction can be achieved while driving economic growth. In contrast, other activities – such as using brown coal to generate electricity or to produce fertiliser, gas or liquid fuels – will increase economic activity and employment, but also increase Victoria's greenhouse gas emissions in the absence of technologies or processes to mitigate these emissions.

This policy context creates a difficult operating environment for the EPA. And these difficulties will only intensify as pressure mounts for Victoria to transition to a low carbon economy.

For this inquiry, we considered the significance of climate change and examined the EPA's role in regulating greenhouse gas emissions. We drew on what we heard from stakeholders, as well as the findings and recommendations of the *Independent Review of the Climate Change Act 2010*[2] where relevant.

8.2 Climate change – the most significant environmental issue we face

Climate change is the most significant environmental issue we face. The Paris Agreement – adopted by Australia and other nations in December 2015 – stated '… climate change represents an urgent and potentially irreversible threat to human societies and the planet and thus requires the widest possible cooperation by all countries.'[3] Countries, including Australia, agreed to hold '… the increase in global average temperature to well below 2°C above pre-industrial levels and [to pursue] efforts to limit the temperature increase to 1.5°C above pre industrial levels.'[4] Achieving this outcome will require deep reductions in emissions including decarbonisation of energy production and use.

Climate change was also an important issue for many stakeholders to our inquiry:

> … *climate change is the largest environmental challenge that the state and the planet faces.* (Environment Victoria submission, p. 5)
>
> … *climate change is by far the biggest environment challenge.* (Brooklyn Residents Action Group submission, p. 5)
>
> … *climate change is the greatest threat to Victoria's environment* … (Monash Business School, Monash University submission, p. 5)
>
> *Climate change is an issue of global significance* … (AGL Energy submission, p. 4)
>
> … *the dire threat that climate change poses to a liveable environment.* (Surf Coast Air Action submission, p. 2)

8.3 Commonwealth and Victorian government roles in emissions reduction

The Commonwealth Government is responsible for setting Australia's greenhouse gas emissions reduction targets and for implementing policy to achieve these targets. Its current target is to reduce emissions by 26–28 per cent below 2005 levels by 2030. Action by the Victorian Government to reduce Victoria's emissions occurs within the context of this national target. If the Victorian Government's actions reduce the state's emissions beyond the level that would result from Commonwealth Government policy alone, this will simply change the distribution of emissions reduction across Australia. That is, greater reductions in Victoria will mean that smaller reductions are needed in other jurisdictions for Australia to meet its target.

There was no consensus among inquiry stakeholders about Victoria's role in greenhouse gas emissions reduction. Environment groups considered the Victorian Government – most likely via the EPA – should regulate greenhouse gas emissions, but many business groups, including peak bodies, argued that greenhouse gas mitigation policy should be left to the Commonwealth Government.

> *The new Victorian Government has made it clear that it wishes to once more be a leader on climate change and we see the EPA as a crucial organisation to help achieve this aim …. That addressing climate change and in particular the emission of greenhouse gases from power generation, industry and transport become a top priority and core function of the EPA.* (Lighter Footprints submission, pp. 3–4)

> *It is unacceptable that the EPA, as the state body responsible for regulation of pollution and the environmental impacts of industry, does not have a meaningful and powerful role in the regulation of carbon pollution.* (Environmental Justice Australia submission, p. 17)

> *… the MCA does not support state-based climate change policies and legislative regimes because they are at best inefficient and at worst ineffective and counterproductive.* (Minerals Council of Australia – Victoria submission, p. 6)

> *Mitigating greenhouse gas emissions is primarily a national issue requiring a coherent national approach.* (Australian Industry Group submission, p. 7)

While Victorian actions will not affect the total concentration of greenhouse gas emissions in the atmosphere, the Victorian Government may seek to reduce the state's emissions in line with state-specific objectives:

- **Transitioning to a low carbon economy** – Victoria's long term economic interests may best be served by efforts to reduce the state's emissions at a scale and pace beyond that driven by Commonwealth Government policy. Analysis consistently finds that strong early action lowers the cost of transitioning to a low carbon economy. The Stern Review, for example, concluded '… early action … will avoid the risk and costs of bigger cuts later. The longer action is delayed, the harder it will become.' The review also concluded that the '… smooth transition to a low [greenhouse gas] environment with early action to reduce emissions is likely to limit adjustment costs.'[5]

  Similarly, the Climate Change Authority noted '… early action is critical to limit future costs and maintain the feasibility of limiting temperature increases … delaying emissions reductions: increases the rate of emissions reductions ('decarbonisation rates') that will be necessary in the future; and increases costs of meeting emissions targets.'[6]

- **Creating certainty for business and investors** – Well-designed and consistently applied action by the Victorian Government can increase certainty for business and investors. Policy uncertainty at both the Commonwealth and state level undermines business confidence in making decisions to reduce emissions and to invest in renewable energy.

  National climate change mitigation policy has, and continues to be, uncertain. A national carbon pricing scheme was introduced in 2012 only to be repealed in 2014. Details of the current Commonwealth Government's intentions regarding the Emissions Reduction Fund – and, in particular, its Safeguard Mechanism – remain uncertain. The Renewable Energy Target was amended following a period of substantial uncertainty about its future. Further, details of the Federal Opposition's intention to reintroduce an emissions trading scheme are yet to be announced.

Victorian climate change policy has also been subject to uncertainty and change. The *Climate Change Act 2010* was introduced, reviewed and amended. The EPA's Environment and Resource Efficiency Plans (EREP) program was terminated earlier than scheduled following a Council of Australian Governments review of the complementarity of emissions reduction programs in the light of a national carbon pricing scheme. Energy efficiency policies and measures have come and gone and support for renewable energy has waxed and waned, depending on the policy of the government of the day.

- **Stimulating innovation** – Victorian Government policies and programs to drive emissions reductions can increase the opportunity for new technologies to penetrate the market. They can stimulate business to do new things in new ways, which improves business productivity and profitability, creates jobs and increases economic activity.
- **Mitigating reputational risk to Victoria** – Globally, consumers – including businesses across supply chains – are increasingly demanding more sustainable products and services, and greater transparency in the sourcing and content of business inputs. In this context, Victoria's greenhouse gas-intensive electricity sector is a potential source of reputational risk for Victorian exporters. Action by the Victorian Government to reduce the emissions intensity of the electricity sector can mitigate this risk.
- **Encouraging greater ambition at the national level** – Strong Victorian Government action to reduce emissions may encourage the Commonwealth Government to strengthen Australia's emissions reduction target (which some commentators consider is insufficient for Australia to play its full part in limiting the increase in global average temperature to well below 2°C).[7] Victorian leadership may also encourage other states and territories to follow suit, thereby providing further encouragement for stronger commitments at the national level.

8.4 The EPA's role in regulating greenhouse gas emissions

The EPA currently regulates greenhouse gas emissions. Its power to do so is established under the EP Act and by obligations set out in the Climate Change Act (box 8.1).

We note that the Independent Review of the Climate Change Act 2010 recommended reinstating the EPA's power to regulate greenhouse gas emissions from the facilities it regulates for the purposes of achieving a long term emissions reduction target.[8] It is important to recognise that the EPA currently has the power to regulate emissions irrespective of whether or not the Climate Change Act is amended.

The EPA regulates greenhouse gas emissions in accordance with the provisions of statutory policy,[9] primarily the State Environment Protection Policy (Air Quality Management) [SEPP (AQM)]. The EPA also regulates greenhouse gas emissions from landfills under the Waste Management Policy (Siting, Design and Management of Landfills). However, as landfills contribute only 1.2 per cent of Victoria's total greenhouse gas emissions,[10] the discussion in this section focuses on the SEPP (AQM).

BOX 8.1 EPA'S LEGISLATIVE POWERS TO REGULATE GREENHOUSE GAS EMISSIONS

Powers under the Environment Protection Act

The EP Act gives the EPA the power to regulate greenhouse gas emissions under the following provisions:

- Powers to recommend policy or regulations in relation to greenhouse gas emissions

  The EPA can:

  i) recommend to the Governor in Council to make statutory policies and regulations to regulate the emission and discharge of greenhouse gas substances to reduce harm to the environment (section 13(1)(ga))

  ii) recommend regulations including:

    a) prohibiting or regulating the emission or discharge of greenhouse gas substances into the environment;

    b) prescribing standards for the emission or discharge of greenhouse gas substances into the environment, including emission intensity standards and maximum levels of emission of greenhouse gas substances; and

    c) prescribing conditions under which greenhouse gas substances may be emitted or discharged into the environment (section 71(1)(fab)-(fad)).

- Power to regulate greenhouse gas as 'waste'

  i) the definition of waste includes 'any greenhouse gas substance emitted or discharged into the environment' (section 4)

  ii) the EPA can regulate greenhouse gases as a waste via works approvals and licences (sections 19A and B)

  iii) other 'Powers, duties, and functions' of the EPA may be applicable to regulating emissions of greenhouse gases as a waste (for example, sections 13(1)(b), (ca), (cc), (d), (n), (na) and (p)).

- Other

  The EPA has power to implement economic measures to provide incentives to avoid or minimise environmental harm (where the definition of 'environment' includes climate) (section 19AA). This includes tradeable emissions schemes (section 19AB).

Obligations under the Climate Change Act

Under the Climate Change Act, the EPA has an obligation to consider emissions as part of its routine decision making. Section 14 of the Act requires the EPA to have regard to '… the potential contribution to Victoria's greenhouse gas emissions' when making decisions or taking actions set out in Schedule 1 of the Climate Change Act – specifically with respect to recommendations by the EPA relating to state environment protection policy; waste management policy; the issuing of works approvals; and licensing of scheduled premises. Section 14(4) of the Climate Change Act specifies that '… in having regard to the potential contribution to Victoria's greenhouse gas emissions, the relevant considerations are … potential short and long term greenhouse gas emissions; direct and indirect greenhouse gas emissions; increases and decreases in greenhouse gas emissions; and cumulative impacts of greenhouse gas emissions'.

Section 15 of the Climate Change Act states that the Minister responsible for the Act may issue guidelines about the scope and application of the requirements of section 14, but to date no such guidelines have been issued.

8.4.1 Using the SEPP (AQM) to regulate greenhouse gas emissions

Government establishes statutory policies such as the SEPP (AQM) via the Governor in Council. The EPA then implements these regulatory tools. Currently, the provisions of the SEPP (AQM) that relate to regulating greenhouse gas emissions are problematic because they are expressed in qualitative rather than quantitative terms:

- **Clause 33** – (1) Generators of emissions of greenhouse gases must manage their emissions in accordance with the provisions of Clauses 18 and 19; and … (3) The Authority will apply (any) protocols (for environmental management relating to greenhouse gas emissions) to generators of emissions subject to works approvals and licences, and in assessing the potential impacts of other development proposals.
- **Clause 18** – … generators of emissions include: (a) those who operate or manage sources of emissions, or undertake activities that generate emissions or result in the generation of emissions; and … (3) Generators of emissions must: (a) manage their activities in accordance with the aims, principles and intent of the policy; (b) pursue continuous improvement in their environmental management practices and environmental performance; and (c) apply best practice to the management of their emissions …
- **Clause 19** – (1) A generator of a new or substantially modified source of emissions must apply best practice to the management of those emissions.

We examined the EPA's current approach to applying these provisions for three broad categories of emissions sources.

Emissions from potential new sources that are subject to Scheduled Premises Regulations

Potential new sources of emissions at premises that are subject to Environment Protection (Scheduled Premises and Exemption) Regulations 2007 must obtain a works approval and a licence for their intended operations. The EPA's Works Approval Application Guideline requires that applicants pursue best practice for energy use and greenhouse emissions, which is consistent with the SEPP (AQM). Requirements for energy use and greenhouse gas emissions[11] are threshold-based. Applicants whose proposed works will use more than 10 terajoules of energy per year or result in more than 1,000 tonnes of carbon dioxide equivalent emissions ($CO_{2\text{-}e}$) per year in energy and/or non-energy related greenhouse gas emissions must undertake a more detailed assessment of best practice options than applicants whose proposed works fall below these thresholds.

The concept of best practice has proven problematic, as reflected in the Victorian Civil and Administrative Tribunal's (VCAT) hearing of the Dual Gas case (box 8.2). Best practice is qualitative rather than quantitative, and so does not provide clear direction for the EPA regarding the requirements it must place on new sources of greenhouse gas emissions that are subject to works approval and licensing.

BOX 8.2 VCAT – THE DUAL GAS CASE

In 2012, VCAT conducted a case regarding the EPA's works approval for Dual Gas Pty Ltd's plans to develop a 600 megawatt power station in the Latrobe Valley. The power station was to use a mix of natural gas and gasified brown coal. The emissions intensity of the plant would be 39 per cent less than the average emissions intensity of existing brown coal power stations in the Valley, but still substantially higher than, for example, a combined cycle gas power station or renewable electricity. The EPA granted a works approval permitting the power station to be built, but with a capacity of 300 megawatts.

Four objectors, including Environment Victoria, sought a review of this decision by VCAT on the grounds that the power station project would be inconsistent with the SEPP (AQM). Dual Gas objected, seeking a restoration of the full capacity. VCAT found that the Dual Gas project complied with SEPP (AQM) requirements, noting that the project met the requirement for 'best practice' having regard to the definition of best practice in the SEPP (AQM) and comparable industry activity. VCAT noted that 'best practice' does not require a comparison with all other types of electricity generation.

VCAT determined that the Dual Gas project could proceed at a capacity of 600 megawatts subject to conditions, including a condition that 'effectively prevents the [Dual Gas project] from commencing until the retirement of an equivalent amount of higher [greenhouse gas emissions intensity] generation capacity in Victoria is secured'. VCAT noted 'Although such a condition was opposed by Dual Gas, through the condition the [Dual Gas project] will more demonstrably lead to a nett reduction in overall [greenhouse gas] emissions from electricity generation in Victoria, and more clearly facilitate the transition to a lower emissions energy sector'.[12]

Importantly from the perspective of the inquiry, VCAT also noted that the task of considering '… whether the use of the works proposed for the [Dual Gas project] will be inconsistent with the SEPP (AQM) or can be made consistent through the imposition of appropriate works approval conditions … is made harder here because the SEPP (AQM) contains some provisions that are qualitative rather than quantitative. Some provisions of the SEPP (AQM) adopt or apply broader based environmental objectives and policies, at a time when some of those policies are themselves in a dynamic state of change or political uncertainty'.[13] Indeed, there were changes in policy positions of both the Australian and Victorian governments during the proceedings.

This issue can be expected to become more prominent as pressure mounts for Victoria to transition to a low carbon economy. The EPA will continue to consider applications for works approval and licences from activities that will contribute to economic growth and employment, but which may also generate significant volumes of greenhouse gas emissions.

Emissions from existing sources that are subject to Scheduled Premises Regulations

The SEPP (AQM) requires that existing sources pursue continuous improvement and apply best practice in managing emissions, but this requirement has limited practical application for existing operations. As noted above, the requirement is qualitative. Further, many existing business operations cannot improve their environmental performance without replacing equipment or processes. Given these problems, the EPA currently does not require existing licensees to actively seek to reduce their energy use or greenhouse gas emissions.[14]

However, this was not always the case. In the 2000s, the EPA played a significant role in driving energy efficiency improvement through the EREP program and its predecessor, the Industry Greenhouse Program.[15] Victoria's top 250 users of energy and water were subject to the EREP program – approximately half of these 250 entities were scheduled premises and half were not. These 250 entities were required to undertake energy audits and to implement energy efficiency improvements with a payback of up to three years. The government repealed the EREP provisions in the EP Act in 2013 following a Council of Australian Governments review of Commonwealth, state and territory climate change programs to determine their complementarity with the Commonwealth's carbon pricing regime.

Emissions from activities that are not scheduled premises

All businesses across all sectors of the economy – and all households – give rise to greenhouse gas emissions. The vast majority of Victoria's approximately 500,000 businesses are not covered by Scheduled Premises Regulations; nor are any households. Currently, the EPA does not address greenhouse gas emissions from premises and activities that are not scheduled premises.[16]

8.4.2 Providing clear direction for the EPA in its regulation of greenhouse gas emissions

The discussion above highlights the need for statutory policy settings that provide clear direction for the EPA on its role in regulating greenhouse gas emissions and in framing obligations on duty holders. As pressure grows for deep cuts to be made in Australia's and Victoria's emissions consistent with Australia's commitments under the Paris Agreement, the need for clarity of direction for the EPA will become more pressing.

The EPA's task in the future will be further complicated where projects being assessed for works approval and licensing involve novel technologies or processes, such as potential new uses of brown coal (for example, conversion to liquid fuels, gas, hydrogen and fertilisers). Some of these uses may be proposed at a commercial scale, while others – given the novelty of the technology – may be at a research, development and demonstration scale. Clear direction from government regarding the obligations to be required of duty holders will be critical (box 8.3).

Climate change is a complex policy issue. We recognise that climate change policy objectives, and the choice of instruments for pursuing these objectives, are matters requiring a whole-of-government approach (as discussed in chapter 7).

On the specific question of the EPA's role in regulating greenhouse gas emissions, this whole-of-government process must consider two issues.

First, whether and in what circumstances the government wants to use regulation by the EPA to reduce greenhouse gas emissions. The Victorian Government has a range of policy instruments it can use to reduce the state's emissions:

> *The EPA has a critical role to play in regulating [greenhouse gas] emissions, but the EPA's regulatory powers are not the only option available to government to deliver long term emissions reduction targets. Additional regulatory and non-regulatory options are available and depend on the sectors the Government wishes to prioritise for emissions reduction – for example, stationary energy and transport. This is a policy decision that will be informed by factors including the long term emissions reduction target. It also will be important to consider the comparative efficiency and effectiveness of regulatory and non-regulatory approaches.*
>
> *The Government, through the department pledge approach, should explore which sectors it wishes to prioritise for emissions reduction and determine the most efficient and effective options to deliver these reductions. This analysis must include both regulatory and non-regulatory mechanisms.*[17]

BOX 8.3 NEW USES OF BROWN COAL

The EPA will be required to consider applications for works approval for projects involving new uses of brown coal such as fertiliser, gas, hydrogen and liquid fuels. Under the current SEPP (AQM), the EPA is required to consider what constitutes best practice in managing greenhouse gas emissions from these activities. To provide greater clarity of direction for the EPA, the Victorian Government must determine what, if any, conditions to impose on these activities. For example, will the government require that the activities simply be carbon capture and storage-ready or will they be approved only if carbon capture and storage is installed at the outset or within a finite period? Will the activities be required to fully offset greenhouse gas emissions – including any residual emissions if carbon capture and storage is installed – using carbon credits and, if so, what is an acceptable offset?

In determining a preferred policy instrument or package of instruments, relevant considerations will include:

- the level of ambition for emissions reduction it wishes to pursue – policy instruments should be capable of meeting the government's emissions reduction goals
- the sources of emissions from which reductions are sought – different policy instruments may be required for different sources
- the relative effectiveness and efficiency of different instruments, including non-regulatory instruments, with regulatory instruments assessed via a regulatory impact statement (or equivalent)[18]
- whether the Victorian Government wishes to act independently or to pursue action in cooperation with other states (in which case, policy instruments must be capable of operating across state borders or being harmonised).

We recognise that in deciding these issues, the Victorian Government must account not only for its climate change-related objectives, but also for the economic costs and benefits of actions taken to reduce the state's emissions.

Second, if the Victorian Government determines it will use regulation by the EPA to pursue emissions reductions, it must consider the details of the regulatory tools that the EPA will be required to implement.

Our analysis highlighted the deficiencies of using the SEPP (AQM) to manage greenhouse gas emissions. The recent *Independent Review of the Climate Change Act 2010* supported our view:

> *The IRC believes the current provisions of the SEPP (AQM) are inadequate for achieving meaningful emissions reductions commensurate with recommendations made elsewhere in this report and consistent with the Government's commitment to being a national leader on climate change. The SEPP (AQM) should be amended – or new statutory policy introduced – to address these limitations.*[19]

Further, the review's recommendation 26 (4) states:

The following questions are relevant in determining the scope and nature of new regulatory tools – which could take the form of a new statutory instrument dedicated to managing greenhouse gas emissions. As discussed in chapter 7, we consider that the EPA should be involved in whole-of-government processes to consider these high level policy questions.

Where might regulation by the EPA be most effective and practicable?

Regulation by the EPA is likely to be most effective when it has a point of leverage to implement the regulation, such as scheduled premises. In contrast, it is unlikely to be practical for the EPA to regulate emissions from the following sources:

- Non-scheduled activities, which include households and small businesses (of which there are more than 400,000 in Victoria). It will not be practical or cost effective for the EPA to regulate these activities.
- Sources whose emissions are best managed nationally – this is particularly relevant where uniformity of national standards is important, as is the case, for example, with fuel economy/emissions standards for motor vehicles.

What factors should be considered in framing new regulatory tools?

Relevant factors in framing new regulatory provisions include:

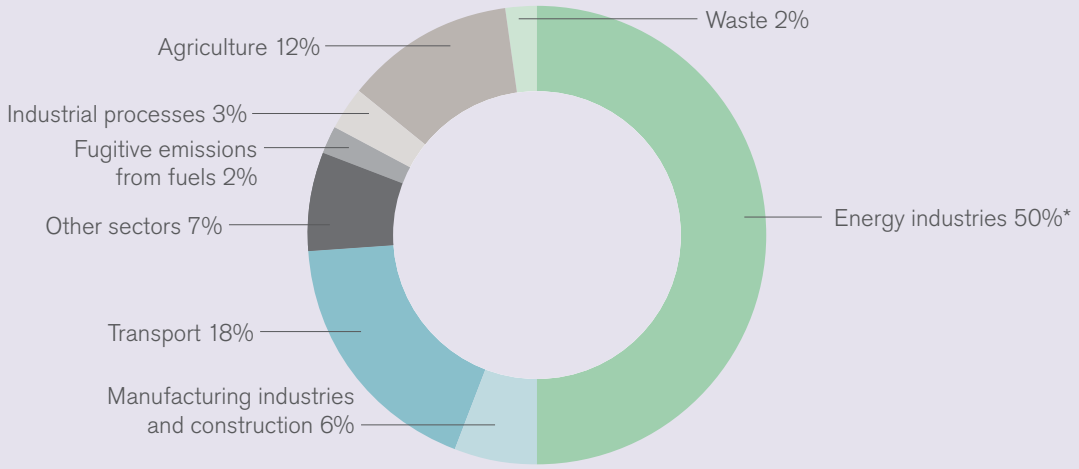
- How stringent would emissions intensity limits or standards be?
- Would the same regulatory requirements be applied to existing and new sources?
- Might regulation be pursued through economic measures?
- Would flexibility be allowed in meeting regulatory requirements?
- Could new regulatory provisions coexist with Commonwealth Government carbon policy?

These factors are discussed in the case study below.

CASE STUDY – REGULATING GREENHOUSE GAS EMISSIONS FROM POWER STATIONS

Meeting the Paris Agreement's objective of limiting the increase in global average temperature to well below 2°C will require deep reductions in emissions – including from the electricity sector which produces 50 per cent of Victoria's total emissions (figure 8.1).

FIGURE 8.1 VICTORIA'S GREENHOUSE GAS EMISSIONS 2013 (EXCLUDING LAND USE, LAND USE CHANGE AND FORESTRY)



*Energy industries = electricity generation
Source: Australian Greenhouse Emissions Information System.

1) How stringent might standards for NEW power stations be?

What standards for new power stations are applied elsewhere?

The *Independent Review of the Climate Change Act 2010* identified the US EPA and the Canadian Government (under the *Canadian Environmental Protection Act 1999*) as examples the Victorian Government might consider in regulating power station emissions:

- **US EPA** – The Clean Power Plan includes emissions limits for new coal and new natural gas power stations. For coal, the emissions limit is approximately 0.64 tonnes of carbon dioxide equivalent emissions per megawatt hour ($CO_{2\text{-}e}$/MWh) and is based on a new highly efficient supercritical pulverised coal unit with partial (20 per cent) carbon capture and storage (CCS). For natural gas, the emissions limit is approximately 0.45 tonnes $CO_{2\text{-}e}$/MWh.[20]
- **Canada** – The performance standard for any new power station is set at the emissions intensity level of natural gas combined cycle technology and is fixed at 0.42 tonnes $CO_{2\text{-}e}$/MWh.[21]

What are the implications of these approaches in a Victorian context?
The implications for Victoria would depend on the level at which emissions intensity limits for new power stations were set. Limits in line with those of the US and Canada would effectively preclude the construction of a new brown coal power station that was not fitted with CCS to capture a substantial proportion of emissions. A new combined cycle natural gas power station could be constructed – however, given the need to transition to a decarbonised electricity sector by mid-century, gas-fired power stations will need to be retrofitted with CCS, or the plant may have to close before the end of its economic life.

2) How stringent might standards for EXISTING power stations be?
What standards for existing power stations are applied elsewhere?

US EPA – the Clean Power Plan includes a complex approach to reducing emissions from existing power stations:

- 47 of the 50 US states must develop State Plans that ensure power stations in the state – either individually, collectively or in combination with other measures – achieve interim CO_2 performance rates between 2022 and 2029, and final emissions performance rates by 2030.
- Each state has separate goals, which are expressed in two ways – a rate-based goal (that is, an average emissions intensity limit for a state's power stations) and a mass-based goal (that is, a limit for the total emissions from power stations in the state). States can choose which form of goal they use in developing their State Plan.
- The 2030 rate-based goals of the 47 states lie in the range of approximately 0.35 to 0.59 tonnes $CO_{2\text{-}e}$/MWh. The lower limit is based on states that have only natural gas power stations while the upper limit is based on states that have only coal/oil power stations. For example, Kentucky – where coal fuelled 92 per cent of net electricity generation in 2014 – has a rate-based goal for 2030 of 0.58 tonnes $CO_{2\text{-}e}$/MWh. Its power sector's average emissions rate in 2012 was 0.98 tonnes $CO_{2\text{-}e}$/MWh and its projected emissions intensity in 2020 without the Clean Power Plan is 0.81 tonnes $CO_{2\text{-}e}$/MWh. The mass-based goal for Kentucky represents a 31 per cent reduction in power sector emissions by 2030 compared with 2012.
- States have flexibility in how to pursue their State Plan – for example, emissions trading between states; demand-side energy efficiency improvements; and investment in renewable energy.

Canada introduced a provision in regulations under its Environmental Protection Act regarding 'end-of-life' coal-fired power stations. The regulations are triggered by power station age. In effect, once a power station reaches 50 years of age, it must meet an emissions intensity level equivalent to a natural gas combined cycle plant – that is, 0.42 tonnes $CO_{2\text{-}e}$/MWh.

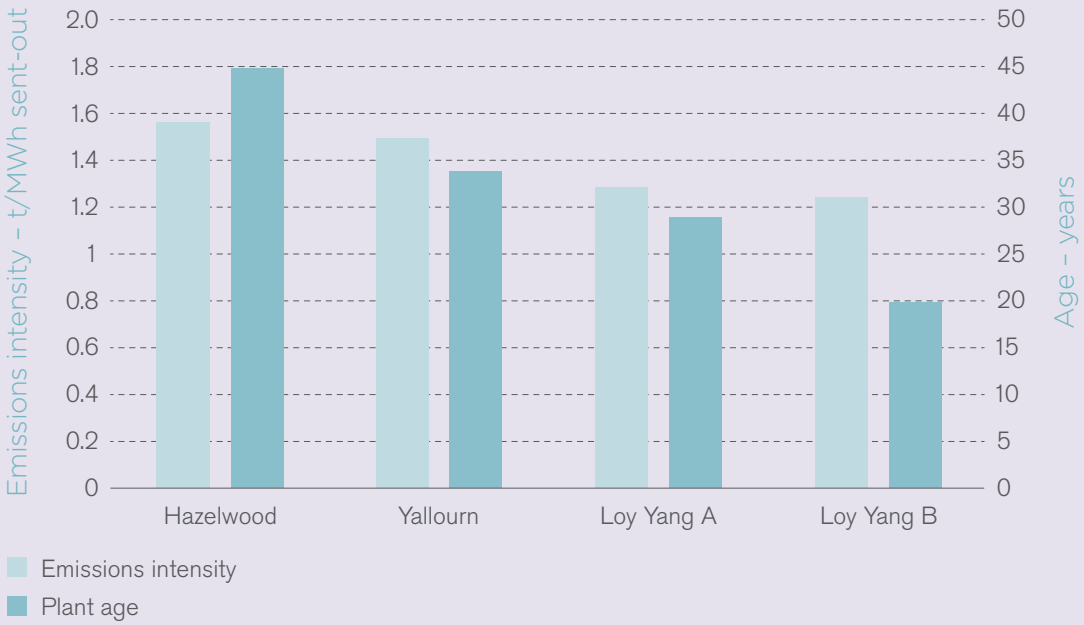
What are the implications of these approaches in a Victorian context?
The emissions intensity and age profile[22] of Victoria's existing brown coal power stations shows Hazelwood power station is close to 50 years of age (figure 8.2). Further, the emissions intensity of all Victorian power stations exceeds 1.2 tonnes $CO_{2\text{-}e}$/MWh.

Adopting the Canadian approach would likely result in the withdrawal of Hazelwood in the near term, but it would not trigger action at Yallourn until the early 2030s, Loy Yang A until the late 2030s, and at Loy Yang B until the mid-2040s.

The impacts of imposing a rate-based goal (emissions intensity limits) like that of the US EPA's State Plans would depend on the rate at which the limits were set. For example, assuming limited ability for Hazelwood and Yallourn to significantly improve their emissions intensity, a limit of less than 1.4 tonnes $CO_{2\text{-}e}$/MWh would likely result in the withdrawal of both plants. Adopting limits in line with the US EPA's final 2030 rate-based goal's upper limit of 0.59 tonnes $CO_{2\text{-}e}$/MWh would likely see the withdrawal of all four Victorian brown coal power stations (assuming retrofitting of CCS is not practicable), even allowing for flexibility by including measures such as energy efficiency improvement and investment in renewable energy. This is because Victoria's brown coal is much more emissions intensive than the bituminous coal that fuels many US coal-fired power stations.

It is a matter for the Victorian Government to consider not only its climate change mitigation policy objectives, but also the need for orderly transition of the state's electricity supplies to maintain system reliability and security of supply. In particular, standards (whether age-based and/or emissions intensity-based) and their trajectory over time will need to be tailored to account for the age and emissions profile of the Latrobe Valley power stations. It is beyond the scope of this inquiry to make specific recommendations on this matter.

FIGURE 8.2 APPROXIMATE AGE AND EMISSIONS INTENSITY OF VICTORIA'S BROWN COAL GENERATORS



Sources: http://www.gdfsuezau.com/about-us/asset/Hazelwood; http://www.energyaustralia.com.au/about-us/what-we-do/generation-assets/yallourn-power-station; http://www.asx.com.au/asxpdf/20110518/pdf/41yqdy6s0cmppw.pdf; http://www.gdfsuezau.com/about-us/asset/Loy-Yang-B-Power-Station; http://www.aemo.com.au/Electricity/Settlements/Carbon-Dioxide-Equivalent-Intensity-Index.

3) Might regulation be pursued through the use of economic measures?

The EP Act enables the EPA to develop economic measures or incentives to avoid or minimise harm to the environment, including tradeable permit/emissions trading schemes.[23] The Victorian Government has ruled out a state-based emissions trading framework.[24]

4) Would flexibility be allowed in meeting regulatory requirements?

If power stations were subject to greenhouse gas emissions limits, the government might consider whether power station operators will have the flexibility to meet their obligations through, for example, purchasing offsets and, if so, what forms and sources of offsets will be acceptable.

5) Could new regulatory provisions coexist with Commonwealth Government carbon policy?

Climate change policy at the national level is subject to ongoing uncertainty. Within this context, the following points can be made about national and state policies:

- EPA regulation could coexist with the Commonwealth Government's Emissions Reduction Fund. However, businesses subject to EPA regulations to reduce emissions could not apply for funds from the Emissions Reduction Fund for actions they are obliged by regulation to undertake.
- The Commonwealth Government intends to implement a Safeguard Mechanism from 1 July 2016 that will require Australia's largest emitters to keep emissions below baseline levels. For the electricity sector, the baseline level of emissions will be set at the highest level of the sector's emissions over the period 2009–10 to 2013–14. Baselines for individual power stations will also be set at each facility's highest annual emissions over that period. Individual baselines will come into effect if the sectoral baseline is exceeded. If baselines are exceeded, generators will have a number of options for meeting their obligations, including purchasing Australian Carbon Credit Units to offset emissions above the baseline; and multi-year monitoring to allow a generator to exceed baselines in one year provided average emissions over two or three years are below the baseline.

  EPA regulation of emissions could coexist with the Safeguard Mechanism. However, any limits or standards imposed by the EPA that required significant reductions in Victorian power stations' emissions performance will likely override any limits imposed by the Safeguard Mechanism. It is widely regarded that the Safeguard Mechanism – *as currently framed* – will have little effect on business operations because the baselines are set at the highest level of historical emissions over the four years to 2013–14.
- EPA regulation could coexist with national carbon pricing, irrespective of whether pricing was in the form of an emissions trading scheme or a carbon tax. The level of the carbon price and the stringency of the emissions limits or standards imposed by EPA regulations will influence which mechanism will be the overriding consideration for a power station. There is a point at which an emissions intensity limit/standard will trigger the closure of a brown coal power station(s); there is also a carbon price level that would produce the same outcome.

  As discussed above, an emissions limit of less than 1.4 tonnes $CO_{2\text{-}e}$/MWh may be sufficient for both the Hazelwood and Yallourn power stations to withdraw from operation; a limit of less than 1.2 tonnes $CO_{2\text{-}e}$/MWh may cause both Loy Yang stations to withdraw.[25] Carbon pricing affects the relative competitiveness of different power stations. The more emissions intensive a power station is (for example, brown coal is more emissions intensive than black coal which is in turn more emissions intensive than gas-fired plant and all are more emissions intensive than renewables), the greater the increase in its operating costs will be if it is required to pay a carbon price. At a certain point, a carbon price will reach a level at which a power station can no longer compete in the market. The precise level at which this occurs will be influenced by a number of factors and will only become clear when a carbon price is in operation – estimates can be made via electricity market modelling.

Even though national and state measures could coexist, Victorian policy measures should account for national policy settings. This approach is necessary to avoid costly duplication and minimise regulatory burden on business. If the Commonwealth Government introduces carbon policy measures consistent with Australia playing its full part in limiting global warming to well below 2°C, this may negate the need for Victorian measures.

Recommendations

RECOMMENDATION 8.1

Confirm the nature and extent of the EPA's role in regulating greenhouse gas emissions within Victoria's wider whole-of-government policy settings.

RECOMMENDATION 8.2

Ensure the EPA has the appropriate statutory instruments to give effect to its role in managing greenhouse gas emissions, as determined by government and informed by advice from the EPA.

1 Victorian Government 2015, *Response to The State of the Environment Report 2013*, p. 7.

2 Victorian Government 2015, *Independent Review of the Climate Change Act 2010*, December.

3 United Nations Framework Convention on Climate Change 2015, *Adoption of the Paris Agreement*, 12 December, Paris, p. 1.

4 United Nations Framework Convention on Climate Change 2015, *Adoption of the Paris Agreement*, 12 December, Paris, p. 2.

5 The Stern Review 2007, *The economics of climate change*, Cambridge University Press, p. 286.

6 Climate Change Authority 2007, *Targets and progress review*, Australian Government, February, p. 44.

7 The Climate Change Authority, for example, recommended that Australia reduce its emissions by 30 per cent below 2000 levels by 2025, with further reductions within a range of 40–60 per cent below 2000 levels by 2030 (*Final Report on Australia's Future Emissions Reduction Targets*, July 2015). Similarly, Australia's outgoing Chief Scientist, Ian Chubb, stated '… the continuing process set up under the Paris international climate agreement, struck late last year, and Australia's particular susceptibility to the effects of global warming, meant "we will have to reconsider our target, I cannot see how we could possibly not."' (*The Guardian (Australia)*, interview with Lenore Taylor, 19 January 2016).

8 Victorian Government 2015, *Independent Review of the Climate Change Act 2010*, December, p. 107.

9 Statutory policies include state environment protection policies and waste management policies.

10 Australian Greenhouse Emissions Information System, 2013.

11 Greenhouse gas emissions include direct and indirect emissions. Direct emissions arise from activities such as fuel combustion or chemical and other processes that occur on site. These include, for example, the combustion of brown coal in a power station to generate electricity; combustion of gas in a manufacturing plant to generate heat; the emission of perfluorocarbons in the process of aluminium smelting; methane emissions from intensive livestock management; and methane emissions from landfills and wastewater facilities. The main form of indirect emissions relates to the consumption of electricity – for example, a manufacturing plant's electricity use indirectly gives rise to greenhouse gas emissions at the site where the electricity is generated (for example, a power station in the Latrobe Valley).

12 *Dual Gas Pty Ltd v Environment Protection Authority* 2012, VCAT 308, para. 22.

13 *Dual Gas Pty Ltd v Environment Protection Authority* 2012, VCAT 308, para. 15–6.

14 Verbal advice from the EPA.

15 The EREP program helped business reduce resource use and improve the bottom line. The program assisted businesses to identify and implement actions that were expected to save over 7000 terajoules of energy; over 7500 megalitres of water; over 100,000 tonnes of solid waste; and over $120 million per year. http://www.epa.vic.gov.au/business-and-industry/lower-your-impact/ereps/erep-case-studies (accessed 28 October 2015).

16 The Victorian Government does, however, pursue improvements in energy efficiency in the household and business sectors through programs including the Victorian Energy Efficiency Target scheme. Information on the Government's energy efficiency policy and programs is available at http://www.energyandresources.vic.gov.au/energy/environment-and-community/energy-efficiency (accessed 10 November 2015).

17 Victorian Government 2015, *Independent Review of the Climate Change Act 2010*, December, p. 105.

18 See the Department of Treasury and Finance's *Victorian Guide to Regulation*.

19 Victorian Government 2015, *Independent Review of the Climate Change Act 2010*, December, p. 105.

20 http://www.epa.gov/cleanpowerplan (accessed 17 November 2015).

21 http://www.ec.gc.ca/lcpe-cepa/eng/regulations/detailReg.cfm?intReg=209 (accessed 17 November 2015).

22 The age profiles in figure 8.2 are based on the commissioning date of the youngest units of the plants.

23 Division 1A of Part III, *Environment Protection Act 1970*.

24 Minister for Environment, Climate Change and Water 2016, 'Climate Change Act Review Recommendations Tabled', Media Release, 11 February, http://www.premier.vic.gov.au/climate-change-act-review-recommendations-tabled/(accessed 12 February 2016).

25 This is subject to how the emissions limits operated, including whether flexibility mechanisms were provided; and assumes there is limited ability for the stations to significantly improve their emissions performance (for example, it assumes retrofitting CCS is unlikely to be viable).

CHAPTER 9

THE EPA'S ROLE IN EMERGENCY MANAGEMENT

THE EPA'S ROLE IN EMERGENCY MANAGEMENT

KEY MESSAGES

Emergency events have a devastating effect on the Victorian community and the environment. They can trigger major pollution and environmental hazards.

The EPA has a critical role in supporting Victoria's emergency management response by providing expert advice about pollution and waste impacts to the agencies controlling the emergency response and to the Chief Health Officer.

Consistent with a focus on prevention and resilience, the EPA has a role in identifying and mitigating risks as part of the State Emergency Response Plan.

9.1 Introduction

> *While EPA's primary role is that of an environmental regulator, it also performs a range of functions that extend well beyond this and which involve both the emergency services and the broader emergency management sector before, during and after emergencies. As such, EPA is an important and valued partner in Victoria's emergency management sector.* (Emergency Management Victoria submission, p. 4)

The EPA has responsibilities under, and contributes to, Victoria's coordinated 'all hazards, all agencies' approach to emergency events.[1] Over recent years it has become increasingly involved in emergency management events as the pollution and waste impacts of emergencies have been recognised. The Hazelwood mine fire highlighted that timely and decisive advice is needed to support government decision making – and management of risks – and to inform the community of potential health and other impacts.

The EPA has an important role as a source of expert advice on environmental conditions and risks, and in taking steps to prevent and mitigate risks and harms stemming from pollution and waste. We consider it is most effective and efficient that other agencies with the relevant experience and capabilities should be left to manage other aspects of emergency management.

9.2 Victoria's 'all hazards, all agencies' approach to emergency management

> *For Victoria, Australia and the world, the Black Saturday bushfires remain etched in our minds because of the death of loved ones, the destruction and displacement of communities and the ongoing lessons we learned as a State out of the disaster.*[2]

The Black Saturday bushfires of 2009 highlighted Victoria's extreme vulnerability to natural disasters and the ongoing and critical importance of emergency management.[3]

9.2.1 Shared responsibility

The 2010 Victorian Bushfires Royal Commission emphasised the importance of sharing the responsibility for protecting lives during disaster events:

> *Government's primary objective should be to maximise the safety and wellbeing of the citizens it represents... In addition, no single group can ensure that communities are safe from the ravages of bushfires in all circumstances: this responsibility is shared by all levels of government and by fire agencies, communities and individuals, all of whom need to be very well informed and do more to prepare for and respond to fire in their environment.*[4]

In response, the Victorian Government strengthened its 'all hazards, all agencies' approach to emergency management, to ensure relevant agencies support each other during major emergencies.[5] Under the *Emergency Management Act 2013*, the Emergency Management Commissioner coordinates emergency response, supported by Emergency Management Victoria (EMV).[6] Agencies with specialist skills, such as the EPA, support 'traditional' emergency services, as required, across all three phases of emergency: preparedness and prevention, response and recovery.

> *Our vision is for the development of safer and more resilient communities across Victoria. To achieve this EMV works in conjunction with communities, government, agencies and business in pursuit of a shared goal. That goal is a sustainable and efficient emergency management system that reduces the likelihood, effect and consequences of emergencies.* (Emergency Management Victoria submission, p. 3)

In the future, the need to work together will grow as environmental risks are projected to increase. Climate change will, among other things, increase the intensity and frequency of extreme events – floods, heatwaves and droughts – and increase bushfire risks. With a growing population, more people will be exposed to these risks, and to the environmental impacts of other emergency events (such as stockpile fires or chemical spills).

The EPA will have an important role, as a key technical advisor, to support Victoria's State Emergency Management Plan. Agencies will need the EPA's expert advice on pollution and waste issues – and the environmental health implications of emergency events – across all emergency management phases.

Figure 9.1 illustrates the EPA's advisory role, alongside other key agencies involved in the 'all hazards all agencies' approach, including: 'traditional' emergency services (police, fire and the State Emergency Service), DHHS (epidemics, water contamination and relief and recovery), DELWP (some fires, dam safety) and the Department of Economic Development, Jobs, Transport and Resources (animal health and pest outbreaks). Responsibilities for emergencies are allocated according to control and support agency roles (discussed further in the next section).

FIGURE 9.1 THE EPA'S ROLE SUPPORTING EMERGENCY MANAGEMENT

The EPA's advice in emergencies must be timely. This was highlighted by the Hazelwood Mine Fire Inquiry, which concluded that the EPA's monitoring and advice on air quality during the initial phases of the mine fire could have been quicker. To this end, the Inquiry affirmed the government's 'intention to clarify future expectations of incident air monitoring and scenarios'.[7] Role clarity is essential for the EPA to be an effective advisor to other agencies.

9.3 Problems with EPA's current role

> *Many organisations have a role in emergency management in Victoria. Collaboration and clarity of roles and responsibilities between all organisations involved is essential.*[8]
>
> *The EPA is not an emergency management agency. It contains skills that are important in the response to some (but not all) emergencies, and it has a regulatory role if the emergency is a [breach] of the Act or licence. However, the role and resources of the EPA must be appropriately scoped in this area, based on risk...* (Municipal Association of Victoria submission, p. 22)

Sharing responsibility during an emergency cannot be at the expense of role clarity. The EPA's specialist skills can be critically important during an emergency, but its role should not be confused with other aspects of emergency response, which are beyond its expertise.

The EPA has defined responsibilities in the Emergency Management Manual Victoria, which includes both 'control' and 'support' roles (box 9.1).

BOX 9.1 EMERGENCY RESPONSE AGENCY ROLES[9]

The Emergency Management Manual Victoria defines control and support agencies as follows:

- A **control agency** is assigned to control the response activities to a specified type of emergency. The control agency may change as the emergency response progresses or is clarified.
- A **support agency** provides essential services, personnel, or material to support or assist a control agency or affected persons. A key support agency has specific skills and resources to support response for a particular type of emergency.

Any agency might be asked to assist in any emergency if it has skills or resources that may contribute to the response.

Roles may change during the lifecycle of an emergency event.

The EPA's current control agency role relates to pollution of inland waters (such as spills and illegal discharges and fish deaths). Key support agency roles for the EPA include those in relation to: hazardous materials spills and leaks, marine pollution and hazardous substances fires. The EPA may also provide further support during response (such as undertaking environmental impact assessments or air monitoring) and recovery (such as advising on waste disposal and clean up activities).

We consider the EPA's current control agency role demonstrates a mismatch between tasks and expertise. First, in the rare instance an inland pollution event requires an emergency response, the EPA is often hampered by distance and the lack of onsite equipment to respond. Often, another local agency – fire services, DELWP, State Emergency Service, port authorities or local government – responds instead. Second, nearly all fish death events are from natural causes, which do not require an emergency response. Making the EPA the control agency for these events therefore creates confusion within government and the community about who will respond for no clear benefit.

We also consider there is confusion about the EPA's support roles during emergency events, especially with its involvement in incident management and on-the-ground services it is not suited or geared to support. During the Wye River bushfire in December 2015, for example, the EPA committed significant resources to post-fire incident control, on-ground support for recovery efforts, as well as other activities (such as the local management of risks associated with asbestos and septic tanks). These roles are better managed by emergency response or other locally-based agencies that have the necessary incident management systems, shift rostering arrangements, equipment and local presence.

The EPA's involvement in these events is often an inefficient use of resources and it may jeopardise how well it performs its core advisory task.

9.4 A refocused role for the EPA

> *The critical role of EPA in the role of the provision of expert advice, information and data during all phases of emergency management cannot be underestimated.* (Emergency Management Victoria submission, p. 6)

We consider that the EPA most effectively contributes to emergency management through its specialist technical expertise and that this should be the basis of its role as part of the 'all hazards, all agencies' approach of the State Emergency Management Plan. The EPA's advisory role should take account of the relative significance of the pollution and waste risk, noting that there will be minor incidents such as spills from vehicle rollovers that can be addressed by local agencies. This approach allows the EPA to focus on dealing with the most challenging and highest pollution and waste risks across all phases of the emergency lifecycle.

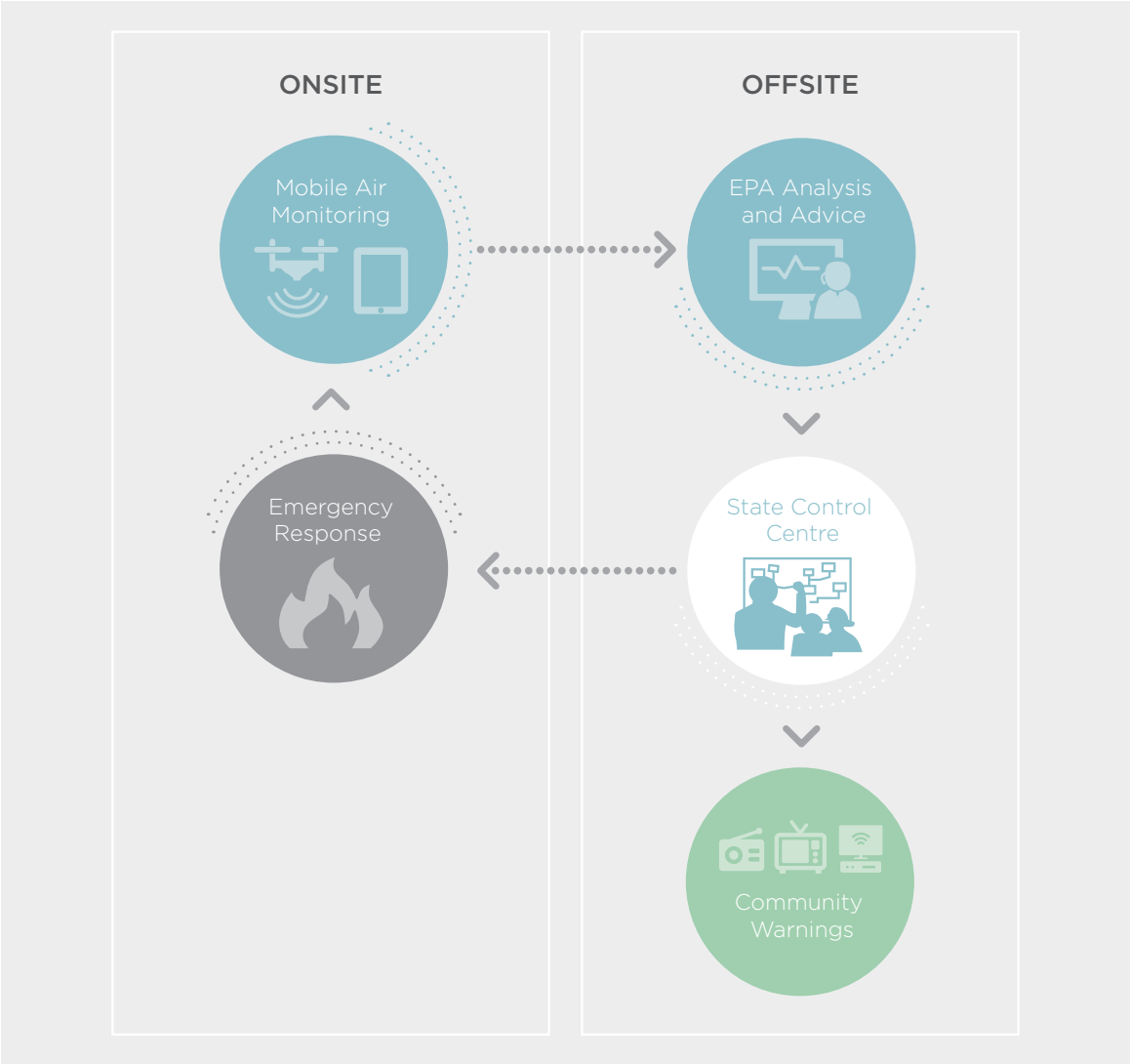
Specifically, we recommend reviewing and reallocating the control agency response role for pollution of inland waters. The responsible agencies should have on-the-ground presence in the relevant local area and expertise in incident management. The EPA should continue to advise on pollution impacts and risks if they are present, and take subsequent regulatory action/intervention as relevant.

We also recommend limiting the EPA's support role for emergencies to primarily an advisory role, including in relation to the appropriate monitoring regime to assess risks. An advisory role best uses the tools and capabilities we envisage for the EPA of the future to prevent or minimise impacts and risks to public health and the environment. The EPA will still need a round-the-clock capability to provide offsite technical support, but it may not necessarily have a long or any onsite presence. With adequate technology and equipment, the EPA could receive information remotely from an incident site, send this to experts for analysis, and then communicate its advice on risks back to the State Control Centre and/or incident control at site (figure 9.2).

To be effective in this refocused role, the EPA will need:

- appropriate technology and protocols to collect and transmit data, including portable air and other monitoring equipment, remote delivery equipment such as drones, high speed data access, and agreed and interoperable data standards
- to balance timeliness and the robustness of findings
- to collaborate with other scientific and academic peers and networks for specialist input
- strong working relationships with emergency services and other important parts of government, such as the Chief Health Officer
- to make full use of its in-house expertise, such as the new proposed environmental health group and the Chief Environmental Scientist.

FIGURE 9.2 THE EPA USING TECHNOLOGY TO DELIVER TARGETED ADVICE DURING AN EMERGENCY



We also envisage the EPA of the future playing a stronger role in emergency prevention,[10] as part of its transformation from a post-harm to a pre-harm regulator. This harm prevention and preparedness focus should be reflected across all of the EPA's activities.

> *The state has a duty to plan and prepare for, mitigate, prevent, respond to and support recovery from emergencies. Government, across a wide range of Ministerial portfolios, develops legislation, plans and implements risk reduction programs. [including] programs that reduce the instance, severity and consequence of emergencies.*[11]

Table 9.1 summarises the emergency management support roles for our proposed EPA of the future.

Even with these changes, we expect the EPA's emergency management role will be greater than its traditional role. This increased role is unfunded, and will place pressure on the EPA's ground staff and applied science resources. To be effective, the EPA will need sufficient resources and equipment to deploy or have others deploy on its behalf. Funding for the EPA is considered in more detail in chapter 21.

TABLE 9.1 PROPOSED EPA SUPPORT ROLES IN EMERGENCY MANAGEMENT

Stage	Role
Preparedness and prevention	**Regulatory activity:** Working with, and taking compliance and enforcement action against, duty holders for breach of licence conditions or failure to take reasonable steps to prevent pollution. Chapter 12 proposes recommendations on strengthening licence conditions and introducing a general duty.
	Input into other preventative processes These include, for example: **Emergency management:** The EPA provides input into regional planning through Regional Risk Assessment processes run under Regional Emergency Management Committees. **Major Hazard Facilities:** The EPA has been consulted as part of a current advisory committee process considering land use buffers around Major Hazard Facilities.[12] The EPA's role in managing buffer distances is considered in chapter 10. **Coal Mine Emergency Management Taskforce for the Latrobe Valley:** The EPA is a member of the taskforce, which aims to ensure that relevant agencies and operators 'discharge their responsibilities and have appropriate plans and processes in place to prevent, prepare for, and respond to, any threat of fire in and around the mine area'.[13]
	Working with EMV and other agencies to help inform and identify potential risks and preparations.
Response	**Offsite monitoring** if intensity, composition or time impact of effects are serious enough (for example, caused by a fire with a long duration or concerning toxic substances). This requires remote monitoring and data capabilities. As part of this, **building capability within emergency services** to conduct basic monitoring tasks (like the Metropolitan Fire Board's increased internal expertise in dealing with chemical fires).[14] The EPA could analyse the data remotely, to assist with onsite management. Engaging third party experts to monitor the environment during emergencies, against standards set by EPA, if cost effective to do so and funding arrangements have been agreed.
	Maintaining onsite presence for serious events until risks are identified and adequately managed.
	The **Chief Environmental Scientist** advises the Chief Health Officer and others as required.
	Increased presence and input if an incident relates to EPA-licensed premises.
Recovery	**Building capability within local governments** to perform onsite testing and assessment. This could include, for example, inspections of septic tanks and asbestos risks.
	Advising DHHS on recovery efforts and guidelines as required. For example, this might include working together to advise government on the general health risks of asbestos and the appropriate regime for assessing and monitoring such risks. The proposed environmental health group (chapter 6) could assist with such advice. More localised agencies such as local governments are best placed to provide specific on-the-ground advice on such matters, unless the issue is particularly complex or high risk.
	Undertaking post-event data collection, including advising on study design, interpretation and data gaps.

Recommendations

RECOMMENDATION 9.1

Confirm the EPA's role as a technical advisor across the continuum of the State Emergency Response Plan – prevention, response and recovery.

RECOMMENDATION 9.2

Remove the EPA as the control agency responsible for pollution of inland waters, and transfer these responsibilities to appropriate first responders.

1 Emergency Management Victoria website, https://www.emv.vic.gov.au/ (accessed 10 March 2016).

2 Emergency Management Victoria 2016, *Anniversary of Black Saturday*, https://www.emv.vic.gov.au/latest-news/anniversary-of-black-saturday/ (accessed 10 March 2016).

3 The Victorian Bushfires Royal Commission noted: 'On the basis of the evidence presented, the Commission concluded that Victoria has a range of characteristics that predispose it to bushfires generally and to the occasional ferocious bushfire in particular. There are few other locations in the world with similar characteristics'. Victorian Bushfires Royal Commission 2010, *The fires and the fire-related deaths*, Final report, Volume I, p. xxiv.

4 Victorian Bushfires Royal Commission 2010, *The fires and the fire-related deaths*, Final report, Volume I, p. xxvii.

5 Victorian Government 2012, *Victorian Emergency Management Reform White Paper 2012*, http://www.dpc.vic.gov.au/images/images/featured_dpc/victorian_emergency_management_reform_white_paper_dec2012_web.pdf (accessed 10 March 2016), December, p. 14.

6 For more information see the Emergency Management Victoria website https://www.emv.vic.gov.au/.

7 Hazelwood Mine Fire Inquiry Report 2015-2016, *Health and wellbeing*, Volume IV, Melbourne, p. 291.

8 Victorian Government 2012, *Victorian Emergency Management Reform White Paper 2012*, http://www.dpc.vic.gov.au/images/images/featured_dpc/victorian_emergency_management_reform_white_paper_dec2012_web.pdf (accessed 10 March 2016), December, p. 13.

9 Emergency Management Agency 2015, *Emergency Management Manual Victoria*, Part 7, 7-1.

10 EMV notes the importance of the EPA in preventing emergencies (Emergency Management Victoria submission, p. 7).

11 Emergency Management Victoria 2015, *Fundamentals of Emergency Management (Class 1 Emergencies)*, Edition 1, February, p. 11.

12 http://www.dtpli.vic.gov.au/planning/panels-and-committees/current-panels-and-committees/major-hazard-facilities-advisory-committee.

13 Emergency Management Victoria 2016, https://www.emv.vic.gov.au/our-work/current-projects/coal-mine-emergency-management-taskforce/ (accessed 10 March 2016).

14 Metropolitan Fire Board submission, pp. 2–3.

CHAPTER 10

TAKING A STRATEGIC APPROACH TO LAND USE PLANNING

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KEY MESSAGES

Currently, the EPA has limited opportunity to influence strategic land use planning decisions but deals with large numbers of complaints about amenity and health impacts that have resulted from poor planning decisions.

Population growth and more intensive land use will create increasing pressures, making it even more important to have more effective ways of avoiding and managing impacts from conflicting land uses in the future.

Well-informed, strategic land use planning is a key tool to avoid future conflicts and impacts on Victorians and to protect industry from encroachment – supporting health, liveability and a prosperous Victorian economy.

The EPA must work closely with the Metropolitan Planning Authority and others responsible for strategic land use planning processes, where there is potential for significant public health and liveability impacts arising from pollution.

Consistent with a more strategic approach, the EPA must work with the Department of Environment, Land, Water and Planning to ensure that standards and guidance are easy to understand and practical for land use planners to apply.

10.1 Introduction

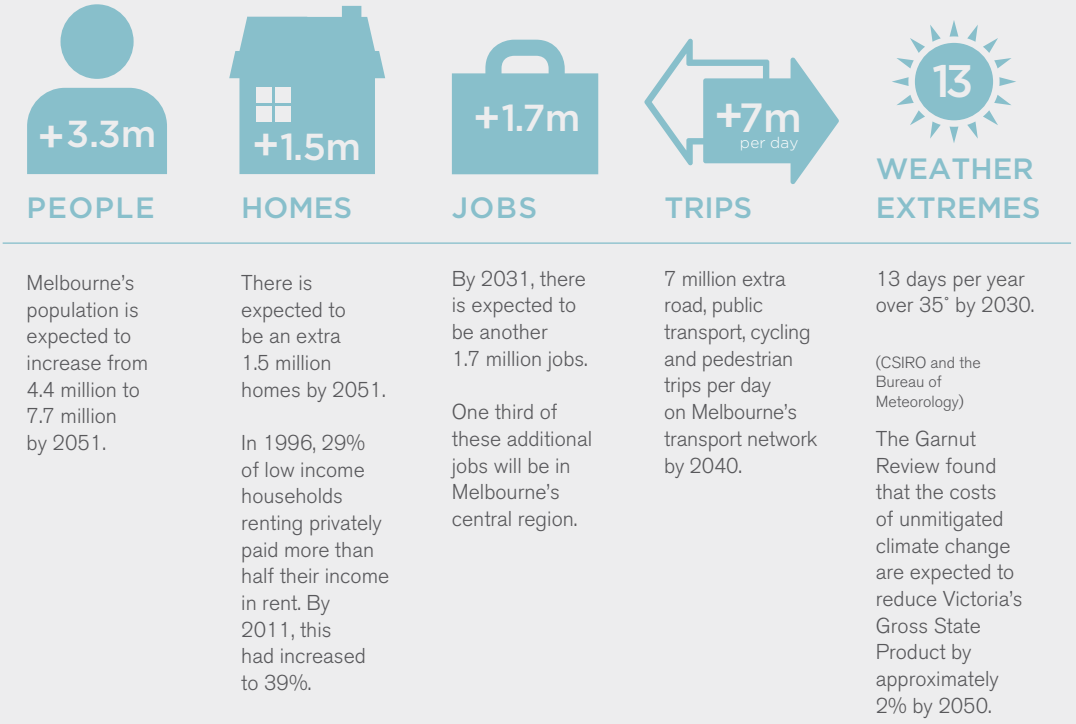
Strong population growth is one of the key trends influencing the EPA's task today and into the future. It is driving strategic planning activity across government, particularly through the Metropolitan Planning Authority (MPA, which will soon become the Victorian Planning Authority), the Plan Melbourne Refresh process,[1] and Infrastructure Victoria.

Population growth will have wide ranging implications for how we, as a community, manage activities and their potential impacts on amenity, public health and the environment across Victoria. Figure 10.1 outlines some of the challenges and opportunities identified through the Plan Melbourne Refresh process. That process highlights the important role of land use planning – but also notes the intersections with other areas of government, including environment protection.

While the Plan Melbourne Refresh focuses on Melbourne, rural and regional Victoria is also experiencing challenges, including managing the potential for conflicts arising from population growth on the fringe of regional centres, changing agricultural practices and changing expectations with more 'non-farming' or hobby farm residents living in farming zones:

> *Living in rural environment – odour, noise complaints (dairy effluent, scare guns, poultry manure; travelling irrigation systems of wastewater, spray drift), disposal of dead stock, growing development of intensive poultry production, cattle feeding, hydroponic sheds and associated noise – these issues require better planning consideration when lots are subdivided. People purchasing these small lots expect different standards than rural living (that is, city/residential standards).* (Baw Baw Shire Council submission, p. 2)

FIGURE 10.1 CHALLENGES AND OPPORTUNITIES FOR MELBOURNE



Source: Department of Environment, Land, Water and Planning 2015, *Plan Melbourne Refresh at a glance*, Melbourne, inside front cover.

The Plan Melbourne Refresh also identifies the importance of strategic planning and investment to keep Melbourne 'prosperous, liveable and sustainable for everyone.'[2] A key consideration in managing growth pressures throughout Victoria will be ensuring that future land use planning accounts for the potential for amenity and health impacts. This is particularly important for decisions about changing land use patterns and increasing urban densities. For the EPA, there are critical questions about how it can act to reduce impacts in the future, including by influencing decisions made by others, such as the MPA's planning for future growth areas.

Decisions about future housing and transport infrastructure will be critically important, and will involve greater consolidation of housing within established areas and expansion at the urban fringe. These decision may give rise to land use conflicts, which in turn, may affect amenity, and in some cases human health. Given its important role in managing risks to human health, the EPA should be an important source of advice on these issues. We have identified the need for stronger whole-of-government processes to consider these high level strategic issues, and for the EPA to be involved.

We have also considered how the EPA can play a more effective role in strategic land use planning processes to ensure that environmental issues – in particular potential amenity impacts – are appropriately considered and at an early stage. While amenity is an issue that is primarily dealt with through the planning system, the EPA holds primary responsibility for regulating noise and odour and is the key source of expertise on these matters. It also has extensive practical experience of the impacts on communities and the difficulties of managing entrenched land use conflicts. As such, makes an important contribution to decision making processes.

Given the important interaction between land use planning and environment protection, key statutory instruments and guidance must be easy for land use planners to understand and interpret. The EPA's regulatory framework provides local government planners with valuable tools, such as statutory environmental audits, that can provide assurance of risk assessment and remediation for environmental hazards. But EPA guidance on standards and tools must be accessible and user friendly, so that planners can confidently apply them:

> *By reviewing legislation, policy, regulation and tools we believe the EPA can remove complexity, inconsistency and duplication with other regulations to promote compliance and best practice in a more effective way (e.g. emissions standards are inconsistent between EPA and DHS).* (City of Greater Bendigo submission, p.4)

The EPA must also be pragmatic about where it directs its attention and advisory capacity, to maximise its influence as an expert advisor. We recognise the EPA has shifted its focus from advising on statutory planning matters to identifying fewer but more significant points of intervention and advice, including mechanisms that rely less on referrals. This approach must be the key focus for the future. And this task of influencing must be backed with skilled specialists and consistent authorisation from within the organisation.

10.2 Key challenges – now and into the future

We heard from many Victorians about ongoing problems with odour, noise and dust that arise when residential development occurs in close proximity to industrial activity or landfills. Dealing with these entrenched problems, arising from poor land use planning decisions or practices in the past, forms a large part of the EPA's daily business:

> *For years the people of Bulla complained to the EPA about the stench, litter, dust and smoke that is emitted from the landfill at 500 Sunbury Road, Bulla.* (Stop the Bulla Dust submission, p. 1)

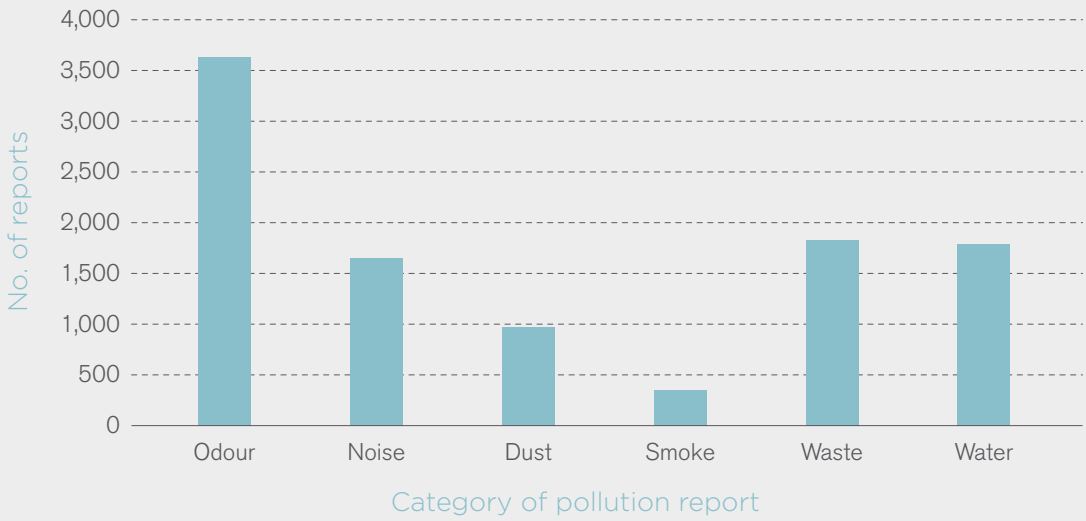
> *Dust in Brooklyn is a major health and safety issue to the local community…* (Brooklyn Residents Action Group submission, p. 4)

> *Here are just some of the concerns of residents in Dandenong and Casey, ranging from dust odours and sickness to contaminated vegetable gardens and irrigation bores…* (Residents Against Toxic Waste In the South East, submission, p. 1)

Currently, the EPA responds to a range of environmental, health and amenity impacts on residents, many of which can be attributed to previous land use planning decisions. Odour and noise represented over 50 per cent of the pollution reports that the EPA received in 2014-15 (figure 10.2).[3] These reports are often the result of residents living close to existing landfills, industries or intensive agricultural facilities. In many instances, these problems could have been avoided or more effectively managed had land use planning decisions properly considered potential environmental impacts:

> *The whole question of planning has been highlighted in recent years, particularly the lack of contextual planning (that is, the consideration of EPA recommendations/guidelines forming parts of planning laws). Many past planning decisions that have led to significant environmental conflicts between industry and community can be slated home [to] ignoring EPA recommendations for buffer distances etc.* (Victorian Waste Management Association submission, p. 2)

FIGURE 10.2 POLLUTION REPORTS TO EPA, 2014-15



Source: EPA Victoria.

The intersection between land use planning and the waste system has come up as a common concern for industry, community and local governments in our consultations. We heard from communities that have been living near landfills in Melbourne, and that have often experienced many years of landfill offsite issues, such as noise, odour, litter, dust and concerns about landfill gas. Of critical concern is the ongoing pressure of sensitive uses (such as housing) encroaching on buffers around landfills and waste and resource recovery facilities.

Problems arising from locating residential areas close to potentially hazardous pollutants are only likely to intensify as the population grows, and residential development encroaches on buffers established to separate residential areas from industry and waste management facilities. Often, there are few options for mitigating problems when land use is already established. These problems underline the importance of early intervention to avoid future land use conflicts. Further, the system must respond to the risk of incremental rezoning and permits for residential development in or close to industrial zones. Amenity issues can be prevented in the future if land use planning adequately maintains buffers between residential and industrial uses.

10.2.1 Managing growth

> *Melbourne is facing some big challenges. Our projected population growth, changing economic conditions and the pressures of climate change mean we need to think and act thoughtfully about how to grow and develop our city.*[4]

The Plan Melbourne Refresh process identified that Melbourne needs to 'encourage higher urban densities',[5] with a focus on established areas. Options identified for discussion (in October 2015) included:

> *Establishing a 70/30 target where established areas provide 70 per cent of Melbourne's new housing supply and greenfield growth areas provide 30 per cent … Focus metropolitan planning on unlocking housing supply in established areas, particularly within areas specifically targeted for growth and intensification.*[6]

The urban environment presents the EPA with a range of specific challenges. Growth pressures – in particular, demand for new housing and transport infrastructure – are likely to exacerbate these challenges, including where:

- housing development encroaches on facilities, such as landfills and extractive industries, that are essential for meeting the needs of urban living and development, but which also create odour and dust issues for neighbouring residents
- transport infrastructure, especially roads, with potential noise and air quality impacts for neighbouring residents
- the shift to higher density mixed use living with potential noise impacts for residents
- encroachment of housing on agricultural activities at the urban fringe create conflicts over amenity impacts, such as odour.

Land use planning measures can mitigate these problems, particularly changing land uses and housing encroaching on other land uses. Zoning – one of the core concepts in land use planning – separates different uses to manage conflicts between land uses, such as industries and homes. Strategic land use planning (Precinct Structure Planning or Growth Activity Planning) sets out the zonings and manages changes to zonings (through planning scheme amendments) to provide for ordered growth and development. Statutory planning provides the site-by-site permit-based decisions that impose specific conditions on land use and development.

Strategic land use planning and good statutory planning decisions are both important to support liveability, and in particular, to prevent or minimise people's exposure to hazardous pollutants, or unpleasant odour or excessive noise that can be detrimental to urban amenity. Analysis by the EPA and the Commonwealth Scientific and Industrial Research Organisation identified that the location of residential growth, its proximity to industry and small business, and particularly the location of sensitive populations (such as children and the elderly) are critical considerations for managing the risks to human health from air pollution.[7]

Good land use planning maintains liveability and supports a prosperous Victorian economy – and reducing amenity and health impacts is part of this.

> *Melbourne is at an exciting time in its history with unparalleled opportunity for growth, development and prosperity. We need to prepare for that growth now, and with sensible and sustainable planning we can provide the foundation for Victoria's economic vitality and liveability throughout the 21st century.*[8]

Dealing with encroachment pressures

We consider that encroachment pressures and managing effective buffers around facilities that create health and amenity impacts must be a critical priority for the EPA of the future. These issues can arise in urban areas and also in regional Victoria (box 10.1). But we consider the statutory framework can be improved, to support better decision making by planners and to allow the EPA to shift its attention from responses to statutory planning processes to more strategic interventions.

We heard from industry groups about the pressures that can arise from land use change and the spread of housing into new areas.

> *The encroachment of residential land uses on industrial areas continues to be a major concern for industry – it increases costs, can reduce capacity, distracts management, causes preventable conflicts and can ultimately threaten the viability of industrial activities.* (Plastics and Chemicals Industry Association submission, p. 3)

> *EPA needs to work across all levels of government to protect current facilities from urban encroachment and ensure confidence in long term planning for the location, zoning and security of future waste and resource recovery facilities while protecting the community's right to a safe and healthy environment.* (Australian Industry Group – Waste Industry Alliance submission, p. 3)

The Plan Melbourne process also identified encroachment as a problem, noting '… industrial businesses … [experience] urban encroachment and hence complaints from new residents about their operations. Quarries are a good example of this potential land use conflict'.[9]

Effective planning should also reduce, over the longer term, the current burden of dealing with amenity complaints. Influencing land use planning will be the EPA's key lever to make a difference and to avoid a new generation of entrenched amenity problems and pollution complaints.

BOX 10.1 INTENSIVE ANIMAL INDUSTRIES – A GROWING ISSUE FOR THE URBAN FRINGE

In regional Victoria and on the urban fringes, land use planners and the EPA face increasing pressures to manage the interactions between changing farming practices, housing growth and changing community expectations on amenity.

In 2015, the Minister for Planning appointed an Animal Industries Advisory Committee to report on how the planning system can support the establishment and expansion of animal industries. In its discussion paper,[10] the committee noted that all livestock production systems have the potential for off-farm impacts on the environment and community. The committee will report on options to manage those impacts while supporting industry growth.

Recent Victorian research on broiler farms noted the rise in planning disputes and tensions in peri-urban areas, as these producers look for suitable sites that are '… close enough to processing plants, but far enough from neighbours and sensitive land uses'.[11]

For the EPA, the issues around land use planning and intensive animal industries can also give rise to complaints similar to those associated with encroachment on landfill buffers:

- encroachment of residential use closer to intensive animal industrial use, resulting in amenity conflict especially odour
- conflict for licensed animal industries resulting from more 'non-farming' or hobby farm residents living in farming zones, plus an increase in the number of tourism-based agricultural enterprises, such as wineries with cellar door sales and restaurants, eco-tourism, and farm stays
- encroachment of intensive industries onto residential use, where rapid industry expansion has resulted in inadequate buffers.

10.3 EPA taking a strategic approach to land use planning

We consider the EPA's role in land use planning should be to provide advice to inform strategic planning processes about environmental risks – particularly risks to amenity and human health – to avoid or mitigate potential impacts. This approach is consistent with the views of key stakeholders:

> *The EPA is not a regulator of land use. This is the role of local government. What it can do is advise on the level of impact and risk and consequences so that decisions are well informed and councils are supported.* (Municipal Association of Victoria submission, p. 22)

> *Work with statutory planners at State and local government levels to ensure planning policies, zoning plans and approval of planning permits minimise the likelihood of co-location of incompatible land uses leading to potential loss of amenity, impacts on health, etc.* (Robert Joy submission, p. 4)

Involving the EPA early in strategic land use planning processes will support robust decision making, including ensuring that critical infrastructure can operate appropriately. This approach is consistent with the initiatives already underway within the EPA, which focus on strategic engagement earlier in the planning process (on strategic planning issues such as rezoning or amendments), and away from high effort/limited value, reactive responses to hundreds of unprioritised planning permit referrals each year. The EPA's recent involvement in planning scheme amendment and rezoning processes with the City of Warrnambool is a good example of effective strategic land use planning to address potential amenity impacts (box 10.2).

BOX 10.2 TAKING A PROACTIVE APPROACH TO ENCROACHMENT ISSUES

In 2012, Warrnambool City Council requested the EPA's advice on a planning permit application to subdivide residential zoned land in Eccles Street, Warrnambool into 16 lots. The land is sited within 300 metres of an abattoir.

The EPA objected to the subdivision on the basis of its proximity to the abattoir and queried the appropriateness of the residential zoning. The council refused the application in 2013 and commenced a review of all land uses within industrial buffers in its municipality. The applicant sought review of the council decision and the EPA joined as a party to the Victorian Civil and Administrative Tribunal proceeding.

The EPA worked with the council on its *Review of land uses within industrial buffers 2014*, which adopted the distances in EPA's guideline *Recommended separation distances for industrial residual air emissions*.

The council review recommended rezoning the Eccles Street site to a Special Use Zone to achieve transition between the industrial and residential uses in the precinct. The landowner supported the proposed planning scheme amendment and withdrew its Victorian Civil and Administrative Tribunal application.

In 2015, the EPA appeared at the Planning Panels Victoria hearing to support the planning scheme amendment to rezone the Eccles Street site, inform the Panel about the environmental risks posed by the abattoir, and advocate implementing the separation distance guideline. The Panel supported the amendment and recommended the council review buffers for other precincts in the council area.

The EPA must build on this approach and focus its attention on state strategic land use planning matters. At the same time, the EPA should review referrals of planning permit applications relating to high risk activities. This process is important both from a risk-based perspective and also because those applications demand integrated approaches with local government to streamline processes for applicants and community stakeholders.

Given this range of demands, the EPA must identify its strategic priorities – deploying its on-the-ground knowledge and environmental scanning to assess how changing land use may affect human health, amenity and the environment. It must also assess the risks of decisions taken now creating intractable ongoing impacts.

Victoria's planning system must change for the EPA to be fully effective and influential. The EPA will need new statutory requirements that give it a formal role in strategic land use planning and ensure that its advice is sought when appropriate. Currently, Victoria's land use planning framework has limited statutory triggers that allow relevant issues to be identified, or involve the EPA in strategic planning processes at an early stage and to advise planning authorities. Box 10.3 identifies the key elements in the hierarchy of strategic land use planning in Victoria.

The EPA should be involved in the following key processes:

- Working with DELWP on overarching government policy settings (such as the Plan Melbourne Refresh) and specific policy projects (such as current work on buffers and Major Hazard Facilities). These processes can set the policy directions on issues such as urban renewal and brownfield redevelopment, as well as overarching policy objectives and aspirations.
- The whole-of-government processes outlined in chapter 7 will provide a good framework for ensuring the EPA's advice is sought where appropriate.
- Working with the MPA on high level growth area planning and detailed structure planning and infrastructure coordination for key strategic sites.
- Working with local governments on planning scheme amendments (such as rezoning, overlays, and precinct structure planning) that involve potential for amenity impacts.

BOX 10.3 STRATEGIC LAND USE PLANNING IN VICTORIA

The planning hierarchy comprises a framework of state and local policies that enable decisions about the use and development of land to be made, including decisions on site specific permit applications handled by local government planners.

The Planning and Environment Act 1987 seeks '… to establish a framework for planning the use, development and protection of land in Victoria in the present and long-term interests of all Victorians'.[12]

Strategic land use planning focuses on planning issues at a municipality, precinct, regional or state level, rather than consideration of issues on a proposal-by-proposal or site-by-site basis. The planning framework aims to ensure '… sound strategic planning and coordinated action at the state, regional and municipal levels and enable easy integration of land use planning and policy with environmental, social, economic, conservation and resource management policies'.[13]

Victoria Planning Provisions (VPPs) set standard statewide planning provisions. Councils use the VPPs to create local planning schemes, which must include standard provisions selected from the VPPs and local provisions developed by the council.

The **State Planning Policy Framework** provides overarching policy to guide land use, subdivision and development in Victoria. It includes policies relevant for preparing precinct structure plans such as town centre development, transport planning, service provision and industrial development. The State Planning Policy Framework also provides specific objectives and strategies for metropolitan Melbourne.

Growth Corridor Plans are high level integrated land use and transport plans, undertaken through the Metropolitan Planning Authority. They provide a strategy for the development of Melbourne's growth corridors over the coming decades.

Precinct Structure Plans set the future structure of new suburbs. They are master plans for whole communities of generally up to 30,000 people and are designed to create balanced new communities rather than just housing estates. They lay out roads, shopping centres, schools, parks, housing, employment, and connections to transport.

Planning schemes operate at the local level to guide the use and development of land, including the application of precinct structure plans over the long term. Strategic land use planning processes usually lead to planning scheme amendments (such as rezoning, overlays, and precinct structure planning).

10.3.1 New statutory mechanisms for EPA engagement in strategic land use planning

Current arrangements for the EPA to provide advice on strategic land use planning matters can best be described as 'hit and miss' and lacking in authority. There is no clear criteria or trigger for EPA involvement. Notifications to the EPA currently rely on the responsible authority recognising potential future environmental impacts and risks. Responsible authorities have little to guide them about when to involve the EPA, that is, what sort of issues and processes should be informed by expert environmental advice. This means that the EPA's involvement is ad hoc and its advice has no special standing. Currently, the EPA is not always notified of relevant processes, resulting in environmental risks going unidentified and unaddressed with risks of downstream impacts.

We recommend a statutory mechanism in the planning system that would trigger a request for EPA advice and early involvement, where a strategic land use planning processes involves potentially significant environmental (health and amenity) issues. This will ensure that expert advice is available to decision makers early in the process, and should reduce the likelihood of future conflicting land use problems. Early advice from the EPA might also assist in streamlining assessment and approval processes:

> *The EPA could have a role in carrying out a strategic environmental assessment of planning schemes in their preparation or amendment. This would assist in the location, management and design of land use and development being dealt with at an earlier stage in the planning process where potential environmental risks and land use conflicts could be avoided or mitigated.* (Planning Institute of Australia submission, p. 3)

The key elements of this mechanism should:

- trigger EPA involvement for amendments, structure planning and precinct planning, where there are potential amenity and environmental impact issues
- require planning authorities to identify potential amenity and environmental impact issues (based on appropriate guidance) and to seek EPA advice if these issues are identified
- allow for the EPA to undertake initial risk/impact screening to determine whether detailed formal advice is warranted – because not all referrals will require a full response
- require the responsible authority to consider and address the EPA's advice.

This mechanism could be implemented by a Ministerial Direction and by amending the planning practice note for structure plans.

10.3.2 Strengthening engagement with the Metropolitan Planning Authority

The MPA has a key facilitative and coordinating role in relation to strategic planning for Melbourne and regional centres (noting its responsibilities will soon be extended statewide). It has a broad, facilitative role to work with councils, other government agencies and the planning and development industry. Specific areas of focus include detailed growth area planning, and reviewing and updating Precinct Structure Planning Guidelines. As such, it is well positioned to engage the EPA early in planning processes where there are likely to be significant environmental and amenity issues – and to coordinate that engagement with other appropriate parties.

The MPA's roles in relation to urban renewal and greenfield projects intersect with EPA work in two main areas – in relation to the conversion of potentially contaminated land for new uses, and peri-urban developments that may involve encroachment and potential amenity issues. MPA planning materials already recognise the importance of EPA guidance, including on adverse amenity impacts and 'appropriate separation distances from sensitive uses to avoid deleterious offsite impacts'.[14] The Victorian Auditor-General's report on landfills also identified the importance of involving the EPA on issues associated with protecting buffers around active and closed landfills:

> *Recommendation 13. That the EPA works with the Metropolitan Waste and Resource Recovery Group (MWRRG) to develop an appropriate planning process/tool to ensure the EPA's involvement in any rezoning or application process across Victoria where development adjacent to active or closed landfills may be involved.*[15]

We consider a formal referral mechanism that requires the MPA to seek the EPA's expert advice on potential amenity and other environmental issues to be appropriate. Further, we recommend the formal trigger be established as part of the MPA's new legislative framework – that is, establishing the Victorian Planning Authority. Specifically, we recommend this legislation include a requirement for the Victorian Planning Authority to discuss and/or refer (as required) to the EPA:

- strategic planning activities, such as scheme amendments, rezoning, growth area planning or structure planning, that involve consideration of environmental risks, or
- plans that consider development in close proximity to a licensed industrial or waste facility.

10.3.3 Providing effective buffers to manage future amenity impacts

The most effective approach to managing encroachment issues is to provide for the formal separation of conflicting activities through planning scheme requirements, such as threshold distances that provide buffers. This issue is an important area for integrating land use planning and environmental protection. In effect, licensing conditions establish the 'acceptable levels' of emissions assuming a given industrial process and a given separation distance to avoid amenity impacts on sensitive uses. These separation distances need to guide subsequent decisions made through the planning system regarding the development and use of land that may be affected by the licensed activity.

In particular, the planning system must clearly and consistently identify activities with amenity impacts, so that they can be addressed in all relevant planning decisions (for example, relating to sensitive uses). This approach also provides certainty for businesses, prospective land developers and the community. Providing clear and accessible information about land that is subject to a buffer – and about the expectations for potential amenity impacts – is important for the planning system and environmental regulations to operate effectively.

Currently, there are inconsistencies between the planning and environmental systems and significant gaps in coverage. In particular, the separation distance triggers in the planning system deal with the risks posed by a new industrial development that will have an amenity impact. But they do not capture applications for sensitive uses in areas with pre-existing buffers. This encroachment problem – housing development occurring close to existing industrial facilities – was widely reported to us in our consultations and in previous reviews.[16]

> *EPA could be reactive and influence planning to not site residential development where acid rain falls in a hope that significant health problems can be avoided.* (Community Over Mining submission, p. 13)

There are currently a number of processes already underway across government examining land use buffers and how better to manage encroachment risks and challenges (box 10.4). These issues are complex and require detailed investigation, but they are also urgent given the current and ongoing pressures of population growth and urban development. We do not consider it appropriate or feasible for us to provide detailed proposals on these issues, but we recommend that this work should be progressed as a priority. Further, the EPA must be closely involved in decisions about new or strengthened mechanisms for buffers and managing encroachment. System responses should consider impacts but minimise the requirement for individual referral processes.

BOX 10.4 CURRENT REVIEW PROCESSES DEALING WITH ENCROACHMENT PROBLEMS

A number of processes are currently underway to improve responses to encroachment problems, including through statutory planning mechanisms to better protect buffers from encroachment.

The Minister for Planning has established an Advisory Committee to provide advice on the way land use buffers around Major Hazard Facilities (established under section 151 of the *Planning and Environment Act 1987*) are determined and implemented. It will provide advice on how risks and amenity around Major Hazard Facilities might be better managed and how the principles for applying land use buffers may be applied to other land uses with adverse amenity potential.[17] The Advisory Committee is due to report in mid-2016.

The Plan Melbourne Review Ministerial Advisory Committee report (June 2015) recommended:

- Strengthen mechanisms (such as clearer standards and guidance) to protect separation, buffer and interface distances for existing facilities and uses which create noise and air quality issues (recommendation 5.4.1–2).[18]

The Local Buffer Support Program, led by the Metropolitan Waste and Resource Recovery Group, is a four-year program (2014–17) to protect landfill sites and adjacent development, by developing and using appropriate buffers and planning tools. The program recently identified changes to overlays, zones and clause definitions.

Robust mechanisms for buffer establishment and protection and processes to effectively manage encroachment onto buffers will allow the EPA to focus on critical priorities for the future. We consider mechanisms should:

- **integrate planning and environment systems**, using consistent terminology, based on sound science (as determined by the EPA). Land use planners must be able to apply them, and they should provide clear guidance. The EPA and DELWP will need to work closely on amendments to the Victoria Planning Provisions (clause 52.10 – Uses with adverse amenity potential), to give effect to these outcomes.
- **address sensitive uses encroaching on existing industrial or waste facilities or buffers**, to avoid potential amenity, health and safety impacts. The Agent of Change principle[19] may be appropriate in these situations – that is, if there is a conflict between existing and proposed land uses, the existing land use should have primacy. This principle would appropriately recognise the importance of waste and recycling infrastructure and protect these facilities from encroaching incompatible land uses.
- **provide appropriate triggers** through planning and environmental regulation to address encroachment on existing residential activity of industrial, agricultural and waste activities. This includes from expanding activities or changes of practice that create new impacts.
- **provide clear direction for planning decision makers**, and so reduce reliance on referring statutory planning matters to the EPA, except if there are potentially significant health impacts.
- **ensure buffers are 'visible' in the planning system**. For example, establish a planning mechanism(s), such as a zone or overlay, that applies appropriate controls to prevent encroachment on these buffers that may lead to conflicts between incompatible uses. This will ensure that buffers around waste facilities, landfills and scheduled premises are visible to planners and accounted for in rezoning or amendment decisions. Also, the community will be aware of the status of sites and likely suitability for various land uses.

10.4 Simplifying environment protection standards and guidance to support more effective land use planning

Effective environmental regulation relies on land use planners being able to understand and consistently apply standards in their day-to-day decision making. Inconsistencies in language and lack of clarity in guidance documents can make this difficult. We heard of these difficulties from many local governments – and especially, that they did not have the resources or capabilities to apply EPA requirements. This is a significant issue for the EPA and for the planning system more generally. However, we do not consider that it is feasible or appropriate to expand the EPA's role in permit level statutory planning. Nor do we consider it practical for local governments to commission additional 'peer review' advice to help them interpret technical assessments and make decisions.

EPA standards and guidance (with a few exceptions) are not designed for a planning audience even though planners have significant decision making roles. For example, state environment protection policies under the EP Act often place obligations on authorities (for example, to protect a certain environmental condition or consider environment in land use changes) but these can be obscure or not well understood. We consider that EPA regulatory standards and obligations need to be simplified and better integrated into the planning system, with mandatory, measurable and enforceable land use planning mechanisms. Referral requirements also need to be clear, including in relation to the process for completion of referrals and the enforcement responsibilities of respective agencies. This should reduce problems of interpretation and lack of local environment expertise. This will likely require changes to both planning and EPA guidance materials, and in some cases to statutory instruments – and DELWP and the EPA will need to work together on this.

In addition, key provisions relating to the environment in the State Planning Policy Framework need to be clarified to provide clear objectives, strategies and policy guidelines, and so better guide planning decision makers. Analysis of several key provisions that relate to the environment in the State Planning Policy Framework[20] concluded they were often inadequate with unclear or vague high level objectives and poor decision guidance to assist planners. References to EPA guidance or standards in the Victorian Planning Policy need to be reviewed to ensure they are up to date and where appropriate made mandatory, clear, measurable and practically enforceable. These references will also need to be updated as part of implementing the proposed general duty.

We heard from local government about some of these problems:

> *Strengthening the various legislative provisions by putting in place clear definitions, clear enforcement responsibilities and more effective requirements for the management and completion of referrals between statutory authorities.* (Kingston City Council submission, p. 2.)

Concerns about the complexity of EPA requirements and guidance materials have also been raised by the Victorian Auditor-General, and in relation to the specific issue of integration with the planning system, by the Victorian Civil and Administrative Tribunal:

> *Landfill requirements are founded around multiple policies and systems, the language and terminology used in the framework is complex and/or technical, and the guidance material used to inform stakeholders of the processes to comply with these requirements is at times ambiguous. Guidance around the landfill approval processes, design, construction, and management and licensing, which includes auditing, monitoring and reporting requirements is copious, but not well integrated.*[21]

> *If the EPA truly wishes to ensure there is an interlocking relationship between the planning and environment regimes, it needs to pay attention to the complexity and confusion currently surrounding its numerous policies and publications … This applies both to other EPA documents and documents within the planning system such as the Victoria Planning Provisions (and hence all planning schemes).*[22]

10.4.1 Applying EPA tools to emerging land use planning issues – Wind farms

We propose amending the existing *Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria* (the wind energy guidelines),[23] to require the use of statutory environmental audit when an assessment of wind farm noise is required as part of the wind farm approval processes and for compliance purposes.

Stakeholders expressed a range of concerns about wind farms: from local government dealing with the assessment of environmental issues; from communities concerned about potential health impacts of existing wind farms; and from the renewable energy industry concerned about challenges to the wind farm industry and its long term viability.

Submissions raised specific proposals for the EPA to have an enhanced role in relation to wind farms. The Clean Energy Council and the Municipal Association of Victoria suggested the EPA licence wind farms. Submissions from community members opposed to wind farms also proposed that the EPA should have a primary role in wind energy regulation.[24]

In Victoria, the land use planning system has been the established mechanism for regulating the approval and permitting of wind farms, and management of compliance issues. This approach is consistent with the objectives of land use planning as set out in the *Planning and Environment Act 1987*, including '… to provide for the fair, orderly, economic and sustainable use, and development of land (section 4(1)(a))'.

The land use planning system is designed to manage conflicts between competing land uses, including potential amenity and other impacts of proposed developments. For wind farms, a range of issues fall within the bounds of routine land use planning decision making:

- landscape and visual amenity
- ecological and heritage issues such as bird and bat strike
- land clearing
- hazards and risks such as aircraft safety
- social issues such as shadow flicker, blade glint and night lighting.

Most of these issues relate to wind farm design and siting, and are therefore best addressed through the planning system. The wind energy guidelines set out the standards for wind farms. The guidelines are applied to decisions on planning permits for wind farms, and include standards for operational wind turbine noise. The relevant planning authority (usually the council) is responsible for ensuring compliance with the planning permit. Where appropriate, the EPA provides technical support to planning authorities.

We consider the current approach could be reframed, to provide a higher level of assurance to the community on risk assessment, and to deal with the challenges council planners face on technically assessing wind turbine noise impacts (one of the main issues associated with operational wind farms).

We consider the EPA could more effectively deploy its expertise. Specifically, the statutory environmental audit system should be employed to provide authoritative, independent and expert advice to local government, both at the time of applications and to support compliance.

We propose amending the wind energy guidelines to require that where an assessment of wind farm noise compliance is required, proposed or existing wind farm operators must obtain an assessment and verification of wind farm noise compliance undertaken by an EPA appointed auditor. Consistent with the requirements that currently apply to assessment of risk from potentially contaminated land, the statutory environmental audit would be undertaken by the proponent of the wind farm as part of their planning application. And the audit would be on the public record.

The statutory audit process, which the EPA oversees, provides an authoritative sign-off on compliance when operations commence. We also propose that the EPA prepare specific guidance for wind farm noise assessment, and that DELWP and the EPA develop a protocol to determine when compliance reviews should be conducted, including to address currently operating wind farms. One option may be for yearly compliance audits to be required of the wind farm operator for the first three years of operation. EPA appointed auditors provide independent expert advice, so councils will not need to seek a peer review of compliance assessments.

We do not support proposals for the EPA to license wind farms. Licensing should not be used as the default approach for dealing with complaints. As outlined in chapter 12, licensing should be reserved for those activities that pose a significant risk to human health[25] or the environment.[26] We consider licensing by the EPA is not proportionate to the operational risks of wind farms.

We consider that consistent use of statutory environmental audits will address many of the issues and concerns raised in submissions, including:

- the requirement for 'independence' (Wind Industry Reform Victoria submission, p. 3) and concerns about 'improper compliance testing' (Peter Mitchell submission, p. 1)
- concerns that local government does not have the skills, expertise or equipment (Alex Serrurier submission, p. 2; AGL Energy submission, p. 6; Pacific Hydro Australia submission, p. 6; and Trustpower Australia submission, p. 3)
- the need for clear protocols on responding to noise complaints and transparent processes that will address community concerns (Wellington Shire Council submission, p. 3; Moreland City Council submission, p. 7; Latrobe City Council submission, p. 2; Wodonga City Council submission, p. 2; City of Boorondara submission, p. 3).

The submission from the Municipal Association of Victoria noted that using the EPA-appointed auditor would work to '… remove any doubt regarding a wind farm's compliance with relevant noise standards.' We note that there is already an arrangement in place between the Municipal Association of Victoria (on behalf of local government) and the EPA to access auditors on a fee-for-service basis.[27]

Recommendations

RECOMMENDATIONS 10.1

Create a statutory trigger, potentially via a Ministerial Direction under the *Planning and Environment Act 1987*, to require responsible authorities to seek early advice from the EPA on strategic planning processes (such as, but not limited to, scheme amendments, rezoning and structure planning) that involve significant human health and environmental risks or development in close proximity to a licensed facility.

RECOMMENDATION 10.2

Require, as part of its establishment legislation, that the Victorian Planning Authority refer strategic planning processes (such as, but not limited to, scheme amendments, rezoning and structure planning) to the EPA including where such processes consider development in close proximity to a licensed facility, including waste facilities.

RECOMMENDATION 10.3

Develop, as a priority, strengthened land use planning mechanisms that establish and maintain buffers to separate conflicting land uses, avoid encroachment problems, help manage health, safety and amenity impacts, and ensure integration with EPA regulatory requirements.

RECOMMENDATION 10.4

Together, the EPA and the Department of Environment, Land, Water and Planning simplify and better integrate EPA regulatory standards and obligations that are to be applied through the planning system, including through the creation of mandatory, measurable and enforceable planning controls that land use planners can more readily understand and apply.

RECOMMENDATION 10.5

Amend the existing *Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria* to require a statutory environmental audit of noise be undertaken for approval and compliance.

1 http://refresh.planmelbourne.vic.gov.au/; http://www.planmelbourne.vic.gov.au/, (accessed 10 March 2016).

2 Department of Environment, Land, Water and Planning 2015, *Plan Melbourne Refresh at a glance*, Melbourne, p. 1.

3 The public reports pollution through a hotline or an online portal. The EPA then assesses those reports against a set of risk criteria to determine an appropriate response by EPA officers. EPA Website http://www.epa.vic.gov.au/~/media/Publications/1566.pdf (accessed 23 March 2016).

4 Plan Melbourne 2015, *Plan Melbourne Refresh discussion paper,* Melbourne, October, p. 1.

5 Plan Melbourne 2015, *Plan Melbourne Refresh discussion paper,* Melbourne, October, p. 16.

6 Plan Melbourne 2015, *Plan Melbourne Refresh discussion paper,* Melbourne, October, p. 46.

7 EPA Victoria 2013, *Future air quality In Victoria*, Final report, Melbourne, July, p. 17.

8 Plan Melbourne Refresh Discussion Paper, October 2015, p. 1.

9 Plan Melbourne 2015 Review, Report by the Ministerial Advisory Committee, June 2015, p. 76.

10 Animal Industries Advisory Committee 2015, Discussion paper, 21 December, http://www.dtpli.vic.gov.au/__data/assets/pdf_file/0007/290275/Animal-Industries-Discussion-Paper-Revision-1.PDF (accessed 13 March 2016).

11 Taylor E, Butt A, Amati M 2016, *Done like a chicken dinner: city fringes locked in battles over broiler farms*, March, http://theconversation.com/done-like-a-chicken-dinner-city-fringes-locked-in-battles-over-broiler-farms-54886 (accessed 17 March 2016).

12 Section 1, *Planning and Environment Act 1987.*

13 2009 Bushfires Royal Commission, *Fire Preparation, Response and Recovery*, Volume II, Part one, July, p. 224.

14 Metropolitan Planning Authority Northern Quarries Investigation Area. Draft Addendum to the Growth Corridor Plans, section 2.1.1.

15 Victorian Auditor-General's Office 2014, *Managing Landfills*, Melbourne, September, p. 44.

16 Victorian Auditor-General's Office 2014, *Managing Landfills*, Melbourne, September, p. 32.

17 Major Hazard Facilities Advisory Committee 2015, Discussion paper, December, p. 1.

18 Plan Melbourne 2015 Review, Report by the Ministerial Advisory Committee, June, p. 76.

19 Under the agent of change principle, the agent of change (that is, the person wanting to use the land for a different purpose) is responsible for addressing amenity impacts before gaining planning approval. This principle is currently applied in the planning system in relation to noise impacts from live music venues.

20 Buxton M, Phelan K 2015, *Land use planning issues and the EPA*, Report to the Independent Inquiry into the EPA, Melbourne, p. 13.

21 Victorian Auditor-General's Office 2014, *Managing Landfills*, Melbourne, September, p. 37.

22 SITA Australia Pty Ltd and PWM (Lyndhurst) Pty Ltd v Greater Dandenong CC (2007), VCAT [156].

23 Department of Environment Land Water and Planning 2016, *Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria*, Melbourne.

24 Patrick Ryan submission, p. 1.

25 Note the National Health and Medical Research Council (NHMRC) concluded in 2015 'After careful consideration and deliberation of the body of evidence, NHMRC concludes that there is currently no consistent evidence that wind farms cause adverse health effects in humans.' See NHMRC Statement: Evidence on Wind Farms and Human Health, NHMRC, February 2015.

26 This distinction is implicit in section 20(1)(d), *Environmental Protection Act 1970*, which refers to activities that pose a 'danger or potential danger'.

27 Municipal Association of Victoria submission, p. 20.

PART C

HOW SHOULD THE EPA PERFORM THESE FUNCTIONS AND ACHIEVE ITS OBJECTIVES?

CHAPTER 11

THE REGULATORY TOOLKIT

THE REGULATORY TOOLKIT

KEY MESSAGES

Effective regulators must have a continuum of tools at their disposal.

The EPA must use its tools proportionately, decisively and in a timely way, to address problems with least regulatory burden.

The EPA needs some strengthened and new tools that better address current and emerging problems.

11.1 Introduction

The inquiry's terms of reference asked us to consider the scope, adequacy and effectiveness of the EPA's statutory tools and instruments, to protect the community and the environment and to address new and emerging risks.

Many inquiry participants commented about the EPA's current regulatory toolkit and how it is used:

> *The shift in paradigm of environmental harm has left the legislative framework around environment protection outdated and inadequate. This has resulted in the EPA not having the right legislative tools to keep up with current environmental challenges. (Law Institute of Victoria submission, p. 2)*

> *At present there appears to be a reluctance to enforce and punish industry and government offenders.* (Bellarine Landcare Group submission, p. 5)

> *EPA should be undertaking more of an educational and advisory role with local government.* (City of Boroondara submission, p. 3)

In this chapter, we consider whether the EPA currently makes full use of the statutory tools available to it and whether these tools adequately equip it for the future:

- to address public health issues identified in our first term of reference
- to deal effectively with new and emerging environmental hazards
- to be the strong regulator with a clear focus on prevention that we consider it must be in future.

In considering the adequacy of the EPA's tools, instruments and approaches, we reviewed submissions and expert advice on the gaps and deficiencies of the current toolkit and how it has been applied. We also reviewed regulatory models and better practice options from other regulatory frameworks and the practice of environment protection in other jurisdictions.

The EPA already has the powers to deploy a wide range of regulatory strategies, and it could make greater use of some tools – in particular, education and information, economic instruments, harnessing third parties and existing sanctions.

But we also consider the EPA's toolkit could be enhanced.

11.2 Is the EPA making the best use of its regulatory toolkit?

A regulator's choice of regulatory tools and the emphasis it gives to different forms of intervention can be termed its 'regulatory approach'. The 'regulatory approach' describes how a regulator goes about its regulatory task. It is the lens through which the regulator interprets its role and purpose. It drives its actions and the choices it makes, and it explains those choices internally and externally. Ultimately, a regulator's culture and its conviction in pursuing its regulatory approach is as, or more, important than its regulatory tools. A regulator must be willing to take action and fulfil its regulatory role.[1]

The EPA should use an appropriate mix of tools and instruments, depending on the risks being addressed and the characteristics of the parties involved. In practice, the EPA will need and should always have a hierarchy of strategies:

- use less burdensome and less resource intensive options such as advice and persuasion where they are effective
- 'incentivise' economic or informational instruments when the risk of non-compliance is low
- adopt interventionist compliance and enforcement strategies when justified by the risk of harm to human health and the environment.

> *[B]y having a capability to escalate to tough enforcement, most regulation can be about collaborative capacity building.*[2]

This involves mature judgement and flexibility from the regulator, based on a good understanding of what constitutes a proportionate response. The EPA must accept that a range of responses need to be available at all times, and that the task is to be more responsive to the risk. This approach frees the EPA from the pendulum swings between cooperative client-based and strong compliance and enforcement responses that have characterised its regulatory approach over the past decade.

> *Essential to good regulation is the judgement to know which regulatory tools to employ in which combination for which issues. It is also important that those tools are selected and deployed confidently and decisively, and with an understanding and appreciation of the context in which both the EPA and the people it seeks to influence operate.* (Eric Windholz, Monash University submission, p. 5)

We consider that the EPA has not made best use of its existing powers, and that it has been too risk averse in applying the tools and powers at its disposal. This is the result, in part, of the pendulum swing of its regulatory approach but also reflects a cultural issue. The EPA can and should use its existing powers and tools decisively; it does not have to wait for legislative changes to be made.

11.2.1 A risk-based approach to problem solving

A risk-based regulator embeds risk-based decision making at all levels of the organisation, from agency wide strategic planning to frontline decision making. It prepares for the consequences of residual and emerging risks through contingency planning, which can help it respond effectively and proportionately, explain its response and manage public concerns. It cannot eliminate public concerns and demands for action, but it may avoid overreaction to adverse events.[3]

Risks change over time, so the regulator needs data and information to monitor risks and adapt its focus and strategies. It also needs information to understand the characteristics of the parties involved. Regulated entities have a variety of motivations and capabilities, so the regulator must use strategies that deter egregious offenders, and encourage good performers to comply voluntarily.[4]

Risk-based approaches are not new and the EPA has increasingly adopted a risk-based approach. The EPA needs to continually evolve as a mature regulator that appropriately applies this approach to its regulatory craft.

BOX 11.1 APPLYING A RISK-BASED APPROACH TO LANDFILLS: LANDFILL GUIDELINES

A number of councils raised concerns with us about the EPA's approach to managing risk from operating and closed landfills. In particular, councils argued the EPA applied landfill requirements at the highest risk level, which often is not commensurate with a sites' risk profile.

The EPA's Best Practice for Environment Management guidelines, *Siting, Design, Operation and Rehabilitation of Landfills*[5] (the Landfill BPEM, revised guidelines issued in August 2015) apply to assessing and remediating closed landfill sites. It also sets the design requirements for new landfill cells within a landfill.

In 2014, the Victorian Auditor-General's Office noted that: 'EPA … has implemented a better practice risk-based regulation model [and] … This has resulted in a significant improvement in its regulation and oversight of landfill performance.' However, the report found that the EPA's risk-based approach required further development, in particular, in relation to 'risk-based conditions' for individual sites, and the prioritising of 'key noncompliance and emerging risks for targeted action.'[6]

The Victorian Auditor-General's Office concluded that the EPA had not effectively translated its risk-based approach to its licensing, auditing and compliance reporting requirements. It also concluded that councils must comprehensively identify closed sites and better assess, prioritise and manage legacy risks at both active and closed sites.

Operating landfills

The Victorian Auditor-General's Office found councils did not comply consistently with all their EPA licence requirements or the relevant Landfill BPEM operational measures. Further, councils do not effectively prioritise or manage lower to moderate risks to the local environment and the amenity of the neighbouring community.

The Victorian Auditor-General's Office recommended councils build in-house knowledge and skills, consolidate risk reports and implement risk-based priorities.

Closed landfills

The report noted that there is still confusion about which agency is responsible for identifying, assessing and regulating closed landfills. It also noted the resource constraints for many rural and regional councils.

The Victorian Auditor-General's Office recommended the EPA implement risk-based licence, compliance and environmental auditing reporting requirements. This approach might also include and develop additional risk-based conditions where required, site by site.

In addition to ensuring its actions are proportionate to risk, a mature regulator will draw on the full suite of tools available to achieve its regulatory objective in the least costly way. When considering what tool to apply to achieve its regulatory objective, the regulator will consider the regulatory burden that tools place on entities, together with the costs that it, the regulator, will incur. A mature regulator will consider, for each particular tool, what can be done to minimise the regulatory burden. For example, it will avoid using regulation that is prescriptive, unless the nature and extent of the risk requires it. Importantly, a mature regulator seeks to minimise the regulatory burden of the *combination* of tools that it applies.

The EPA's current statutory toolkit comprises a wide range of statutory and non-statutory regulatory and enforcement tools to manage the risk of pollution and waste impacts from industrial activities. We identified strategic reform opportunities across all elements of this toolkit. We also identified key gaps in the current toolkit. These are outlined below (table 11.1) and are detailed further in this chapter.

TABLE 11.1: CURRENT REGULATORY TOOLS AND STRATEGIC REFORM OPPORTUNITIES

Intervention type	Current tools	Reform opportunities
General obligations	General pollution offences	Strengthen prevention based on an enforceable general duty
Environment protection standard: 'the goal posts'	State environment protection policies Waste management policies Working through national standard-setting processes	Simplify and make these easier to update Provide leadership, expert advice and surveillance information on critical risk issues to drive action through national processes, in particular on air quality measures and chemical regulation
Compliance obligations	Regulations State environment protection policies Waste management policies Notifiable chemical orders	Make these easier to update and to enforce
Approvals	Works approvals Licences Research, development and demonstration approvals Section 30A approvals (commissioning and emergencies)	Better match instruments to risks
Operating conditions	Works approval conditions Licence conditions Research, development and demonstration conditions Section 30A conditions Sustainability Covenants	Continuous improvement and strengthen enforceability
Economic instruments	Landfill levies Financial assurances Tradeable permits (head of power exists) Environmental offsets (head of power exists)	Expand application of better designed incentives
Risk assessment	Statutory environmental audit system	Strengthen triggers for using statutory audits to assess potential contamination risk, and other risks
Support for compliance and risk management		Increased education and updated guidance, and accessible risk information

Intervention type	Current tools	Reform opportunities
Remedial measures	Directions Remedial notices (pollution abatement notice or clean up notice)	Simplify and facilitate timely use
Sanctions	Warnings Infringement notices Notices of contravention Enforceable undertakings Injunctions Prosecutions Suspension / cancellation of licences	Stronger and more flexible range of sanctions such as civil penalties and higher court penalties

11.3 Enhancing the EPA's regulatory toolkit

There are critical gaps in the EPA's toolkit and some instruments will need strengthening to more effectively prevent pollution and waste impacts and to manage existing risks.

For example, for its forward looking pollution control activities, the EPA relies strongly on permissible emissions limits under its works approvals and licensing regime. These instruments are targeted at around 670 large scale, high risk polluters. However, there are no direct controls to manage the many thousands of smaller businesses that also generate hazardous emissions to land, air or water. Yet these smaller and more diffuse activities represent a growing source of pollutants. These many polluters across Victoria have a very significant cumulative impact on human health and the environment, and where land is contaminated they create ongoing risks for future generations. The EPA needs new tools that strengthen and apply preventative approaches more broadly and these need to be supported by proactive education and support for compliance.

Dealing with the legacy contamination inherited from past poor practices is another major challenge. It needs a different set of tools that focus on risk management rather than prevention. There are also practical shortcomings with current legislative provisions for setting environmental standards that weaken confidence in the system.

To address these issues, we propose a range of enhancements to the EPA's regulatory toolkit to address five reform themes, as follows:

Strengthening prevention

- A general duty, with increased support for compliance
- A strengthened licensing regime
- Improved preparedness and response to pollution incidents

Holding polluters to account

- Enhanced sanctioning of offenders
- Improved inspection and enquiry powers

Strengthening management of legacy risks

- Strengthened risk management tools for legacy contamination and better integration of planning and environmental instruments
- Addressing illegal dumping of asbestos waste

Improved standard setting

- A new approach to setting standards to ensure timely, expert updating

Deploying a wider range of instruments

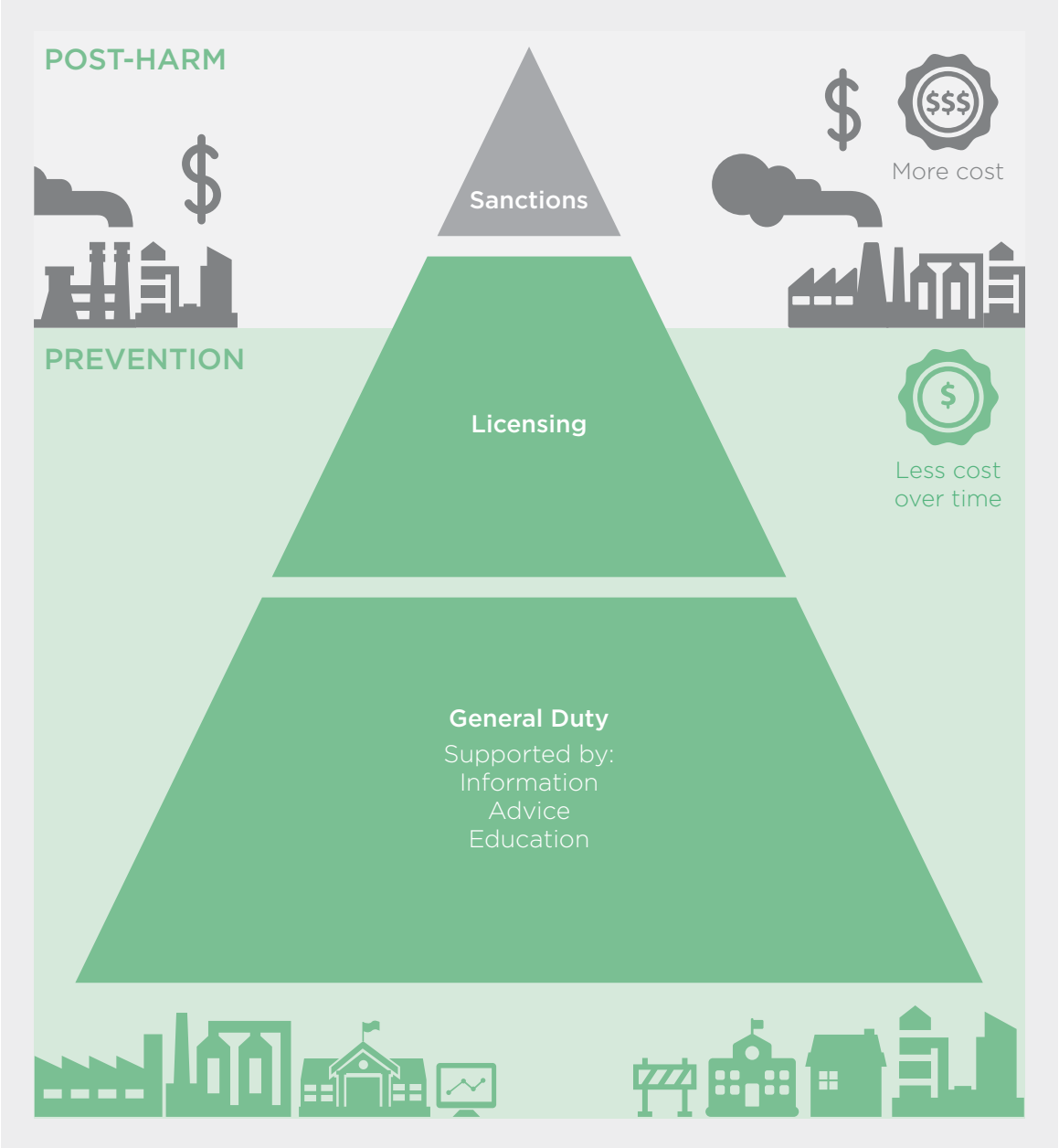
- Greater use of economic instruments
- Using data, information and technology.

The key new tool is an enforceable general duty to take reasonably practicable measures to prevent or minimise risks of harm from pollution and waste, which will allow the EPA to take a more preventative approach. It sets a broad-based standard, rather than detailed rules. In combination, the proposed enhancements strengthen the EPA's capacity to act authoritatively and proactively to address the range of activities that cause pollution and waste impacts and create risks to human health and the environment. They also increase the accountability of both the EPA and businesses.

The proposed enhancements to the toolkit are further detailed in the following chapters.

The broad regulatory focus of an effective EPA of the future with an enhanced toolkit is illustrated in figure 11.1.

FIGURE 11.1 REGULATORY FOCUS OF AN EFFECTIVE EPA



11.4 Addressing risks to public health

Government concerns about the potential impacts of pollution and waste on public health are reflected in the first term of reference to the inquiry, which asked us to consider:

> *... the EPA's appropriate role in relation to public health issues, including at least: community concerns such as exposure to asbestos, chemicals and other pollutants; the prevention and management of site contamination, air quality, and water quality in rivers and other waterways.*[7]

On some of these issues, the EPA works alongside other agencies, at the national, state and local level. Key partners and joint regulators on health issues include WorkSafe, local government and DHHS. These partnerships will continue in the future.

The EPA's work to protect public health will rely on a mix of tools and instruments – including new and enhanced instruments – supported by strengthened capabilities, such as an expanded air quality monitoring network. Table 11.2 summarises the key enhancements that will allow for more effective interventions to address public health concerns. The specified chapters contain further information.

TABLE 11.2 ENHANCING EPA RESPONSES TO ADDRESS PUBLIC HEALTH CONCERNS

Public health issue	Problem	Enhancing EPA's response
Exposure to asbestos	The widespread prevalence of asbestos in old building materials means that advice on making it safe in situ is very important; support for responsible disposal will be an issue for the long term. The cost of disposal – using accredited removalists and transport services and disposing waste in a licensed facility – creates a barrier to responsible disposal. Strict requirements for disposal to landfill are intended to reduce the hazards of asbestos disposal but is likely to contribute to illegal dumping and disposal by households and businesses. Landfills are the only practical disposal option for asbestos, but current levy settings impose costs that contribute to illegal dumping and disposal of asbestos.	Changes to levy settings to support responsible disposal of asbestos (chapter 21). Enhanced environmental health capabilities will strengthen the EPA's contribution to identifying and communicating risks to government and the public (chapter 6). Other agencies helping to address asbestos risks include DHHS, WorkSafe and local governments. Support for compliance will be strengthened through enhanced environment protection capacity in local government environment protection officers (chapter 18) Advice on safe management and maintenance will continue to be a very important element of a risk management strategy for the community (chapter 14).
Exposure to chemicals and other pollutants	Regulators register chemicals in use but struggle to provide risk assessment for a growing backlog of chemicals, given the pace of development and release of new chemicals used in industrial, commercial and domestic settings. Improving knowledge means that we continue to identify new risks associated with the historical and current use of chemicals – many of which are widespread and some of which have already left a legacy of contamination.	The EPA's strengthened capabilities in science and environmental health will enhance its capacity to scan for, and advise government about new and emerging risks, and adjust its toolkit accordingly (chapter 6). Work through national processes to strengthen standards and protocols for new chemicals (chapter 6). A general duty will deliver a stronger message to small and medium sized businesses about their obligations for safely handling, storing and disposing all chemicals (chapter 12).

Public health issue	Problem	Enhancing EPA's response
Prevention of site contamination	Smaller, unlicensed businesses are not currently required to report pollution incidents. They often go unmanaged and leave enduring impacts on soil and groundwater. Smaller polluters have a significant cumulative impact on the environment and create 'new' legacy problems. Awareness of the legacy impacts of current poor practices is low in the general community and the EPA lacks tools for driving compliance by smaller polluters.	Introduction of a general duty – and accompanying education and compliance activity – will strengthen prevention from diffuse sources and risks of pollution incidents (chapter 12). Review and strengthen licence conditions (chapter 12). Notification of pollution incidents (chapter 12). Pollution incident planning to ameliorate the impacts of pollution incidents (chapter 12).
Management of site contamination	Planning and environmental regulation needs to be better integrated to address gaps and provide for more consistent, risk-based screening, assessment and remediation. Victoria has no comprehensive information of where contamination risks are located to inform land use planning management systems. Businesses and the community also seek information on potential contamination risk, to inform their decision making and risk management. Groundwater clean up is costly and unclear expectations for clean up (requiring clean up to the extent practicable) create uncertainty for landowners/investors and potential barriers to brownfield redevelopment.	Develop a statewide database of potentially contaminated sites to ensure that risk management mechanisms in planning and environment systems can be effectively targeted. The database will also provide businesses, the community and local government with access to comprehensive risk information (chapter 14). Simplified policy settings based on the primacy of health protection with risk-based requirements for remediation will provide greater certainty for business and statutory decision makers. They will also provide the community with clear expectations on risk management (chapter 14). Proceed with an integrated reform process to deliver improved risk management and efficiencies in both the environment and planning systems (chapter 14). Introduce a fit-for-purpose instrument to manage post-closure risks, including assessing and remediating contaminated land (chapter 12). The EPA's strengthened capabilities in science and environmental health will enhance its capacity to scan for new and emerging risks (chapter 6).

Public health issue	Problem	Enhancing EPA's response
Air quality	Population growth, transport and urban development pressures increase risks to air quality, which requires enhanced monitoring and regulatory vigilance. Air quality is influenced by a complex range of activities and the EPA has limited influence on many factors. Emergency events can have major impacts on air quality.	Deploying the EPA's expertise to provide influential advice to government on risk trends and emerging issues that have the potential to adversely affect public health (chapter 6). Active engagement with national standard-setting processes to improve standards (chapter 6). Assess the adequacy of the EPA's air monitoring network and consider options to improve data sharing and accessibility and community communications (chapter 6). General duty to strengthen prevention from diffuse sources, including through information and education influencing better practices across the community (chapter 12). Potential application of load-based licensing or tradeable permits (chapter 16).
Water quality	Water quality in waterways and bays is predominantly impacted by many small and diffuse sources that the EPA's licensing regime does not cover. Population growth and climate change are likely to exacerbate water quality issues. These sources of pollution need to be addressed through a wider range of tools, involving the EPA and other agencies.	Assess the adequacy of the EPA's water monitoring network and consider options to improve data sharing and accessibility and community communications. (chapter 6). Improved coordination across the environment portfolio to coordinate using tools to tackle diffuse water pollution (chapter 7). General duty to strengthen prevention from smaller and diffuse sources, including through information and education influencing better practices across the community (chapter 12). Potential application of load-based licensing or tradeable permits (chapter 16). Dedicated local government environment protection officers in local governments will allow for more effective responses to pollution issues such as septic tanks (chapter 18).

1 International Monetary Fund 2010, *The making of good supervision: learning to say 'no'*, May, p. 15.

2 Braithwaite J 2011, *The essence of responsive regulation*, Fasken Lecture delivered at the University of British Columbia, September, 44 UBCL Review, 475.

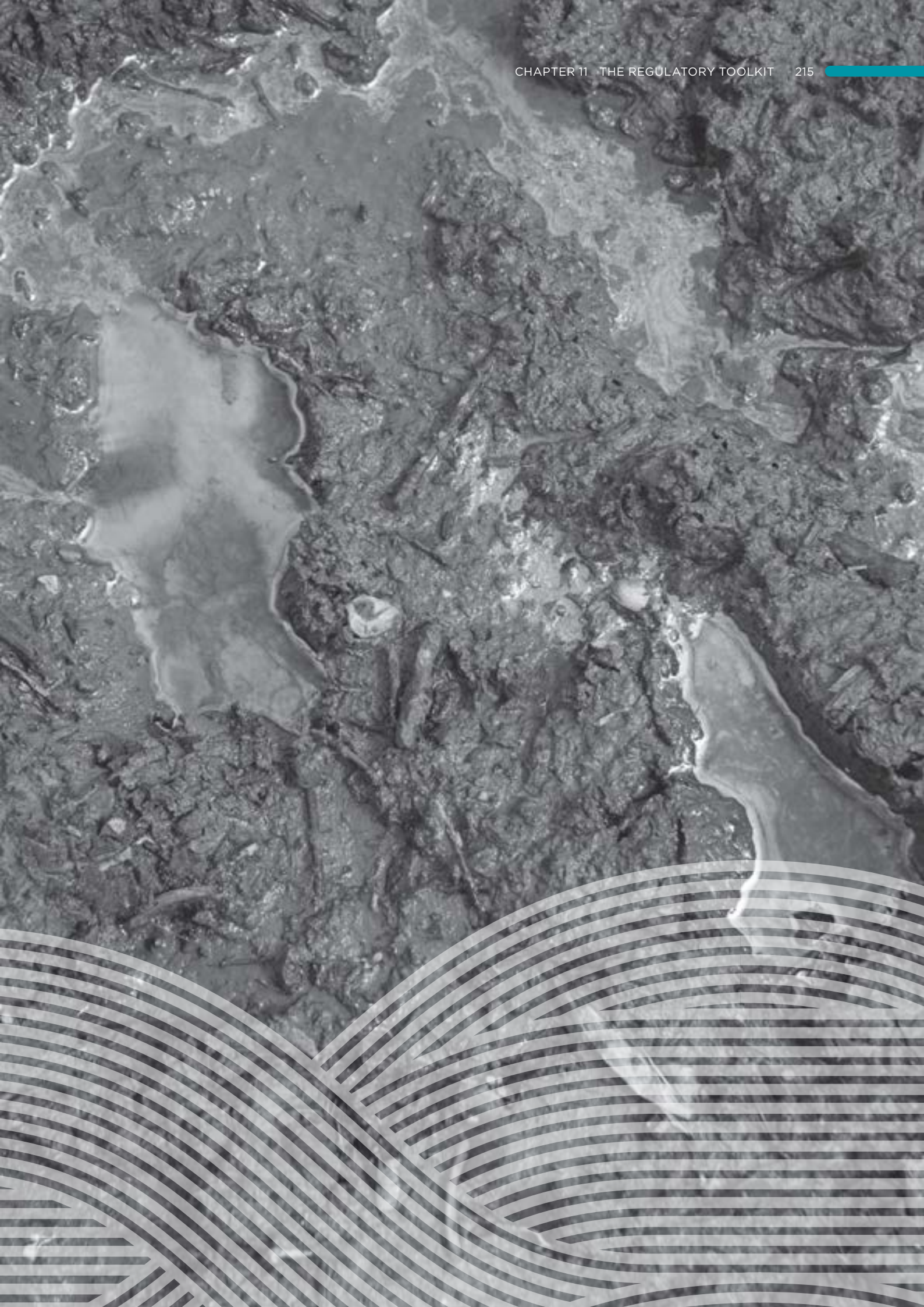
3 Victorian Competition and Efficiency Commission 2015, *Smart regulation: grappling with risk*, Supporting paper, April, p. 33. Agencies need to be able to address the 'political, practical and legal consequences '… when some risks are prioritised over others and something goes wrong: see Baldwin R and Black J 2008, 'Really responsive regulation', *Modern Law Review*, vol. 71 no. 1, p. 66.

4 Gunningham N 2015 b, *Options for reforming environmental law and regulation in Victoria*. Paper 2, p. 43.

5 EPA Victoria 2105, *Siting, design, operation and rehabilitation of landfills*, Publication 788.3, Melbourne, August.

6 Victorian Auditor-General's Office 2014, *Managing landfills*, Melbourne, September, p. 44.

7 This growing concern is also acknowledged in the *Victorian Public Health and Wellbeing Plan 2015–19*, which recognises that: ' [p]rotecting health through robust, evidence-based standards that support clean air, soil quality, clean water, a safe food supply and management of physical, chemical, biological and radiological hazards are fundamental for a safe and healthy society.' Department of Health and Human Services 2015, *Victorian Public Health and Wellbeing Plan 2015–19*, Melbourne, p. 43.



CHAPTER 12

STRENGTHENING PREVENTION

STRENGTHENING PREVENTION

KEY MESSAGES

A general duty to take reasonably practicable measures is the most effective way for the EPA to focus on prevention. It is consistent with the notion of shared responsibility. It complements other tools, but it does not replace them.

The licensing regime plays a vital role in managing high order risks. It needs to be strengthened and the licensed cohort expanded.

Transitioning to the general duty will require a phased approach and consultations with affected stakeholders.

12.1 Introduction

To meet the challenges of the future, we consider the EPA needs a system that seeks to prevent harm from pollution and waste and makes this the shared responsibility of all Victorians. This approach offers benefits over other approaches:

- Long term social and efficiency benefits will be driven by all Victorians doing their part – to the extent reasonably practicable – to prevent risks of harm from pollution and waste. Many of the future risks of harm will accumulate from diffuse sources, particularly given population growth. Small changes effected by households and businesses of all sizes can contribute significantly to preventing future harms.
- Prevention measures are likely to be more cost effective than post-harm intervention. The harm caused by pollution and waste is costly to remediate, as we know from the legacy issues we face today. In some cases, it can be irreversible.

Because pollution and waste are inevitable byproducts of human activity, preventing harm necessarily entails some regulatory burden. However, the EPA's tools, and how the EPA applies them, should not add to the regulatory burden unnecessarily. The EPA's suite of tools must manage risks efficiently and effectively.

We consider the EPA needs two core regulatory tools: the licensing and works approvals regime, and a general duty.

Licences and works approvals manage activities that create high risks of harm to human health and the environment. Harm can result both from single incidents and from the cumulative impact of an activity over time. A single incident from a high risk source can cause significant harm and be extremely costly – sometimes impossible – to remediate. Targeting this type of pollution and waste provides obvious benefits, warranting the increased costs associated with the stronger control that licences and works approvals offer a regulator. In chapter 16 we discuss opportunities for using economic instruments to make the licensing system more efficient.

As Victoria's population grows, it has also become increasingly important to prevent harm from sources that cannot be cost effectively managed by licences and works approvals. In particular, pollution that accumulates from multiple small and medium sources can be dangerous. For example, localised dust pollution (that accumulates from the activities of many small and medium sized businesses) can pose significant health risks, such as acute respiratory issues leading to premature death. Even individuals can impact the environment through their day-to-day actions, for example, disposing of household chemicals down the drain, poor use of woodfire heaters, or washing cars on hard surfaces allowing the runoff to go into stormwater.

Preventing the aggregated effects of pollution and waste from these sources can provide significant benefits. We recommend a general duty as the most effective tool to address these sources. It encourages shared responsibility for preventing harm. There are obvious benefits from engaging the community as a whole with the regulatory task. And there are many low cost and simple ways that Victorian households and businesses can contribute to preventing environmental damage.

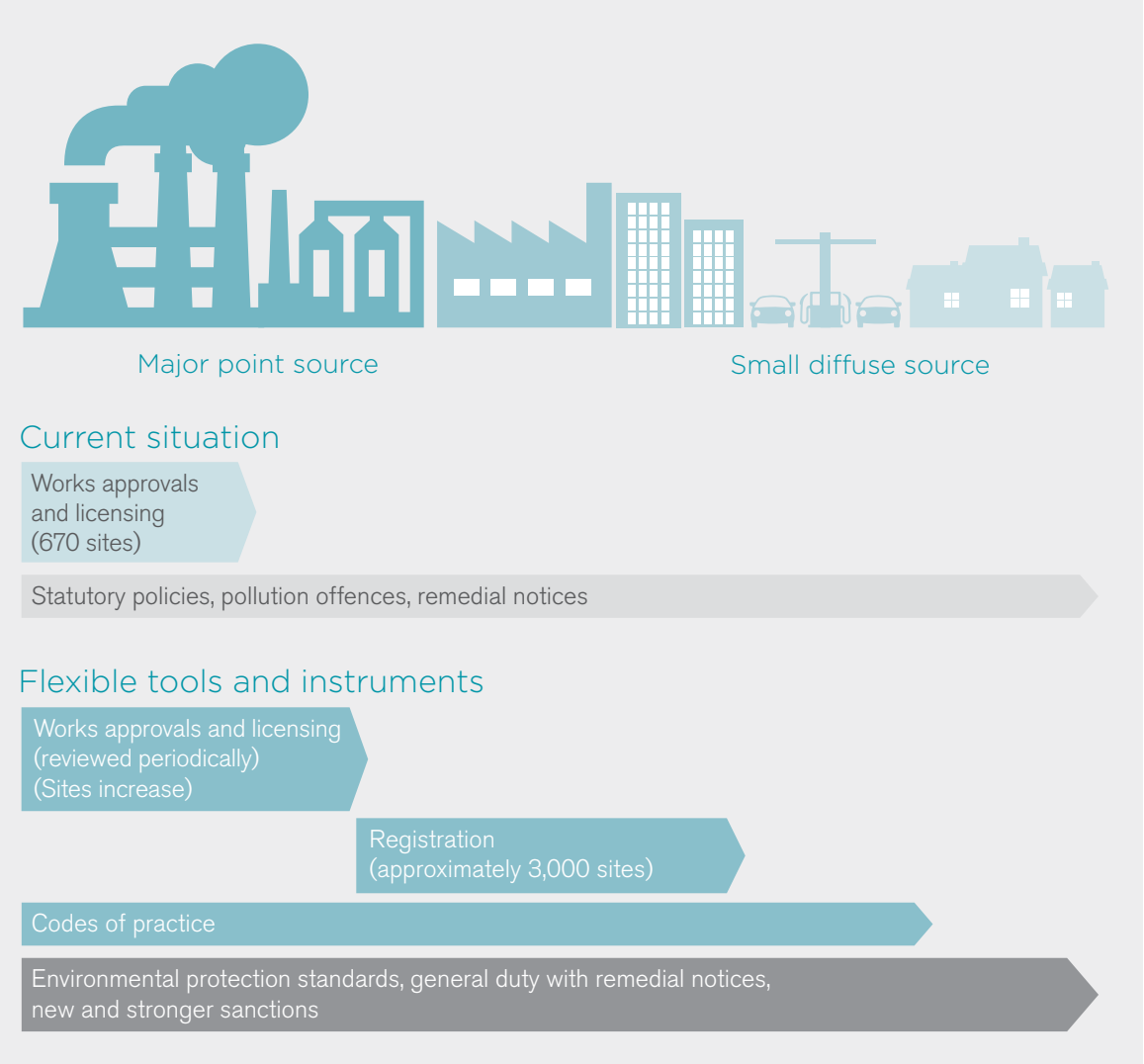
> *The educational effect of including a duty of care, backed by the subsequent publication of guidelines for compliance, is an advantage that should not be underestimated.*[1]

We propose applying the duty to businesses initially, and then expanding it to the wider community over time. It will complement other tools and instruments but will not replace them. Compliance will inevitably involve costs. How the general duty is implemented must account for, and minimise, the regulatory burden. Some features – such as the "reasonably practicable" qualification and that it is not prescriptive – can help minimise such burden.

A general duty will also allow the EPA to be nimble in managing new risks – in particular, by adapting codes of practice and guidance.

Figure 12.1 demonstrates how the proposed new and enhanced tools will expand regulatory coverage across a wider range of activities.

FIGURE 12.1 APPLICATION OF THE TOOLKIT



12.2 Introducing a general duty to prevent risks of harm

We recommend that the EP Act be amended to create a general duty to take reasonably practicable steps to minimise the risks of harm to human health and the environment from pollution and waste. We see this as the cornerstone reform for the future EPA. It is a more effective mechanism for capturing smaller, but cumulatively significant, sources of pollution and emphasises shared responsibility for the environment.

The concept of a general duty is exemplified by the safety duty imposed on employers under occupational health and safety legislation. This model of workplace safety regulation has been adopted in most Western industrialised nations since the 1970s.[2]

Victoria's workplace safety law (the *Occupational Health and Safety Act 2004*) (OHS Act) expresses the general duty in these terms:

> *An employer must, so far as is reasonably practicable, provide and maintain for employees of the employer a working environment that is safe and without risks to health.*[3]

As the OHS Act explains, in practice this means that the employer must –

(a) eliminate risks to health and safety so far as is reasonably practicable; and

(b) If it is not reasonably practicable to eliminate risks to health and safety, to reduce those risks so far as is reasonably practicable.[4]

We envisage a comparable duty relating to pollution and waste in a reframed EP Act, but with one very significant difference. Employers must (so far as is reasonably practicable) *eliminate* risks to employee health and safety; the environmental duty will be to *minimise* – but not eliminate – risks to human health and the environment. As discussed in chapter 4, a key feature of pollution regulation involves considering appropriate levels of risk tolerance and cost, because reducing the risk of harm from pollution and waste is costly and eliminating risk altogether is impossible.

The proposed general duty would:

- be subject to the same qualification of 'reasonably practicable' as under the OHS Act
- require duty holders to minimise risks of harm to human health or the environment from pollution or waste
- create both criminal and civil liability in the event of breach.

As with the offences under the OHS Act, the offence of breaching the general duty will have the following features:

- whether harm actually occurs is not an element of the offence, but would be evidence of the risk eventuating and the degree of harm that would result if the risk eventuated
- proof of a breach would not require proof of knowledge, intention or recklessness[5]
- liability for a breach would arise when the relevant event occurs, namely, a failure to prevent or minimise risks of harm.[6]

Everyone must play their part in reducing risks of harm from pollution and waste. Instead of focusing narrowly on a small number of known poor performers, the general duty engages broadly, adopting the positive presumption that most businesses want to comply, some just need knowledge and support. The EPA needs to empower, educate and assist duty holders to comply with their environmental obligations.

Under a general duty, duty holders must take reasonably practicable measures to prevent or minimise risks of harm. It also changes the EPA's regulatory effort from dealing reactively with the consequences of harm to acting proactively, minimising the risks of harm before an incident can occur.

12.2.1 Established models for a general duty

As noted above, the concept of a general duty is well established in Victoria through occupational health and safety regulation.[7] It has been embedded in legislation and industry practice for over 30 years.

Other Australian states and territories have also included a general duty in their environment protection laws. South Australia introduced a general duty for the environment in 1993.[8] A general environmental duty was subsequently adopted in Queensland (1994),[9] the ACT (1997),[10] the Northern Territory (1998)[11] and Tasmania (2000).[12] In each case, failure to comply with the general duty allows the regulator to issue an administrative or remedial notice. Failure to comply with such a notice (rather than with the duty itself) is an offence. Civil remedies may be sought in South Australia when the general duty is breached, but failure to comply is not an offence in itself.

12.2.2 The case for a general duty

In a civil society, everyone should play their part and help protect the environment. A general duty to minimise risks of harm from pollution and waste involves identifying and assessing possible risks, and then implementing mitigation measures. Establishing such a duty in Victoria will allow the EPA to take action if businesses or individuals fail to take steps to prevent harm (whether or not the harm eventuates). At present, the EPA takes action after a harm occurs and must prove the harm to establish a breach.[13]

Currently, the EP Act defines pollution offences narrowly around specific harms. These offences do not adequately deal with:

- clearly harmful behaviour, such as causing persistent low level pollution, particularly where the receiving environment is already affected by pollution or there are numerous potential pollution sources
- poor environmental practices that do not result in pollution reaching the receiving environment
- new materials with serious environmental and health impacts.

Proof of an offence 'beyond reasonable doubt' is difficult given the way the offences are currently framed. It has to be demonstrated that 'the condition of the [water/air/land] is so changed as to make or be reasonably expected to make' it harmful or potentially harmful.

By contrast, a general duty is both enduring and flexible. Specific practices or technologies do not have to be identified upfront and the duty can apply to new hazards that emerge in the future. Codes of practice can be updated regularly to reflect changes and guide compliance. In this way, a general duty can fill the gaps where no specific requirement exists in current legislation.[14]

Future pollution challenges are likely to be increasingly related to diffuse and small point source pollution. The Future Air study projected growth in emissions from some near-to-ground sources, especially from domestic, commercial and small industry sectors.[15] The EPA's current toolkit does not enable it to deal effectively with these risks.

Strategies that have successfully controlled large point source pollution are often inappropriate or ineffective for diffuse and small point sources. Applying the EPA's traditional core regulatory tool of licensing to, for example, thousands of small businesses would be inefficient – requiring costly one-on-one engagement with businesses and compliance paperwork for the duty holder. It is also disproportionate to the risk each business poses.

The 2011 Krpan Review recommended a general duty as an effective way of ensuring shared responsibility.[16] Submissions to our inquiry also supported a general duty for this and other reasons.

> *We strongly support the introduction of an enforceable general duty not to pollute.* (Environmental Justice Australia submission, p. 3)

> *Actually polluting air or water is an offence, but this 'after the event' focus is inadequate and limits the EPA in dealing with accidents that are waiting to happen. So we'll be strongly advocating for an enforceable general duty not to pollute.* (Michael Nugent submission, p. 1)

> *The present situation where the EPA is brought to bear only when incidents of pollution are imminent or indeed after the event is not acceptable. There should be an enforceable general duty not to pollute.* (Dave Munro submission, p. 1)

> *Arguably missing from the EPA's arsenal, however, are tools to enable the EPA to act pre emptively to address risks to the environment before they materialise into environmental harm. One model for addressing this gap is found in the recently agreed national model work, health and safety legislation. The corner stone of this legislation is a series of positive duties on persons (or entities) whose acts or omissions are capable of affecting the health, safety and welfare of persons at work.* (Eric Windholz, Monash University submission, p. 4)

12.2.3 Preconditions for an effective general duty

All businesses have longstanding experience with the general duty under the OHS Act.

Although the focus of the proposed environmental duty is different, businesses will be able to use a very similar methodology – risk identification, risk assessment, risk mitigation. And (as with the OHS Act) businesses will have guidance from codes of practice and will be able to seek advice from the EPA. Businesses with national operations will be able to use their experience of the general duty in other Australian jurisdictions. Over time, the costs to businesses will fall as businesses improve their practices. And taking preventive action will protect businesses against the potentially significant costs that can apply if an acute pollution incident occurs or pollution builds up. Further, applying the duty over time to all businesses will spread the burden of environment protection more evenly, and in particular, level the playing field between licensed and non-licensed businesses.

Introducing a general duty will also change how the EPA approaches its regulatory task. To implement the general duty effectively, the EPA will need to:

- provide strong organisational leadership, to drive commitment to enforce the duty, including reviewing inspection procedures and retraining authorised officers
- develop targeted compliance advice and communicate outcomes in line with the new focus on shared responsibility
- establish strong scientific and technical capabilities to analyse and use data for a broad scope of activities and duty holders.

'Reasonably practicable' measures

The qualification 'so far as is reasonably practicable' is well established in OHS law. Under the OHS Act, determining what is 'reasonably practicable' for a particular hazard or risk involves considering:

- the likelihood of the hazard or risk eventuating
- the degree of harm that would result if the hazard or risk eventuated
- what the person concerned knows, or ought reasonably to know, about the hazard or risk and any ways of eliminating or reducing the hazard or risk
- the availability and suitability of ways to eliminate or reduce the hazard or risk, and
- the cost of eliminating or reducing the hazard or risk.[17]

These factors ensure that the obligation is risk-based, proportionate and related to the actual circumstances of the business. The South Australian legislation expresses the general environmental duty in these terms:

> *A person must not undertake an activity that pollutes, or might pollute, the environment unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm.*[18]

In determining what are the 'reasonable and practicable measures' for a particular polluting activity, duty holders must consider the following matters:

- the nature of the pollution or potential pollution, and the sensitivity of the receiving environment
- the financial implications of the various measures that might be taken, and how those implications relate to the class of persons undertaking activities of the same or similar kind
- the current state of technical knowledge and likelihood of successfully applying the various measures that might be taken.[19]

Support for compliance is critical

The effective implementation of a general duty will depend on educating, assisting and advising duty holders on compliance. Authorised officers sit at the front end of this process. The critical role of inspectors is well recognised in relation to OHS regulation:

> *It is impossible to overstate the importance of the role of the inspectors in occupational health and safety. First, the effectiveness of the legislation in eliminating/mitigating risks depends critically on the performance of the inspectors. … Quite simply, the inspectors operate at the sharp end of the legislative scheme. It is for them (in the first instance) to decide what does, and what does not, constitute compliance with the requirements of the Act and the regulations. It is they who must engage in the crucial debates with duty holders about what is, and what is not, 'practicable having regard to…'.*[20]

To fulfil this task, authorised officers must be empowered to provide advice about how to comply with the general duty and, more broadly, the EP Act. Both the Maxwell Occupational Health and Safety Act Review[21] and the Krpan Review[22] concluded that the advantages of authorised officers giving advice outweigh the disadvantages. Providing advice is conducive to compliance and it establishes a relationship between the officer and duty holders, founded on the common purpose of achieving compliance.[23]

A duty must be widely understood to be effective. The EPA must make it as easy as possible for duty holders to understand what compliance requires. Compliance raises particular challenges for small and medium sized enterprises, which often lack understanding of their environmental impact and regulatory obligations. Communication, education and practical guidance will thus be crucial tasks for the EPA.[24]

Codes of practice are critically important

Codes of practice and other guidance materials are used to explain how duty holders can fulfil the duty.[25] Under the OHS Act, there are eight codes of practice, or 'compliance codes,' which provide detailed 'practical guidance' to those with obligations under the OHS Act.[26] The codes were developed in consultation with industry, employers, employees, government agencies and the community. They provide greater certainty about what constitutes compliance under the OHS Act.

The OHS Act specifies that, when a code of practice 'makes provision with respect to a duty imposed by the Act', compliance with the code is taken to be compliance with the Act.[27] Codes of practice provide duty holders with flexibility in choosing how to comply with the general duty.[28] They offer one acceptable means of achieving compliance, without precluding other potentially viable options.[29]

How codes of practice are framed – to identify the most cost effective measures for compliance – and their accessibility can significantly affect regulatory burden. In developing and distributing codes of practice, the EPA must minimise the regulatory burden for duty holders. Clear and concise codes of practice, and other communications that help duty holders understand their obligations, will be important. For example, if duty holders do not understand their obligations they may:

- fail to comply, risking enforcement action by the regulator
- undertake costly but unnecessary actions in the mistaken belief that such actions are necessary for them to comply.

The ability to access relevant guidance quickly and easily will also be important. A user friendly searchable website will help with this.

Transitioning to a general duty – a phased approach

Ultimately, the general duty should apply to every person, given our shared responsibility for the environment. We recommend that the general duty be introduced in stages over a suitable transition period.

Introducing an enforceable general duty is a major change to the regulatory framework. A period of transition will be necessary to allow both duty holders and the EPA to prepare and adjust to the general duty. We recommend a phased introduction. The duty should apply initially to entities with the largest risks of impact and that are best equipped to understand and adapt to the general duty.

Specifically, we propose implementing the general duty in three phases:

- Phase 1 – The general duty applies to all premises that require a works approval or licence, and to those that are registered under the new registration scheme proposed later in this chapter. This will include the largest polluters and sites that store and handle dangerous goods.[30]
- Phase 2 – The general duty includes all other businesses. In both these phases, the EPA will work constructively with industry about how to comply with the general duty. It will also educate and work with duty holders and industry associations in preparing codes of practice and practical guidance material. Both industry and the EPA must recognise the need for testing and potential revision along the way.
- Phase 3 – The general duty extends to every person. This phase would commence once the general duty was well established and the EPA has the capacity to undertake the necessary community education.

12.2.4 Key legal design issues for a general duty

Failure to comply with the general duty should be an offence

A general duty needs to be enforceable to be effective.[31] Making it a criminal offence to breach the general duty sends a strong message about the importance of taking action to prevent harm from pollution and waste. Criminal liability for breach of a general duty is well accepted under OHS legislation.

The public interest in environment protection rests substantially on the health benefits of a clean environment and is no less important a justification for criminal penalties than is the public interest in workplace safety. The pollution offences under the EP Act currently give rise to criminal liability.

Exposure to potential criminal liability creates an incentive for compliance, provided the enforcement machinery is strong enough to make the threat of inspection and prosecution real.

Failure to comply should also give rise to civil remedies

In addition to criminal penalties, a breach of the general duty should give rise to civil liability. That is, the EPA should be able to make application to a court for civil remedies, which should include:

- an injunction to restrain a threatened breach of the general duty
- orders requiring a person who has failed or refused to take 'reasonably practicable' measures to do so
- orders requiring a duty holder to rectify environmental harm resulting from a breach of the general duty
- orders requiring a person whose breach of duty has resulted in environmental harm to:

  i) reimburse the EPA for any clean up costs

  ii) compensate any person who has suffered loss or damage as a direct result of the breach.

At present, the principal civil remedy available to the EPA is an injunction. Under section 64A of the EP Act, the EPA may seek an injunction restraining the contravention of, or compelling compliance with, the EP Act or a condition of a works approval, licence, permit or notice. That is, the EPA can seek orders that are both restraining and coercive. The EPA uses this power very rarely.

The EPA also has a right under section 62(2) of the EP Act to recover reasonable costs of clean up.[32] A number of other remedies are available only upon conviction, as ancillary sentencing orders.

Third party civil remedies

Under the South Australian model, civil remedies may be sought not just by the EPA but by any person whose interests are affected or any other person with the permission of the court.[33] This allows members of the affected community to take action if there is a breach, or threatened breach, of the general duty and the regulator does not take action.

In chapter 7, we recommend that similar third party rights be created in Victoria. This will improve access to justice and increase the level of environmental accountability of businesses.

Compliance with specific requirements a defence to the general duty

We recommend that the EP Act be amended to include an express provision that compliance with specific requirements in environmental authorisations (such as a works approval or licence), or with regulations and statutory policies, is a defence to a charge of breaching the general duty. This is necessary to ensure that the general duty integrates with – and does not conflict with – the operation of the licensing regime. For example, in the case of a licence that sets specific emission limits, discharging polluting emissions up to the limit could not be a breach of the general duty. The South Australian scheme includes a provision of this kind.[34]

Application of the current pollution offences

The current EP Act contains prohibitions on polluting waters (section 39), the atmosphere (section 41) and land (section 45). All three prohibitions are in similar terms. As noted earlier, all require proof that the condition of the waters/atmosphere/land has been '… so changed as to make or be reasonably expected to make' it harmful or potentially harmful.

Once the general duty becomes applicable to an entity or person, these offence provisions would become inapplicable to that entity or person. Because of the staged introduction of the general duty, however, the offence provisions will continue to have work to do in relation to those not yet covered.

The current offences should be reviewed, and possibly removed, once the general duty has been fully rolled out.

As noted above, the general duty will have significant advantages. It will be enforceable before there has been any change to the relevant part of the environment, and proof of breach will not require proof of harmful change. The duty will be breached if a person fails to do what is reasonably practicable to minimise the *risk* of harm. To clarify the obligations of a duty holder, we recommend – again drawing on the OHS Act model – that consideration be given to specifying certain types of conduct (acts or omissions) that will constitute a contravention of the general duty.[35]

Enforcement by local environment protection officers

Chapter 18 outlines the proposed new role of local environment protection officers placed within local governments across Victoria. These officers will play an important part in enforcing the general duty. They will be expected to support compliance and undertake enforcement at the lower end of the harms scale. Therefore, they will play only a limited role in the first phase of implementation.

From the outset, they will be trained and supervised by the EPA, including with expert advice and support from EPA authorised officers in the field. They will need a period of capacity building and support from the EPA. Transitional arrangements may be necessary, such as the EPA overseeing remedial notices issued by local government environment protection officers.

12.2.5 Remedial notices

Remedial notices are an important tool for promoting compliance. At present, the EPA has the power to issue remedial notices of two kinds: the first requires a change (or cessation) to an activity in order to reduce pollution; the second requires rectification of the effects of pollution.

A pollution abatement notice may be issued if a process or activity has caused or is likely to cause pollution or create an environmental hazard.[36]

A clean up notice may be issued where pollution has occurred or been permitted to occur, or where industrial waste or potentially hazardous substances have been abandoned or dumped, or handled in a manner likely to cause an environmental hazard.[37]

Remedial notices do not punish non-compliance. When the general duty comes into force, a decision will need to be made about whether to take action to punish the offender for breach of the general duty. Such a decision would be made in accordance with the EPA's *Compliance and Enforcement Policy*.

Currently, authorised officers have delegated power to issue remedial notices for works up to $100,000. The grounds for issuing remedial notices are unduly restrictive and, in our view, hamper the EPA's capacity to issue notices in a timely manner.

With the introduction of the general duty, pollution abatement notices should be replaced by a new type of remedial notice. The new notices could be modelled on improvement notices under the OHS Act, which can be issued directly by an inspector.[38] Specifically, a breach, or threatened breach, of the general duty should trigger the EPA's capacity to issue a notice so that the problem can be remedied quickly. An improvement notice under the OHS Act identifies the contravention and may include directions about the remedial actions to be taken. This new notice might be called a protection notice – to reflect what they actually do and the positive contribution they can make as a preventative tool.

Where an authorised officer considers that a polluting activity should cease immediately because of the seriousness of the threat, there should be power – as there is at present under the EP Act[39] – to require an activity to cease or not to commence. This would be equivalent to the power of a WorkSafe inspector to issue a prohibition notice under the OHS Act.[40]

12.2.6 Registration scheme

Registration of premises is a widely used regulatory tool, familiar to the business sector. For example, Consumer Affairs Victoria registers a range of occupations.[41] Registration enables the regulator to identify and assess businesses whose activities are (or may become) of regulatory significance. It also facilitates communication with those businesses to support compliance. The registered businesses are likely to have a heightened appreciation of their compliance responsibilities.

We propose that the EPA use registration as a basis for identifying and communicating with those businesses subject to the general duty in its initial phase of implementation (in addition to those businesses that are already licensed by the EPA). The register would be based on the dangerous goods notifications that operators are already obliged to give to WorkSafe.[42] This would capture many of the critical, smaller scale, pollution risks and avoid duplication with an existing registration scheme. Workplaces that store or handle dangerous goods in excess of specified quantities must notify WorkSafe. There are approximately 2,800 workplaces that have submitted a current notification.[43] These workplaces could be deemed to be registered with the EPA without having to submit any additional paperwork.

The registration requirement should extend, based on an assessment of potential risks (and assuming that some of these activities are not captured under the WorkSafe regime), to activities such as dry cleaners, electroplaters, underground petroleum storage systems at petrol stations and some non-intensive agricultural activities. These activities involve chemicals or dangerous goods which, if not used or disposed of appropriately, can cause pollution and contamination.

A registration tier is consistent with a risk-based approach and would better manage the graduated risks of activities. As the EPA's understanding of the risks of an activity improves or when changes within the industry increase or decrease the risks, activities may shift from registration to licensing or from licensing to registration.

In addition to the benefits of direct EPA scrutiny, we recommend that in phase 1 the general duty apply to, and only to, persons (whether incorporated or not) who are registered with the EPA in one of the above ways. This approach ensures that the first phase of implementation is directed at activities that present, or are likely to present, the greatest risk of environmental harm. It will also ensure that all entities covered in phase 1 are well aware of the general duty regime.

There are likely to be objections from businesses which are required to register. A registration scheme is justified by the benefits it will generate, however, particularly through better risk identification and management. Registration is a significantly lower regulatory burden option than licensing. It may involve a fee to cover the costs of administering the registration scheme but would not involve any additional compliance requirement and only a modest administrative burden.

Registration will be an effective measure to address the many non-scheduled activities that warrant some level of oversight and engagement with the EPA. As such, it will help to level the playing field between licensed activities, which are directly regulated, and non-licensed sites, to which general obligations apply.

12.3 Strengthening prevention through the licensing regime

The works approvals and licensing regime will continue to be very important for managing the highest order risks from pollution and waste. We propose measures to strengthen their effectiveness, many of which the EPA can implement immediately.

Works approvals allow the EPA to ensure that construction, installation and modification works meet environment protection standards. Because businesses must obtain approval before starting works, the EPA can influence the design of the works so as to minimise risks to human health and the environment.

Licences allow the EPA to set the operating conditions for licensed activities. Licences can include site specific emission limits for pollutants. Licences can also set conditions to manage the risks of the activity.

12.3.1 Extending the licensed cohort

The size of the EPA's licensed cohort has diminished over time. The number of licences has fallen from more than 10,000, when licensing was introduced in the 1970s, to between 4,000 and 5,000 in the 1980s, 1,400 in 1996 and 1,000 in 2006. Currently, the EPA licenses approximately 670 premises.[44]

DELWP and the EPA have commenced a review of the Environment Protection (Scheduled Premises and Exemptions) Regulations 2007 to remake the regulations before they sunset in late June 2017. These Regulations define which activities require a works approval or a licence (known as 'scheduled premises'). The review will consider which activities should be subject to works approvals and licences in the future. It is a timely opportunity to implement changes that support our proposals for the EPA of the future. The application of works approvals and licences should only be extended after considering how effectively and efficiently these tools can prevent harm, compared with alternative approaches, including the general duty.

New types of activities to be included

Through our public consultation process and site visits, we identified unlicensed activities with the potential for significant impacts on human health and the environment, including:

- intensive agriculture activities with significant waste and odour issues
- transfer stations with large stockpiles of different types of wastes, which create several environmental risks, particularly in the event of a fire.

The discussion paper for the review of the Scheduled Premises Regulations identified some further examples:

- cumulative impacts from diffuse or small point source pollution (such as electroplating)
- impacts from contaminated environments (such as metal recycling and recovery, petrol stations and dry cleaning)
- amenity impacts and risks to human health from using new technologies and industrial practices (such as transfer stations)
- conflict between land uses from increasingly intensified industrial and commercial activities (intensive agriculture, such as piggeries, broilers, dairy and cattle feedlots).[45]

We recommend expanding the cohort of activities requiring a works approval or a licence to cover all activities with significant impacts (or potential impacts) on human health and the environment, regardless of the type of hazard posed. This approach should address:

- onsite contamination to avoid future legacy contamination (not just dealing with offsite impacts)
- long term exposure risks
- community expectations about exposure to odour, noise and dust
- the potential consequences of catastrophic events (consistent with the recent decision to license waste tyre storage facilities).

Expanding the works approval and licence scheme will increase the regulatory burden for some businesses. But these activities pose significant risks to human health and the environment, so we consider the increase in the regulatory burden to be fully warranted.

Refining the thresholds for works approvals and licences

Generally, the requirement to obtain a licence or works approval relates to the level of production or the amount of pollution emitted. We recommend that new thresholds be adopted which will better reflect the different components of risk.

The review of the Scheduled Premises Regulations has suggested the greater use of load-based triggers, which apply regardless of the activity type.[46] By focusing on the level of emissions, rather than the type of activity, load-based thresholds better capture new types of industry activities and technologies.

Further options for refining thresholds include:

- location-based thresholds – These could be used for risks in a particular geographical area, to capture the collective impact of small point or diffuse pollution sources or to reflect proximity to a sensitive receiving point such as a waterway.
- performance-based thresholds – These could require sites undertaking certain types of activities with poor compliance records to obtain a works approval or licence.

We consider load-, location- and performance-based thresholds should be pursued as part of the review of the Scheduled Premises Regulations.

12.3.2 Enforceability of licence conditions

Since 2010, EPA licences have used standardised and outcome-focused conditions. This approach is consistent with moving away from prescriptive rules and 'command and control' regulation towards performance-based regulation.

However, some inquiry participants were concerned about the enforceability of licence conditions. In particular, participants argued that conditions were often so generic as to be unenforceable. Nor do such conditions sufficiently guide licence holders about what is expected. The Krpan Review also identified concerns about '… uncertainty created by [the] EPA adopting a less prescriptive approach to monitoring programs'.[47]

Many regulators use standard operating conditions (box 12.1). To be effective, licence conditions must identify what compliance 'looks like' and allow compliance to be accurately assessed.[48] Effective outcome-focused licence conditions must include:

- viable mechanisms for the regulator to monitor compliance
- practical guidance and advice for business about how the licence conditions are expected to be met – the use of codes of practice offers a good way of providing practical guidance and advice.

The EPA should review its approach to setting licence conditions and should periodically review operating conditions to ensure that they are enforceable.

BOX 12.1 NEW SOUTH WALES EPA LICENCE CONDITIONS[49]

New South Wales EPA licences include the following standard operating conditions, which it has regularly relied on for enforcement purposes:

Activities must be carried out in a competent manner

Licensed activities must be carried out in a competent manner. This includes:

(a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and

(b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

Maintenance of plant and equipment

All plant and equipment installed at the premises or used in connection with the licensed activity:

(a) must be maintained in a proper and efficient condition; and

(b) must be operated in a proper and efficient manner.

12.3.3 Reviewing operating conditions

> *It is common for new market entrants to be assessed against higher environmental standards and to experience a more stringent review regime, generally at considerably higher cost, than entrenched technologies or processes against which they will need to compete.* (Tony Lewis-Jones submission, p. 1)

Licences allow the EPA to set operating conditions for managing pollution and waste impacts at licensed sites. For activities with significant emissions of pollutants to air, water or land, the licence can include site-specific discharge limits.[50] EPA licences are perpetual licenses and there is currently no formal mechanism for reviewing discharge limits or other conditions which regulate the licensee's operations.

We recommend amending the EP Act, to provide for the EPA to grant new licences for a specified period of time, rather than in perpetuity. The Act should also allow for regular reviews of licences. This change will ensure environmental performance keeps pace with contemporary standards.

Our understanding of risks, and how to manage them, changes over time, as do community expectations. For example, climate change can increase the risk of spills or overflows from holding ponds, as extreme weather events become more frequent and/or severe. Further, as circumstances change with the changing economy, population growth and climate change, the number of firms seeking to discharge emissions in an area may change. This will affect the appropriate site-specific discharge limits. Granting licences in perpetuity without a formal review mechanism does not allow the EPA flexibility to maintain standards in an economically efficient manner.

The licence term for new licences should be determined having regard to the need to provide certainty and investment security for businesses, on the one hand, and the need to manage risks to the government, community and environment, on the other. The EPA should also have the capacity to renew licences.

Licences with terms longer than five years should be subject to a formal review process during the life of the licence. The licence review process could build on the periodic licence review process the EPA recently commenced.

The EPA's licensing regime should maintain up-to-date and uniform standards across the industry. In particular, the EPA should ensure that emissions from existing facilities are consistent with contemporary scientific understanding – as represented in standards – about acceptable risks.

12.3.4 New post-closure licence or instrument

The EPA currently uses remedial notices to require licence holders to manage the environmental risks of a site after an activity ceases. This process can include assessing and remediating contaminated land or managing and overseeing post-closure risks. Managing these risks will remain a vital function for the EPA.

By strategically anticipating risks, the EPA should be able to identify heavy industry and manufacturing sites that are coming to the end of their operating life. The EPA could then work with the site operator to plan for closure. However, the EPA's current toolkit does not provide a robust mechanism for this purpose.

Remedial notices were not designed for managing post-closure risks, which often require extended periods of time to address (30 years or more in the case of landfills). The EPA needs a more enduring, fit-for-purpose, instrument, given the significance and time scale of post-closure risks. We recommend a new post-closure licence category for landfills and high risk contaminating activities, or a new standalone post-closure instrument.

12.4 Preparedness and response to pollution incidents

12.4.1 Pollution incident planning

The Hazelwood mine fire showed the deficiencies in existing incident management planning. Similarly, the 2011 pollution incident at Orica's ammonium nitrate plant at Kooragang Island in New South Wales had the potential for significant impact on human health.

In accordance with the general duty, businesses whose activities give rise to the risk of a serious incident should take reasonable steps to prevent or mitigate the risks of the incident and the impact of any harm if an incident occurs. To supplement this and to ensure that the impact on the community is specifically considered, we propose that EPA licensees be required to implement pollution incident planning.

The approach adopted in New South Wales[51] provides a good model. The plan would focus on ameliorating the impacts of an incident on human health or the environment.

Importantly, pollution incident planning should integrate with, and not duplicate, existing emergency and incident planning under the critical infrastructure and major hazard facility regimes, and the proposed new emergency planning legislation. The reforms are intended to create an integrated emergency management planning framework for all hazards at a state, regional and local level.[52]

12.4.2 Notification of pollution incidents

EPA licensed premises must notify the EPA of non-compliance with a licence condition, and must notify the EPA about pollution incidents. There is no equivalent requirement for non-licensed premises. For acute pollution events at non-licensed premises, the EPA or local government must rely on voluntary reports or reports from the public. This approach limits opportunities for the EPA or local government to respond quickly to protect public health and minimise the environmental impact of any incident.

We recommend a mandatory requirement for all businesses to notify environmental incidents to the relevant authority (either the EPA or local government).

A duty to notify pollution incidents was introduced in New South Wales in response to the independent review of the pollution incident at Kooragang Island.[53] Similar requirements exist in South Australia and Queensland. Victorian OHS laws also require significant health and safety incidents to be reported to Worksafe.

Recommendations

RECOMMENDATION 12.1

Introduce a general duty to minimise risks of harm to human health and the environment, as the cornerstone of a preventative focus for the EPA. Specifically:

i) the duty would require a person to take reasonably practicable steps to minimise risks of harm from pollution and waste

ii) introduction of the duty would be staged, with its application limited initially to those entities which operate under EPA licences or works approvals, and entities registered under a new registration scheme to be based on WorkSafe's dangerous goods notification

iii) breach of the duty would give rise to criminal penalties, civil penalties and/or civil remedies

iv) breach or threatened breach of the duty would provide a uniform trigger for the issue of remedial notices

v) compliance with the duty would be underpinned by statutory codes of practice, and advice from the EPA.

RECOMMENDATION 12.2

Expand the cohort of activities requiring a works approval or licence to include all activities with significant impacts on human health or the environment, regardless of the type of hazard posed.

RECOMMENDATION 12.3

Introduce new tools, including:

i) fixed terms for new licences and a statutory mechanism for regular reviews

ii) a new post-closure licence category (or a new form of post closure instrument) for landfills and high risk contaminating activities

iii) a requirement for EPA licensees to prepare and implement pollution incident plans

iv) a requirement for all businesses to notify pollution incidents to the relevant authority (either the EPA or local government).

1 Bates G 2001, *A duty of care for the protection of biodiversity on land*, Productivity Commission, p. 26.
2 Maxwell C 2004, *Occupational Health and Safety Act Review*, Melbourne, March, p. 96.
3 Section 21(1), *Occupational Health and Safety Act 2004*.
4 Section 20(1), *Occupational Health and Safety Act 2004*.
5 R v Commercial Industrial Construction Group Pty Ltd (2006) 14 VR 321 326 [24].
6 R v Commercial Industrial Construction Group Pty Ltd (2006) 14 VR 321 326 [27-28].
7 The predecessor of the OHS Act was the *Occupational Health and Safety Act 1985*.
8 Section 25(1), *Environment Protection Act 1993* (SA).
9 Section 319(1), *Environment Protection Act 1994* (Qld).
10 Section 22(1), *Environment Protection Act 1997* (ACT).
11 Section 12(1), *Waste Management and Pollution Control Act 1998* (NT).
12 Section 23A, *Environmental Management and Pollution Control Act 1994* (Tas).
13 Sections 27A, 39(1), 41(1), 45(1) of the *Environment Protection Act 1970*.
14 Bates G 2001, *A duty of care for the protection of biodiversity on land*, Productivity Commission, p. 35.
15 EPA Victoria and CSIRO 2013, *Future air quality in Victoria*, Final report, Melbourne, July, p. 33.
16 Krpan S 2011, *Compliance and Enforcement Review: a review of EPA Victoria's approach*, Melbourne, p. 314.
17 Section 20(2), *Occupational Health and Safety Act 2004*.
18 Section 25(1), *Environment Protection Act 1993*.
19 Section 25(2), *Environment Protection Act 1993* (emphasis added).
20 Maxwell C 2004, *Occupational Health and Safety Act Review*, Melbourne, March, p. 284.
21 Maxwell C 2004, *Occupational Health and Safety Act Review*, Melbourne, March, p. 264.
22 Krpan S 2011, *Compliance and Enforcement Review: a review of EPA Victoria's approach*, Melbourne, p. 70.
23 Maxwell C 2004, *Occupational Health and Safety Act Review*, Melbourne, March, p. 264.
24 Gunningham N 2015 a, *Should a general 'duty of care' for the environment become a centrepiece of a 'next generation' environment protection statute?*, Paper 1, Melbourne, p. 21.
25 Bates G 2001, *A duty of care for the protection of biodiversity on land*, Productivity Commission, p. 23.
26 Section 149(1), *Occupational Health and Safety Act 2004*.
27 Section 152, *Occupational Health and Safety Act 2004*.
28 Section 150, *Occupational Health and Safety Act 2004* states that failure to comply with a compliance code does not give rise to any civil or criminal liability.
29 Gunningham N 2015 a, *Should a general 'duty of care' for the environment become a centrepiece of a 'next generation' environment protection statute?*, Paper 1, Melbourne, p. 5.
30 Under regulation 66 of the Dangerous Goods (Storage and Handling) Regulations 2012. http://www.worksafe.vic.gov.au/forms-and-publications/forms-and-publications/notification-of-dangerous-goods-storage-and-handling (accessed 20 March 2016).
31 Eamonn Moran QC, 'Third Memorandum of Advice', p. 3.
32 Section 45Z(3), 66C(2) *Environment Protection Act 1970*.
33 The court can grant permission only if satisfied that the proceedings are not an abuse of process, that there is a real or significant likelihood that the requirements for the making of the order would be satisfied and that it is in the public interest that the proceedings be brought.
34 Section 25(3), *Environment Protection Act 1993* (SA).
35 Section 21(2), *Occupational Health and Safety Act 2004*.
36 Section 31A, *Environment Protection Act 1970*.
37 Section 52A, *Environment Protection Act 1970*.
38 Section 111, *Occupational Health and Safety Act 2004*.
39 Section 31A(2)(a), *Environment Protection Act 1970*.
40 Section 112, *Occupational Health and Safety Act 2004*.
41 https://www.consumer.vic.gov.au/businesses/registered-businesses (accessed 21 March 2016).
42 http://www.worksafe.vic.gov.au/__data/assets/pdf_file/0015/10482/FOR521-pdf-of-Notification-of-Dangerous-Goods-Storage-and-Handling-WOG-Standards-PMG.pdf (accessed 25 March 2016).
43 Advice from WorkSafe, 18 March 2016.
44 Department of Environment, Land, Water and Planning and EPA Victoria, Scheduled Premises Regulations Review Discussion Paper, Melbourne, pp. 2–3.
45 Department of Environment, Land, Water and Planning and EPA Victoria, *Scheduled Premises Regulations Review Discussion Paper*, Melbourne, pp. 4–6.
46 Department of Environment, Land, Water and Planning and EPA Victoria, *Scheduled Premises Regulations Review Discussion Paper*, Melbourne, p. 4.
47 Krpan S 2011, *Compliance and Enforcement Review: a review of EPA Victoria's approach*, Melbourne, p. 36.
48 Krpan S 2011, *Compliance and Enforcement Review: a review of EPA Victoria's approach*, Melbourne, p. 36.
49 NSW Environmental Protection Authority, http://www.epa.nsw.gov.au/ (accessed 10 March 2016).
50 For example, discharge limits can be set for pollutants such as sulphur dioxide, particles, volatile organic compounds, carbon monoxide, phosphorus, nitrogen, heavy metals.
51 Part 5.7A, *Protection of the Environment Operations Act 1997*.
52 Hazelwood Mine Fire Inquiry Implementation Monitor 2015, *Annual Report*, Melbourne, October, p. 112.
53 O'Reilly B 2011, *'A review into the response to the serious pollution incident at Orica Australia Pty. Ltd. ammonium nitrate plant at Walsh Point, Kooragang Island on August 8, 2011'*, September.

CHAPTER 13

HOLDING POLLUTERS TO ACCOUNT

HOLDING POLLUTERS TO ACCOUNT

KEY MESSAGES

The EPA must be willing to take timely and decisive action to hold polluters to account. This should include taking strategic prosecutions to both hold polluters to account and to deter the offender or others from committing the same or similar offences.

The range of sanctions available to the EPA should be strengthened and expanded by:

- increasing maximum criminal penalties
- introducing civil penalties
- providing a statutory basis for monetary benefits orders.

13.1 Introduction

A key theme from our public consultations was stakeholders wanting the EPA to hold polluters to account. Many inquiry participants stated that the EPA needed 'more teeth, and more power' and that it 'needs a big stick'.

The EPA has a broad range of sanctions that it can apply in response to non compliance, and we consider the EPA must be more assertive, timely and confident in using these sanctions. However, we also propose strengthening and expanding the EPA's range of sanctions, to allow for more proportionate and timely action. The EPA must become better practised at using some sanctions.

Further, the inspection and enquiry powers for authorised officers are out of date and lack appropriate checks and balances. We also propose addressing these weaknesses.

We propose the following enhancements so the EPA can better hold polluters to account:

- enhanced sanctioning of offenders
- third party rights to seek civil remedies
- improved inspection and enquiry powers.

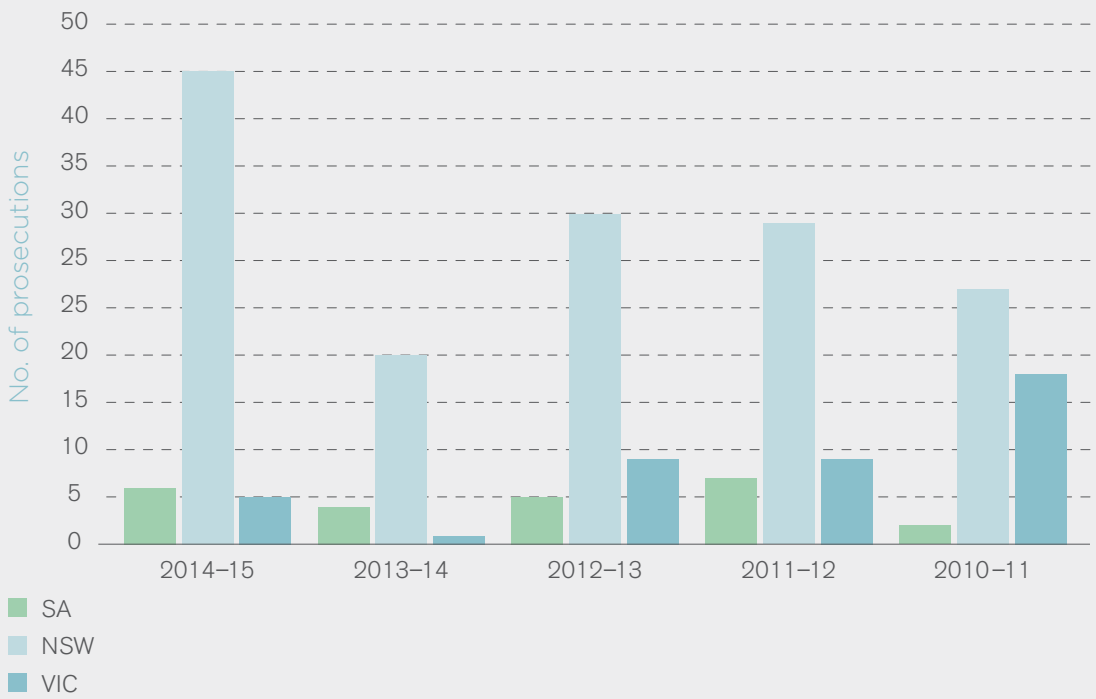
13.2 Prosecutions and enforceable undertakings

We recommend the EPA strengthen its processes, procedures and resourcing for prosecutions by developing and implementing a prosecution strategy. This change will need commitment from the whole organisation. It should involve measures to facilitate timely prosecutions, including using strategic prosecutions to hold polluters to account and to deter offenders and others from committing similar offences.

Prosecutions are important because it is in the public interest to seek justice for a criminal act that harms individuals or the community.[1] Undertaken on behalf of society, prosecutions by public authorities give the public confidence that offenders will be penalised for their actions (that is, receive just punishment). Prosecutions also discourage offenders and others from committing the same or similar offences. This deterrence function is especially important for serious offences and where the offence is prevalent, the deterrent message can have a large impact on others.

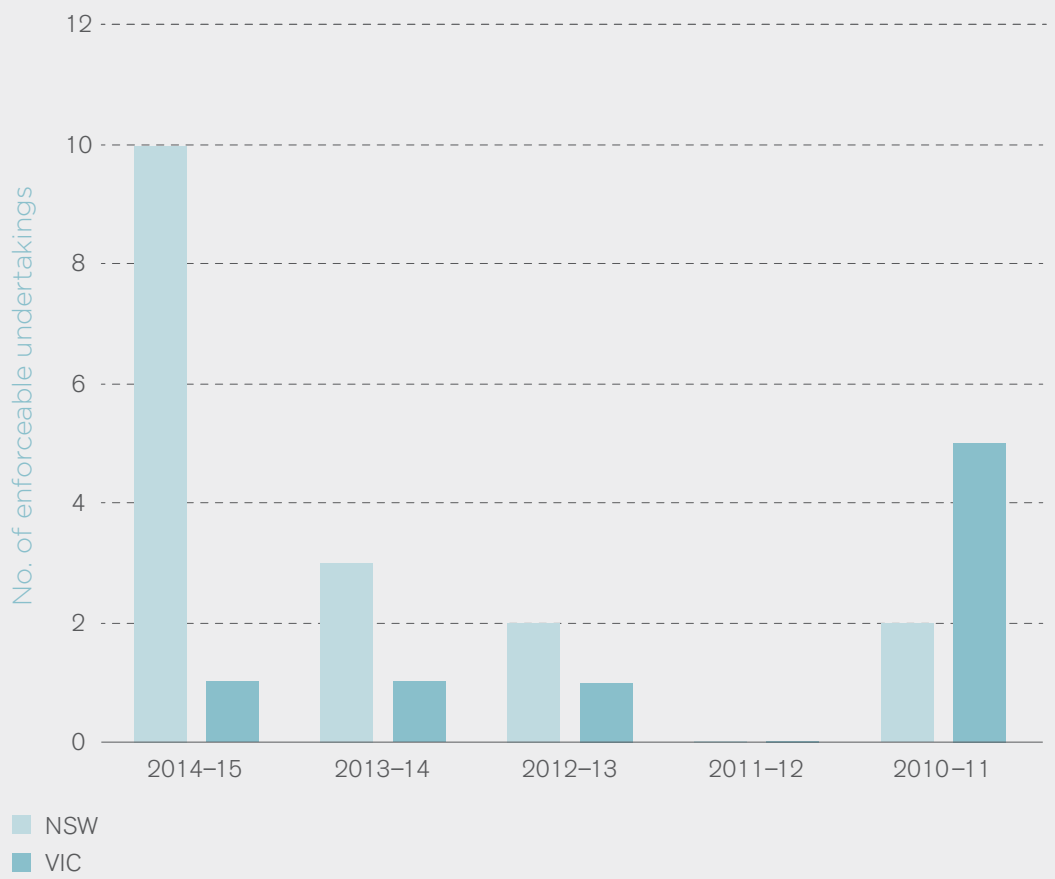
Prosecutions use the power of the criminal justice system to signal that the EPA (acting on the community's behalf) will not tolerate actions that cause serious harm to the environment or human health.[2] However, the EPA pursues fewer prosecutions and enforceable undertakings, compared with EPAs in other states (recognising comparisons can be difficult given definitional and reporting differences) (figures 13.1 and 13.2). These results provide support for stakeholder perceptions that the EPA is risk averse and tentative in using its higher end sanctions.

FIGURE 13.1 NUMBER OF PROSECUTIONS



Note: Prosecutions include convictions and where an offence was proven but no conviction recorded; they do not include acquittals.
South Australian figures include negotiated civil penalties.
Source: Various annual reports.

FIGURE 13.2 NUMBER OF ENFORCEABLE UNDERTAKINGS



Source: Various annual reports.

We share concerns about the extent and timeliness of EPA enforcement action, particularly in light of events such as the Hazelwood mine fire (box 13.1). The 2011 Krpan Review recommended that the EPA increase the level of prosecutions, to ensure that serious offences under the EP Act attract appropriate consequences.[3] It is concerning, however, that the number of EPA prosecutions per year has fallen since the Krpan Review (notwithstanding some recently completed contested prosecutions).[4]

The numbers of prosecutions can be an indicator of the EPA's willingness to test its powers. A willingness to risk failure, and to adapt and learn, can improve the EPA's effectiveness over time. Failure can also help make the case for change if it highlights unnecessary constraint or lack of power.

Our recommendations in other areas will support the necessary change in the EPA's prosecution approach. Introducing a Board for the EPA can strengthen the oversight of key regulatory actions and scrutiny of agency performance reporting (chapter 19). Similarly, introducing a directly enforceable general duty (chapter 12) and civil penalties (see below) will help the EPA to take more timely enforcement action. Breach of the general duty will be a criminal offence, as well as providing a basis for civil remedies.

BOX 13.1 DELAYS IN ENFORCEMENT FOLLOWING THE HAZELWOOD MINE FIRE

The Hazelwood mine fire burned for 45 days from 9 February 2014. For much of that time, it sent smoke and ash over the town of Morwell and the surrounding area. The community experienced adverse health impacts and may be affected for an indeterminate period into the future.[5]

Pollutants emitted during the Hazelwood mine fire included carbon monoxide, particulate matter (both PM_{10} and $PM_{2.5}$), volatile organic compounds, dioxins and furans, and metals. Significantly elevated levels of pollution (primarily $PM_{2.5}$ and carbon monoxide) were recorded over three key time periods in February 2014.[6]

Given the significance of the Hazelwood mine fire and the impact on the community, successive Victorian Governments have:

- established the Hazelwood Mine Fire Inquiry in 2014, which was then reopened with new terms of reference in 2015
- appointed Mr Neil Comrie AO, APM as the Implementation Monitor for reporting on implementation of inquiry recommendations and government commitments
- commissioned a long term health study to investigate the health impacts of exposure to the Hazelwood mine fire.

On 4 February 2016, WorkSafe charged the Hazelwood Power Corporation Pty Ltd with 10 breaches of the *Occupational Health and Safety Act 2004*, relating to preparedness for the Hazelwood mine fire.[7]

On 15 March 2016, the EPA laid 12 charges relating to the Hazelwood mine fire, more than two years after the fire started.[8] In its submission to our inquiry (which came before the EPA laid charges), Environment Victoria stated that '… [s]uch lengthy delays reduce public trust in the EPA's ability to effectively regulate pollution and respond quickly to major breaches of the Act'.[9]

13.2.1 Enforceable undertakings

An enforceable undertaking is a negotiated, binding agreement between the regulator and an alleged offender where the offender agrees to take specific actions to settle a contravention of the law. The EPA has the power to accept an enforceable undertaking from a person who has contravened, or allegedly contravened, a provision of the EP Act where the contravention attracts a criminal penalty. The EPA must be satisfied that an undertaking is 'an appropriate enforcement mechanism'.[10]

This power has been used only occasionally since it was introduced in 2006. In our view, the EPA should use enforceable undertakings more often, particularly where they can make a tangible contribution to restorative justice. An enforceable undertaking has advantages over a prosecution because the alleged offender takes active responsibility for the offence, for rectifying its consequences and preventing a repetition.

Since, however, the alleged offender avoids having a conviction recorded, the monetary value of works required to be carried out under an enforceable undertaking should be greater than the penalty that is likely to have been imposed following prosecution.

Enforceable undertakings are flexible, and can be formulated to address the specific circumstances and impacts of the offence and the affected community. They can also go beyond just complying with the law, and require action to restore the environment, change business practices and publicise the offender's actions. They can also contribute to environmental justice outcomes by requiring:

- a restorative justice conference, which is a structured meeting between the alleged offender and the affected community to discuss the consequences and restitution of the offence
- a public apology
- funding for projects that improve the local environment and community.

Because enforceable undertakings have been used so little, the EPA has developed limited capability in this area, and has had little experience of how undertakings can be used. The *Enforceable undertaking guidelines*,[11] which the EP Act requires the EPA to publish, are prescriptive about when an undertaking can be entered into and what must be included. Other regulators, such as the Fair Work Ombudsman, use enforceable undertakings extensively and can provide valuable insights which may assist the EPA in the future.

The EPA should amend the guidelines to make clear that it can, and will, use undertakings in a wider range of circumstances, particularly to pursue restorative justice outcomes. Consideration should be given to tiers of enforceable undertakings, with different requirements depending on the culpability of the alleged offender and the risk of harm to human health and the environment.

13.3 Civil penalties

In South Australia, the EPA can pursue civil penalties as an alternative to criminal prosecution. It can either negotiate civil penalties directly with the person in breach or proceed directly to court to seek an order that the offender pay an amount as a civil penalty. A person may decline to negotiate a civil penalty with the EPA, or they may choose to be prosecuted in which case the criminal burden of proof applies. A publicly available policy sets out the method for calculating civil penalties.[12]

The key differences between criminal and civil penalties were described by the High Court in a December 2015 decision,[13] as follows:

- criminal prosecutions are aimed at securing criminal convictions, whereas civil penalty proceedings are calculated to avoid any notion of criminality
- criminal penalties are based on notions of retribution and rehabilitation, whereas civil penalties are primarily, if not wholly, protective in nature and aimed at promoting the public interest in regulatory compliance
- the objective of civil penalties is to 'put a price on contravention that is sufficiently high to deter repetition by the contravener and by other who might be tempted to contravene'.

We recommend that civil penalties be introduced into the EP Act to give the EPA an alternative to criminal prosecutions. They can be used in a timely way to deal with the middle ground of contraventions. The standard of proof is on the balance of probabilities.

The most serious contraventions should continue to be prosecuted in criminal courts, with low level non-compliance addressed by infringement notices or other lower level sanctions.

13.4 Monetary benefits orders

Those who contravene environment protection laws generally obtain an economic benefit from their non-compliance. For example, a business which produces waste products can obtain a substantial financial benefit by postponing, or avoiding altogether, the costs of appropriate treatment and disposal of waste. These economic benefits of non-compliance are, however, rarely considered by Victorian courts. By contrast, courts in New South Wales, Western Australia, South Australia and Queensland can impose an additional penalty reflecting the economic benefit to the offender of non-compliance.

The EPA (with the NSW EPA) has developed a model for calculating avoided or delayed costs of non-compliance, based on the United States EPA model but adapted to account for Australian accounting and tax laws. We recommend that the EP Act be amended to:

- give sentencing courts express power to impose penalties which reflect the (estimated) benefits to the offender of the non-compliance
- empower the EPA to estimate such benefits and provide the necessary information to sentencing courts.

13.5 Higher criminal penalties

The maximum penalties for offences under the EP Act have not been reviewed since 2000. Increases since then have been through annual indexation of penalties. The maximum penalties under the EP Act are generally lower than in other jurisdictions and for commensurate offences in Victoria.[14]

The substantive pollution offences carry a maximum court penalty of 2,400 penalty units, which currently equates to approximately $360,000. By way of comparison, the maximum court penalty for breach of the general safety duty under the *Occupational Health and Safety Act 2004* is $1.35 million.

It is conventional for an offence provision to differentiate between the maximum penalties applicable respectively to an individual and a corporation (body corporate). Thus, the general duty safety provision in the Occupational Health and Safety Act specifies a maximum penalty for a corporation of 9,000 penalty units and, for an individual, of 1,800 penalty units. The ratio of 5:1 between maximum penalties for corporations and individuals is standard in Victoria.[15]

Anomalously, the EP Act offence provisions do not (with the exception of aggravated pollution) make this distinction, meaning that maximum penalties for corporations are inadequate.[16] This should be remedied as a matter of urgency.

Figures 13.3 and 13.4 compare the maximum court penalties for pollution offences in Victoria and NSW.

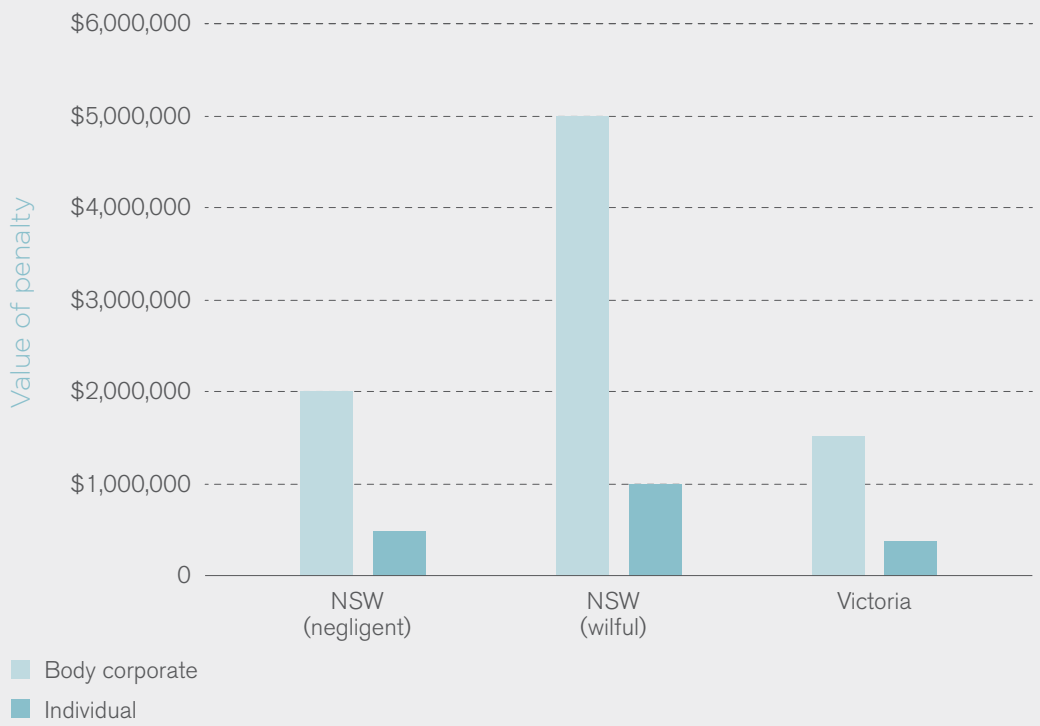
We recommend that:

- the maximum penalties for offences under the EP Act be increased to bring them into line with those applicable to equivalent offences in New South Wales
- separate maximum penalties be specified for offences by individuals and corporations, on a 5:1 ratio.

FIGURE 13.3 MAXIMUM PENALTIES IN VICTORIA AND NSW – OFFENCE OF POLLUTION

Source: *Environment Protection Act 1970* and *Protection of the Environment Operations Act 1997*.

FIGURE 13.4 MAXIMUM PENALTIES IN VICTORIA AND NSW – OFFENCE OF AGGRAVATED POLLUTION



Source: *Environment Protection Act 1970* and *Protection of the Environment Operations Act 1997*.

13.6 Inspection and enquiry powers

We recommend modernising the inspection and enquiry powers of EPA officers (including local government environment protection officers, as outlined in chapter 18). We concur with the findings of the Krpan Review, that there are significant gaps in the provisions which confer these powers:

> *The provisions rely on implication, as opposed to express powers, for critical functions of authorised officers. For instance, there is currently no express provision for making verbal enquiries or for requiring answers to questions.*[17]

There are a number of serious deficiencies:

- the powers of inspection and enquiry in the EP Act fall short of equivalent powers available to safety regulators
- the powers are unnecessarily confined, complex and susceptible to challenge
- EPA authorised officers lack powers to obtain search warrants, require answers to questions, require assistance or seize documents or other evidence
- EPA authorised officers lack the capacity to seek a court warrant to use a surveillance device
- the current offence of obstructing an authorised officer is deficient and does not adequately protect EPA staff in the discharge of their duties
- the inspection and enquiry provisions lack standard checks and balances, such as announcement on entry and production of identification.

We recommend that the provisions conferring these powers be overhauled, and that each of these deficiencies be remedied.

Recommendations

RECOMMENDATION 13.1

The EPA develop an overarching prosecution strategy to strengthen its processes, procedures and resourcing to facilitate timely prosecution.

RECOMMENDATION 13.2

The EPA review how it applies enforceable undertakings, taking account of best practice by other regulators.

RECOMMENDATION 13.3

Expand the range, and increase the severity, of sanctions by:

i) increasing the maximum penalties for criminal offences

ii) fixing separate maximum penalties for individuals and corporations

iii) empowering courts to fix fines which take account of the economic benefits of non-compliance

iv) introducing a civil penalty regime as an alternative to prosecution.

RECOMMENDATION 13.4

Modernise the inspection and enquiry powers for EPA authorised officers (including local government environment protection officers) to provide powers equivalent to those of safety regulators.

1 Office of Public Prosecutions, *Prosecution guidelines*, http://www.odpp.nsw.gov.au/prosecution-guidelines (accessed 25 February 2016).

2 Krpan S 2011, *Compliance and enforcement review: a review of EPA Victoria's approach*, Melbourne, p. 171.

3 Krpan S 2011, *Compliance and enforcement review: a review of EPA Victoria's approach*, Melbourne, p. 188.

4 For example, the prosecutions in December 2015, of Australian Tallow Producers Pty Ltd for air pollution offences in Brooklyn and Gippsland Waste Services Pty Ltd for illegal dumping of waste.

5 Hazelwood Mine Fire Inquiry 2014, *Hazelwood mine fire inquiry report 2014*, Melbourne, August, p. 12.

6 Hazelwood Mine Fire Inquiry 2014, *Hazelwood mine fire inquiry report 2014*, Melbourne, August, pp. 22–23.

7 WorkSafe Victoria 2016, *Hazelwood Power Corporation charged*, http://worksafenews.com.au/news/item/473-hazelwood-power-corporation-charged.html (accessed 7 March 2016).

8 EPA Victoria 2016, *Charges laid following EPA investigation into Hazelwood mine fire*, http://www.epa.vic.gov.au/about-us/news-centre/news-and-updates/news/2016/march/15/charges-laid-following-epa-investigation-into-hazelwood-mine-fire (accessed 16 March 2016).

9 Environment Victoria submission, p. 7.

10 Section 67D, *Environment Protection Act 1970*.

11 Victorian Government Gazette No S. 142, Tuesday 1 May 2012.

12 South Australia EPA 2015, 'EPA policy for calculation of civil penalties under the *Environment Protection Act 1993*', August.

13 *Commonwealth of Australia v Director, Fair Work Building Industry Inspectorate & Ors* [2015] HCA 46 [51] – [64].

14 Gunningham N 2015 b, *Options for reforming environmental law and regulation in Victoria*, Paper 2, Melbourne, p. 33.

15 Section 113D(1), *Sentencing Act 1991*.

16 The provisions creating the offence of aggravated pollution does specify different maximum penalties for individuals (2,500 penalty units) corporations (10,000 penalty units): section 59E, *Environment Protection Act 1970*.

17 Krpan S 2011, *Compliance and enforcement review: a review of EPA Victoria's approach*, Melbourne, p. 316.

CHAPTER 14

MANAGING LEGACY RISKS

MANAGING LEGACY RISKS

KEY MESSAGES

The harms of pollution are long lived and costly to remediate. As a community, we need to be pragmatic about managing legacy risks – be informed by sound science and account for the costs and risks of clean up or removal.

For the EPA, this means focusing on safety. Assessment and remediation efforts should focus on human health.

Environmental regulation needs to work hand in hand with land use planning to manage the safe redevelopment of potentially contaminated land. This approach will recognise that market pressures for land redevelopment should principally drive the clean up of legacy contamination.

The EPA can help to facilitate the 'voluntary' remediation and reuse of contaminated land, as well as require clean up by polluters where practicable as activities cease.

Reliable information on potentially contaminated sites is important to inform regulation and enable the community to manage risks.

Illegal dumpling of asbestos requires urgent attention.

14.1 Introduction

Victoria, like other economies with a significant history of settlement and industrial activity, has a legacy of sites that have been contaminated by past pollution and inappropriate waste management practices. It is not practicable to clean up all these sites – the costs of clean up would be very high and many sites pose little risk. However, risks do arise when people are directly exposed to hazardous substances in the soil and dust, and to vapours from contaminated soil and groundwater.[1] A key principle for risk management, therefore, is to manage land use to avoid exposure to potential contamination, and to ensure that land is assessed and remediated before it is used for any sensitive use.

Communities across Victoria raised concerns with us about the health risks from legacy contamination, reflecting the wide range of past activities that have created long lasting impacts. These activities include historical mining, agricultural activities, heavy industry and light industrial and retail activities, such as automotive workshops, dry cleaners and service stations. It is also clear that the community seeks greater assurance from the EPA about where there may be risks and how these will be managed.

Legacy contamination has been a focus of regulation in Victoria – through the EPA and the land use planning system – since the late 1980s. Like many other environmental issues, the regulatory framework for legacy contamination has developed incrementally, as we better understand risks and in response to critical incidents and threats to human health.[2]

Participants were also concerned about asbestos, which is a more pervasive legacy risk because of its widespread use as a building material and in other industrial and domestic products. Although its use is now prohibited, asbestos may still be found in construction materials in older households such as insulation and cement sheeting,[3] or in illegally imported building and other products.

The EPA must provide clear information to the community about these risks and how they are being managed. Given we live in proximity to legacy contamination, the EPA needs to proactively scan for potential risks, have rigorous processes for risk screening, and be transparent about providing information about risks to the community. This approach will help to avoid incidents that jeopardise community health – such as the 2008 'discovery' of landfill gas affecting housing at Brookland Greens[4] – and help to build community confidence in the system.

However, EPA responses must remain pragmatic and practicable – focusing on safety and recognising its task remains largely about risk management rather than clean up. Market pressures for redeveloping land will continue to drive legacy contamination clean up.

Legacy risks underscore the importance of the EPA's preventative task. They are the consequence of activities that occurred in the past because there was:

- limited or ineffective regulation, for example, historical mining and disposal of hazardous materials in landfills
- less knowledge about the serious and enduring impacts of various activities, or the use of specific materials and substances, for example asbestos and PFOS (perfluorooctanesulfonic acid).

Different instruments and approaches are needed to manage legacy risks because the focus is on identifying and managing pre-existing hazards, rather than on preventing pollution. However, preventative measures will help to reduce legacy risks for future generations. A fit-for-purpose instrument to manage post-closure risks, notification of pollution incidents and the general duty can raise community awareness about managing waste responsibly, including legacy waste (see chapter 12). Legacy risks remind us that the EPA needs to be mindful of the past, present and future, and must calibrate its regulatory responses accordingly.

14.2 Risk management for legacy contamination

Land use planning is a key tool for managing risk, in particular, for ensuring people do not live on contaminated sites and contaminated sites are safely redeveloped (with appropriate remediation).[5] To be effective, environment protection and planning elements must be improved and better integrated (box 14.1).

Risk management for already contaminated sites is challenging because:

- the passage of time means that there are likely to be many unknowns
- definitive assessment of risks is costly
- remediation can be very costly.

Jurisdictions around the world have dealt with these uncertainties and complexities by adopting a risk-based approach that focuses on:

- identifying potentially contaminated sites[6]
- prioritising and directing regulatory interventions to where there are risks of exposure – in particular, ensuring that sensitive uses, such as housing and schools, are not located on contaminated land[7]
- adopting risk-based requirements for clean up or risk management – ensuring that land is suitably remediated for its current or proposed use[8] – recognising that contamination will be left in situ in some cases.

BOX 14.1 MANAGING LEGACY CONTAMINATION THROUGH THE PLANNING AND ENVIRONMENT SYSTEMS

Contaminated land and groundwater is managed via a combination of statutory instruments under the EP Act and the *Planning and Environment Act 1987*. Under this integrated approach, sites that have been identified as posing a potential contamination risk through the planning system must be assessed by an expert and remediated (with specified site conditions).

Ministerial Direction No.1 (in the planning system) requires a statutory environmental audit (under the EP Act) to be undertaken when industrial land is rezoned for a sensitive use. In most cases, an environmental audit overlay will be placed on the land. The environmental audit overlay requires the land be audited before a sensitive use commences and as a pre-condition for works.

The statutory environmental audit system provides an authoritative mechanism for site assessment, undertaken by EPA-appointed auditors. Audits are consistent with national guidelines,[9] with EPA oversight. EPA-appointed auditors have statutory responsibilities under the EP Act and are subject to review and quality assurance by the EPA.

This expert assessment provides certainty for the community, landowners and occupiers, and the regulator, about whether there is a risk and how serious it is. Expert testing will always be needed for definitive guidance when sites are being redeveloped for a sensitive use; however, definitive risk assessment can be very costly and is therefore not warranted as a general risk identification tool.

Private businesses and others also use EPA-appointed auditors to determine the condition of a site and its suitability for use, or to advise on what must be done to make a site suitable for use.

There has been a renewed focus in recent years about improving Victoria's framework for managing contaminated sites, to keep pace with increasing awareness of health risks, better practice in other jurisdictions and growing demand for urban renewal and brownfield redevelopment.[10] Recent independent reviews and work undertaken within government have identified reforms that would improve the integration and efficiency of the system, provide for risk-based regulatory approaches and address gaps in the system to improve risk management.[11]

Inquiry participants also proposed reforms to the current system:

- the Planning Institute of Australia – Victoria[12] proposed rationalising the provisions of the EP Act relating to environmental audits and provisions in the planning system dealing with potentially contaminated land and the environmental audit overlay
- *Greater clarity and consistency for industry is needed with regards to the regulatory frameworks governing potentially contaminated land in Victoria.* (Property Council of Australia submission, p. 3)
- *The MAV expressed the view [in 2011] that the whole framework around potentially contaminated land should be reviewed … The review did not progress and there have been no changes to the management of potentially contaminated land.* (Municipal Association of Victoria submission, p. 18)

We consider DELWP and the EPA should pursue this reform agenda as a priority. Further, some parts of the system can be significantly improved in advance of statutory changes. But modernising and streamlining Victoria's approach to managing legacy contamination requires changes to the EP Act, state environment protection policies (for contaminated land and for groundwater), and to key planning instruments.

Victoria needs a modernised system for dealing with legacy contamination given the increasing challenges of population growth and as our changing economy drives the reuse of former industrial land. Such improvements can reduce risks to human health and also facilitate the safe and efficient redevelopment of land for higher value uses. For these reasons, system reforms were nominated as a priority measure in the 2014 *Plan Melbourne*.[13]

Considering legacy risks – and our discussions with stakeholders – helped us clarify three critical issues for the EPA of the future:

- We need good advice on legacy risks (such as asbestos in our buildings), including on how to responsibly manage them, knowing that they will not all be cleaned up
- Regulators must be able to identify and focus their efforts on priority risks, in particular, where people might be exposed to hazardous substances
- For legacy contamination, urban renewal will drive remediation, but we need a regulatory system that supports and facilitates safe redevelopment of these contaminated sites.

14.2.1 Key enhancements to the current system

We considered some key enhancements that could be included in a reform package. These are outlined below but are not an exhaustive list of reform proposals; we did not attempt a comprehensive review of the system.

In particular, we received a range of proposals to improve the efficiency of the system (and reduce costs) and to strengthen risk management. Many warrant further consideration and should be addressed as part of a comprehensive review of the system for managing legacy contamination. In particular, we note the following:

- *Alternative mechanisms to be in place to enable agreement to be reached between EPA and a developer/occupier on approaches to remediation, such measures would be 'voluntary' (for example, South Australia's VSCAP provisions) or by agreement rather than punitive notices which tend to be prescriptive … the issuance of punitive notices may drive the wrong behaviours from site owners/operators in the future, as they would be less inclined to engage EPA.* (Australian Contaminated Land Consultants Association submission, p. 19)
- Strengthened compliance and enforcement of statutory audit conditions, including recognising these through land titles

  [E]nforceability of audit statement conditions: this has been an issue for 20 years. There should be a system similar to other states where conditions are recognised on title. (Australian Contaminated Land Consultants Association submission, p. 10)

  The ongoing management of conditions of Statement of Environmental Audit places an unreasonable technical burden on councils. (Municipal Association of Victoria submission, p. 18)

An enhanced role for the EPA

We consider the EPA should take a leading role in coordinating and overseeing risk management for legacy contamination. This approach is consistent with its current responsibilities and its place as the leading source of expertise within the Victorian Government. It also accords with the proposed objective (outlined in chapter 5) of protecting human health and the environment by reducing the harmful effects of pollution and waste.

The EPA also brings a whole-of-system long term view, knowing that the pollution it misses today is a risk to be managed tomorrow. It must make calculated and strategic decisions about risk management and how to apply its toolkit effectively. This may involve regulatory interventions that require clean up (through existing clean up notices and new post-closure notices discussed in chapter 12) and working with the planning system to support voluntary remediation of sites.

Stakeholders supported an integrated environment protection and planning system, but wanted a stronger role for the EPA, given its expertise and its whole-of-system approach:

> *The Property Council recognises that land needs to be identified as being potentially contaminated at the planning stage and that an environmental audit overlay may be appropriate in some cases … EPA should ensure that action (assessment and remediation) triggers are proportionate to risk and that they are clearly communicated to stakeholders.* (Property Council of Australia submission, p. 4)

The Victorian Auditor-General's Office also identified problems arising from a lack of whole-of-system coordination and accountability:

> *The governance arrangements for the regulatory framework and the contaminated sites system are undermined by a lack of oversight and accountability for the effective operation of the framework.*[14]

Improved integration of environmental and planning systems

We recommend the government better integrate the environment protection and planning systems, providing for a consistent whole-of-system approach to identifying contaminated land and enforcing compliance with audit conditions. Currently, the EPA's statutory environmental audit system underpins our system for managing legacy contamination and other environmental risks. Audits provide an authoritative mechanism for assessing risk and managing appropriate remediation. Thinking about how the audit system should be deployed – to improve risk management and reduce system costs – is a critical starting point for system reform.

Statutory audits are costly but they provide a high level of assurance. EPA-appointed auditors are also used extensively in the private sector for due diligence. They yield reliable information about the state of land and groundwater, which can be captured in the public interest. The cost means statutory requirements must be carefully framed, so audits appropriately target potential risks.

The planning system currently triggers a statutory environmental audit (under the EP Act) when industrial land is rezoned for a sensitive use. Contamination will be identified, assessed and remediated as necessary to make the land suitable for the proposed use (table 14.1). This approach works well for some sites, but it can only apply to sites already identified as being contaminated. It may not capture a site that was rezoned many years ago or if a contaminating activity occurred outside an industrial zoning (such as a service station or dry cleaner).

TABLE 14.1 MANAGING RISKS FROM LEGACY CONTAMINATION – PROPOSED ENHANCEMENTS TO CURRENT TRIGGERS AND CONTROLS

Reliable site history information – Missing from the current system

To identify when assessment is necessary and allow for better targeting of land use planning controls and improved protection for sensitive uses.

Requirements in the planning system

Triggers and controls in the land use planning system seek to identify potentially contaminated land so as to ensure that risks are assessed for before a 'sensitive use' is permitted.

Ministerial Direction no.1 – when preparing planning scheme amendments, planning authorities must be satisfied that the environmental conditions of the land for sensitive use (such as a childcare centre or housing) will be suitable for that use

Environmental Audit Overlay – applied under the Victoria Planning Provisions to signal that a site is potentially contaminated and requires an environmental audit before any works commence on that site.

EPA statutory audit system

Sites require an environmental assessment and audit when there is a need to understand the nature and extent of any contamination that may be present and whether that contamination poses a risk to the environment.

Assessment – statutory audits ensure that authoritative expert assessment is undertaken prior to redevelopment

Remediation – The audit is finalised when the auditor is satisfied that site risks have been remediated, or suitably managed, that is suitable for the proposed use.

Council approval subject to the statutory audit

A planning permit cannot be issued until a statutory environmental audit is completed. This ensures that the site is safely redeveloped for the proposed use. In many cases, sites will be safe but require ongoing conditions (determined by the auditor) that are necessary to manage risks. Local government planners need to be aware of what the conditions of a statement are, and these must be transferred to the planning permit.

Public register and strengthened compliance measures – Missing from the current system

Coordinated approach to ensure ongoing compliance with audit conditions and make these publicly accessible.

Previous reviews recognised these problems and recommended a more comprehensive and proactive approach to identifying potentially contaminated sites.

> *[W]e do not see any real alternative to systematically identifying potentially contaminated land. In the absence of such mapping, advice cannot really move beyond a vague exhortation to 'take care'. We recommend: [t]he Environment Protection Authority and councils work to systematically identify potentially contaminated land.*[15]

In addition, a more systematic and evidence-based approach would reduce costs and avoid time delays for development arising from precautionary measures in the planning system that result in 'unnecessary' audits:

> *[Some] councils have applied an EAO [environmental audit overlay] over a whole precinct where there has been a history of some past industrial activity. This wide area application has captured sites that historic[al] records show have always been residential, resulting in onerous and expensive assessments being required when owners apply for a permit to undertake modest modifications.*[16]

In making land use planning decisions based on statutory audits, local governments hold ongoing responsibility for the compliance and enforcement of audit conditions. The Victorian Auditor-General's 2011 report found 'significant deficiencies in compliance monitoring... reduc[ing] assurance that human health and the environment are being adequately protected in relation to the management of contaminated sites'.[17]

Without robust compliance measures, some remediated sites (for example, sites using site capping) may be redeveloped, and expose future workers and the community to contamination risks. We consider an integrated approach, overseen by the EPA, will provide for a consistent whole-of-system approach to ensure compliance with audit conditions. This approach requires a centralised database that enables tracking and effective enforcement of audit conditions, as well as a process for making these conditions transparent to landowners and prospective purchasers through the land title.

Identifying potentially contaminated sites

An important first step is to identify sites that are likely to be contaminated, both to more effectively target regulatory interventions and to inform landowners and the community so that they can manage their own risks appropriately. Reliable and easily accessible information on where potentially contaminating activity has occurred will help to keep people safe, and support investment in remediation and redevelopment.

We recommend a statewide database of potentially contaminated sites be developed, drawing on site history information. The database should integrate data across government, including from DELWP and LandVic. It should draw on work the EPA has already done on identifying underground petroleum storage tanks and closed landfills across Victoria.

Currently there is no database of potentially contaminated sites in Victoria. The EPA and local governments hold some knowledge informally, but it is piecemeal, ad hoc and anecdotal. Nor is it accessible to the public or to statutory decision makers. The Victorian Auditor-General's report on landfill highlighted this problem:

> *… all closed landfills would need to be identified by councils and included on a public register managed by EPA to inform planning and development decisions … [and] The lack of information around old closed landfill sites and those that have not been regulated by EPA … means there is significant gap in the effective oversight and management of risks posed by landfills.*[18]

Identifying potentially contaminated sites requires robust and comprehensive data and risk screening tools. Key challenges include:

- there may be no obvious evidence of the original contaminating activities
- the land use may have changed
- the extent of pollution and risk may be unknown, even if the site history indicates the likely risk.

In addition, in many circumstances – such as historical mining and small scale industrial activity in inner urban areas – the original polluter(s) may no longer exist. For this reason, it is not possible to rely on polluter or landowner disclosure requirements to obtain information on where there are risks and which are critical.

Recent independent reviews of the contaminated environments framework identified improved information on contaminated and potentially contaminated environments as important areas for system reform.[19] In particular, it was recommended that:

> *The Environment Protection Authority and councils work to systematically identify potentially contaminated land.* (recommendation 1)

And

> *The Environment Protection Authority maintains a centralised register of potentially contaminated land.* (recommendation 2)[20]

The Municipal Association of Victoria supported a statewide database, noting it would be a useful resource for local government and would provide access to valuable existing data:

> *The EPA has access to significant records that could be utilised to identify and map potentially contaminated land in a GIS layer compatible with council systems.* (Municipal Association of Victoria submission, p. 18)

The EPA and local government planners could use the database to screen for high risk sites and ensure that these are managed appropriately, including via the environmental audit overlay. Planners could also use the database to remove the overlay where it is not required, based on the risk assessment. This would address some of the problems with unnecessary and costly assessments.[21]

The database should include EPA information about sites that are subject to action (currently recorded on its Priority Sites Register) and sites that have been assessed for contamination through the audit system – that is, where there are known/confirmed risks and where remediation measures have been undertaken. The database should also be publicly available, and guide the community about the risk status of sites. For this reason, we consider it appropriate to rename the Priority Sites Register.[22]

> *…the LIV supports the development of formal registers and databases in collaboration with other relevant bodies (that is, DELWP, Sustainability Victoria and the Commissioner for Environmental Sustainability), using modern data sharing and analysis technologies, to provide an accessible and transparent means through which users can access relevant information about the environment.* (Law Institute of Victoria submission, p. 8)

This proposal complements a general overhaul of access to existing data and risk information. In its submission to the inquiry, Federation University's Centre for eResearch and Digital Innovation noted that there were significant shortcomings in the EPA's current information systems.[23]

Reviewing policy settings for groundwater clean up

We also heard from stakeholders about problems with the current statutory policy framework for managing contaminated environments. In particular, stakeholders advocated a more risk-based approach to audit requirements, particularly relating to groundwater contamination in urban areas:

> *Currently, the amount of effort involved in auditing a potentially contaminated environment is not always representative of the level of risk posed by the contamination.* (Property Council of Australia submission, p. 3)

> *…a more pragmatic approach to how to Clean Up to the Extent Practicable (CUTEP) [requirement for groundwater] can be achieved without the arduous (and often unnecessary) requirement to complete a 53X Audit … Need to re-evaluate the approach to groundwater beneficial uses, in particular their protection within an urban setting … should be based on the value of the resource in terms of its potential use…* (Australian Contaminated Land Consultants Association submission, pp. 5, 20)

Opportunities for a more pragmatic and 'precinct-based' approach to managing groundwater risk in urban areas have been previously identified for the government to consider.[24] An instrument similar to the Groundwater Quality Restricted Use Zone could be introduced across metropolitan Melbourne. This provides a clearly 'visible' flag that groundwater is unsuitable for most uses, and provides landowners and developers with greater certainty about their obligations. It could specify the expectations for assessment, risk management and clean up and establish appropriate beneficial uses for urban areas.[25]

The current review of the state environment protection policy also flagged the need for more risk based approaches to groundwater contamination:

> *Key issues with contaminated groundwater will be the application of a risk-based approach more aligned with the approach for management of contaminated land, and how precinct and sub-regional approaches could account for likely future uses of groundwater. Addressing key issues will provide more certainty for remediation.*[26]

More efficient, timely and less costly approaches to groundwater were proposed by both expert practitioners and the property development industry and we consider these should be investigated as part of the review of the statutory framework. In particular, risk-based precinct approaches could also account for the likely future uses of groundwater. The revised policy should consider the appropriate extent of clean up required in urban settings, noting that human health impacts from vapours should be the critical consideration when the potential use of groundwater is limited.[27] A more risk-based approach to remediation would protect human health and balance environmental protection with economic viability and growing sustainable jobs in Victoria.

14.3 Better integration of asbestos advice and response

Until the mid-1980s, Australia was a producer of asbestos and one of the world's highest users of asbestos per capita.[28] Many homes and other buildings built before the late 1980s contain some asbestos-containing materials. The main risks from asbestos arise when it is damaged, disturbed or removed from buildings without appropriate safeguards.[29]

> *Australia has one of the highest incidence rates of malignant mesothelioma in the world. The incidence of mesothelioma increased in Australia from at least 1982, when data on new cases first became available nationally, but appears to have stopped increasing in incidence since the early 2000s.*[30]

This trend is likely to reflect the effects of: banning asbestos materials; rigorous regulation of risks of exposure to asbestos fibres in the workplace; and increased community awareness of asbestos risks and the need for safe practices. However, new diagnoses will continue for some time as mesothelioma symptoms do not usually appear for up to 50 years after exposure.

The prevalence of asbestos means the community must be well informed about safe practices to manage asbestos in situ and also to deal with it responsibly when it is removed or when works are undertaken. Australian state and federal jurisdictions have taken this approach when preparing advice for households:

> *The [enHealth] guide therefore contains information to help householders make decisions about the risks associated with exposure to asbestos-containing materials in their home. It also contains practical information to lower the risks of exposure; however, if in doubt, always seek assistance from a licensed professional.*[31]

Asbestos regulations focus on managing exposure to the already existing hazard. The overall incidence of asbestos-related disease may be declining, but there are concerns about exposure risks involving householders, particularly if they are undertaking DIY renovations. Asbestos must be managed during fires and other incidents. The community must remain aware of potential risks and be supported to adopt safe practices.

Illegal dumping of asbestos is a critical risk requiring urgent attention. This problem occurs across urban and rural Victoria and is in part driven by the lack of appropriate disposal options and the cost of asbestos disposal – a result of current waste policy and levy arrangements. In chapter 21, we propose reforming levy settings, in part to deal with illegal dumping issues. This should include redesigning the Prescribed Industrial Waste Levy, the availability of appropriate disposal options, and the need to provide for responsible disposal of asbestos and contaminated soil.

> *Council currently responds to reports of dumped asbestos containing materials on a regular basis at significant investigation, clean up, transport and disposal cost. Council would welcome work by the EPA to identify and remove barriers to the correct disposal of asbestos, as well as any initiatives to encourage businesses, tradespersons and residents to take materials to appropriate facilities for disposal.* (Brimbank City Council submission, p. 6)

The EPA and DHHS have also been closely involved in managing asbestos 'incidents' in recent years. These incidents underline the importance of expert advice to government on both health risks and the appropriate regime for assessing and monitoring risks. The consolidated environmental health group proposed in chapter 6 will provide expert advice on these matters to Victoria's Chief Health Officer and other parts of government, supporting Victoria's incident response capability.

During our consultations, we heard stakeholders were concerned about who was responsible for dealing with asbestos risks and the potential for this to result in inconsistent advice, regulatory gaps or 'buck passing'.

> *There is a mismatch between environmental guidance and OHS Regulation relating to the assessment and management of residual asbestos materials in soils.* (Australian Contaminated Land Consultants Association submission, p. 6)

> *Nobody understands where the boundaries are with asbestos. Worksafe only cares if it's in a factory; we only care if it's being dumped; Council just worries about having a tip that'll take it. It's everyone's problem and no-one's. (Comment from EPA staff member quoted in Community and Public Sector Union Victoria submission, p. 17)*

Given the pervasiveness of asbestos in our built environment, its management requires a whole-of-community approach, and involves various government agencies, including:

- WorkSafe – regulating asbestos exposure in Victorian workplaces
- local governments – managing asbestos that has been illegally dumped, providing a local response and using Emergency Orders for unsafe buildings and properties.

We consider the current responsibilities for managing asbestos can be simplified and better integrated. WorkSafe, the EPA and DHHS already cooperate to provide risk information,[32] but the EPA could play a stronger leadership role – as an expert, proactive, strategic and influential regulator – in the following areas:

- Building on its consolidated environmental health capability, the EPA can advise government on asbestos risks and take stronger leadership on risk communication for the community (in partnership with the Chief Health Officer and WorkSafe) and ensure up-to-date and consistent direction in statutory guidance.[33]

- Local environment protection officers (to be located in local governments, see chapter 18) will strengthen local government capacity and powers to raise community awareness of safe practices. Local government can also address localised pollution and waste issues in the first instance, with the EPA providing technical and strategic support, and coordination across Victoria as required.
- As part of developing comprehensive site history data, the EPA can identify high risk sites associated with historical asbestos-processing activities. It can also ensure that remediation is appropriate and that any residual risks are actively managed and monitored.
- The EPA can seek better designed waste policy settings that support responsible disposal of asbestos waste.

Recommendations

RECOMMENDATION 14.1

The Department of Environment, Land, Water and Planning develop a comprehensive statewide database of sites that pose a high risk to the community because of their past use, which should link to other relevant government data sources including information held by the EPA.

RECOMMENDATION 14.2

Integrate and strengthen planning and environmental regulation of legacy contamination, through a reform process led by the Department of Environment, Land Water and Planning to provide a more consistent, risk-based approach to risk screening, assessment and remediation requirements and ongoing compliance mechanisms.

RECOMMENDATION 14.3

As part of reform of the Prescribed Industrial Waste Levy, give specific attention to addressing illegal dumping and supporting responsible disposal of asbestos.

1 Contaminated groundwater can also be a concern if populations depend on it for water supply or there are significant impacts on the health of waterways, impacting the environment and productive uses.

2 The initial regulatory framework was established following the discovery of lead contamination in soil in a new residential estate at Suspension Street, Ardeer in the former City of Sunshine in 1989. The land had been used for secondary lead smelting and lead-acid battery manufacture.

3 http://www.asbestos.vic.gov.au/about-asbestos/types-of-asbestos (accessed 10 March 2016).

4 Ombudsman Victoria 2009, *Brookland Greens Estate – Investigation into methane gas leaks*, Melbourne, October, p. 24.

5 Through zoning controls, in particular, the planning system can ensure that 'sensitive uses' – such as housing and childcare facilities – are not located on sites with a risk of exposure to contamination in the land or groundwater.

6 For example, the Listed Land Use database in Canterbury New Zealand (see http://llur.ecan.govt.nz/Public/, accessed 7 March 2016); the Northern Ireland Environment Agency's database of sites based on their historic land use and potential for contamination (see https://www.doeni.gov.uk/articles/planning-and-land-contamination, accessed 7 March 2016); European Environment Agency 2000, Management of contaminated sites in Western Europe, Copenhagen (http://www.ehu.eus/europeanclass2003/eeasoil.pdf, accessed 7 March 2016).

7 For example, Cal EPA schools clean up program, http://www.dtsc.ca.gov/Schools/index.cfm (accessed 7 March 2016).

8 For example, UK planning provisions (http://planningguidance.communities.gov.uk/blog/guidance/land-affected-by-contamination/land-affected-by-contamination-guidance/ (accessed 7 March 2016).

9 The National Environment Protection (Assessment of Site Contamination) Measure. http://www.scew.gov.au/nepms/assessment-site-contamination (accessed 9 March 2016).

10 Brownfields refer to former industrial sites or other sites where 'expansion, redevelopment, or reuse … may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.' https://www.epa.gov/brownfields/brownfield-overview-and-definition (accessed 7 March 2016).

11 Victorian Auditor-General's Office 2011, *Managing contaminated sites*, Melbourne, December; Potentially Contaminated Land Advisory Committee 2012, *Report for the Minister for Planning*, Melbourne, March; *Cleaner environments – smarter urban renewal*, September 2014, http://www.depi.vic.gov.au/environment-and-wildlife/sustainability/Cleaner-Environments-Smarter-Urban-Renewal (accessed 19 March 2016).

12 Planning Institute of Australia – Victoria submission, p.3.

13 The Government of Victoria 2014, *Plan Melbourne Metropolitan Planning Strategy*, Melbourne, p. 75.

14 Victorian Auditor-General's Office 2011, *Managing contaminated sites*, Melbourne, December, p. 25.

15 Potentially Contaminated Land Advisory Committee 2012, *Report for the Minister for Planning*, Melbourne, March, p. 21.

16 Potentially Contaminated Land Advisory Committee 2012, *Report for the Minister for Planning*, Melbourne, March, p.23.

17 Victorian Auditor-General's Office 2011, *Managing contaminated sites*, Melbourne, December, p. 36.

18 Victorian Auditor-General's Office 2014, *Managing Landfills*, Melbourne, September pp. 32–33.

19 Potentially Contaminated Land Advisory Committee 2012, Report for the Minister for Planning, Melbourne, March; Victorian Auditor-General's Office 2011, *Managing contaminated sites*, Melbourne, December.

20 Potentially Contaminated Land Advisory Committee 2012, *Report for the Minister for Planning*, Melbourne, March, p. 2.

21 See recommendation 6, Potentially Contaminated Land Advisory Committee 2012, *Report for the Minister for Planning*, Melbourne, March, p. 3.

22 The EPA website acknowledges that there is confusion about this: 'The Priority Sites Register is not a listing of all contaminated sites in Victoria, nor is it a list of all contaminated sites of which EPA has knowledge.' http://www.epa.vic.gov.au/your-environment/land-and-groundwater/priority-sites-register (accessed 11 March 2016).

23 Centre for eResearch and Digital Innovation, Federation University submission, p. 2.

24 Department of Environment, Land, Water and Planning 2014, *Cleaner environments – Smarter urban renewal*, Melbourne, September, p. 19.

25 Department of Environment, Land, Water and Planning 2014, *Cleaner environments – Smarter urban renewal*, Melbourne, September, p. 20.

26 Department of Environment, Land, Water and Planning 2015, *State Environment Protection Policy (Waters) review discussion paper*, Melbourne, June, p. 3.

27 The Property Council of Australia also advocates for this change in approach in its submission, p. 2.

28 Australian Mesothelioma Registry 2012, *Mesothelioma in Australia 2012*, 2nd Annual Report, p. 8.

29 Environmental Health Standing Committee (enHealth) 2013, *Asbestos: a guide for householders and the general public*, Canberra, February, p. 4.

30 Australian Mesothelioma Registry 2012, *Mesothelioma in Australia 2012*, 2nd Annual Report, p. 8.

31 Environmental Health Standing Committee (enHealth) 2013, *Asbestos: a guide for householders and the general public*, Canberra, February, p. 4.

32 A single, dedicated asbestos website: asbestos.vic.gov.au (accessed 10 March 2016).

33 The Australian Contaminated Land Consultants Association noted in its submission, 'There is a mismatch between environmental guidance and OHS Regulation relating to the assessment and management of residual asbestos materials in soils.', p. 6.

CHAPTER 15

A NEW APPROACH TO STANDARD SETTING

A NEW APPROACH TO STANDARD SETTING

KEY MESSAGES

Good regulatory practice means standards are set by the regulator, are contemporary and reflect improvements in current knowledge.

The EPA's enhanced scientific expertise will support a more active role in setting environment protection standards and ensuring that they are kept up-to-date, and to support guidance and compliance obligations for a broader range of duty holders as part of the implementation of the general duty.

The EPA has an important role in advocating on behalf of Victoria for the right national standards (for example, national standards on air quality) and reporting and monitoring against those standards.

15.1 Introduction

We propose an EPA of the future that can meet community expectations for protection – that 'combine environmental protection with economic viability' – and anticipate new environmental dangers, responding quickly to issues as they arise. In practice this is demanding and complex. It requires high order scientific expertise, and understanding of regulatory design and operational practicalities.

Environmental standards and compliance obligations need to reflect contemporary science and the statutory requirements of 'reasonable practicability' to support the implementation of the general duty. They need to be framed and in a format that is capable of being kept up-to-date and that can be clearly communicated and understood by industry, practitioners and key decision makers. They also need to be interpreted to the community – to build confidence in the system.

The EPA holds the technical expertise to set environmental standards and understands how they operate within the regulatory framework and in the practical settings of duty holder obligations. The EPA should be evaluating the effectiveness of standards and identifying, from its monitoring and experience in the field, when there are deficiencies or gaps in standards. It needs to 'own' its standards and be accountable for them to business and the community.

This chapter examines ways to improve the EPA's statutory standards policies, both the environment protection standards (or 'goal post' standards) and the compliance obligations, which seek to improve environmental performance. In particular, we propose that these should be reframed to allow the EPA to set environmental standards and to be accountable for the currency and effectiveness of the standards (as outlined in the functions in chapter 5).

15.2 Statutory policies

Currently, Victorian environmental standards have statutory force in the EP Act through state environment protection policies (SEPPs) and waste management policies (WMPs).[1] SEPPs aim to safeguard environmental values and human activities (beneficial uses) from pollution and waste. WMPs establish statewide standards and directions for waste management.

SEPPs and WMPs are whole-of-government statutory commitments. Once established, statutory policies must be reviewed every 10 years to reflect updated scientific knowledge, but do not automatically sunset or cease to exist like regulations.[2] Statutory policies have been a core component of the EP Act since it was introduced in 1970. All other Australian states have statutory policies, in some form, under their environment protection legislation.

The EP Act specifies the process for making and reviewing statutory policies, which involves formal public consultation, preparing a Policy Impact Assessment and approval through the Governor in Council.

The current SEPPs and WMPs contain different types of content. They identify beneficial uses, broad environmental standards, specific standards, environmental indicators, compliance obligations and implementation requirements. This approach, and calling them 'policies', creates confusion about their purpose and status.

Generally, statutory policies can contain two types of standards.

- **Environment protection standards: 'the goal posts'**

  These define the broad environmental quality standards that the EPA seeks to protect on behalf of the Victorian community. They also identify the management standards the EPA applies through its regulatory framework (such as licensing and works approvals[3]) to achieve environmental quality standards.

  SEPPs and WMPs are also the primary mechanism for adopting national standards, the National Environmental Protection Measures (NEPMs) established under the *National Environment Protection Council (Victoria) Act 1995*. There are NEPMs on ambient air quality, air toxics, assessment of site contamination, diesel vehicle emissions, movement of controlled waste, the national pollutant inventory and used packaging materials.

  Environmental standards are updated based on robust scientific analysis of new and emerging risks, as well as new technologies and approaches to managing those risks. The government also assesses the relative costs and benefits of changes before changing environmental standards.

- **Compliance obligations**

  Compliance obligations set out how duty holders are expected to meet their environment protection obligations. They should evolve over time as our understanding of the causes and methods for preventing impacts and incidents improves.

  Currently, compliance obligations are set out in regulations, SEPPs and WMPs and incorporated into documents such as Best Practice Environmental Measures and other EPA guidance documents. However, under a general duty, codes of practice will be the primary method for specifying how to meet the duty, although regulations can set out specific requirements.

Monitoring and reporting against standards is an important task of the EPA. The EPA uses the data to provide information to the community, identify problem areas where action is required, evaluate the effectiveness of approaches taken to meet the standards, and inform the advocacy for and development of future standards on behalf of Victoria.

The EPA has an important advocacy role on behalf of Victoria in driving improvements to national standards, particularly for air quality (box 15.1) and for chemicals regulation. This role reflects the EPA's expert monitoring and understanding of the impacts of pollution and waste on human health and the environment.

BOX 15.1 NEW NATIONAL AMBIENT AIR QUALITY STANDARDS

The National Environment Protection Measure (Ambient Air Quality) (NEPM AAQ) was established in 1988 and sets national ambient (outdoor) air quality standards. These standards cover six common pollutants – particles (PM_{10}), ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide and lead. In 2003, the NEPM AAQ was varied to add an advisory reporting standard for $PM_{2.5}$.

Under the *National Environment Protection Council (Victoria) Act 1995*, standards are set after considering environmental, health, technical, social, economic, political, legislative and cultural factors. Standards are primarily based on protecting human health or the environment. Each state and territory government implements legislation, statutory instruments, policies and programs to meet NEPM AAQ standards.

Victoria was instrumental in leading agreement of Commonwealth, state and territory environment ministers to strengthen national ambient air quality reporting standards for airborne fine particles in December 2015.[4] The amendments to the NEPM (AAQ):

- change the status of the annual average and 24-hour average $PM_{2.5}$ 'advisory' standard to a compliance standard
- include an annual average PM_{10} standard (25 µg/m^3)
- include an aim to move to annual average and 24-hour $PM_{2.5}$ standards of 7µg/m^3 and 20 µg/m^3 by 2025
- initiate a nationally consistent approach to reporting population exposure to $PM_{2.5}$
- change the goal of the 24-hour $PM_{2.5}$ and PM_{10} standards from an allowable exceedance of five days to an exceptional event rule.

The following changes are particularly relevant for Victoria:

- The *Hazelwood Mine Fire Inquiry Report 2014*[5] and the Victorian Government[6] advocated strongly to convert the advisory standard for $PM_{2.5}$ to a compliance standard via national processes.
- Victorian and ACT ministers agreed to set (and South Australia will consider) a more stringent annual average PM_{10} standard of 20 µg/m^3, consistent with World Health Organisation (WHO) guidelines. This is the only NEPM (AAQ) particulate matter standard which is less stringent than WHO standards. Jurisdictions are allowed to adopt more stringent standards under NEPM. Victoria will continue to monitor and report against the agreed NEPM (AAQ) standard to ensure national consistency.

The EPA and DELWP contributed to developing the amendments to the NEPM (AAQ). The amendments, including the more stringent standard for PM_{10}, will need to be incorporated into Victoria's regulatory regime via the SEPP (AAQ).

The EPA is leading the review of the national ozone, nitrogen dioxide and sulphur dioxide standards under the NEPM (AAQ). The draft variation and impact statement will be released later in 2016.

15.3 Shortcomings in the statutory policy framework

The current statutory policy framework has shortcomings as a mechanism for setting and updating environmental standards, unnecessarily limiting Victoria's ability to respond to environmental challenges. A 2013 review of the process found it complex and inflexible and recommended changes to be implemented in the next round of statutory policy reviews:

> *Feedback from industry and other stakeholders indicates SEPPs and WMPs are often complex, difficult to access and poorly understood. A lack of coordinated and accountable implementation has limited their effectiveness and exposed EPA and other Victorian government agencies to legitimate criticism. Current statutory policies are not sufficiently flexible to respond well to emerging challenges. Many SEPPs and WMPs are overdue for review, undermining stakeholder confidence and creating uncertainty for decision makers. Despite these problems, feedback and analysis have confirmed the fundamental importance of statutory policy for environment protection in Victoria.*
>
> *This review proposes reforms to deliver a much simpler, streamlined and accountable statutory policy framework that will support industry and government agencies to act to prevent pollution and protect the environment. The review recommends actions that will simplify and clarify the focus of statutory policy and improve implementation and accountability, links with other statutory systems, and readability and accessibility.*[7]

Reviews of the Noise SEPPs and the Water SEPPs started in 2014 and 2015, respectively. However, even with proposed changes, there are still problems with the policies and the processes for updating them. First, SEPP reviews take several years and struggle to meet review time frames.[8] This reflects the complexity of the SEPPs, the scientific basis of the standards but also the complexity of the SEPPs and the process for making them. These delays undermine the EPA's authority.

Second, the policies are difficult to understand. They need to translate science-based environmental knowledge into useful regulatory controls. However, the current policies do not fulfil this aim. They cannot be easily incorporated into planning controls, for example.

Stakeholders shared our concerns about the current SEPPs and WMPs:

> *The EPA's SEPPs and 'Best Practices' guidelines either do not provide enough guidance to decision makers or have been poorly interpreted.* (Environment Victoria submission, p. 4)
>
> *There is an absence of an enforcement framework around SEPPs. It is unclear whether they can be enforced, by whom, and in what circumstances.* (Municipal Association of Victoria submission, p. 10)
>
> *The legal status of State environment planning policies ('SEPPs') is currently uncertain and should therefore be clarified and strengthened by drafting relevant provisions as regulations under the EP Act.* (Law Institute of Victoria submission, p. 6)

15.4 Proposed approach

We propose phasing out SEPPs and WMPs, and splitting the component parts into separate fit-for-purpose instruments:

- A new instrument called environment protection standards will define environmental quality standards and adopt national standards
- Regulations will set out specific compliance obligations
- Statutory codes of practice will set out practical guidance on how to comply with the general duty
- Non-statutory implementation plans and compliance strategies will contain attainment or implementation programs (actions required to meet the environmental quality standards).

Our proposed approach is consistent with the 2013 review findings and recommendations, but takes them further by recommending legislative changes. By deconstructing SEPPs and WMPs, the EPA will be able to review and update the different components more readily to maintain scientific currency. This approach also better separates the technical and regulatory elements from high level policy settings, clarifying the EPA's responsibilities in line with the approach to policy discussed in chapter 5. The lead agency for the proposed new environment protection standards will depend on the proposed content of the standard and the requirement for technical expertise.

Table 15.1 sets out our proposed new approach for standard setting, noting the roles expected of the EPA and DELWP.

TABLE 15.1 PROPOSED NEW APPROACH FOR STANDARD SETTING

Components	Current tools	Proposed tools	Future statutory basis?	Proposed Lead agency
Environment policy settings	Policy statements	No change	No	DELWP
Environment protection standards: 'the goal posts'	State environment protection polices Waste management policies	Environment protection standards (new instrument), including national standards	Yes	DELWP or EPA
Compliance obligations	Regulations State environment protection polices Waste management policies Incorporated documents (for example, best practice environmental measures)	Regulations – set specific requirements that must be complied with Codes of practice – provide practical guidance on how to meet the general duty	Yes	EPA
Guidance	Other types of guidance (for example, guidelines, information bulletins)	Consolidated forms of guidance	No	EPA
Attainment or implementation programs	State environment protection polices Waste management policies	Non-statutory implementation plans and compliance strategies	No	EPA

Recommendation

RECOMMENDATION 15.1

Replace state environment protection policies and waste management policies with a simplified approach to standard setting that allows for timely review and updating of standalone elements, including:

i) overarching policy settings to be established by the Department of Environment, Land, Water and Planning

ii) technical standards to be determined by EPA.

1 Sections 16, 16A, *Environment Protection Act 1970*.

2 Department of Environment, Land, Water and Planning and EPA Victoria 2011, *Statutory policy review discussion paper*, Melbourne, June, p. 6.

3 EPA Victoria 2014, Compliance and Enforcement Policy, Melbourne, August, p. 8.

4 Agreed Statement, Meeting of Environment Ministers, 15 December 2015, http://www.environment.gov.au/system/files/pages/4f59b654-53aa-43df-b9d1-b21f9caa500c/files/mem-meeting4-statement.pdf (accessed 10 March 2016).

5 Hazelwood Mine Fire Inquiry 2014, *Hazelwood mine fire inquiry report 2014*, Melbourne, August, p. 292.

6 Hazelwood Mine Fire Inquiry Implementation Monitor 2015, *Annual report*, Melbourne, October, p. 49.

7 Department of Environment, Land, Water and Planning and EPA Victoria 2013, *Statutory policy review final report*, Melbourne, July, p. 1.

8 For example, SEPP (Control of Music Noise from Public Premises) is currently being reviewed but was last varied in 1999.

CHAPTER 16

DEPLOYING A WIDER RANGE OF INSTRUMENTS

DEPLOYING A WIDER RANGE OF INSTRUMENTS

KEY MESSAGES

The EPA could enhance its current toolkit, with greater use of economic instruments and information regulation.

Instruments should be outcome focused, economically efficient and provide appropriate incentives.

The EPA must scan and assess risks from pollution and waste. It must identify and understand the problems inherent in managing risks.

The EPA must be proactive in designing and testing new instruments, including by leveraging best practice developments across government.

16.1 Introduction

Identifying the risks and impacts from pollution and waste is a key task of the EPA, as reflected in two of our proposed legislative functions:

- monitor and identify impacts and risks to public health and the environment
- proactively adapt tools and instruments to prevent and reduce impacts and risks.

To complete this task, the EPA needs a risk-based approach to problem solving and responding to priority and emerging impacts and risks (chapter 11). And it must draw on the full range of tools, instruments and approaches at its disposal to implement proportionate responses to pollution and waste impacts. It should consider innovative approaches to tackling pollution and waste, including greater use of economic instruments and data, information and technology.

We identified a range of opportunities to better prevent risks of harm (chapter 12) and to hold polluters to account (chapter 13). Keeping standards up to date (chapter 15) and reviewing operating conditions for licences (chapter 12) will support the improvement over time of businesses' environmental performance (another proposed legislated function). One aspect of this last function is supporting businesses to move 'beyond compliance'.

We also examine environmental improvement plans (EIPs), which are used in New South Wales to encourage licensees to take actions that lead to environmental improvements or a reduction in pollution. Licensees voluntarily undertake a program of actions to improve environmental outcomes in a negotiated timeframe, in consultation with the NSW EPA. EIPs are attached as conditions of a licence and are therefore enforceable. EIPs are intended to encourage environmental improvements by providing a potential financial incentive through reduced licence administration fees.[1] In other jurisdictions, EIPs have been used to improve the performance of 'poor performers'.[2]

As part of the overhaul of the EP Act, the government should consider appropriate mechanisms for supporting 'beyond compliance' actions. The EPA commenced an 'earned autonomy' pilot program involving 23 licensed sites. The program's aim is to encourage, recognise and reward superior environmental performance.[3] There could be consideration of providing a statutory basis for the earned autonomy program or other mechanisms for encouraging beyond compliance, such as EIPs.

16.2 Economic instruments

The EP Act provides the EPA with power to develop economic instruments, including tradeable permits and environmental offsets.[4] The EPA has seldom, if ever, used these powers. We consider that economic instruments can be a valuable tool and should be more actively considered by the EPA, working with other agencies with relevant expertise, and the Victorian Government.[5]

Economic instruments provide positive or negative incentives to incorporate environmental costs and benefits into the decisions businesses and households make. Pollution and waste are byproducts of decisions made by businesses or households, but businesses and households do not account for the 'external' impacts on others. Economic instruments are designed to make the 'external' impacts of pollution and waste 'internal' to decision making processes.

Pollution and waste issues are also often associated with information problems, which can make it difficult to identify and quantify the nature and cost of pollution or waste.

Command and control measures mandate a certain process or level of abatement, regardless of the cost to each business. Economic instruments aim to provide incentives for businesses to abate based on their individual cost of abatement and their emissions. In the right circumstances, well-designed economic instruments can deliver abatement at a lower cost than command and control measures. They provide ongoing incentives for continuous improvement and innovation. Most economic instruments involve measuring the amount of pollution or waste and then imposing a cost or charge per unit. This approach not only internalises the cost to the producer, but also allows the regulator to evaluate the effectiveness of the instrument, and improve the instrument's design if necessary.

There are a range of different types of economic instruments, including pollution charges and levies, offsets and tradeable permits. Individual instruments can vary significantly within these broad categories, depending on the nature of the problem. Each instrument must be designed to suit the problem at hand. Otherwise, the instrument may not work and may create perverse outcomes.

16.2.1 Pollution charges

We recommend amending the EP Act to facilitate a load-based licensing scheme. This approach involves allowing licence fees to be set at a level beyond cost-recovery and removing the fee caps in the EP Act.

Levies on pollutant emissions are often advocated as an incentive for businesses to reduce pollution where they can do so cost effectively (box 16.1). Without an emissions charge (or an abatement subsidy), firms face no economic incentive to reduce pollution. By contrast, levying an emissions charge creates an incentive for profit-maximising businesses to reduce their emissions to avoid or lessen the cost of the charge. Businesses have an incentive to abate their pollution or waste to the point where abatement costs exceed the charge. In some instances, this approach can deliver abatement at lower cost than command and control measures – businesses with a lower cost of abatement have an incentive to reduce pollution further than the average level.

BOX 16.1 DESIGN PRINCIPLES FOR POLLUTION CHARGES

Pollution charges should directly target environmental damage

An environmental charge should generally be levied as directly as possible on the pollutant or action causing the environmental damage, with the relationship between the pollutant and the damage established scientifically. In some cases, a proxy for the polluting activity can be used. For example:

> *[Because] the release of carbon into the atmosphere is highly correlated with fuel use, … taxes on motor vehicle fuels are efficient proxies for taxing CO_2 emissions, since the CO_2 intensity of petrol and diesel combustion is essentially fixed. These taxes can also be collected efficiently at the level of the refinery or wholesaler. By contrast, for pollutants such as NOx emissions, where the level of emissions varies across different combustion processes, levying the tax at higher levels of the supply chain would not treat the full range of solutions equally.*[6]

Emissions must be able to be measured reliably and at reasonable cost

To be effective, an emissions charge should be calibrated as precisely as possible to the volume of emissions to be controlled. To send the appropriate price signal, the charge should ideally apply to each additional measurable unit of pollution emitted from a given source. Emissions must be able to be measured reliably and consistently over time, and measurement costs cannot outweigh the benefits of the abatement. In some industries, this will mean that only firms above a certain size, or with emissions above a certain threshold, should be subject to an emissions charge, because the measurement costs for smaller or lower emitting firms may be prohibitive.

Uniform or differential charging

In the case of uniformly mixing pollutants, where the damage created by a unit of emissions is independent of the location of its source, charges on emissions should be homogeneous. This will *'…. encourage abatement at the lowest-cost source, helping to ensure that environmental goals are achieved at the lowest social cost.'*[7] However, where the effects of a pollutant are spatially, temporally or otherwise differentiated – for example, depending on the proximity of the emissions to human settlements or sensitive environments – differential charges that reflect these differences are appropriate and should encourage emitters to locate where emissions cause least harm.[8]

Setting the rate for an emissions charge

Determining a rate that will achieve the desired level of emissions abatement presents significant challenges. Perman et al set out alternative approaches for determining the appropriate rate.[9] They note that the most efficient approach – the approach that achieves the abatement target at least cost – requires the regulator to know both the socially efficient aggregate level of pollution and the aggregate abatement cost function of businesses. When neither of these pieces of information is known, an alternative is to simply set the charge at an arbitrary level, not knowing what level of pollution abatement it will achieve. Businesses could then be expected to reduce their emissions up to the point where the marginal abatement costs are equal to the charge rate – that is, where the cost to the business of achieving one more unit of emissions is equal to the charge it would pay if it did not abate this additional unit of emissions. This approach attains a given level of abatement at the least cost.

Of course, at some level, an emissions charge will impose costs that are disproportionate to the benefits of abatement. The regulator must account for the impacts of environmental charges on competitiveness, because high rates may simply encourage businesses to relocate to jurisdictions that do not apply pollution charges, leaving the overall level of pollution unchanged. Accordingly, Perman et al suggest setting rates on the low side initially and then assessing whether this is achieving a desirable level of abatement before raising rates, if necessary.

When the environment is close to a threshold level of pollution, at which point science suggests that significant harm may occur, applying pollution charges may involve a risk of not abating pollution sufficiently to prevent the threshold being reached. If the community is not willing to bear this risk, the additional costs involved in implementing an economic instrument that places a hard cap on the level of pollution (such as a tradeable permit system) may be worth the benefits. By contrast, a command and control approach may be appropriate if a more complex economic instrument (such as a tradeable permit system) is not feasible.

Regulators should use pollution charges after assessing their relative effectiveness, efficiency and feasibility in achieving regulatory objectives; pollution should not be a potential revenue source to fund environmental programs. Indeed, pollution charges that reduce pollution will generate less revenue over time.

Several states use load-based licensing arrangements to encourage licensed businesses to invest in reducing pollutant loads. Some states (notably South Australia and Western Australia) cap these fees to maintain overall licence fee revenues at no more than cost recovery. By contrast, the NSW EPA can set load-based fees that exceed the cost of administering the licences. These fees are linked to actual emissions; a lower pollution load is rewarded with a lower fee.

While some Victorian licensees also pay a fee component linked to pollutant loads, these fees are based on allowable rather than actual emissions. As a result, there is no clear incentive to reduce emissions. In addition, the presence of legislated fee caps in Victoria means that the fee paid by a licensee may be below the load-based fee that would apply without the cap. In this situation, the licensee faces no clear financial incentive to reduce pollutant loads.

16.2.2 Landfill levies

Landfill levies are a pollution charge that is imposed on waste deposited to landfill. They are the most prominent economic instrument used for environment protection purposes in Victoria.

Landfill levies for municipal and industrial waste and hazardous waste are applied at the point of disposal of waste to landfill. They aim to internalise negative externalities created by waste and create a financial incentive to consider alternatives to disposal to landfill, such as recycling and reuse. Government sets landfill levies and determines how landfill levy revenue is spent. Landfill levies can be spent only for environment protection and sustainability purposes. The levies have increased substantially in recent years and avoiding the levy has driven significant change in the waste management industry.

Currently, the government uses the landfill levy to fund recycling and reuse opportunities that do not attract the levy. However, landfill levy settings, including different levy rates across jurisdictions, have also driven undesired outcomes to avoid paying the levy. Stakeholders have suggested that higher landfill levies have contributed to poor waste management practices such as stockpiling, illegal dumping and blending of contaminated waste with clean fill, for example:

> *EPA/State Government should consider waiving the landfill levy payable for waste asbestos in consideration that there is a significant legacy problem facing Victorian industry and the community (domestic sources). There is no ability to reuse, recycle or reduce the generation of waste asbestos. In that context the landfill levy provides no incentive. It is likely to have a counterproductive impact by deferring removal and safe disposal of waste asbestos and causing increased illegal dumping.* (Stefan Fiedler submission, p. 9)

The design flaws that currently inhibit the effectiveness of the landfill levies are considered in more detail in chapter 21. We recommend reviewing and updating the landfill levy collection provisions, as part of overhauling the EP Act. Victoria has an opportunity to review landfill levy settings to minimise perverse incentives, particularly for waste streams without an alternative to landfill, such as asbestos and some types of contaminated soil. These provisions have not kept pace with changes in the waste industry and technology. Nor do they include robust provisions for verifying landfill levy rebate calculations. A landfill levy review could be part of an overhaul of the EP Act, and consider a full set of instruments to address problems such as stockpiling, dumping and rorting.

Both New South Wales and South Australia, for example, have reviewed how they regulate waste, and considered a full set of instruments, including licensing and waste levies. The NSW landfill levy now applies to waste going into transfer stations, and can be recovered when the operator can show that the waste has been legally recycled or disposed of within 12 months. This approach provides an incentive to avoid stockpiling.

16.2.3 Tradeable permits

Tradeable permits have been widely used internationally to regulate pollutants. A tradeable permit scheme creates a market for pollution permits by setting a cap on the total number of permits and defining legally binding rights to pollute within the cap.[10]

Tradeable permit systems offer the same benefit as pollution charges – businesses must internalise the cost of their pollution in their production decisions. However, while pollution charges require government to guess businesses' abatement costs to estimate the targeted level of pollution, government can set the cap on the total pollution allowed in a tradeable permit system. Businesses then trade the permits, revealing their marginal pollution abatement costs and determining the most efficient distribution of permits. These schemes are particularly useful when the government's objective involves capping the level of emissions below a potentially harmful threshold.

The Victorian Competition and Efficiency Commission highlighted that a tradeable permit scheme resolves the problem of hidden information:

> *… firms with low cost abatement options self-select into abatement activities, and firms with high value products self-select as the buyers of pollution permits. This occurs because pollution permits can be traded in the same way as occurs in other markets.*[11]

Tradeable permit systems require a number of conditions and can be costly to establish. Like pollution charges, pollution must be measured. Further, their benefits depend on trades occurring and a deep market with available abatement technology. However, once they are established they can offer significant benefits over time.

As with all regulatory interventions, the success of tradeable permit schemes 'depends heavily on sound design and implementation' (box 16.2):[12]

> *… the evidence suggests that if tradeable permit schemes are confined to circumstances where the use of permits can be easily monitored and verified, where there are good trading prospects and mindful of the design features of existing successful schemes, then they have the capacity to deliver substantially reduced pollution loads and a substantially lower cost to industry than traditional regulation.*[13]

BOX 16.2 HUNTER RIVER SALINITY TRADING SCHEME[14]

The New South Wales Government's Hunter River Salinity Trading Scheme uses economic instruments to protect the region's waterways. Agriculture benefits from fresh irrigation waters while miners and electricity generators can make controlled discharges of excess waters. The scheme protects the region's most precious natural resource, encourages diverse interests to work together, and allows continued economic development.

The scheme achieves these benefits by:

- extensive and continuous real time monitoring of environmental conditions and discharges
- scheduling saline industrial discharges at times of high river flows and low background salinity levels so that salinity targets are not exceeded because of the discharges
- sharing the total allowable discharge across tradeable salinity credits held by dischargers
- issuing initial credits with different life spans (200 credits expire every two years)
- using a public auction to fairly distribute 200 new credits every two years.

The scheme is currently under review.

16.2.4 Environmental offsets

We recommend the EPA develop a policy to provide guidance and transparency on when businesses can use offsets.

Environmental offsets allow the environmental impacts at one site to be offset by enhancements at another. Offsets are usually designed to create an equivalent or better environmental outcome to counterbalance a polluting activity. Whether this works effectively depends on the rules used to determine an appropriate 'offset'.

While the EP Act and the state environment protection policy (Waters of Victoria) provide a head of power for environmental offsets, the Victorian Water Industry Association argued that the EPA's regulatory structure:

> *… is well suited to approving large, costly infrastructure upgrades, but poorly suited to exploring more experimental options that have potential to save money and deliver an overall better community and environmental outcome.* (Victorian Water Industry Association submission, p. 5)

Critics of environmental offsets '…suggest that existing schemes are fraught with loopholes that make them vulnerable to manipulation by duty holders'.[15]

16.2.5 Financial assurances

A financial assurance is designed to prevent clean up costs being borne by the Victorian community in the event of a business failure.[16] The Scheduled Premises Regulations set out the types of activities that must provide the EPA with a financial assurance. Financial assurances can encourage businesses to clean up a site, if the amount of the assurance is greater than the clean up cost. However, financial assurances have often been insufficient or, in some cases, not obtained.

The EPA is currently reforming the requirements for financial assurances by updating guidelines, reviewing and updating the amount of financial assurance held for all premises and obtaining financial assurances for premises that do not currently have one.[17] The review of the Scheduled Premises Regulations also provides an opportunity to reconsider which activities warrant using this tool.

16.2.6 Economic instruments and the future EPA

A regulatory agency must have clear objectives and be able to measure the risk of harm of pollution to apply economic instruments effectively. The appropriateness of an economic instrument depends on many factors including:

- the nature of the objective. For example, charges may be appropriate if the objective is to internalise some pollution cost and encourage businesses to find cost effective ways to reduce their emissions. By contrast, a tradeable permit system might be more appropriate if the objective is to ensure pollution stays below an imminent threshold level or cap. Offsets may be the best way to ensure pollution does not rise above the current level.
- their implementation and operational costs. While it may be costly to establish an economic instrument, the costs of operating the instrument may decrease over time.
- the benefits they offer. These increase, for example, if abatement costs for business are very different and government does not know them.
- the costs and benefits of alternative regulatory approaches to the problem.

To implement economic instruments, the EPA needs the internal capability to identify where they may be appropriate and the capacity to access the appropriate design skills. It also needs to be able to identify and measure units of pollution. This task can be costly and, in the case of environmental issues, is often complex and subject to uncertainty. However, the EPA should seek to perform such tasks routinely. Identifying and measuring pollution will help the EPA evaluate the effectiveness of all its regulatory tools.

Measuring outcomes relies on both policy and science; science must inform policy and vice versa. Measurement must directly inform the outcomes that the policy seeks to maintain; it must quantify the contribution of a business's emissions to the increase in pollution. As with any regulatory tool, economic instruments should be well-informed by and inform field officers and operational staff. These staff understand and affect the implementation costs, including monitoring and enforcement required for trades and assessing offset suitability.

Developments in science and technology, including digital and data innovations, are likely to reduce the costs involved in implementing economic instruments over time. This will make economic instruments more attractive in the future, particularly if pollution problems increase.

The EPA should, as a starting point, identify specific pollution and waste issues that may be effectively and efficiently managed by economic instruments now and in the future. It should actively consider using the full suite of economic instruments for the future.

16.3 Using data, information and technology

16.3.1 Next generation compliance

'Mega trends'[18] in data and technology will fundamentally change how the EPA regulates in the future by improving data capture, quality, analysis and dissemination. We consider there is considerable potential for the EPA to harness better data. An example is the US EPA's Next Generation Compliance Initiative, which emphasises advanced monitoring, electronic reporting, transparency and innovative enforcement. Although operating at a significantly smaller scale, there are opportunities for the EPA in Victoria to exploit new developments in monitoring and information technology to improve compliance monitoring and enforcement at relatively modest cost.[19]

Next generation compliance is not about collecting data; it is about using data and information for detection, investigation and evidence (box 16.3). This approach places greater discipline on how regulators use data and information effectively and helps to increase transparency, create greater deterrence and help build trust with the community.

A key element of the US EPA's initiative is to simplify the rules for business and to make them easy to understand without reducing standards. Simplifying rules leads to improved compliance. This will be critical for the EPA, with the introduction of the general duty and the need to provide clear guidance to duty holders about how to comply with the duty.

BOX 16.3 EXAMPLES OF NEXT GENERATION COMPLIANCE[20]

Following pressure from scientists and congress, BP agreed to post a live video feed of the Deepwater Horizon oil spill, 5,000 feet underwater. The public and the government could see the gusher of oil on the ocean floor and the progress to cap the leaking well.[21]

The Washington State Department of Ecology has attached sensors to the Victoria Clipper IV, a private ferry that transits passengers between Seattle and Victoria, British Columbia. The sensors measure phytoplankton concentrations, turbidity, freshwater influence, salinity, and water temperatures during the ferry's twice-daily runs. This information helps the department and the University of Washington better understand algal blooms, plankton food web interactions, river plumes, and changes over time in Puget Sound. The department also has sensors attached to the state's public ferries to gather data, an example of finding cost efficiencies by using existing vessels and partnerships to gather environmental data.

The US EPA's Discharge Monitoring Report Pollutant Loading Tool is an online resource that allows the public to search nationwide pollution data to find who discharges pollution, the amounts of pollution generated and where, and what the pollutants are. The tool also ranks industries, dischargers and watersheds based on pollutant quantity and toxicity.

As part of a US EPA enforcement settlement, the District of Columbia Water and Sewer Authority must operate Combined Sewer Overflow (CSO) Event Indicator Lights to notify river users of CSO discharges. A red light must be illuminated during a CSO occurrence and a yellow light must be illuminated for 24 hours after a CSO has stopped. The CSO Event Indicator lights are operated via remote signals.

As part of a consent decree with the US EPA, Alpha Natural Resources, a large US coal company, agreed to independent auditing of the company's environmental management system and to provide reports to the company, the US EPA and relevant state authorities.

Technology and digital data can improve detection, investigation and evidence gathering by:

- facilitating more effective monitoring of pollution by the EPA and relevant impacts
- providing a sound evidence base for regulatory changes.

This will profoundly change how the EPA regulates, because it will have better information about:

- risks, impacts and conditions when non-compliance is likely, enabling more proactive, timely, informed and targeted action by the EPA
- the impacts of interventions, so it can adapt action to improve effectiveness.

The challenge for the EPA includes being able to identify what new technologies to adopt, what data streams to use and how to best use its data. The EPA will need people, including data scientists, who can identify data needs, know how to treat different types of data, know what questions to ask and how to make data useful.

Digitally 'disrupted' organisations also use innovative and collaborative processes, citizen involvement and open source usage. Innovative processes include a culture and processes that support experiments or pilots, which test new technology and operations, allowing the organisation to learn and fail quickly. These processes must be enabled within the organisation through executive accountability and the availability of pilot funding, to be effective.

16.3.2 Information regulation and networked governance

Organisations can strengthen data and information through information regulation, by harnessing third parties and through networked governance.

Information regulation involves the regulator '…facilitating or requiring the provision of information about environmental impacts but *without* directly requiring a change in those practices'.[22] The value of this approach is the transparency of the information available to the public and markets, in particular capital markets.

Informational regulation is most commonly targeted at large enterprises, and in particular at public companies (which are vulnerable to share price and investor perceptions) and others that are reputation sensitive. These enterprise are most capable of being rewarded or punished by consumers, investors, communities, financial institutions and insurers, based on their environmental performance. Regulators empower these groups to use their community or market power in the environmental interest, by providing them with a sufficient quality and quantity of information so that they can evaluate an enterprise's environmental performance.[23]

We recommend the EPA use information regulation, where appropriate. One option is to impose licence conditions that require businesses to make information they collect on emissions available to the public. Further, information should be in real time or as close to real time as possible. This approach increases transparency and can help make businesses more accountable to their local communities.

This approach will become increasingly viable and useful given increased accessibility to real time data and information through current and emerging technologies (box 16.4).

BOX 16.4 EXAMPLES OF INFORMATION REGULATION[24]

Pollution inventories are perhaps the most successful and best known example of information regulation. These policy instruments require individual companies to estimate their emissions of specified hazardous substances. This information is used to compile a publicly available inventory, which can then be interrogated by communities, the media, individuals, lenders, investors, environmental groups and other non-government organisations. Users can ascertain, for example, the total emission load in a particular geographical area, or the total emissions of particular companies. The foremost (and most successful) example of this approach is the USA Toxic Release Inventory. The Australian National Pollutant Inventory is another example.

The cities of Cambridge and Chelsea, Massachusetts require permittees to notify local health agents and watershed advocacy groups by email within 24 hours of a combined sewer outflow discharge event. Similarly, Ohio and New York regulations require permittees to post at their outfalls signs that provide the permittee's contact information. The New Zealand Audited Self-Management Program provides another contemporary example of using advanced technology to provide real time information.

We also consider the EPA could harness third parties and other regulators to help with environmental regulation. Increasing the amount of public information about pollution and waste performance by business has the potential to leverage third parties such as non-government organisations, community groups and markets.

Networked governance involves developing coordinated and constructive relationships with government agencies that possess, on some issues, overlapping authority or operate in the same sphere. Opportunities afforded by harnessing third parties and networked governance include a:

> *… greater likelihood of achieving desired outcomes by engaging with other interested parties, whether they be other government agencies, the private sector or civil society, than by engaging in traditional hierarchical approaches to regulation.*[25]

Networked governance and harnessing third parties can overcome some shortcomings of traditional approaches to compliance. Third parties can be more potent and agile than government regulators. Supply chain pressure offers significant potential to influence environmental behaviour, particularly for small and medium sized enterprises. For example, access to capital has been constrained for poor environmental performers since the mid-1980s with the rise of environmental regulation. A number of studies report a high level of compliance with safety, health and environment requirements where these are addressed under customer dictated schemes.[26]

The EPA has recently explored options for harnessing third parties, including supply chains, as well as linking with other regulators. For example, the EPA has worked with the local governments that issue the majority of building demolition permits to obtain intelligence about potential illegal dumping of construction and demolition waste.

16.3.3 Influencing behaviour through education and information

An important element of a regulator's toolkit is educating, informing, training and partnering with regulated entities to change behaviour and support compliance. Many inquiry participants argued the EPA should take an active role in informing and educating the community and industry:

> *The availability of information and education are essential for businesses to have a clear understanding of environmental compliance requirements. Making this information transparent and accessible particularly for those living in remote areas is crucial. (Victorian Farmers' Federation submission, p. 7)*

> *Targeted information to business sectors contributes greatly to compliance.* (Minerals Council of Australia – Victoria submission, p. 6)

> *EPA needs to support and work collaboratively with companies on their specific issues. Codifying good practice will be helpful if it is illustrative, educational and current, rather than narrowly prescriptive and allowed to become dated. In addition an important opportunity exists for EPA to work in partnership with Ai Group to support industry.* (Australian Industry Group submission, p. 6)

Since 2011, the EPA has adopted a regulatory model that includes 'inform and educate' and 'support to comply' as important elements. However, public feedback suggests the EPA does not give sufficient attention to these. Further, compliance support will be a critical task of the EPA when it implements the general duty.

The EPA and its staff must be able to switch between supportive and regulatory enforcement roles as the situation requires.

Providing advice to duty holders on how to comply with their obligations is a core task of regulators.[27] Importantly, the EPA's information activities should focus on changing behaviour, not only providing information. Behavioural economics and psychology offer opportunities to influence behaviour and achieve desired outcomes, often at less cost than information or education campaigns or direct regulation (box 16.5). This approach gained prominence through nudge theory, which seeks to '…steer people towards better decisions by presenting choices in different ways'.[28]

The Victorian Government's newly established Behavioural Insights Unit in the Department of Premier and Cabinet will support innovation in this area, including through 'flagship' projects aimed at driving awareness, demonstrating best practice approaches and delivering tangible improvements. We consider that this provides an opportunity for the EPA to build its capability and leverage support for innovation. In particular, the EPA should explore whether implementing the general duty could be a flagship project.

We note that the Behavioural Insights Unit of the NSW Department of Premier and Cabinet has started work on its first project with the NSW EPA to test the application of behavioural insights to its regulatory activity.

BOX 16.5 EXAMPLES OF USING BEHAVIOURAL ECONOMICS

The strength of 'nudging' is in using insights into how we behave to understand biases or create systems to achieve desired outcomes:

- In Victoria, the EPA's pilot program to change the wording and structure of litter fine communications and the process for submitting statutory declarations to reflect behavioural economics principles led to a 13 per cent increase in the number of people who paid their litter fines on time.[29]
- US EPA's Next Generation Compliance initiative includes simplifying the rules for business so they are easy to understand, which improves compliance.
- A power company in the US compares customers' electricity usage with average use of nearby homes, as well as providing 'smiley faces' if they use less. Evidence suggests this reduces power use by 2 per cent.[30]

Using a broad range of approaches can help the EPA to be a responsive, agile and proportionate regulator by encouraging duty holders to build capacity but quickly escalating to sanctions where these are unsuccessful. A broader range of approaches is particularly important for small and medium sized enterprises as well as small and diffuse sources of pollution, because conventional regulatory measures are generally less effective in these situations.

Recommendations

RECOMMENDATION 16.1

Remove the current barriers to introducing a load-based licensing scheme (licence fees restricted to cost recovery and fee caps) from the *Environment Protection Act 1970* and actively consider their use, together with the full suite of economic instruments available to the EPA.

RECOMMENDATION 16.2

Require EPA licensees to make emissions monitoring information available to the public.

RECOMMENDATION 16.3

The EPA work with the Department of Premier and Cabinet's Behavioural Insights Unit to design and test new, innovative approaches.

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19 Gunningham N 2015 b, *Options for reforming environmental law and regulation in Victoria*, Paper 2, p. 58.
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21 http://www.theguardian.com/environment/2010/may/20/deepwater-horizon-oil-spill-live-web-footage (accessed 4 March 2016).
22 Gunningham N 2015 b, *Options for reforming environmental law and regulation in Victoria*, Paper 2, p. 20.
23 Gunningham N 2015 b, *Options for reforming environmental law and regulation in Victoria*, Paper 2, p. 20.
24 Gunningham N 2015 b, *Options for reforming environmental law and regulation in Victoria*, Paper 2, pp. 22–23.
25 Gunningham N 2015 b, *Options for reforming environmental law and regulation in Victoria*, Paper 2, p. 50.
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27 Maxwell C 2004, *Occupational Health and Safety Act Review*, Melbourne, p. 264; Krpan S 2011, *Compliance and Enforcement Review: a review of EPA Victoria's approach*, Melbourne, February, p. 69.
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29 http://www.behaviourworksaustralia.org/projects/nudging-litter-bugs/ (accessed 10 March 2016).
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CHAPTER 17

STRENGTHENING MINING REGULATION

STRENGTHENING MINING REGULATION

KEY MESSAGES

Regulating pollution and waste sits with the EPA as the specialist environment regulator, regardless of which industry generates the pollution.

Environmental issues related to mining present a major risk to the environment and public health, like other industries subject to EPA regulation.

Under proposed arrangements, the Department of Economic Development, Jobs, Transport and Resources (Earth Resources Regulation) would remain the lead regulator for mines and the EPA would have a strengthened role as the specialist environment regulator. The EPA could leverage the WorkSafe model to manage the pollution and waste effects of mining.

17.1 Introduction

> *There is a greater role for EPA, with new powers, to oversee and improve mining regulation in Victoria.* (Environment Victoria submission, p. 6)

> *The review should recommend a much stronger role for EPA to ensure the community is protected and mining companies are clearly responsible for mine site rehabilitation.* (Environmental Justice Australia submission, p. 4)

> *[T]he EPA should focus on a few key areas … and ensure that overlap with other regulatory regimes is removed or at the least reduced. This will enable the EPA to maximise outcomes rather than spread itself too thin. A further advantage of this is that it will be clear to all stakeholders what the EPA's mandate is rather than the confusion that prevails.* (Minerals Council of Australia – Victorian submission, p. 6)

Mining has been a significant feature of the Victorian economy and landscape since the gold rush days of the mid-1800s. Today, the Victorian mining industry comprises a handful of major open cut coal mines that feed essential power generation infrastructure, and a small number of gold mines and mineral sands mines. Economically, mining contributes around 2 per cent of Victoria's gross state product.[1] Mining is a vital industry, providing necessary raw resources for industrial processes that, in turn, provide the products and services that businesses and consumers expect in a modern economy and society.

Mining operations can have a long life, and the structures and footprint of activity that they create during and after operations can have a lasting legacy on the landscape and the environment. Mining projects require sizeable investments, have long timeframes for operation and can involve temporal and intergenerational impacts to human health and the environment. So, regulation throughout a mining project's lifecycle must be robust and account for potential risks and impacts to human health and the environment.

The regulatory system must balance the potential economic benefits of mining with these risks and impacts. To do this, regulation must retain the confidence of local communities, competing land users and society more generally. The government agencies involved in regulating mining must have appropriate specialist expertise so that they can contribute to a robust regulatory system for this industry.

Many large Victorian mines are located proximate to towns with significant populations and competing land uses such as agriculture, forestry, tourism, rural residential living and state or national parks. As seen recently in Australia and overseas, mines can create significant risks if they are not managed properly or if they are adversely affected by natural disasters. It is critical for local communities, the environment, and the mining industry itself that regulatory authorities oversee mines properly, and that the public has trust in this oversight.

We consider that strengthening the EPA's role in regulating environmental and public health risks associated with mining places the mining industry on a more level playing field with other industries facing similar levels of risk. We also consider that it will resolve perceived conflicts of interest. Earth Resources Regulation (ERR) would reduce its role in environmental regulation, while the EPA correspondingly strengthens its supporting role within the existing regulatory framework. This transfer of responsibility would occur across the lifecycle of a mine:

- advising on new mine licences (exploration, retention, mining),[2] or significant expansion and/or alteration/renewal of existing licences
- approval of work plans or amended work plans
- compliance and enforcement activities for mining activities
- inactive or mothballed mines
- closure and rehabilitation.

These reforms can build on recent proposals to strengthen ERR's engagement strategy with stakeholders.[3]

The changes we propose will affect the regulatory burden facing Victoria's mine operators. However, if current regulatory requirements are appropriate, they will not duplicate conditions or involve additional paperwork or compliance activities. They may involve additional costs for mine operators who will have to engage with an additional regulator, the EPA. But we consider the regulatory burden for mine operators will be offset by raising community confidence in regulatory processes that are informed by the EPA's specialist knowledge and skills in preventing and managing environmental harms.

17.2 Mining and environmental risk

Victoria's recent experience with the Hazelwood mine fire highlighted the environmental and public health risks associated with mining operations. Mining activities can pose immediate threats, as well as long term irreversible damage. It is important that adequate regulatory oversight and all reasonable steps are taken to prevent such incidents in the first place.

17.2.1 Fire

Fires in open cut mines and underground mines can cause immediate and long term effects on the environment and local communities if they are not quickly contained and extinguished (box 17.1). Victoria's open cut coal mines are particularly susceptible to fires. They can easily ignite and quickly spread and rekindle underground if the coal seam is highly permeable and close to the surface.

BOX 17.1 HEALTH EFFECTS OF MINE FIRES

Hazelwood Mine and Power Station (Latrobe Valley, Victoria) – In February 2014, a fire started in the open cut brown coal mine, which took 45 days to contain and extinguish.

The fire shrouded Morwell and surrounding towns in acrid smoke and ash, forcing local residents and communities to evacuate. Many suffered from smoke inhalation, irritable eyes, sore throats and blood noses. While the long term effects of the fires are still unknown, the carcinogenic nature of smoke means that there may be health impacts on the local community for decades to come.[4]

The effects of mine fires can be severe. Smoke and ash released from open cut mine fires can have an immediate and widespread impact on air quality, affecting local residents and particularly the most vulnerable people in the community. Poor air quality can aggravate respiratory diseases such as asthma and bronchitis and increase the risk of respiratory problems.[5] Short term symptoms can include itchy eyes, sore throat, runny nose and coughing.[6] Long term effects can include increased levels of cardiovascular problems and elevated levels of cancer.[7]

17.2.2 Groundwater contamination

In Victoria, the close proximity of underground and open cut mines to local communities can create risks in relation to the quality of groundwater and surface water. Old goldmines under towns can also leave a legacy, especially their ongoing impact on the local watertable which must be monitored continually (box 17.2).

BOX 17.2 HEALTH EFFECTS OF GROUNDWATER CONTAMINATED BY MINING

Goldmines underneath Bendigo (Victoria) – In 2011, the mine operator closed a goldmine under Bendigo. This meant arrangements were needed to manage the shallow and rising contaminated groundwater that has historically been an issue in Bendigo. Interim arrangements were put in place to pump the groundwater to neighbouring evaporation ponds, while the Victorian Government conducts a feasibility study to find a long term solution.[8]

Tui Mine (New Zealand) – The Tui Mine, which extracted copper, lead and zinc sulphides, is considered the most contaminated mine site in the country. The mine operator left behind waste rock and tailings that contained high levels of zinc and cadmium, which leached into nearby waterways, significantly impacting aquatic ecosystems. Four years after the mine closed, heavy metals leached from tailings were found to have contaminated the local drinking water supplies.[9]

Generally, there are four main mining activity impacts on water quality:[10]

1. **Acid mine drainage** exposes sulphides in rocks to air and water, creating sulphuric acid. Leached sulphides can be carried through the watertable or by rainwater surface run off, severely affecting local waterways and aquatic ecosystems.
2. **Heavy metal contamination and leaching** can occur when mined metals come into contact with water and move into waterways and watertables, affecting drinking water supplies and aquatic ecosystems.
3. **Processing chemicals** such as cyanide and sulphuric acid can be used in extractive mining activities to separate minerals from the parent rock. If not contained in tailings dams, these chemicals can have significant impacts on humans and wildlife if they enter the local groundwater and waterways.
4. **Erosion and sedimentation** must be actively managed by mine operators throughout the mine's life and after rehabilitation to reduce any offsite impacts, especially in heavy rainfall events or if tailings dams burst.

17.2.3 Tailings storage facilities

Tailings storage facilities (TSFs), also called tailings dams, are impoundment structures for disposing of the fine grained slurry waste stream that is left over from mining, and crushing and processing activities. The design and siting of TSFs is highly specific to a mine and will depend on the mine's scale, nature and local geography.

Serious environmental incidents around the world and in Australia highlight the potential immediate and long term risks of TSFs, particularly relating to their structural integrity and stability (box 17.3). TSFs need to be managed safely and in an environmentally responsible manner during operation. They also need to have appropriate plans for their closure and rehabilitation when operations cease.

BOX 17.3 SPILLS FROM TAILING DAMS

Hunter Valley – In January 2016, spills from the tailings dams occurred at three mines – Bengalla Coal Mine, Mount Thorley Warkworth Mine and Wambo Mine – following heavy rains in the region, potentially spilling millions of litres of sediment-laden water into nearby rivers.[11] In the case of the Wambo Mine, the mine operator took a week to report the spill to the NSW EPA, and only when EPA officers visited the mine.[12]

17.3 The case for change

Throughout our consultations, stakeholders raised concerns about the current regulatory arrangements for the mining industry in Victoria. They were particularly concerned about the potential conflict of interest in having the primary mining regulator – ERR – reside in the Department of Economic Development, Jobs, Transport and Resources, which seeks to foster and develop the mining industry.

The EPA's current regulatory role is largely confined to those mine sites that are required to have a works approval and licences because the mining activities are likely to generate 'offsite discharges'. Five of Victoria's operating licensed mines hold an EPA licence that sets accepted limits for offsite discharges to air, water and land.[13] These licensed mines must also have sought an EPA works approval to construct mining infrastructure before commencing operations, and need to obtain a new works approval for modifications to equipment or new equipment that:

- results in a new discharge
- increases or alters the existing discharge, or
- changes the way a discharge is treated or stored.[14]

17.3.1 Expertise of a specialist environmental regulator

The EPA currently plays a minor role in relation to other mining activity, noting that the EPA and ERR have developed a work agreement to improve the process. Box 17.4 sets out the current arrangements for mining regulation which provide for limited and ad hoc consultations with the EPA.

BOX 17.4 CURRENT MINING REGULATION ARRANGEMENTS IN VICTORIA

The *Mineral Resources (Sustainable Development) Act 1990* is the primary vehicle for regulating mineral exploration, prospecting and mining. It covers all stages in a mine's lifecycle from exploration, proving, design, construction, operation, closure and rehabilitation.

ERR oversees general aspects including assisting the Minister for Energy and Resources in granting mining licences (that include conditions and set the rehabilitation bond), approving work plans and work authorities, overseeing general day-to-day operations (such as public safety and amenity, blasting impacts), and site remediation planning and activity.[15]

The Minister grants licences (exploration, retention, mining or prospecting) with conditions. The licence allocates the private entity a right to exploit the Crown's resources. Licences may be granted for up to 20 years or longer if the Minister decides, and may be renewed.[16] The Department Head approves the subsequent work plan,[17] which is the principal regulatory instrument for mining activities. It covers not just operational activities but also specific sub-plans relating to community engagement, emergency management, environmental management and rehabilitation. In carrying out these regulatory functions, ERR may informally refer a mining application or work plan to other agencies, such as EPA, depending on the nature of the proposal and the potential risks.

Once the Minister grants a licence, the licensee must then seek a number of other approvals[18] before it can commence operations, including either a planning approval,[19] or an Environment Effects Statement from the Minister for Planning.[20] If the licensee has to prepare an Environment Effects Statement,[21] then it does not need a planning permit so long as the Minister grants a work authority after the statement is assessed.[22] During the planning approval stage, the EPA may provide advice as a referral authority for a planning permit, or be part of the technical reference group for an Environment Effects Statement. Chapter 10 provides more information on the EPA's role in land use planning.

We consider the current regulatory framework for mining does not allow for appropriate consistent and authoritative consideration of environmental issues by the EPA, as the state's environment regulator. Nor does the mining industry face the same level of environmental regulation as other industries with a similar risk profile or scale.

But stakeholders were also concerned about duplicating regulatory effort and the uncertainty that a complex regulatory framework for mining could create. Therefore, any improvements to environmental regulations for mining must clarify the roles of respective regulators, as well as meet community and industry expectations for environmental regulation.

We consider the EPA's role could be strengthened, to address community concerns – and that a clearly framed role for the EPA can also provide greater certainty to the mining industry, noting that all mines, like any business or commercial facility, are currently subject to the general obligations under the EP Act. The EPA's role should not be seen as a constraint on activity, but rather to be involved at the start, to seek solutions and reasonably practicable measures that will avoid, manage or mitigate risks. However, there may be rare circumstances where the risks cannot be adequately mitigated to be acceptable in any situation.

Strengthening the EPA's role is consistent with our proposal that it adopt a more preventative approach to environmental regulation. This increased role in mining regulation will sit alongside a general duty for operators to take reasonably practicable measures. Together, these proposals will make regulation more efficient and effective over a mining project's lifecycle.

17.3.2 Expertise of a specialist environmental regulator

We recommend the EPA regulate environmental risks and impacts of mines, much like WorkSafe has direct responsibility for enforcing occupational health and safety laws for mines (box 17.4).[23]

As Victoria's generalist occupational health and safety regulator, WorkSafe oversees all occupational health and safety, and the management of explosives, on mine sites.[24] WorkSafe has a specialised unit dedicated to regulation of mines and quarries known as the Earth Resources Unit[25] to ensure mine operators, so far as reasonably practicable, identify hazards and assess and control the risks involved. WorkSafe regulates mines via the general duties under the *Occupational Health and Safety Act 2004* and specific requirements under the supporting regulation.

Under our proposed approach, ERR will remain the state's lead regulator to protect and safeguard the state's resources via its licensing and regulatory functions, and its industry facilitation role.[26] This function builds on its knowledge of the mining industry, and geotechnical and mining engineering expertise.

The EPA will become the lead regulator responsible for protecting the environment and public health. It brings its scientific and technical knowledge about setting environment standards and understanding environmental and public health risks and impacts.

17.3.3 Regulatory integrity

The Minister for Energy and Resources is responsible for the approval of mining licences and setting bonds, reflecting the importance attached to granting permission to mine the Crown's resources. However, there is a perceived conflict of interest in the Minister and ERR granting and regulating licences that include measures to minimise any impacts on the environment, while also promoting, fostering and facilitating Victoria's mining industry.

> *Part of the problem historically has been that the Department responsible for regulating mining activity has also been a proponent or advocate for exploiting the state's minerals resources. There is a greater role for the EPA, with new powers, to oversee and improve mining regulation in Victoria.* (Environment Victoria submission, p. 6)

We propose giving the EPA new statutory powers that support regulatory integrity, and ensure that decisions about siting, operating, closing and rehabilitating mines are appropriately informed of environmental considerations. This approach will allow the EPA to monitor and address any environmental impacts as they arise, without any perception of bias or conflict of interest.

The City of Greater Bendigo (submission, p. 6) supports the EPA having greater powers to regulate mines:

> *We strongly support the recommendation of the McGuckian report into the Costerfield Mine antimony issue, that the EPA should be responsible for regulating mining activity.*

The McGuckian report (2015) was an independent report to the Minister for Energy and Resources about community concerns with antimony contaminated dust from the Costerfield gold and antimony mine in central Victoria. The report found the community felt that the Department of Economic Development, Jobs, Transport and Resources had a conflict of interest with the mining applicant, as promoter and regulator of the mining industry. Among other things, the McGuckian report recommended ERR work more closely with the EPA.[27]

17.3.4 Industries should be treated alike

Consistent with best practice regulatory principles, environmental regulation, like occupational health and safety regulation, should apply across the economy. Sectors that have the same risk profile should be subject to the same regulatory oversight. The only reason for the EPA to have a reduced role in regulating a sector should be because that sector has a lower risk profile for pollution and waste. Each industry has its particular environmental impacts and nuisances that require specific regulatory conditions and oversight, but there should be an overall consistent approach to the state's regulatory requirements for environment protection.

17.4 A strengthened role for the EPA

Environmental risks must be considered throughout a mine's lifecycle in a way that complements and fits within mining's existing regulatory system. We recommend a legislated role be established for the EPA, under the *Mineral Resources (Sustainable Development) Act 1990* (MRSD Act), reflecting the different requirements for environmental regulation at different stages of the mine lifecycle, as set out below and summarised in table 17.1.

TABLE 17.1 PROPOSED NEW EPA ROLES ACROSS A MINE'S LIFECYCLE

Stage		Increased role for the EPA
1	Process for approving, renewing or varying a mine licence	The EPA to advise on all mining licence approvals in relation to environmental issues, including for the licence conditions and setting of the bond Referral and determinative role for the EPA on all mining works plan approvals – in relation to environmental issues and conditions
2	Compliance and enforcement activities for operating mines	The EPA to be responsible for compliance and enforcement of environmental conditions, including onsite impacts and risks.
3	Inactive or 'mothballed' mines	The EPA to be responsible for compliance and enforcement of the care and maintenance of inactive mining sites.
4	Closure	The EPA to advise on applications for reducing or returning rehabilitation bonds The EPA to be responsible for compliance and enforcement of the environmental elements of the mine remediation (as set out in the mining licence conditions).

In proposing this strengthened role for the EPA, we note the NSW EPA's role in jointly regulating coal seam gas with the New South Wales' Department of Industry (box 17.5).

BOX 17.5 NSW EPA'S ROLE IN REGULATING COAL SEAM GAS

The NSW EPA is the lead regulator of environmental and health impacts of coal seam gas (CSG) activities. The New South Wales Office of Coal Seam Gas or the Department of Planning and Environment assess and approve new CSG proposals, depending on the scale of the proposed activity. The EPA regulates CSG activities through its environment protection licence framework with legally enforceable conditions. CSG activities are also subject to the NSW EPA's load-based licensing scheme and various policies and procedures for determining operational controls, limits and monitoring.

CSG operators must also meet other NSW EPA legislative obligations, such as clean air requirements (including air emission modelling and sampling) and a duty to report pollution incidents.

This framework gives the NSW EPA a strong base to regulate CSG activities. It conducts site inspections to assess environmental performance and ensure CSG operators meet their regulatory obligations. If it detects a regulatory breach, the NSW EPA can take a number of different actions including formal warnings, clean up and prevention notices, penalty notices, legally binding pollution reduction programs and for serious cases, enforceable undertakings or prosecution.[28]

17.4.1 Approvals

There are two stages for mining approvals – and these should involve different roles for the EPA:

Mining licence approval by the Minister for Energy and Resources

- The EPA's advice should be sought on all mining licence applications – and to variations and renewals of existing licences. At this point, the EPA would provide strategic and high level advice on relevant environmental considerations, including in relation to setting the bond, and mining licence conditions relating to the environment and public health. This role should extend to varying or renewing an existing licence.
- This will require changes to the MRSD Act.

Mining works plan approval

- The EPA should be a formal approval authority for new or reviewed work plans and mine rehabilitation plans, with a determinative role in relation to the consideration of environmental issues and the inclusion of any relevant environmental management conditions, consistent with the mining licence conditions.
- The review of work plans allows the EPA to consider the proposed remediation plan and its adequacy to rehabilitate the mine site once mining has ceased.
- This would require an amendment to the existing provisions in the MRSD Act that allow a referral authority to *consider* work plans and variations to approved work plans[29] – to allow for a determinative role.

To ensure that these new requirements do not cause delays, the EPA would be required to work within the existing 30 day time frame for application referrals under the MRSD Act.

We also consider that the EPA should work closely with ERR to establish a method to set bonds. The method must be progressive and reflect the level of potential impact to the environment and public health that may occur if the site is not adequately managed during operations and rehabilitated after closure.

In addition, the EPA would retain its current statutory powers and roles to:

- issue EPA works approvals and licences on permitted offsite discharges, noting that this separate process should be considered as early as possible and aligned with other elements of the operations, to allow for changes during the design phase, which can then incorporated in the mine's construction
- set and update environmental standards for the mining sector. Currently, these are set in the Protocol for Environmental Management: Mining and extractive industries, an EPA incorporated statutory document under the state environment protection policy (Air Quality Management). These standards are translated into conditions for mining licenses.
- provide technical advice to an Environment Effects Statement process, if the Minister for Planning requires this as part of the process of approving or varying a licence.

17.4.2 Operations

We recommend the EPA acts as the regulator of environmental aspects of a mine's operations, in the same way that WorkSafe regulates occupational health and safety conditions.

Currently, ERR is responsible for compliance and enforcement of the environmental standards and conditions in the mining licence. We consider the EPA should have this responsibility for ensuring that mines comply with the environmental conditions.

The EPA would be responsible for compliance and enforcement of:

- environmental conditions in the mine licence and work plan
- the general duty to take reasonably practicable measures to prevent harm to the environment – which may address steps set out in codes of practice but not specified in site specific licence and approval conditions
- offsite discharges under the EPA work approval and licence.

17.4.3 Inactive or 'mothballed' mines

We recommend that the EPA be responsible for compliance and enforcement of care and maintenance requirements in mining licence conditions. We also recommend imposing a statutory duty on mine operators to notify the EPA if they intend to temporarily close a mine.

Because of the fluctuating nature of global minerals prices and changes in technology, a mine may become inactive a number of times during its lifecycle. Inactive mines can still impose amenity and potential contamination impacts on local communities. Regulatory oversight is necessary to ensure care and maintenance occurs during this stage.

As part of its input in the mining works plan approvals process, the EPA should consider including requirements for care and maintenance if the mining site becomes inactive. This measure will be especially important for tailings storage facilities and waste rock dumps. The proposed general duty will also strengthen the EPA's oversight in such situations. To ensure the effectiveness of these strengthened safeguards, we also propose a statutory duty for mine operators to notify the EPA if they intend to temporarily close a mine.

17.4.4 Closure

The EPA should also be responsible for compliance and enforcement of the environmental elements of the mine remediation conditions (as specified in the mining licence). The MRSD Act requires the holder of a mining licence to rehabilitate the land in accordance with the mine licence conditions, rehabilitation plan, and the relevant codes of practice. Rehabilitation plans must account for a number of requirements under the legislation.[30]

The MRSD Act also requires rehabilitation to be carried out progressively during the life of the operation.[31] Operators may request a reduction in the bond if the rehabilitation liability of the site has been significantly reduced. In such circumstances, ERR considers revising the rehabilitation liability assessment.[32] We recommend the EPA have a formal advisory role with respect to ERR decisions on reducing the rehabilitation bond to take account of the residual risks to public health and the environment when a mine closes.

There may be instances when a mining site has been rehabilitated to the minimum level expected in the mining licence and work plan for minimum safety considerations, but the community does not accept this standard. These cases are an issue for further policy consideration by government. The EPA, like other agencies and departments, could play an advisory role in developing policy on this issue. The EPA's role is limited to concerns about pollution and waste risks to the environment or to public health.

Recommendation

RECOMMENDATION 17.1

Strengthen and formalise the EPA's role in mining regulation under the *Mineral Resources (Sustainable Development) Act 1990* by:

i) Requiring the EPA to advise on environmental considerations with respect to all mining licence applications, renewals and extensions, including on setting of bonds and environmental conditions in licences

ii) Requiring Earth Resources Regulation to refer mining work plan applications and variations to the EPA, including rehabilitation plans, for determination of appropriate environmental management conditions, consistent with the mining licence

iii) Making the EPA responsible for compliance and enforcement of the environmental conditions in the mining licence

iv) Requiring care and maintenance conditions to be established for inactive but still licensed mine sites, with the EPA to be responsible for compliance and enforcement of these conditions, and creating a statutory duty for mining operators to inform authorities if mining operations become inactive

v) Requiring Earth Resources Regulation to seek the EPA's advice on all applications for reductions in, or the return of, rehabilitation bonds

vi) Making the EPA responsible for compliance and enforcement of environmental elements of remediation requirements in the mining licence conditions.

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16 Section 14(3), *Mineral Resources (Sustainable Development) Act 1990*.
17 Section 40, *Mineral Resources (Sustainable Development) Act 1990*.
18 The types of approvals will depend on the type of licence granted by the Minister.
19 As modified by section 42 (6), Mineral Resources (Sustainable Development) Act 1990.
20 Section 42(7), *Mineral Resources (Sustainable Development) Act 1990*.
21 Section 3, *Environment Effects Act 1978*.
22 Section 42(7), *Mineral Resources (Sustainable Development) Act 1990*.
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28 NSW EPA fact sheet – Coal seam gas activities and air quality http://www.epa.nsw.gov.au/resources/licensing/140743CSGair.pdf (accessed 10 March 2016).
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CHAPTER 18

A BROADER AND MORE EFFECTIVE LOCAL RESPONSE

A BROADER AND MORE EFFECTIVE LOCAL RESPONSE

KEY MESSAGES

Local government plays an important role in the lives of all Victorians and delivers many services in partnership with the state.

The EPA cannot efficiently deliver timely responses to localised pollution and waste issues – but they impact significantly on the quality of people's lives. There is a gap in service and protection for the community.

Local government is well trusted by the community as a source of advice and uniquely placed to deliver timely responses to local concerns, particularly to amenity and waste issues. But it needs clearly defined responsibilities, proper authorisation and resourcing.

A new localised layer of environment protection can provide a timely and more effective response to small scale local pollution and waste issues that otherwise go unattended. This will provide enhanced protection for the community and support liveability and prosperity.

18.1 Introduction

> *Local government is the third level of government in Australia and has a significant impact on the lives of all Victorians. … Local government is responsible for implementing many diverse programs, policies and regulations set by the Victorian and Australian governments.*[1]

Communities expect timely responses to localised pollution problems that impact their health, environment and liveability. Driven by population growth, changing demographics, information technology and generally higher expectations of government, communities are now less tolerant of adverse noise, odour and other pollution impacts.

We heard from many communities that they wanted more timely responses to local pollution problems. They are frustrated about delays in responses and limited responses. We heard this from communities in rural and regional Victoria, and also within metropolitan Melbourne. Inquiry participants were concerned about how this 'lack of service' affected people's lives and wellbeing. They were also concerned about 'buck passing' between the EPA and local government, or at least lack of clarity about who was responsible for what. We consider that these concerns are well founded and that they warrant a response.

We also heard from many councils – some 28 provided detailed written submissions and we met with many others. Local government authorities see themselves at the frontline in dealing with community concerns. And they act as advocates for their communities. But, local government also argued for greater support from the EPA, including to work with them in dealing with local waste and pollution issues. While their problems were often different, we received a consistent message from rural, regional and metropolitan councils – there is a gap in service and protection for a range of smaller scale pollution and waste issues. And these significantly affect the wellbeing of local communities.

In many cases, there is no practical solution that allows the EPA to provide the level of service required to manage the problem and to meet community expectations. For example, illegal dumping requires vigilance at the local level, and noise and odour complaints require quick responses – time delays mean polluters are not held to account.

Providing a highly responsive service with statewide coverage requires a very significant expansion of the EPA. We do not consider this appropriate. But local government is well placed to provide such a service – as recognised in the subsidiarity principle.

A practical and highly effective response can be provided by authorising and resourcing local government, to enhance its role in environment protection. With support from the EPA, local government can provide an extension of the EPA's compliance and enforcement capacity.

We consider the EPA best serves the Victorian community by focusing on the highest order risks that affect the health and environment – through environmental surveillance, specialist investigative groups and strategic compliance campaigns.[2] The community wants the EPA to proactively scan for and prevent a range of problems across the state. And a new approach to partnering with local government extends a local response to lower risk pollution and waste issues.

18.2 Dealing with local pollution and waste problems

Communities increasingly expect timely and localised responses to pollution problems that impact their health, environment and liveability. Driven in part by changing demographics, information technology and generally higher expectations of government, communities are now less tolerant of adverse noise, odour and other impacts within or near their neighbourhoods.

As the state's environmental regulator, the EPA is increasingly expected to fulfil these expectations. Its pollution hotline service encourages the community to actively participate in local enforcement by reporting pollution and waste problems. And the community has responded, reporting a broad range of problems at different ends of the risk scale:

- foul-smelling or abnormal emissions, for example from industrial premises
- objectionable noise affecting people in their homes
- unreasonable dust
- substances being discharged into stormwater drains such as oil, fuel or paint
- multiple fish deaths, indicating environmental stress, which may be caused by a pollutant
- excessive smoke from a vehicle
- littering from a vehicle, such as a food packet, a lit or unlit cigarette butt
- dumping waste
- inadequate storage or handling of chemicals or waste.[3]

These issues require a range of proportionate responses, and often different responders. Some need a quick local response but may not involve high levels of risk. An authorised local government officer can issue a routine infringement notice. Others require highly technical and informed investigations, more suited to EPA officers. Some cases may even require emergency services. Having different responders is appropriate, depending on the nature of the risk.

To be an effective regulator, the EPA must prioritise its responses; that is, it must apply a risk-based approach. To this end, the EPA has established a triage system to direct its resources to '… where the biggest difference can be made, or where the biggest risks to environment, health, safety or wellbeing can be managed.'[4] This approach provides assurance that the EPA is identifying and addressing the highest risks in a timely way. But it also means that many smaller scale issues are not addressed at all.

> *Council's experience has been that the EPA's enforcement activities tend to focus on large, higher risk land uses (such as landfills) at the expense enforcing other allegations (such as developers removing potentially contaminated soil from development sites). While Council recognises that this is an outcome of the EPA's risk-based enforcement approach, Council is of the view that more resources are required to effectively enforce the other allegations that may not be as high risk. Council's experience is that the community expects EPA enforcement to occur regardless of the risk factor associated with the alleged non-compliance.* (City of Boroondara submission, pp. 3–4)

The EPA's response to pollution reports also accounts for '… how likely it is that EPA can detect and mitigate [the] harm and prevent future harms'.[5] In practice, the EPA's capacity to detect and mitigate is constrained because it does not have an extensive network of on-the-ground officers who can make early interventions and pursue compliance to prevent harms.

> *The lack of presence of EPA officers in the area … The time taken for an EPA officer to arrive onsite after the lodgement of a complaint, due to the size of the region and the placement of the regional office some 80 kilometres away, is known to polluters and thus poor practices are undertaken in the knowledge that an EPA response is often 'hours late'.* (City of Wodonga submission, p. 1)

> *Our experience is that it is near impossible to have an EPA Officer come out to Yarra Ranges to investigate a matter where they have powers to Act and where Council Officers haven't. This is frustrating when Council receives and is compelled to manage the complainants expectations.* (Yarra Ranges Shire Council submission, p. 2)

18.2.1 Limitations in current response model

Currently, the EPA and local government share responsibility for small scale pollution response. This approach is appropriate in principle, but there are a number of deficiencies in its current application. Local governments act under the provisions of the *Public Health and Wellbeing Act 2008* (PHWB Act) relating to 'nuisance'; they also exercise limited powers relating to septic tanks, litter and noise under the EP Act.[6]

Local government authorities reported they find it difficult to discharge even these limited environmental functions due to:

- a lack of defined statutory powers to address pollution complaints
- poorly defined powers under the PHWB Act.[7]

> *Council considers that it would be appropriate to review the offences under the Environment Protection Act 1970 and the [Public] Health and Wellbeing Act 2008 so that clear delineation of enforcement responsibilities is provided. While it may be appropriate to increase the enforcement responsibilities and powers for local government (for example enforcement of SEPPs) this should be met with a commensurate increase in funding for local government.* (City of Boroondara submission, p. 3)

Local governments also lack specialised resources and skills. In particular, council officers do not have access to EPA's specialist resources to support local compliance and enforcement activity. These limitations were raised with us by a number of councils:

> *Council considers it important that the EPA is responsive to requests for advice and assistance in a timely manner when dealing with environmental hazards, to ensure appropriate and timely action is taken where necessary to minimise environmental impacts resulting from events and accidents.* (Pyrenees Shire Council submission, p. 1)

> *Environmental Health officers look to the EPA to provide more specific and specialist advice.* (Baw Baw Shire Council submission, p.1)

At the same time, the EPA has around 90 officers operating on-the-ground across the state, of which around 50 are located in the four non-metropolitan regional offices. This illustrates the real challenges the EPA faces in responding to pollution and waste concerns effectively. And perhaps explains why the community perceives a gap in protection. This situation is both a system and a resourcing problem.

For the community, the lack of response is exacerbated by confusion about roles and a sense that no one seems to be in charge. Without changes to the current regulatory arrangements, neither the EPA nor local government can meet community expectations. The Municipal Association of Victoria commented in its submission:

> *The regulation of noise and odour causes significant workload for councils. Councils receive many complaints from the community about these issues and there is a lack of clarity about when matters should be addressed by the EPA and when they are the responsibility of local government.* (Municipal Association of Victoria submission, p. 7)

The complex arrangements relating to noise pollution demonstrate the problem (box 18.1).

The distribution of responsibilities creates several problems:

- Standards vary across noise types, including both 'general' and 'technical' standards.
- The EP Act uses a different test and description of 'unreasonable noise' than that used for 'nuisance' under the Public Health and Well Being Act, creating confusion at the local compliance level.
- Responsibilities between local government and the EPA for premises that are not a scheduled premises are poorly delineated.

BOX 18.1 NOISE MANAGEMENT

Noise issues in Victoria are managed within a joint regulation matrix. Key sources of noise and the regulatory agency primarily responsible for them include:[8]

- residential noise resulting in disturbance (such as party and air conditioner noise) – local governments and police
- commercial and industrial noise – the EPA for larger and EPA-licensed premises, local governments for shops and smaller enterprises
- construction noise – local governments or other authority that gives planning approval
- vehicle noise – the EPA for light vehicles, and the National Heavy Vehicle Regulator for heavy vehicles (such as trucks)
- traffic noise – VicRoads
- aircraft noise – the Commonwealth Government
- entertainment venue noise – local governments and the Victorian Commission for Gambling and Liquor Regulation.

18.2.2 Pollution – not just an urban issue

Perceptions of pollution as a problem relating to large industry concentrated in metropolitan Melbourne persist despite the evidence of communities in rural and regional Victoria experiencing significant problems. The rural and regional domain has its own risks and hazards.

We heard from these communities about a range of concerns, including septic tanks impacting local water quality, odour from local industry and intensive agriculture, wind farms, spray drift from agriculture and forestry, dust from mining, groundwater contamination from historical mining, chemical use in farming and illegal dumping and stockpiling of hazardous waste.

We also received many submissions from rural and regional councils (16 out of the 28 submissions we received from local government) about specific issues. They also identified their needs for an expanded presence, increased access to technical advice and expertise and a capacity for quick response to deal with local pollution issues.

> *Given the pressures on landfills, the issues surrounding composting and the increase in intensive agriculture, a more regionally focused presence should be considered. … Effective future partnerships with rural local government will be highly dependent on resourcing and the availability of EPA staff that can provide advice and guide outcomes.* (Shire of Campaspe submission, pp. 1–2)

> *Most septic systems within this local government area were installed prior to the introduction of Septic Permits in the 1970s. These systems are already and will increasingly become a source of water pollution in the future as they deteriorate, causing adverse impacts on health of humans and the environment.* (Southern Grampians Shire Council submission, p. 5)

> *It is apparent to Council that EPA officers with key expertise are based in Melbourne and not in regional areas and the EPA's organisational structure is such that higher level decision making is also undertaken in Melbourne. Whilst the EPA has a presence in Latrobe with an office based in Traralgon, officers with the relevant expertise and authorisation are not immediately available to Council. This has consequences particularly in emergency situations as EPA cannot respond immediately and time is wasted while waiting for non-local officers with the relevant expertise and experience to be at hand. Further delays are also experienced with EPA's delegation of decision making which can take too long to respond to an emergency.* (Latrobe City Council submission, p. 2)

18.3 The rationale for an enhanced local government role

> *The MAV and councils firmly believe that environment protection is a shared responsibility. All levels of government, and agencies within government, need to effectively understand and play their role for this cooperative model to work. Responsibility must be very clear and there must be also be knowledge and [acceptance] of the limitations of the parties.* (Municipal Association of Victoria submission, p. 6)

We have looked for the most effective, efficient and practical response to localised pollution and waste issues. Given the mix of skills and resources to deal with local environmental issues, it is not possible to apportion the entire responsibility to the EPA. In particular, pollution and waste problems can be very transient and localised, and have different effects depending on local conditions.

Given their close proximity to many pollution and waste events and their good understanding of local businesses and communities, local governments are often best placed to provide a timely and informed response to such problems. Local governments already have a recognised role in managing their local environment.

> *[L]ocal governments are very significant actors in environmental governance, particularly in planning and environmental approvals and in the local implementation of environmental laws concerned with heritage, waste management, environmental health, native vegetation, tree preservation and threatened species protection. Local government is also often the vehicle for expression of local community environmental values.*[9]

Further, our social research found the community viewed local government as the 'most trusted messenger' for information about waste, pollution, air and water quality issues in their local area.[10]

To improve environment protection delivery at a local level, local governments need defined powers, resources and capabilities. In particular, their role needs a clear statutory basis as part of Victoria's environment protection system.

18.3.1 Subsidiarity – being close to the problem

> *Local government is often best placed to deal with local issues. However, councils do not have the adequate or appropriate authority, capacity, capability or resources to deal with many environmental management challenges they face.* (Municipal Association of Victoria submission, p. 6)

We consider local government is the appropriate level to address many localised, small scale pollution and waste issues. The principle of subsidiarity means that responsibility for a function should, where practicable, be allocated to the tier of government that is closest to those affected by the decisions and/or is best placed to deliver the function: 'decisions should always be taken at the lowest possible level or closest to where they will have their effect'.[11] Placing decision making at the closest capable level to the problem allows for the 'best engagement of people's skills and effort'.[12]

In examining local environment issues, we considered the following issues:

- Geographical spillovers – When local issues indicate a more significant system-wide problem, the EPA will be involved and deploy a strategic response, in consultation with local government.
- Economies of scale – Local governments need to access the specialist resources, capabilities and expertise of the EPA, but should focus on dealing with the simpler issues that do not require complex, technical responses. There are likely to be economies of scale and scope from centralising responsibilities (such as training and databases).
- Local variation and local knowledge – Problems differ between localities and agencies must consider how local context influences risk. But the system as a whole needs strong oversight to ensure consistency and provide support for local government officers.

18.4 Establishing local government environment protection officers

> *If there is to be a reliance in the future by the EPA on Local Government as a first responder and/or investigator of environmental matters then the Environment Protection Act needs … to reflect this. The powers now enjoyed by EPA officers must be given to local government Environmental Health Officers … This would enable prompt attendance at incidents which would not only minimise any environmental damage but greatly enhance the ability to identify the parties involved and undertake appropriate enforcement action. This is a win for the EPA, a win for the Environment, a win for the Council and a win for the community.* (Alex Serrurier submission, p. 3)

We recommend establishing a new statewide network of local government environment protection officers to address localised pollution and waste complaints. The officers will be employed by councils but be appropriately authorised under the EP Act to undertake low level, low risk compliance and enforcement activities. The local government environment protection officers would perform a local protection role, complementing the EPA's focus on higher order risks and strategic interventions.

Under this proposal, local governments will be empowered to take a stronger and lead role in responding to local pollution complaints and issues – a role that plays to their strengths. The EPA will support this role through training and technical support, as well as through its responsibilities for setting standards, developing the regulatory toolkit, managing high risk sites and strategic interventions. The EPA will need to develop a close ongoing relationship with local government authorities, to support joint regional planning, and determine strategic opportunities and gaps and resource requirements.

To provide truly local coverage, we recommend each of Victoria's 79 local government authorities must have a local environment protection officer. In most cases, we expect officers will be located within each local government authority. But we recognise officers may need 'virtual hubs', to exchange information and to provide support and training.

The local government environment protection officers will need clearly defined statutory roles and governance arrangements, including the following elements:

- authorisation under the EP Act to address localised, low level pollution and waste complaints – they will not be expected to deal with facilities that are licensed by the EPA
- have defined powers to issue infringements and notices
- be expected to support compliance by providing information to local businesses and the broader community
- be able to enforce the general duty with appropriate support from the EPA (see chapter 12).

As providers of services and owners of facilities and infrastructure, local governments are also regulated by the EPA. To ensure confidence and transparency, the EPA will keep regulating local government activities.

As well as a formal statutory relationship between local government environment protection officers and the EPA, the EPA will provide oversight and support, especially in the initial stages. This will occur primarily through the regional offices. In particular, the EPA will need to provide:

- guidance materials and education on standards to assist local government environment protection officers, including outlining how duty holders are expected to meet their environment protection obligations to drive consistent compliance and enforcement across local governments
- quick access to EPA technical assistance and surveillance, to identify problems in a timely way and to have the knowledge and skills to apply tailored solutions
- clear protocols on referring more complex issues to the EPA
- effective mechanisms for integrated data gathering and information exchange across the new statewide network.

> *The EPA needs to be adequately resourced at a regional level to be effective and relevant... Council acknowledges EPA responsiveness and assistance after an event; however councils also rely upon the guidance and regulatory interpretation of the EPA to assist them with compliance and problem solving. (Municipal Association of Victoria Submission, p. 11).*

> *At present, Council finds its relationship with the EPA is fragmented and occurs only when specific matters arise. Council is of the view that the EPA's functions would be greatly enhanced by an ongoing relationship with Council officers in regards to issues. Such an ongoing relationship would enable both Council officers and the EPA to exchange concerns, share knowledge and work through solutions together.* (City of Boroondara submission, p. 3)

18.4.1 State-local partnership

Local governments partner with state regulators and agencies across a wide range of areas, such as food safety, rooming house regulation, land use planning, aged care and libraries, as well as environmental regulation.

The *Victorian state-local government agreement* is a non-legally binding agreement between local governments and the Victorian government that sets out principles to guide state-local government relations and the respective accountabilities of local and state government.[13] The agreement also sets out implementation considerations for any new proposal where the Victorian Government intends for local government to administer or enforce new or revised primary legislation or regulation, or act as an agent and deliver services on its behalf.

Under the Victorian state-local government agreement, DELWP plays an important role as the lead department for the environment, 'to consider the impacts of the regulation on local governments, including any cost and resource impacts on local governments of administering the regulation'.[14] We note DELWP will need to consult with local governments to establish the critical aspects of the proposal, including: scope and statutory definition, legislative amendment, and establishment of an adequate resourcing base for local governments to undertake this newly defined role.

18.4.2 Funding considerations

Funding will be a critical issue. Local government authorities will require additional funding to fulfil their increased role for managing local issues. Specifically, they will need funding to appoint local government environment protection officers.

We acknowledge local governments may see our proposal as cost shifting. However, we consider the proposal represents a significant new function and enhancement to service delivery for the Victorian community. This is a service not currently performed by either local government or the EPA. As such, we consider that it must be viewed as a new initiative warranting dedicated new funding.

We recommend that DELWP bring a proposal to government to identify additional resources for local government to fund these additional functions. One option is developing a landfill levy revenue sharing arrangement with local councils.

Rural and regional considerations

Rural and regional councils with lower populations have a different resource and rate base than councils with larger populations. But they often have equally challenging pollution and waste problems. Submissions from several rural and regional councils described the regional EPA office as providing important regional expertise as well as providing important education and facilitation to local governments and businesses.

> *The EPA also fulfils a valuable regional expert oversight role across different sectors of the environment including wastewater management, waste management (e.g. closed landfills) and water quality.* (Warrnambool City Council submission, p. 2)

> *Council relies on the EPA's expert advice and oversight on regional issues such as waste water management and landfill management.* (Warrnambool City Council submission, p. 3)

> *The EPA also has an important facilitation and education role to help local government and business to most cost effectively meet their environmental obligations.* (Wellington Shire Council submission, p. 1)

> *Currently the majority of technical expertise resides in the Melbourne office, particularly for landfill rehabilitation works, and can be difficult to access.* (Bass Coast Shire submission, p. 3)

Development of the proposal should account for rural and regional councils' resource base. Chapter 21 considers implications for funding.

18.4.3 Defining a statutory role

We consider that there needs to be a clear legislated basis for the new local government environment protection role, to ensure certainty for local governments and local communities. Our preferred approach is to define local governments roles and responsibilities by amending the EP Act, noting that there will need to be further detailed consideration of the appropriate fit-for-purpose statutory provisions. The existing delegation provisions under the EP Act will not be sufficient.

Key elements to be considered include:

- the scope of the local government responsibility role – defining what is or what is not regulated through local government environment protection officers. For example, the EP Act will need to define the level of risk or harm for which the local government environment protection officer will be responsible, and the threshold above which the EPA is responsible. The EPA systems and protocols must support this definition
- the accountabilities of the role – the officers will need to be accountable to the EPA for all regulatory matters undertaken in their role and to the local government as their employer
- the powers to be afforded to the local government environment protection officers in terms of notices, infringements and inspections
- compliance standards to apply to local infringements or offences.

In determining an appropriate statutory mechanism, the government must also consider how to deal with the nuisance provisions that are currently available under the PHWB Act.

Accountability measures should include legislated obligations for local governments to discharge functions (as is the case with Environmental Health Officers under the PHWB Act) and a defined relationship between local government environment protection officers and the EPA.

We examined a number of existing models that demonstrated successful delivery partnerships between state and local government and also provide details of how the statutory arrangements might be defined to support and empower the local government environment protection officers. These are detailed below.

Environmental Health Officer model

We considered a model similar to environmental health officers (EHOs), who are local government employees supported by DHHS with a primary focus on food safety. Local governments have roles and responsibilities in protecting public health detailed under the PHWB Act, with the primary objective of seeking to protect, improve and promote public health and wellbeing within the municipal district.[15] The PHWB Act requires local governments to appoint one or more EHOs.[16]

EHOs are authorised officers for the purposes of the PHWB Act. They must have specified qualifications and experience. DHHS works closely with local government EHOs, provides training and also supports them in their role to work directly with communities.

We note Victoria's 79 councils operationalise their public health responsibilities differently. We propose a more consistent approach is needed to ensure that the local government environment protection officers can provide comprehensive coverage and operate with an appropriate risk-based focus.

New South Wales model

The New South Wales *Protection of the Environment Operations Act 1997* creates a structure of 'appropriate regulatory authorities,' with appropriate enforcement and other regulatory powers. The 'appropriate regulatory authority' delineates the respective roles of the EPA and local governments in environment protection.

The intention is to clearly allocate responsibilities – with higher risk sites remaining the responsibility of the NSW EPA: 'There is a broad allocation of responsibilities under the Act between the EPA, local councils and other public authorities'.[17] The NSW EPA licences and regulates scheduled activities – that is activities listed in Schedule 1 to the Act and the premises where they are carried out.

Under this regime, New South Wales local councils regulate non-scheduled activities through notice and enforcement powers in their local areas. Other public authorities can also be declared an appropriate regulatory authority in particular circumstances.

BOX 18.2 SOUTH AUSTRALIA – DELINEATING ROLES AND EMPOWERING LOCAL GOVERNMENT

The South Australian legislative framework for nuisance is currently being reformed, following the introduction of the Local Nuisance and Litter Control Bill into the South Australian Parliament in late 2015. The legislation proposes:

- to formalise the role of local government in managing local minor nuisances to provide consistency of service across councils
- better tools for enforcement and to deal more effectively with vexatious complaints
- a modern legislative scheme for litter control, including tiered offences depending on the type of litter (small versus large quantities, dangerous and hazardous litter)
- improved surveillance to gather evidence of illegal dumping (linking an offence to the registered owner of a vehicle)
- allowing non-government organisations to undertake compliance activities (subject to approval).

As part of the public consultation process for the Bill, the South Australian EPA noted the important role local governments should play in providing a clear and effective regulatory response:

> *There is considerable confusion within the community about state and local government roles and responsibilities related to local nuisance issues. Local government is better placed to respond quickly and effectively to local nuisance issues as they have a local presence and community expectation of local government with regard to policing environment protection matters is very high.*[18]

Local government litter prevention officers

Under the EP Act, litter prevention officers are authorised to issue infringements and notices, and councils can retain the fines that arise from this activity. However, there has been limited take up by councils. In 2011, the government funded a number of local government litter prevention officers, recruited and based in councils with government grant funding and supported with EPA training and guidance. The intention of the program was to:

- increase litter enforcement activities by local councils by increasing the number of local government litter prevention officers across Victoria
- build the capacity of councils to educate business and the community to understand the problem and impact of litter and their responsibility
- provide additional support for litter enforcement within councils (not replace existing resources).[19]

18.5 Delivering more effective environment protection

> *[T]here is a fragmentation of responsibility for environmental issues across government. This is further compounded by an apparent lack of clarity regarding the jurisdiction of the EPA, and a lack of overall coordination of an issue between the EPA, local government and other agencies.* (City of Port Phillip submission, p. 2)

Currently, effective responses to local pollution issues and effective partnerships between the EPA and local government are hampered by poorly defined statutory powers, capabilities and role clarity. Our proposal – to establish local government environment protection officers – provides an opportunity to clearly define and delineate the respective roles and responsibilities of state and local government, with each tier addressing aspects of the problem based on its relative strengths.

We consider specific attention must be given to some key problem areas for local environment protection as part of this reform process. In particular, we received many requests for action on septic tanks, litter and noise. Without targeted interventions as part of the review of the EP Act, these issues will continue to frustrate local government authorities.

The benefits of the proposed partnership model between local governments and the EPA include:

- more effective local response
- providing more timely responses both to address problems (management) and to witness breaches (enforcement)
- allowing the EPA to focus on statewide and strategic issues
- providing local communities with a consistent and local point of contact.

The local government environment protection officers will provide an expanded and enhanced capacity for protecting all Victorians. This approach will not replace current EPA operational staff roles or workforce required to undertake EPA-related regulatory activities. To realise this new level of environment protection, the EPA must keep engaging with local government authorities to resolve local issues. Partnerships with local government will better equip the EPA to meet community expectations and to deal effectively with localised pollution and waste issues and complaints.

Recommendations

RECOMMENDATION 18.1

Establish a new statewide network of local government environment protection officers to address localised pollution and waste complaints, appropriately authorised under the *Environment Protection Act 1970* with clearly defined statutory roles and governance arrangements, including to streamline provisions relating to litter, noise and septic tanks.

RECOMMENDATION 18.2

Through the Department of Environment, Land, Water and Planning, bring a proposal to government to provide funding to local government to meet the additional costs of local government environment protection officers.

RECOMMENDATION 18.3

Provide, through the EPA, oversight, strategic coordination, standard setting, technical support, training and capacity building to local government to support its expanded local protection role.

1 Municipal Association of Victoria, *'About local government'*, http://www.mav.asn.au/about-local-government/Pages/default.aspx (accessed 25 March 2016).

2 The Fair Work Ombudsman successfully pursued this model. Discussions with Natalie James, Fair Work Ombudsman, 8 March 2016; Campbell M (Acting Fair Work Ombudsman) 2013, *The FWO's approach to compliance and enforcement*, Speech delivered to the Ai Group National PIR Group Conference, 6 May, p. 9.

3 EPA Victoria, 'Report pollution', http://www.epa.vic.gov.au/get-involved/report-pollution (accessed 26 March 2016).

4 EPA Victoria 2014, *Compliance and Enforcement Policy*, Melbourne, August, p. 6.

5 Source: EPA Victoria, http://www.epa.vic.gov.au/get-involved/report-pollution (accessed 17.03.2016)

6 Sections 58–78 of the *Public Health and Wellbeing Act 2008*; sections 53J–53O, *Environment Protection Act 1970* (septics); section 48A *Environment Protection Act 1970* (noise); sections 45A–45ZL *Environment Protection Act 1970* (litter).

7 Sections 58 and 61, *Public Health and Wellbeing Act 2008*.

8 EPA Victoria, 'Noise', http://www.epa.vic.gov.au/your-environment/noise (accessed 8 March 2016).

9 Australian Panel of Experts on Environmental Law 2015, *Next Generation of Australia Environmental Laws*, Introductory Paper, p. 11.

10 Ipsos Australia 2016, *EPA Inquiry Social Research*, prepared for EPA Inquiry, January, p. 30.

11 Cambridge Dictionaries Online.

12 Australian Regional NRM Chairs 2010, *Australia's NRM Governance System: Foundations and principles for Meeting Future Challenges*, p. iv.

13 Victorian State-Local Government Agreement 2014, September.

14 Victorian State-Local Government Agreement 2014, September, p. 10.

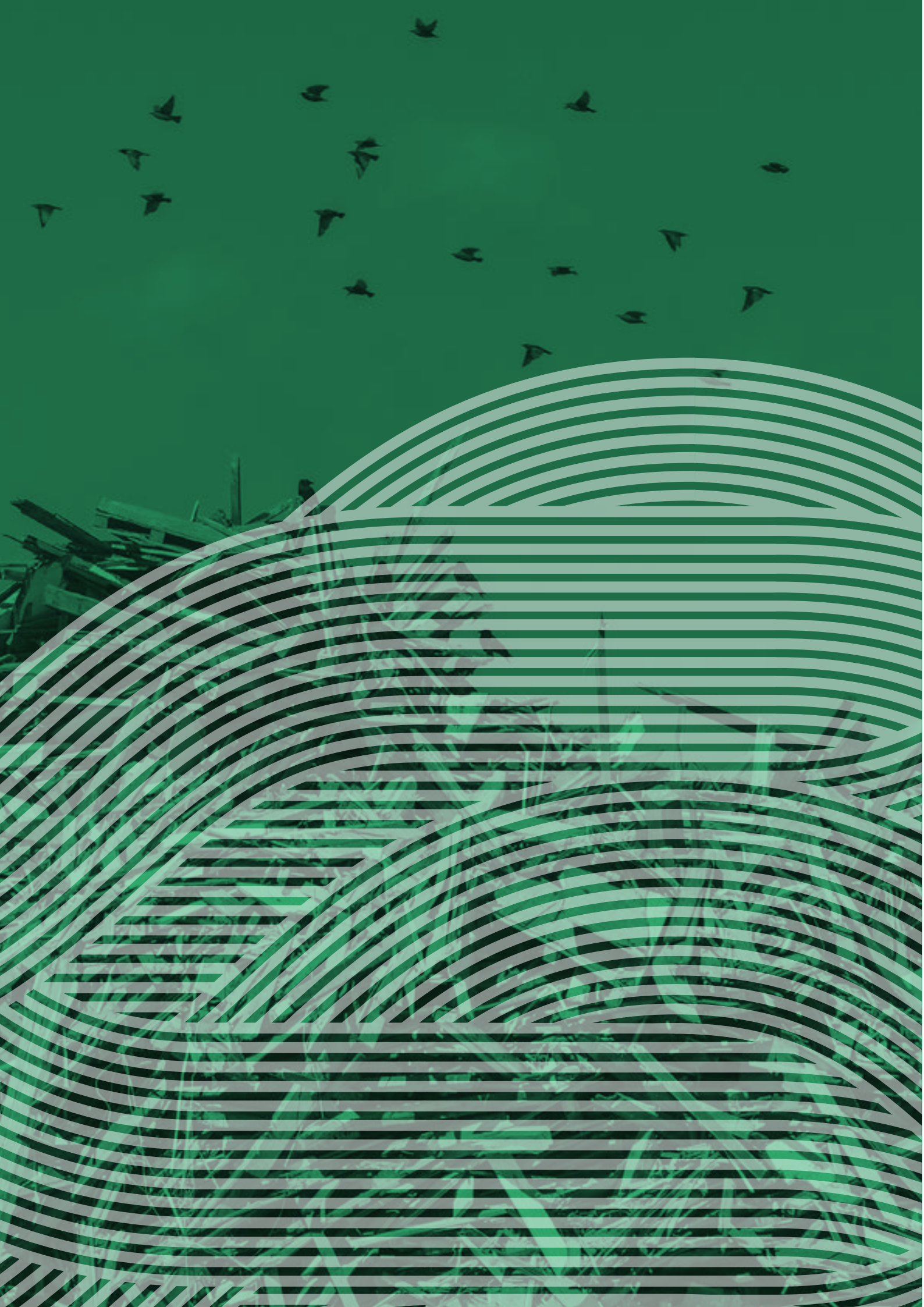
15 Section 24, *Public Health and Wellbeing Act 2008*.

16 Section 29, *Public Health and Wellbeing Act 2008*.

17 EPA NSW, http://www.epa.nsw.gov.au/legislation/Actsummaries.htm#poeo (accessed 8 March 2016).

18 EPA South Australia 2015, *Local Nuisance and Litter Control Bill*, Public consultation report, Adelaide, pp. 4-5.

19 http://www.epa.vic.gov.au/get-involved/report-litter/litter-prevention-officers-program (accessed 26 March 2016)



PART D

WHAT INSTITUTIONAL ARRANGEMENTS AND CAPABILITIES ARE NEEDED TO SUPPORT THE EPA?

CHAPTER 19

ESTABLISHING EFFECTIVE GOVERNANCE ARRANGEMENTS

ESTABLISHING EFFECTIVE GOVERNANCE ARRANGEMENTS

KEY MESSAGES

Good governance is fundamental for an organisation to perform effectively.

For a regulator, governance arrangements need to ensure independence, integrity of regulatory decisions and transparency, to support public confidence and accountability.

Current governance arrangements under the *Environment Protection Act 1970* are inadequate. In particular, the EPA's decision making structure does not meet principles of contemporary governance.

The EPA needs a governing board that provides it with influence and strategic direction. The Board's responsibilities must be clearly distinguished from those of the Chief Executive Officer, particularly relating to regulatory decision making.

The governance structure should also reflect the EPA as specialist, science-based regulator, and its key role alongside the Department of Health and Human Services in protecting human health.

The EPA also needs to be formally established as an independent statutory authority.

19.1 Introduction

> *Strong governance strengthens the legitimacy and integrity of the regulator, supporting the high level policy objectives of the regulatory scheme and will lead to better outcomes.*[1]

Our terms of reference asked us to inquire into, report on, and present recommendations and options about the EPA's current governance structure. Specifically, we examined whether the EPA can effectively and efficiently discharge its powers, perform its duties and implement its required functions under current governance arrangements.

One of the most consistent messages we received during our consultations with stakeholders – including discussions with the EPA Chairman and Environment Protection Board – was the need to fundamentally reform the EPA's current governance structure. The formal arrangements provided under the EP Act have clear shortcomings.

We consider establishing a modern, fit-for-purpose governance structure for the EPA to be a key priority for action. As outlined in chapter 5, we propose the Government implement the new governance arrangements outlined in this chapter as part of our proposed EPA (Establishment) Act.

The governance structure needs to meet contemporary standards and principles, including Victorian public sector requirements, and also support the EPA in its future role. Governments, academics and international bodies have examined governance closely, to define key generic requirements for good governance for a public authority or regulator. Recently defined best practice principles for the governance of regulators[2] provided a framework for our consideration of appropriate structures to support the EPA's functions.

Throughout the report, we advocate that the EPA be a confident regulator – proactively developing and deploying its toolkit to prevent pollution and waste impacts on public health and the environment – and a mature and influential regulator – involved in whole-of-government strategic planning and providing early advice to support robust decision making. The EPA needs a governance structure that supports these objectives.

In part, the EPA's influence will depend on the strength of its in-house expertise (chapters 6 and 20) and opportunities to be 'at the table' for strategic discussions within government (chapters 7 and 10). But its governance structure can also extend the EPA's influence and authority – through the standing and expertise of external figures who play a role in the governance (for example, as Chair and board members), and through the networks that they can draw on for the EPA.

Our proposals for the EPA governance structure seek to address specific requirements as well as to meet the generic requirements of the Victorian regulatory environment and best practice principles, as outlined below:

- Whole-of-government requirements for public sector governance, including:
  - i) oversight by external bodies reporting to Parliament[3]
  - ii) compliance with the duties of entities, Chairs, directors and public servants[4]
  - iii) entity financial management and reporting obligations[5]
  - iv) organisational compliance with legislation[6] and government policy.[7]
- Consistency with internationally accepted best practice governance principles for regulators,[8] in particular, elements dealing with:
  - i) integrity of regulatory decision making
  - ii) governing body structure that provides for effective strategic direction setting and oversight of corporate governance, separate to regulatory and operational decision making functions
  - iii) accountability and transparency.
- Specific governance features necessary to support the EPA's authority and influence as a specialist science-based regulator with a responsibility for protecting human health (as clarified by our proposed legislated objective).

Importantly, these proposals for change are about positioning the EPA for the future and do not reflect the capability or diligence of the current, or indeed previous, EPA Chairmen, or others involved in the EPA's governance arrangements. We acknowledge that they have shown enormous commitment to the organisation.

19.2 The case for change

> *How a regulator is established, directed, controlled, resourced and held to account – including the nature of the relationships between the regulatory decision maker, political actors, the legislature, the executive administration, judicial processes and regulated entities – builds trust in the regulator and is crucial to the overall effectiveness of regulation.*[9]

Governance is nominated as a crucial issue by both regulatory experts and by stakeholders. One in four submissions to the inquiry included comments on the EPA's governance arrangements and the way the organisation operates. The majority of commentary on governance in the submissions advocated for an independent and accountable EPA with a modern governance framework.[10]

Our consultations also revealed broad acknowledgement of the deficiencies in the EPA's legislated governance structure. These limitations are well recognised by the EPA and the current Chairman.

A key problem is that all formal responsibility and authority is vested in a single person-based structure. The EP Act specifies that the Chairman is the 'Authority' with sole oversight and responsibility for the EPA's regulatory activity. The Chairman is supported by a three-person advisory Board which has no power or decision making authority.[11] Concentrated powers and functions in the Chairman has been a feature through most of the EPA's 45 year operating life (see table 19.1 for the history of the EPA's governance structure) but is now broadly acknowledged as neither consistent with modern governance principles nor practical or reasonable to demand of any individual.

The current Chairman has taken steps to address these issues. In 2009, a Chief Executive Officer (CEO) role was created to broaden oversight and accountability for the EPA. All powers or functions of the Authority (Chairman) have been delegated to the CEO (under section 68A of the EP Act). The CEO has no statutory foundation, even though he or she is effectively responsible for all regulatory decision making. The Chairman established a Chair's Executive Forum (comprising the CEO and senior executives) to assist her oversight. The Chairman also accesses external strategic advice and oversight guidance through the following high level advisory committees:

- Risk and Audit Committee – to support the Chairman and CEO to meet obligations under the *Financial Management Act 1994*
- People and Culture Committee
- Science and Engineering Advisory Committee.[12]

These committees are valuable practical improvements to the EPA's governance structure. They provide a broader range of views and skills to corporate governance functions, and support 'continuous improvement in its people, culture, science and engineering.'[13] However, it is clearly time for the EPA to have an appropriately modern, legislated framework that provides an enduring basis for good governance.

TABLE 19.1: HISTORY OF EPA GOVERNANCE STRUCTURES

	Decision Making Role/s	Advisory Bodies
1971	**Three member Authority** ▪ Two experts in environmental control ▪ One with administrative skill and experience	**Environment Protection Council** – 17 members comprising: Experts with the following qualifications: environmental management (nominated by Minister of Mines), industrial waste chemist or industrial waste engineer (nominated by minister via CSIRO), town and country planner (nominated by Minister for Local Government), university professor or teacher of ecology or aquatic or marine biology (nominated by Minister for Conservation) **Government representatives**, including from key agencies: Melbourne Metropolitan Board of Works, Chief Health Officer, Director of Fisheries and Wildlife, Soil Conservation Authority, State Rivers and Water Supply Commission (nominated by Minister of Water Supply), State Electricity Commission and Gas and Fuel Corporation (nominated by Minister for Fuel and Power), Ports and Harbour Division of the Public Works Department (nominated by Minister for Public Works) **Sector representatives:** industrial waste (nominated by Minister from five submitted by Vic Chamber of Manufacturers), trade unions (nominated by the minister from five submitted by Victorian Trades Hall Council), local government (nominated by Minister for Local Government from five submitted by Municipal Association of Victoria), nominated by Minister for Agriculture, and representing the general public.
1984	**Single member Authority/ Chairman, plus** Deputy Chairman (optional)	**Environment Protection Council** – not more than 12 members, with a special interest in preventing and controlling pollution and protecting and improving the quality of the environment.
1997 to present	**Single member Authority/ Chairman** Deputy Chairman (optional)	**Environment Protection Board** – 3 members with skills, experience or knowledge that will assist in carrying out advisory functions to minister and Chairman, including on: administration, policies and strategic directions of the EPA; EPA's corporate plan; national and international trends of significance in environment protection.

19.2.1 Measuring up against best practice governance principles

T(he) OECD laid out a set of principles for the governance of regulators in 2014.[14] Those principles rely extensively on the best practice principles developed by the Victorian Government in 2010.[15] We drew on these principles in this chapter to consider governance arrangements. In addition, we drew on them as we considered role clarity[16] and funding[17] (chapters 5 and 21 respectively).

Our proposals for reforms to the EPA's legislated governance structure account for the following principles.

Independence and regulatory integrity

A regulator must conduct – and be seen to conduct – its regulatory decisions and functions with integrity and impartiality to ensure confidence in the regulatory regime. It must consider both its procedures for regulatory decision making and the institutional structures that define its relationship with the minister and the department. Regulatory integrity is also buttressed by accountability and transparency.

Governance structures that support regulatory integrity are crucial for the EPA because it regulates government and non-government entities, and makes decisions that can have significant impacts on the interests of industry sectors and the community.[18] The EPA must have the public's confidence as an independent authority making rigorous, objective and impartial decisions.

The EPA is currently established as an administrative office of DELWP. We consider that its formal establishment arrangements should be changed to reflect its operational independence.

Governing body structure

The appropriate governance structure depends on the nature of the regulatory task – in particular, its complexity and the volume of decisions – and the sectors subject to the regulation. When a regulator has a separate governing body and chief executive, clearly defining the levels of decision making and their allocation between the governing body and the chief executive (or management levels) is important.[19]

The OECD identifies three main governance structures for independent regulators:

- Governance board model – the board is primarily responsible for the oversight, strategic guidance and operational policy of the regulator, with regulatory decision making functions largely delegated by the chief executive officer
- Commission model – the commission itself makes most substantive, regulatory decisions
- Single member regulator – an individual is appointed as regulator and makes most substantive regulatory decisions and delegates other decisions to his or her staff.[20]

We did not consider the single member model, because this replicates deficiencies in the current structures. In particular, it does not provide the EPA with important oversight and guidance on strategic direction.

We considered the commission model because of its potential to address some elements of the EPA's regulatory decision making task. Specifically, it provides a capacity for hearing matters and adjudication. But we rejected the commission model for several reasons. First, we concluded that the existing mechanisms for the Victorian Civil and Administrative Tribunal to review EPA decisions are appropriate and that further special provision for internal hearings or reviews is not required. Second, commission model is of limited value for most EPA decision making, which is delegated to authorised officers and involves technical staff, including often a range of inputs from internal scientific and technical experts. Third, like the single member model, the commission model does not generally provide for corporate governance and strategic direction setting functions. We consider these are the most important features to be added to EPA's governance structure.

We consider that the board model best provides the EPA with a governance structure that provides strategic direction and oversight, and brings to this a range of expertise and experience. These functions are best located in a body that is not engaged in day-to-day operations or regulatory decision making. While the board would oversee the discharge of these responsibilities, regulatory decision making is best placed with the EPA CEO, with appropriate delegations.[21]

Accountability and transparency

> *Regulators can avoid actual or perceived influences by simply being more open and transparent about their decisions. … Making such justifications or the reasoning behind the decision open to full public scrutiny is important to achieve not only good regulatory outcomes but also support more fundamental issues such as the rule of law.*[22]

The EPA is accountable to three groups of stakeholders: the minister, regulated entities, and the public.[23] Accountability that demonstrates the regulator is properly using its statutory powers and resources builds confidence and strengthens the regulator's authority.

We consider performance evaluation to be a key element of accountability – requiring the regulator to track outcomes, be aware of the impacts of its regulatory actions and decisions, and be transparent about these. This helps drive internal improvements to systems and processes, and build confidence in the regulatory system.[24]

19.3 A legislated governance structure for the future

> *Improving the governance arrangements of regulators can benefit the community by enhancing the effectiveness of regulators and, ultimately, the achievement of important public policy goals.*[25]

There is a compelling case for legislative reform to provide the EPA with properly constituted and enduring governance arrangements consistent with best practice governance principles for regulatory bodies. Our recommendations also seek to formalise specific features that strengthen the EPA's influence and authority as a specialist science-based regulator.

Our recommended governance structure addresses the acknowledged deficiencies of the current structure and will support the broader reforms proposed in this report.

In summary, we recommend including the following specific governance elements in the proposed EPA (Establishment) Act:

- create the EPA as an independent statutory authority
- establish a seven member Board responsible for strategic direction, and oversight of corporate governance and the discharge of the regulatory approach – to include two members with specified qualifications or experience to support key elements of the EPA's task (in particular, a member nominated by the Minister for Health)
- establish a legislated Science, Engineering and Health subcommittee of the Board, with members including external experts and Victoria's Chief Health Officer
- legislate the functions of the Board and the CEO – and vest responsibility for all regulatory decision making in the CEO
- specify that the CEO should have science or engineering qualifications or experience
- establish a legislated role of Chief Environmental Scientist as part of the EPA executive, to support enhanced technical capability and advisory functions.

The focus on expertise is an important strand running through the proposed governance structure, reflecting our strong view of the EPA's distinctive role as a science-based regulator. It underpins its capacity to influence and provide effective protection of human health and the environment. The governance structure provides an opportunity to communicate, support and enhance this role at the highest level.

19.4 Clarifying the EPA'S STATUS as an independent statutory authority

> *The EPA's statutory independence and standing as an 'authority' is valued. The independence of the Environment Protection Board and the Authority under its Chief Executive Officer to impartially and objectively deal with environment protection issues is a key factor in its achievements to date and should be preserved in the future.* (Planning Institute of Australia Victoria submission, p. 1).

Regulatory independence is primarily about ensuring the integrity of decision making processes – in particular, that individual regulatory decisions are not subject to direction by executive government.[26] The EPA must be seen as independent '… to maintain public confidence in the objectivity and impartiality of decisions'.[27] This is particularly important for a regulator, such as the EPA, that deals with government entities on a range of issues, such as: licensing water authorities, requiring statutory environmental audits of contamination and issuing clean up notices,[28] and assessing works approvals for major infrastructure.[29]

The EPA's current status is as an 'administrative office' of DELWP. This status is not consistent with contemporary governance approaches for a public entity of this scale, which regulates both industry and government activities. We do not suggest that the current arrangements affect the integrity of the EPA's decisions, but we consider its legislative status should reflect its independence of operation, and therefore recommend the EPA should be formally established as a non-departmental statutory corporation 'public entity' in its own right.

The EPA's status under the *Public Administration Act 2004* (PA Act) would change from being an Administrative Office to being a 'public entity'[30] but we propose that EPA staff continue to be employed as public servants. As outlined by the Victorian Public Sector Commission, this would require an amendment of section 16 of the PA Act, to declare the CEO 'a person with the functions of a public service body Head' for the purposes of the PA Act.[31] This approach has been adopted with a number of other public entities that require independence but where there is a case for employing public servants. Examples include the Victorian Auditor-General's Office and Essential Services Commission. We consider it is important that EPA staff remain Victorian public servants to give them consistent employment and to allow them to move between the EPA and other parts of the Victorian public service.

The EPA's responsibilities for financial management under the *Financial Management Act 1994* would not change. However, responsibility within the EPA would move from the EPA Chair and CEO to the proposed EPA Board and CEO, in accordance with the corresponding legislative obligations.

Independence is an important element for regulatory integrity, but it operates alongside other equally important principles for accountability applying to the EPA, as with all other public bodies:

> *Accountability and transparency is the other side of the coin of independence and a balance is required between the two.*[32]

As noted in the Victorian Government guidelines: 'a regulator's 'independence' from government can never be absolute', indeed, it 'exists to achieve objectives deemed by government to be in the public interest and operates using the powers conferred by Parliament'.[33]

The EPA will remain accountable to the Minister for Environment, Climate Change and Water for performing its functions in accordance with its legislation. DELWP would continue to have an important role in supporting the minister in overseeing the EPA.

The EPA's establishment legislation should be transparent about the powers of the Minister to request and receive advice from the EPA, and to appoint and terminate the appointment of members of the governing body in specified circumstances.[34] And also about the EPA's power to advise the Minister in the absence of a request, on matters about protecting the environment, and on amendments to environment protection laws.

The capacity to provide advice to the minister is important. It ensures the EPA can provide frank and fearless advice[35] as an apolitical, responsive, effective and accountable regulator.[36]

> *The EPA would report directly to the Minister and would be required to advise the Minister without delay of any incident having potentially significant impact on the atmosphere, land or waters in Victoria.* (Monash Business School, Monash University submission, p. 11)

19.5 Governing the EPA through a multi-member Board

We recommend changing the EPA's corporate form to a seven member board structure. Key elements of the proposed board structure – that would be included in the establishment legislation for the EPA – are set out below:

Composition of the Board

- Board members and Chair will be appointed by the Governor in Council on the recommendation of the Minister responsible for the EPA (at present, the Minister for Environment, Climate Change and Water).
- The Board will comprise seven members, including the Chair, who bring a range of expert inputs and skills relevant to the functions of the EPA.
- Two of these Board members should have specified qualifications or experience: one in science or engineering, and one in health.
- The Minister for Health nominates the member with health qualifications or experience.
- The CEO attends all Board meetings but is not a member of the Board.

Functions of the Board

- The Board is accountable to the relevant minister (currently the Minister for Environment, Climate Change and Water).
- Strategic role: The Board sets overall strategic directions for the EPA, and oversees the CEO in carrying out the Board's strategic direction.
- Oversight role: The Board oversees the discharge of the regulatory approach; oversees corporate performance, including risk management, financial management and effective use of resources; and ensures the EPA meets its statutory obligations as a public entity.
- Advisory role: The Board responds to requests from the minister, and provides advice to the minister as appropriate.

Science, Engineering and Health subcommittee of the Board

- It is included in the EPA's establishment legislation.
- It is chaired by the Board member with science/engineering qualifications, and includes the Board member with health qualifications.
- The Board appoints other members, including external experts and the Chief Health Officer.

Our proposed board structure enhances the EPA's capacity for strategic decision making and for external influence. In particular, it supports the EPA's authority as a science-based regulator and key source of expert advice for government and the community. These features are discussed further below.

19.5.1 Building authority and influence

The board of a public entity needs, at a minimum, to comprise directors who collectively possess the capabilities necessary for effective governance relating to: strategy, administration and risk management;[37] legal requirements for accountability, conduct, financial management, transparency, integrity, human rights and privacy;[38] and upholding public sector values and duties of directors under the *Public Administration Act 2004*[39] and related codes, including the Directors' Code of Conduct.[40]

The EPA's governance structure can also increase its authority and influence to addressing current and future challenges. By involving eminent and experienced board members, the board structure expands the EPA's 'thought leadership', and brings additional gravitas and standing to the EPA as it advises both government and the community.

The Chair of the EPA Board is a critical leadership role for the EPA, that brings to the organisation standing and eminence, and who would enjoy the trust and respect of government, industry and the public. The Chair leads the EPA and its Board, and manages relationships with the CEO and external stakeholders.[41]

Our proposed board model reflects the feedback we received from stakeholders, who supported a strong, independent, highly skilled EPA Board and strong advisory committees:[42]

> *An expanded, skills-based board would help to provide greater independence…* (Professor John Stanley submission, p. 3)

> *The MAV considers that the vision and strategic priorities outlined in the EPA's current strategic plan are sound, however is it is suggested that … [t]he governance structure of the EPA be modernised to be a skills-based board.* (Municipal Association of Victoria submission, p. 23)

As well as the specified skills, Board members should bring a broad range of skills and experience consistent with best practice governance, for example:

- members who understand the regulatory environment, including market operations and the impacts of regulatory instruments
- members with industry experience, as a way of engaging and forming partnerships with regulated industries, as is the case with the current membership of the Environment Protection Board[43.]
- community members.

The Board will, as a matter of course, establish other subcommittees as appropriate including a Risk and Audit subcommittee, as required by the *Financial Management Act 1994*.

We consider it vital that the CEO attend all Board meetings, both to report to the Board and to ensure that the EPA's operation is both informed by and responsive to the directions set by the Board.

Science and engineering expertise

Board members provide the EPA with access to state, national and international expert networks. Specifying members with science/engineering and health qualifications or experience complements our proposals to enhance staff skills in the applied sciences area and to elevate science and health expertise to the organisation's highest levels. We recognise the EPA already derives some of these benefits through the current engagements with members of the Science and Engineering Advisory Committee (established by the current Chairman) and consider that this is a strong indicator of the value of our proposed new Board arrangements.

The proposed Board composition will support the EPA's science-based regulatory role via:

- stronger strategic direction and authorisation internally, including expert input and oversight of scientific and technical strategies, environmental standards and organisational capabilities
- enhanced influence within government
- greater credibility and confidence in the EPA from those subject to its regulation
- a more authoritative and trusted voice in the community
- expanded expert networks within Victoria, nationally and internationally, with the potential to leverage others' knowledge.

Health expertise

We recommend the Minister for Health nominate one member of the EPA Board, with health qualifications or experience.

> *If the Victorian EPA is serious about strengthening its role in public health issues, it should add a health voice/expertise in its management and/or governance. Looking at the Victorian EPA's organisational chart, there are no board members, executive officers, nor principal experts who hold public health or medical qualifications, and no health focus within its organisational structure.* (Doctors for the Environment Australia submission, p. 6)

This proposal supports the strengthened focus on the EPA's role in protecting human health by:

- providing strategic leadership for the enhanced public health functions and input into EPA's regulatory framework, as determined by the Board
- formally recognising the important ongoing links between the work of the EPA and of the health portfolio.

This approach has precedence in other Victorian legislation where cross-portfolio interests must be represented in governance structures. For example, under the *Mental Health Act 2014*, the board of directors of the Victorian Institute of Forensic Mental Health include members nominated by the Attorney-General and the minister responsible for corrections.[44]

Science, Engineering and Health subcommittee

To ensure that high order technical expertise relevant to EPA's regulatory task and advisory roles remains an enduring focus for the Board, we recommend the EPA (Establishment) Act should establish a Science, Engineering and Health subcommittee of the Board. In general, subcommittees of the Board are a matter for the Board to determine. However, in this case, we consider this subcommittee requires a legislated status.

The Science, Engineering and Health subcommittee will provide strategic advice on the EPA's science, engineering and health functions. It should be chaired by the Board member with science qualifications or experience, and include in its membership the Board member with health qualifications or experience. The other members should comprise pre-eminent technical and scientific specialists, and the Chief Health Officer.

19.5.2 Legislated functions for the Board

The Board steers the EPA on behalf of the Minister and must inform the Minister of major risks to the EPA and measures to address risks. The Board is responsible for its own effectiveness as a governing body, subject to the obligations of Directors of public entities.[45]

We consider the EPA Board's legislated functions should include:

- determining the EPA's strategic direction, and overseeing strategic priorities (for example, through the Annual Plan and targets) and outcomes
- overseeing the corporate performance of the EPA, including approving budgets and business plans and monitoring performance and financial management
- overseeing the discharge of the regulatory approach
- responding to, and reporting against, any statement of expectations from the minister
- advising the minister and responding to requests from the minister
- appointing the CEO and monitoring the CEO's performance
- establishing subcommittees as required for good governance and appointing their members, and also members of the Science, Engineering and Health subcommittee (to be established under legislation).

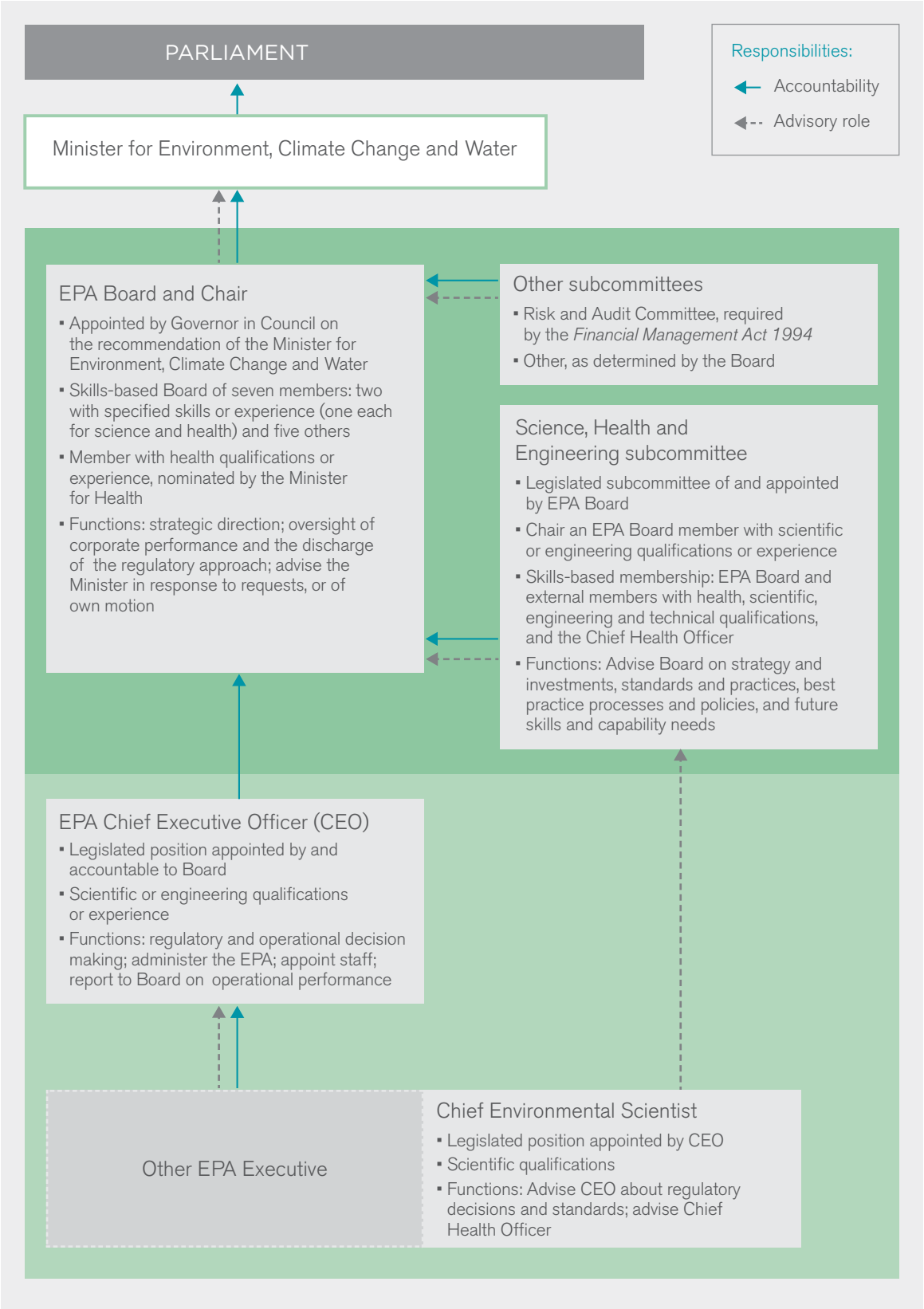
Clear differentiation of Board and CEO functions

The Board's role is to provide strategic direction and oversight, including of the EPA's management. But it does not participate in the organisation's day-to-day management. That role sits with the CEO, who has primary accountability for employment of staff and for financial management.[46]

We also propose the legislation assign all regulatory decision making functions to the CEO. While the Board will set the regulatory approach and oversee the CEO as the primary regulator, formal responsibility for regulatory decision making would rest with the CEO and through delegation arrangements to EPA staff (see section 19.6.1). This split of functions is consistent with the majority of Victorian public entities established outside departments.[47]

A summary of our proposed governance structure for the EPA is at figure 19.1

FIGURE 19.1 PROPOSED LEGISLATED ELEMENTS OF EPA'S GOVERNANCE STRUCTURE



19.6 Administering the EPA

We consider that formal accountability for regulatory decision making must be clarified as part of the governance reforms. This is the EPA's core function and the legislation must clearly direct the organisation and the community on who should hold primary responsibility.

Under the current EP Act, this statutory role rests with the Chairman but all the powers, duties and functions of the EPA are delegated from the Chairman to the CEO and to other EPA officers. We recognise this delegation was established to separate the Chairman's oversight functions (sitting with the Chairman) from regulatory decision making functions.

The new governance structure and proposed establishment legislation provides an opportunity to set out the formal responsibilities of the Chair and Board, and those of the CEO, in particular, the CEO's responsibility as the primary regulator.

19.6.1 Primary regulator and CEO

The CEO is appointed by, and accountable to the Board.

We recommend setting out the CEO's functions in the proposed EPA (Establishment) Act. Providing a clear and separate accountability for regulatory decision making strengthens transparency and accountability.

The CEO's legislated functions should include:

- primary responsibility for regulatory decision making, with a power of delegation
- operational decision making
- ensuring Board decisions are implemented effectively and efficiently
- employing staff, including the Chief Environmental Scientist
- reporting to the Board on organisational performance.

The CEO is accountable to the Board for organisational expenditure, operations and administration pursuant to the Board's strategy, policies and legal requirements.[48] The CEO's role is to manage the operations of the organisation and to provide a bridge between staff and the Board. The CEO implements Board policies and is responsible for achieving organisational outcomes and performance objectives.

Requirement for science or engineering background

We recommend the legislation specify that the person holding the position of CEO must have qualifications or experience in applied science or engineering. By doing so, the legislation embeds features that support the EPA as an effective science-based regulator – in this case, leadership by someone who understands the nature of the 'business'. We do not expect, nor think it desirable, for the CEO to be a technical expert in a particular field. But the CEO must understand and be able to interpret to others (both within government and more broadly) technical issues about applying science and engineering to identify, assess, remediate and mitigate risk. The CEO must also be able to engage with and provide leadership to in-house experts and expert members of the Board.

The CEO is also the public face of the EPA and must be able to communicate with clarity and authority on these matters, including to provide advice and defend regulatory decisions.

Delegation of regulatory decision making

We recognise many regulatory decision making functions must be formally delegated from the CEO to members of the EPA Executive and appropriate EPA officers. The EPA's technical and scientific activities – including works approvals, licensing and enforcing pollution offences – need specialist input from experts across the EPA (and externally where required). Similarly, specialists also provide input for review proceedings at the Victorian Civil and Administrative Tribunal or criminal proceedings involving the EPA.

Regulatory decisions should be made at the appropriate level within the EPA's corporate structure, where the appropriate capability and knowledge of the relevant issue or problem sits. And decisions should be escalated based upon various risk factors, including consideration of potential public health and environmental impacts. But certain decisions must be retained by the person with primary accountability for regulatory decision making – the CEO. In short, while delegation can push decision making down within the organisation, appropriate management procedures should ensure that decision making is escalated, including to the CEO, in accordance with relevant risk factors.

There will also need to be consideration of how appropriate powers are provided to the local government environment protection officers (see chapter 18) and EPA's arrangements for oversight of and accountability for these.

With all delegations, the CEO should retain the power to make a regulatory decision, including where there is potential for significant impacts on public health or the environment, the matter is particularly complex or novel, or where the matter has the potential to set a regulatory precedent. It needs to be clearly understood and communicated that ultimate accountability rests with the CEO as the primary regulatory decision maker.

19.6.2 Chief Environmental Scientist

We recommend establishing a Chief Environmental Scientist as a statutory function, appointed by, and reporting to, the CEO. The Chief Environmental Scientist will provide expertise at a senior level, and strengthen the EPA's authority and influence by supporting the CEO in engagement with government and external parties.

We consider the role should be legislated to ensure transparency and consistency by securing the role into the future. We do not consider that it is appropriate or necessary for the Chief Environmental Scientist to have statutory powers[49] but the legislation should detail the scope of its advisory role. In particular, the Chief Environmental Scientist will liaise with the Science, Engineering and Health subcommittee of the Board, and should attend all meetings as an observer. The Chief Environmental Scientist will also liaise with the Chief Health Officer. Chapter 6 considers this role in more detail.

19.7 Public access to information – transparency, accountability and evaluation

Best practice governance principles highlight the importance of transparency and accountability.[50] Our consultations and social research revealed that the community views information as critically important for accountability – for judging and trusting the EPA's performance. As outlined in chapter 3, stakeholders want the EPA of the future to be more transparent, responsive and communicative.

From the point of view of government, the community and business, 'comprehensive accountability and transparency measures actively support good behaviour and performance by the regulator'.[51] In this respect, the EPA's governance arrangements also need to keep pace with changing business and community expectations, including about the manner and extent of engagement with regulators. Changing technology and a greater awareness of public health and environmental impacts arising from pollution and waste is placing more pressure on accountability and transparency.

From the regulator's point of view, increased transparency can have practical outcomes, through public understanding of the importance of environment protection,[52] and improved regulatory effectiveness, including through the following:

> *Increasing the transparency of, and regulated entities' confidence in, the regulatory regime, can be expected to increase the level of voluntary compliance.*[53]
>
> *Transparency in the actions and decisions of regulators is beneficial for preventing reviews of decisions.*[54]

Publication and reporting requirements are important for compliance with best practice principles of accountability, transparency and performance evaluation. The new legislated functions proposed for the EPA include both these elements – reporting and information provision, and evaluation (see chapter 5). These activities will become increasingly important with the introduction of a general duty (see chapter 12) and in response to changing community expectations.

In addition to the annual reporting requirements of the *Financial Management Act 1994*, the EPA publishes an Annual Plan and an Annual Compliance Plan, which set out its priorities for the coming year, including compliance and enforcement priorities. They also set out performance measures that the EPA subsequently reports on in its Annual Report.

We consider there is scope for expanded reporting and improved accessibility – including routine online updates. This approach measures EPA's performance against objectives and provides information in the public interest. Generally, we support the following proposals from submissions:

- Publish prosecution summaries and results and compliance information on the EPA website[55]
- Publish EPA enforcement activities measured against key performance indicators to ensure contaminated land/emergency/environmental issues are managed adequately.[56]

Our proposed legislated functions for the EPA will include specific functions to improve accountability and transparency (see chapter 5), including to:

- report to, educate and engage with the community on managing risks and the condition of the environment; and
- evaluate the effectiveness of regulatory interventions.

Recommendations

RECOMMENDATION 19.1

Establish the EPA as an independent statutory authority with a Board as the governing body that has the following legislated features, to be legislated as part of the EPA (Establishment) Act:

i) appointed by the Governor in Council on the recommendation of the Minister for Environment, Climate Change and Water

ii) comprising seven members including:

   a. a member with qualifications or experience in science or engineering

   b. a member with qualifications or experience in health, as nominated by the Minister for Health

iii) with functions to:

   a. determine the EPA's strategic direction

   b. provide oversight of the EPA's corporate performance

   c. provide oversight of the discharge of the EPA's regulatory approach

   d. respond to, and report against, any statement of expectations from the minister

   e. provide advice to the minister and respond to requests from the minister

   f. appoint the Chief Executive Officer and monitor the Chief Executive Officer's performance

   g. establish subcommittees as required for good governance and appoint their members and also members of the Science, Engineering and Health subcommittee

iv) a Science, Engineering and Health subcommittee of the Board that is:

   a. appointed by the Board

   b. chaired by a Board member with science or engineering qualifications and experience

   c. comprising members of the Board with science/engineering and health expertise and also external scientific, engineering and health experts, including Victoria's Chief Health Officer

   d. to advise the Board.

RECOMMENDATION 19.2

Establish the Chief Executive Officer of the EPA as a legislated position under the EPA (Establishment) Act:

i) appointed by the Board

ii) with applied science or engineering qualifications or experience

iii) with responsibility for regulatory and operational decision making, and for the corporate performance and administration of the EPA, including the appointment of staff.

1 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 17.
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3 For example, Victorian Auditor-General's Office, Ombudsman Victoria, Victorian Commissioner for Privacy and Data Protection, Victorian Public Sector Commissioner.
4 Under the *Public Administration Act 2004* and the Public Sector Code of Conduct.
5 Under the *Financial Management Act 1994*, standing directions of the Minister for Finance and the *Audit Act 1994*.
6 For example, *Public Records Act 1973*, *Freedom of Information Act 1982*, *Protected Disclosure Act 2012*, *Equal Opportunity Act 2010*, *Occupational Health and Safety Act 2004* and the *Charter of Human Rights and Responsibilities Act 2006*.
7 Victorian Public Service Commission, http://vpsc.vic.gov.au/, for example, Gifts, Benefits and Hospitality Policy; Victorian Government Risk Management Framework, Conflict of Interest Policy; Policy on Executive Remuneration for Public Entities.
8 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing; Government of Victoria 2010, *Improving governance of regulators: principles and guidelines*, Melbourne.
9 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 15; Victorian Government 2010, *Improving governance of regulators: principles and guidelines*, Melbourne, p. 1.
10 The Strategy Shop 2015, *Report on submissions to 2015 EPA Inquiry*, Melbourne, December, p. 68.
11 Section 8, *Environment Protection Act 1970*.
12 EPA Victoria 2015, *EPA Governance Charter*, Melbourne, June, pp. 6–11.
13 EPA Victoria 2015, *EPA Governance Charter*, Melbourne, June p. 6.
14 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 16.
15 Victorian Government 2010, *Improving governance of regulators: principles and guidelines*, Melbourne.
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17 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 98; Government of Victoria 2010, *Improving governance of regulators: principles and guidelines*, Melbourne, pp. 54–8.
18 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 49.
19 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 72.
20 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 69.
21 Government of Victoria 2010, *Improving governance of regulators: principles and guidelines*, Melbourne, p. 37.
22 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 54.
23 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 79; Government of Victoria 2010, *Improving governance of regulators: principles and guidelines*, Melbourne, pp. 44–8.
24 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 105; Government of Victoria 2010, *Improving governance of regulators: principles and guidelines*, Melbourne, pp. 44–7.
25 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 15.
26 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 47.
27 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 49.
28 For example, Country Fire Authority's Fiskville training facility http://apps.epa.vic.gov.au/EnvAuditFiles/53V/71740-1/71740-1_c.pdf (accessed 23 March 2016).
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31 Victorian Public Sector Commission, *Employment arrangements for public entities*, p. 12.
32 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 81.
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34 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, pp. 55–6, 60–1; Victorian Government 2010, *Improving governance of regulators: principles and guidelines*, Melbourne, pp. 25, 30–3.
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37 Victorian Public Sector Commission, *Welcome to the Board: Directors' guide to public entity governance*, pp. 9–10.
38 For example, under the *Public Administration Act 2004*, *Financial Management Act 1994*, *Freedom of Information Act 1982*, *Information Privacy Act 2000*, *Public Records Act 1973* and the *Disability Act 2006*.
39 Section 7, 79 *Public Administration Act 2004*.
40 Victorian Public Sector Commission, *Welcome to the Board: Directors' guide to public entity governance*, p. 9.
41 Victorian Public Sector Commission, *Welcome to the Board, Directors' guide to public entity governance*, p. 10.
42 The Strategy Shop 2015, *Report on submissions to 2015 EPA Inquiry*, Melbourne, December, pp. 71-72.
43 EPA Victoria, Environment Protection Board, www.epa.vic.gov.au/about-us/who-we-are/environment-protection-board (accessed 21 March 2016).
44 Section 333, *Mental Health Act 2014*.
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46 Section 42, *Financial Management Act 1994*.
47 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, pp. 71–2; Government of Victoria 2010, *Improving governance of regulators: principles and guidelines*, Melbourne, pp. 36–7.
48 Victorian Public Sector Commission, *Welcome to the Board: Directors' guide to public entity governance*, p. 11.
49 Compared with the Chief Health Officer appointed under section 20, *Public Health and Wellbeing Act 2008*.
50 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, pp. 79-88.
51 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 81.
52 The Strategy Shop 2015, *Report on submissions to 2015 EPA Inquiry*, December, Melbourne, p. 63.
53 Australian National Audit Office 2007, *Administering Regulation*, Better Practice Guide, Canberra, p. 6, quoted in OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 81.
54 OECD 2014, *The governance of regulators*, OECD Best Practice Principles for Regulatory Policy, OECD Publishing, p. 84.
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56 Australian Contaminated Land Consultants Association submission, p. 11.

CHAPTER 20

THE EPA'S CAPABILITY NEEDS

THE EPA'S CAPABILITY NEEDS

KEY MESSAGES

The EPA needs multi-disciplinary capabilities alongside enhanced technical expertise to be effective as a mature regulator with a preventative and strategic focus. It should be an innovative problem solver, which is responsive and adaptive.

Getting the mix right – of skills, knowledge and resources – is critically important to deliver outcomes. And the right mix will change over time as problems change and tools evolve. The proposed general duty needs the EPA to have new and enhanced capabilities to maximise the general duty's benefits to Victoria.

In particular, the EPA of the future must have the capability to:

- maintain high level scientific and technical expertise, informed by technologies and data analysis
- influence strategic planning and decision making processes within government
- evaluate the effectiveness of its regulatory tool kit and adjust it to reflect better regulatory practice and maintain currency with evolving knowledge and conditions
- provide education and information, including shared data, to businesses and the broader community, to support compliance and better manage risks.

20.1 Introduction

The EPA must have enhanced capabilities to meet the challenges that it faces now and in the future. These challenges are significant. They include the impacts of climate change, population growth and diffuse source pollution. They also include increased demands by the community, business and other areas of government. Our vision involves the EPA being proactive to prevent harm from pollution and waste. This will require the EPA to be many things, including influential, expert, assertive, innovative, responsive and collaborative. To be these things the EPA must invest in new capabilities, including new skills and new technology. It must also build on the knowledge and experience that it already holds.

The capability needs that we identify for the future do not reflect on the individual capabilities of current staff, whom stakeholders valued highly for their skills and expertise. It was not within our remit to attempt a detailed analysis of the EPA's current capabilities.

Our findings on capabilities are initial signposts, which should be confirmed by a comprehensive assessment using government capability frameworks. We recommend that this should be initiated by the EPA Board once the new governance arrangements are in place. This capability review will need to take account of the particular requirements needed to deliver and operate the reforms identified for the EPA's functions, new statutory tools and governance arrangements.

This initial survey of capability needs is informed by materials prepared by the Victorian Public Sector Commission (VPSC) and the Australian Public Service Commission (APSC).[1] The VPSC identifies the following key elements: strategy and leadership, people and culture, engagement and delivery.[2] The APSC notes that contemporary public sector agencies must have capabilities across all of the domains identified in its model to achieve objectives in the face of current and future challenges (figure 20.1). Capability, or a lack thereof, has direct implications on performance.

FIGURE 20.1 KEY CAPABILITY AREAS

Source: Australian Public Service Commission, Capability Review Program, http://www.apsc.gov.au/priorities/capability-reviews, (accessed 27 March 2016).

In considering capabilities for the future, we also drew on the feedback we received from the community and on the views of the EPA. We considered lessons from other agencies facing similar regulatory challenges, and we accounted for the changing digital environment.

The way that different capabilities interact and work together is fundamental to the success of an organisation. The EPA must take care to balance the skills and professional backgrounds of staff, and foster the right culture, to create a dynamic multi-disciplinary team. It must also continue to develop and invest in capabilities through time. Organisational culture plays a vital role in the development and deployment of capability – but this is best left in the hands of the future EPA's Board, management and staff.

20.2 Learning from others

As we considered the EPA's shift to a more proactive and mature regulatory model, we also drew on the experience of other agencies that have successfully navigated similar changes, especially the Commonwealth Government's Fair Work Ombudsman (FWO) and WorkSafe Victoria. Both agencies moved away from traditional compliance and enforcement approaches, to adopt a 'strategic enforcement' model. WorkSafe also administers a general duty of care relating to occupational health and safety.

While there are significant differences between the EPA and these agencies, we can learn from the experiences of both in considering the EPA of the future. For example, the Fair Work Ombudsman's strategic enforcement model identified the following strategies:[3]

- Proactive detection measures – The FWO aims to devote 50 per cent of inspectorate resources towards proactive education and compliance activities.
- Specialist investigative groups – These specialist groups are focussed on and organised around key risks and priorities. They observe industry patterns, locate specific issues and engage with the community to enhance strategic compliance efforts. These groups support and develop inspectors, legal and managerial staff.[4]
- Strategic campaigns – The FWO introduced campaigns to check, improve and maintain compliance. It uses a risk-based and proportionate approach to determine which industries, locations and workplace relations issues to focus on. Intelligence gathering ensures campaigns are evidence-based and deliver the greatest benefit.[5]

These strategies are strongly connected with our focus on the need for technology, data and science related capabilities and operational and regulatory design capabilities.

From WorkSafe, we drew on the lessons from establishing a general duty of care for occupational health and safety. In particular, the review of the Occupational Health and Safety Act identified the range of skills inspectors must possess to determine what constitutes compliance and to engage with duty holders.

> *The inspector has to be, variously, an expert at hazard identification and risk assessment; an expert at systems engineering; an expert at microeconomics; competent at statutory interpretation; and have skills as a diplomat/negotiator/mediator. He/she also has to have a fairly thick skin, given that site inspections are often unpopular events with duty holders.*
>
> *It is, therefore, vital that inspectors be well trained (and kept up to date), well-instructed about their tasks, well-advised about the legal parameters within which they operate, well-resourced, and well-supported by their managers and peers.*
>
> *Above all, inspectors need to feel confident about their powers and about the back-up available to them from the Authority when required. It is also essential that, once an inspector has made a decision, he/she participate fully in any review of the decision, and be kept informed about decisions made with respect to any prosecution based on that decision.*[6]

This highlights the importance of operational, science and education related capabilities for the EPA as well as the need for a multidisciplinary approach.

We also considered the growing importance of data and digital technology for the government. Governments around the world recognise the importance of this digital transformation:

- The UK Government has located its Digital Service within the Cabinet office.[7]
- The US Government has launched a Digital Government Strategy. The US EPA submitted the EPA Open Data Implementation Plan, which recognises the importance of open data and delivering digital services.[8]
- The Australian Government has a Digital Transformation Office in the Department of Prime Minister and Cabinet.
- The Victorian Government has recognised the benefits that data and digital technology can provide, by establishing Enterprise Solutions[9] and Data.Vic.[10]

20.3 Identified capability needs

Our proposed EPA of the future must undertake a range of activities that seek to anticipate risks and prevent harm to public health and the environment. This task requires an increased ability to:

- influence strategic interactions across government
- support compliance, including by educating businesses and the broader community, and by providing training and support for local government
- design, evaluate and update regulatory standards, tools and instruments.

That is, the EPA must be a trusted source of information, and a scientific and technical expert with a depth and breadth of skills. This requires increased capability to:

- monitor and scan to identify pollution and waste as it occurs, and anticipate future pollution and waste issues
- use data, analysis, science, research, networks and partnerships to understand the risks of harm to health and the environment.

20.3.1 New or enhanced 'knowledge and skills' capabilities

A multidisciplinary approach and working with others

The success of the EPA relies on a multidisciplinary approach. For example, strong regulatory design and problem solving that results in the application of an economic instrument relies on scientists and modellers working closely with economists, policy officers, lawyers and operational staff.

The EPA's current five year plan focuses on building strong partnerships with industry and the community.[11] Partnering with business and the community helps the EPA gather and exchange data, leverage expertise and support compliance. Partnering with the community, for example in citizen science programs and through environmental improvement plans, may promote empowerment, trust and effective outcomes.

> *The EPA must be visibly present to the community and take up opportunities presented to it to provide input into local government and community processes. The need to be at the coal-face interacting with the community needs to be valued by the EPA and be appropriately resourced to provide this approach.* (Latrobe City Council submission, p. 2)

> *The EPA also has an important facilitation and education role to help local government and business to most cost effectively meet their environmental obligations.* (Wellington Shire Council submission, p. 1)

There are many examples that demonstrate the merits of partnering within the public and private sectors to develop capabilities. Partnerships with business, such as industry placements and mentoring programs, may provide the EPA with opportunities to build its commercial, engagement and leadership capabilities as well as industry knowledge. Partnerships with regulators and other parts of government, through secondments and job rotations, can help the EPA to expand its influence as well as identify a broader range of approaches to address complex issues and intractable problems, combining expertise, tools and information across government.

Empowering local government to respond to local pollution and waste complaints and issues (chapter 18) will require the EPA to develop an ongoing partnership and statewide support framework that builds the capability of local government environment protection officers in local governments. On its part, the EPA will complement local response by taking a system view of issues and applying resources to strategic problem-solving.

Scientific and engineering capabilities

Science underpins the EPA's capability as an evidence-based trusted and influential authority. It needs comprehensive coverage of key pollution and waste issues. To be a multidisciplinary regulator the EPA must have a significant variety, depth and breadth of scientific, technical and engineering expertise. Recognising this, we propose the EPA needs to fill recognised capability gaps in key pollution and waste issues such as waste, chemicals, major industries, groundwater, noise and odour (chapter 6). The EPA must also strengthen its environmental health capability, including with expertise in epidemiology and toxicology (chapter 6).

Given our proposal to increase its role in mining (chapter 17), the EPA may need more expertise on the pollution issues associated with the mining industry. Our proposal to introduce a registration scheme (chapter 12) will rely on the EPA having expertise on pollution issues associated with the industry sectors included in the scheme.

The EPA will need data scientists who are skilled in data collection, analytics, storage, sharing and management. They must know what technology to adopt, what data streams to use and how to apply the data.

The EPA needs scientific capabilities at senior levels and this will also strengthen potential career paths for specialist disciplines, improving capabilities in the long term.

> *EPA needs to be led by personnel with strong scientific backgrounds and ensure it is resourced with experienced officers who can provide consistent advice.* (Latrobe City Council submission, p. 3)

The skills-based board, a Chief Executive Officer with scientific or engineering qualifications and a Chief Environmental Scientist will increase the EPA's authority and influence. The EPA could also use the Senior Technical Specialist (STS) classification[12] for positions such as 'principal experts' to help the EPA retain and recruit highly regarded staff with strong networks. The EPA could also expand its links with independent experts, universities and research facilities, as well as with regulators in Victoria and other jurisdictions to build its network of expertise and career paths for specialists.

Influencing within government

The ability to influence within government will greatly assist the EPA to manage risks and prevent harm to human health and the environment. For example, the ability to influence government decisions in relation to transport infrastructure could prevent harm to public health and the environment and reduce the costly management of pollution issues in the future. To exert influence the EPA must be connected within government. It must also be a trusted and authoritative source of information, so that it's input and advice are sought by other government agencies. It must have the strategic ability to identify when and where to exert its influence to most effectively prevent harm.

The EPA of the future must be able to influence land use planning issues across Victoria. In particular, the EPA must influence strategic land use planning by working with the Metropolitan Planning Authority (and its successor, the Victorian Planning Authority) and also with local government.

To do all of these things, the EPA needs statutory planning skills and experience, as well as regulatory design and mature policy skills. The EPA can develop these skills, if necessary, via training and a formal secondment program to government departments.

Regulatory design and problem solving

The EPA will require strong regulatory design and evaluation skills.

> *Essential to good regulation is the judgement to know which regulatory tools to employ in which combination for which issues. It also is important that those tools are selected and deployed confidently and decisively, and with an understanding and appreciation of the context in which both the EPA and the people it seeks to influence operate.* (Eric Windholz, Monash University submission, p. 5)

The EPA must have the capability to analyse information from the field, including from pollution reports, from other areas of activity within Victoria, and from other jurisdictions – to identify trends and emerging issues and assess risk levels. The scanning of other jurisdictions needs to encompass intelligence gathering on better practice tools and approaches, including potential collaboration with other Australian jurisdictions to foster innovation and data-sharing.

There also needs to be attention to evaluating the operation of EPA's regulatory tools and approaches (noting that this is a proposed legislated function), accounting for the health, wellbeing, environmental and productive outcomes as well as economic and social factors. Consultations with businesses and the community will also be an important element of these evaluations – to assess regulatory burden and practicability, and to test expectations and perceptions of outcomes. Over time, these evaluation processes can help the EPA determine the need for changes or new tools.

The EPA needs economic skills, to understand the economic implications, including possible perverse incentives, of different regulatory tools. Internal economic capability will also help the EPA to identify pollution and waste issues that would benefit from the application of economic instruments. Access to economic design skills will assist the EPA to pilot economic instruments. For example, the EPA could work with the groups such as the Centre for Market Design at the University of Melbourne, which supports policy innovation by applying economic design techniques to public policy.[13]

The future EPA will need to be an intelligent and creative problem solver, that is flexible, responsive and adaptive in response. This will involve testing regulatory approaches, running pilots, exploring alternative solutions and being willing to use the full range of its powers to pursue its objectives.

Stakeholders considered it important for the EPA to understand how regulation affects business systems. Partnerships with business can help provide this insight.

> *It would be beneficial for the EPA to conduct its activities with more commercial awareness and backing of scientific evidence, in order to resonate with relevant stakeholders and provide authoritative advice.* (Law Institute of Victoria submission, p. 9)

The EPA may also need to enhance its legal expertise, to ensure it can take timely and decisive action against breaches, including the strategic use of prosecutions (chapter 13). This may involve being a smart purchaser of legal services, seeking a range of opinions, being willing to test precedents and being prepared to lose.

Operational capability

Authorised officers require a wide range of skills and are an important component of the EPA's workforce. As the EPA has recognised, authorised officers need robust recruitment, training and appointment processes,[14] as well as learning and development opportunities. Authorised officers also need a clear career pathway.

Introducing a general duty will affect the demand for and the capabilities required of authorised officers within the EPA. The EPA's shift to focus on prevention will require its authorised officers to be effective in encouraging and determining compliance with the general duty. To do this authorised officers must have a wide array of skills. For example, they must be scientifically and technically proficient to identify and understand risks, they will require an awareness of the commercial pressures and engineering systems that exist in the industry and they must be good communicators who can engage with duty holders to advise and educate them. They will require ongoing learning and development and multidisciplinary support from EPA's specialists.

We propose introducing local government environment protection officers in chapter 18. The EPA will need to develop an ongoing partnership and support framework, involving capability building of 'local government environment protection officers' and enabling escalation between the EPA and local government for pollution issues above a defined risk threshold. This support role would need to be ongoing, not just in the initial stage of development and implementation of the reform proposals. The EPA would need capabilities both in regional offices and head office systems and services, to implement the suggested change, which would include ensuring consistency in approach. The capability review should consider the implications that this has for capability requirements.

Education

The EPA must be able to engage with stakeholders at various levels – including on regulatory or business reforms, works approvals, incident response and strategic work on hotspots. This will become increasingly important to support the larger cohort of entities regulated under the general duty and registration system. As noted in the Victorian Occupational Health and Safety Act Review:

> *The function of maximising awareness of those rights and obligations is not merely ancillary to the Authority's other functions: it is central and fundamental. Indeed, it seems obvious that the education function is every bit as important as the enforcement function. The greater the spread of good information about what the Act requires, and how to comply with it, the less – ultimately – the Authority should need to do by way of enforcement.*[15]

Successfully engaging with and educating stakeholders requires skills in communicating, developing educational materials and translating information (including scientific and technical information) into practical guidance that is easily understood and proportionate to risk.

> *AGL considers the EPA can play an important role in public education, by providing independent and trustworthy information to the community on pollution and environmental risk. Communications need to be tailored for the intended audience, to ensure that the format and content are relevant and can be easily understood, with the context for risk and any required action well explained.* (AGL Energy submission, p. 3)

Engaging and educating stakeholders relies on many of the technical capabilities discussed earlier. It may also benefit from:

- access to skills (both internal or external) in producing online learning and education tools and material
- behavioural economics concepts that 'nudge' stakeholders towards reducing their pollution and waste.

20.3.2 New or enhanced technology

Improved digital data and technology capabilities present many opportunities for the EPA and others managing Victoria's environment more broadly. An obvious benefit is having better information to successfully prosecute polluters. But these new capabilities can also provide a more detailed, real time view of pollution, the environment, human health and their interactions. This makes it easier for an environmental regulator to identify risks to the environment and/or public health and to work with engaged communities, industry and government to develop solutions that more effectively prevent harm.

The EPA's leaders must understand digital trends and technologies to support and encourage innovation. We recommend the EPA develop a digital data, technology and analytics strategy to understand trends and to guide decisions and investments in its data and technology capability. Developing a strategy also reduces the likelihood of ad hoc decisions and incompatible technology investments. The strategy should consider what role the EPA might play versus other government organisations, businesses and citizens in developing and managing new technologies.

> *The suite of analytical, technological and scientific equipment available for use by EPA staff must be sufficient to enable them to conduct independent investigations at a world class level, and provide expert advice in response to queries from other government agencies and the public.* (Dora Pearce submission, p. 1)

The following sections discuss the benefits of improving the EPA's technology and system based capabilities.

Monitoring technologies to gather data

New technologies offer opportunities to collect information more quickly, cheaply and from a wider range of sources. The EPA needs the capability to identify and obtain those technologies that offer a more cost effective way to identify risks and manage harms. Sensors are getting smaller and cheaper. For example, infrared and remote sensors can be used to detect pollution, such as methane gas from buried waste or oil spills.[16] And technologies that operate together, such as GPS and unmanned aerial vehicles or drones, may reduce the costs of collecting large amounts of accurate data from difficult to reach places that can be analysed to identify possible risks of harm. For example, in China drones are used to detect illegal emissions at night from factories, using infrared lights and thermal imagery.[17]

The EPA currently invests in monitoring technology, but strengthening Victoria's ability to capitalise on the opportunities offered by new technologies to forecast and address emerging risks warrants further investment. This is particularly important for monitoring air quality (chapter 6) and supporting the EPA's advisory role in emergency management (chapter 9).

> *The lack of declared GQRUZs and an easily accessible database system means that the existence and impact of contamination from other 'off-site' sources is not being adequately recognised, which can lead to wasted effort in repeat investigation of contamination issues, and/or consideration of restoration of beneficial uses when this is inappropriate.* (Orica submission, p. 2)

Data storage and sharing

Making data publicly available can help promote trust, citizen empowerment and innovation. But it relies on significant data storage and sharing capability, and systems that make online information publicly available. Cloud computing and federated data systems open up new possibilities for data access and transparency. In addition to better enabling the EPA to share data, it also provides the EPA with access to many other data sources. In order to promote citizen empowerment and innovation, data shared by different custodians should be compatible.

Governments increasingly recognise the benefits of improving access to information. Examples include the Commonwealth Government's involvement in the Data.Start[18] and GovHack[19] programs, which encourage people to use government data.

Other data sharing options – including requiring businesses to publish their pollution emissions (chapter 16), publishing compliance determinations and prosecutions, the State of the Environment Report and environmental economic accounts – can promote transparency and accountability.

> *EPA must be made accountable with their enforcement and be measured against (independently verified) Key Performance Indicators to ensure contaminated land/emergency/environmental issues are managed adequately. If such KPIs already exist, then EPA should consider publishing these statistics so Industry can better understand current successes and areas that require focus.* (Australian Contaminated Land Consultants Association submission, p. 11).

> *There is a need for better transparency and community education through direct easier access to EPA compliance determinations and prosecutions* – 'Justice must not only be done but seen to be done.' (Professor Roger Hawthorn submission, p. 3)

A state wide system for collecting, storing and sharing site history information for sites associated with potentially contaminating activities (chapter 14) will help inform and manage land contamination issues. This is a clear example of the way in which the strategic investment in data and digital capabilities will assist the EPA and the broader community to better identify and manage risks.

Data analytics and connection with science

Data analytics software may help the EPA to predict pollution incidents and the harms that arise. For example, programs can link real time spatial data about pollution and waste with spatial and temporal data about the impacts to public health and the environment. This may not only reduce the costs of tackling pollution, but it can also help the EPA design and evaluate its regulatory tools. Allowing public access to these results may also encourage research and development.

Digital media

Enhancing the EPA's digital media resources, including its website, can help to educate duty holders, and reduce the regulatory burden of finding information. Information and guidance, including codes of practice for a general duty, should be easily searchable and accessible.

Digital media, including websites and social media sites, offer government organisations like the EPA valuable tools to inform, educate, communicate and empower the community and to demonstrate transparency and accountability. As they are adopted throughout the community, they influence how the community expects to be engaged and informed.

> *Community expectations around communications and timeliness of communication are changing with the emergence of new digital and social media, and businesses and government agencies need to build capacity in these areas to ensure they can keep pace.* (AGL Energy submission, p. 3)

The EPA could use digital media technologies to engage with and inform stakeholders. The EPA will need the skills to use new digital media platforms. Digital media technologies can also be used to minimise regulatory burden. This approach is consistent with the Government's shift to a digitally powered one-stop-shop (Service Victoria).

Recommendations

RECOMMENDATION 20.1

Require the new EPA Board to initiate a full capability assessment linked to developing new legislation and statutory tools, as a basis for preparing a long term capability and resource strategy.

RECOMMENDATION 20.2

Require the EPA to develop a digital data, technology and analytics strategy to help guide the EPA's regulatory decision making and investments.

1 http://vpsc.vic.gov.au/workforce-capability-leadership-and-management/ (accessed 27 March 2016) http://www.apsc.gov.au/priorities/capability-reviews (accessed 27 March 2016).

2 Victorian Public Sector Commission, *Capability Review of the Department of Health and Human Services*, 2 June 2015, p. 7.

3 Discussions with Natalie James, Fair Work Ombudsman, 8 March 2016 Campbell M (Acting Fair Work Ombudsman) 2013, *The FWO's approach to compliance and enforcement*, Speech delivered to the Ai Group National PIR Group Conference, 6 May, p. 1.

4 Campbell M (Acting Fair Work Ombudsman) 2013, *The FWO's approach to compliance and enforcement*, Speech delivered to the Ai Group National PIR Group Conference, 6 May, p. 9; Howe J, Hardy T and Cooney S, *The transformation of enforcement of minimum employment standards in Australia: A review of the FWO's activities from 2006–12*, Centre for Employment and Labour Relations Law Melbourne Law School, pp. 248–9.

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CHAPTER 21

FUNDING FOR THE FUTURE

FUNDING FOR THE FUTURE

KEY MESSAGES

The EPA's funding arrangements need reform, to reduce revenue volatility and uncertainty and to better align with its regulatory mission.

An annual State budget appropriation is the most common approach applied to environmental regulators in other jurisdictions to fund core public good functions, such as scientific research and environmental monitoring. These activities could also be funded through a broadly based waste levy, provided landfill levies are redesigned to better meet their environmental objectives.

The EPA of the future will need increased resources to support a wider range of functions, including enhanced scientific and environmental health capabilities, a stronger role in in land use planning and increased outreach services to inform a much wider group of duty holders under a general duty.

Local government authorities will also require additional resources to support our proposal to devolve responsibility for environmental issues that are more effectively addressed at a local level.

21.1 Introduction

The inquiry terms of reference asked us to inquire into and report on the ability of the EPA's current governance structures and funding arrangements to enable it to effectively and efficiently discharge its powers, perform its duties and implement its required functions.

For this inquiry, we considered:

- best practice principles for funding an independent regulator, Department of Treasury and Finance fees and charges guidelines and the economic literature on best practice in setting environmental fees and levies
- perceived problems with current funding arrangements identified by external stakeholders, the EPA and DELWP
- expert advice and reports commissioned by the EPA and DELWP on the EPA's current cost base and future funding options, including the potential for increased cost recovery
- resourcing levels and specific funding arrangements for environmental regulators in other jurisdictions with similar responsibilities
- resource implications of our future vision for the EPA, which calls for a greater focus on prevention, increased expertise and risk scanning and increased authority and strategic involvement in areas such as land use planning.

21.2 Current resource levels and funding arrangements

21.2.1 Operating revenue

Over the past five years, the EPA's annual operating budget, net of grants to other agencies[1] has averaged around $72.5 million, albeit with some year-to-year variability. In 2015-16, the EPA budgeted for total operating revenue of $74.9 million.[2]

The EPA collects considerably more revenue than is available to it for operating purposes. In 2014–15, the EPA collected the following revenues:

- $73.5 million for the EPA's core regulatory and environment protection activities
- $3.4 million in controlled revenue earmarked for environmental projects
- $4.7 million in custodial levy revenues applied to co-investment with industry to reduce waste and increase treatment of contaminated soils
- a further $169.3 million over which the EPA exercised custodial responsibilities only. These revenues primarily related to the Sustainability Fund. Responsibility for the fund was transferred to DELWP on 1 July 2015, so the EPA no longer collects these revenues.

21.2.2 Funding mix and trends

The EPA currently derives revenue (see figure 21.1) from a mix of:

- government appropriations (currently in the form of specific purpose grants) and projects
- levies – predominantly on landfill waste
- fees – covering licences, permits, works approvals and environmental audits
- penalties and fines – for offences such as littering
- investment income, predominantly on balances in the Sustainability Fund.[3]

For the most part, the EPA does not have direct access to the revenue it collects from licence fees or charges for works approvals, nor does it retain most fines and penalties for environmental offences. Most of these receipts are paid into the Consolidated Fund. A notable exception is revenue from litter fines: the agency estimates around $4.7 million in litter fines will be issued in 2015–16.[4]

General government funding

The EPA has not received an annual appropriation from the State budget since 2012–13.

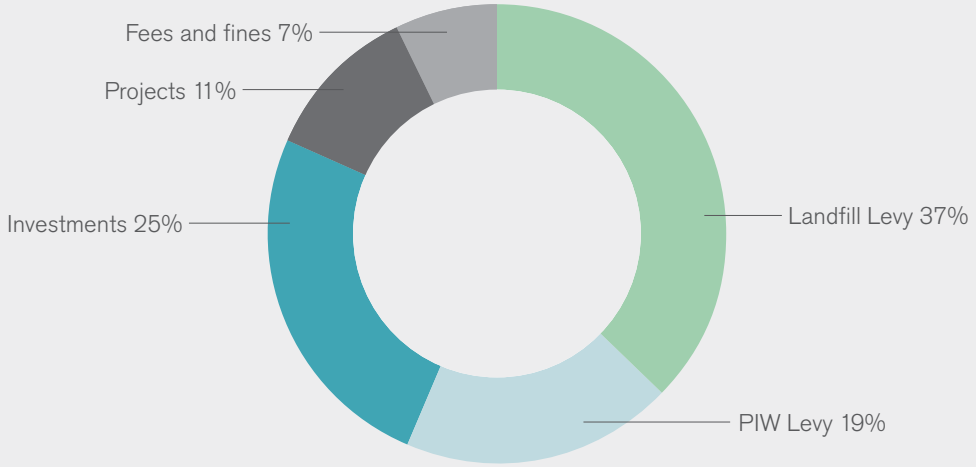
Grants

Grants from external sources are earmarked for specific projects or programs and include:

- Programs funded through DELWP – in 2015–16, these include $900,000 for River Monitoring and Assessment[5] and $1 million for a four-year Yarra and Bay Action Plan.[6]
- Expenditure Review Committee (ERC) approved grants – in 2015–16, these include $2.1 million (from a total of $6.3 million over the five years to 2017–18) for an illegal dumping strike force, and $3.4 million (from a total of $5 million over the five years to 2017–18) for rapid response air monitoring following natural disasters and other major events that may affect air quality.
- Commonwealth Government funding of $100,000 for the National Pollutant Inventory – a public database that provides information on 93 substances being emitted to air, land and water and transported in waste.

While grant funding for specific projects varies from year to year, in total it has remained relatively stable at approximately $7–9 million each year.

FIGURE 21.1: EPA OPERATING REVENUE 2015-16



Source: EPA Victoria.
Note: Operating revenue does not include grant payments from the Sustainability Fund and specific programs such as HazWaste funded from Prescribed Industrial Waste levies. These funds are not available for EPA operations.

In 2015-16, the EPA received a grant from DELWP to replace the investment income it used to receive from being custodian of the Sustainability Fund. This grant was capped at $15 million for 2015-16 only. While these funds are not earmarked for specific purposes and can be used at the EPA's discretion, the agency remains exposed to the risk that investment income returns will fall short of the $15 million cap. While ongoing replacement income arrangements are yet to be finalised, in future, it is expected that the EPA will receive only the actual returns generated from the investment of the fund.

Levies

The EPA currently draws the largest proportion of its operating income from the Municipal and Industrial (M&I) Landfill Levy and from Prescribed Industrial Waste (PIW) levies (box 21.1). There is also a general environmental levy on licence fees, although this is a relatively insignificant revenue source.

The EPA receives only a portion of the two waste levies. In 2013-14, for example, the EPA received 64 per cent of the PIW Levy but only 18 per cent of the total revenue from the M&I Landfill Levy (table 21.1).

TABLE 21.1 ENVIRONMENTAL LEVY DISTRIBUTIONS TO EPA, 2013–14

	Total levy revenue $m	EPA operating revenue $m	Proportion to EPA %
Municipal and Industrial Landfill Levy	163.8	29.7	18.1
Prescribed Industrial Waste Levy	21.8	14.0	64.3
Environment Protection (Licence) Levy	0.3	0.3	100.0
TOTAL	**185.9**	**44.0**	**23.7**

Source: EPA Victoria.

Fees

The EPA charges regulatory fees to recover the costs of administering licences and permits as well as for activities to audit or approve environmental works proposed by manufacturers, land developers and other project proponents. In 2015–16, regulatory fees are expected to generate just under $15 million. The fees cover:

- licence fees issued to premises to accept or discharge waste
- permits issued for waste transport and septic tanks
- works approvals required for industrial and waste management activities that have the potential for significant environmental impact.

Although the EPA determines and administers these fees, the revenues are paid into the Consolidated Fund. The only exceptions are:

- fees paid to a municipal council for septic tank permits, which the council may retain
- fees environmental auditors pay to the EPA, which the EPA retains. These amounted to $268,000 in 2014–15.

Penalties and fines

The EPA collects fines for a number of offences. These fines range from around $300–600 for littering or for noisy or smoky vehicles, through to penalties in the thousands of dollars for unlicensed emission of toxic substances or unlawful disposal of hazardous waste. Currently the EPA retains revenue from the litter fines only, councils retain penalty fines for offences related to littering, septic tanks or excessive noise. All other fines revenue is paid into the Consolidated Fund.

After provision for doubtful debts, litter fines revenues are estimated to yield around $3.6 million in 2015–16, or just under five per cent of the EPA's operating budget.

BOX 21.1 ENVIRONMENTAL LEVIES

Municipal and Industrial Landfill Levy

Introduced in 1992, Victoria's M&I Landfill Levy is paid on all waste disposed of at licensed landfills. Levies are charged on a per-tonne basis, and rates are based on fee units, as set out in Schedule DA of the Environment Protection Act 1970. There are also regional differences (between metropolitan and provincial centres and rural landfill sites). Landfill levy funds are distributed quarterly between EPA, Sustainability Victoria and Waste and Resource Recovery Groups, with any surplus funds paid into the Sustainability Fund. In July 2015, the annual landfill levy distribution regulations were replaced by a ministerial determination. Total cash receipts were $186 million in 2014-15, of which: EPA received $34 million (or 18.2 per cent), Sustainability Victoria received $22.6 million (12.2 per cent) and Waste and Resource Recovery Groups received $9.6 million (5.2 per cent). EPA distribution in 2015-16 is $27.7 million.

Prescribed Industrial Waste Levy

The *Environment Protection (Amendment) Act 2006* introduced increased and differential levies on the disposal of Prescribed Industrial Waste (PIW) to landfill, to reflect the level of hazard posed by different categories of PIW. The type of waste an existing landfill can accept is set in EPA licences. Category A is the highest hazard and is prohibited from disposal to landfill. Category C is the lowest hazard. EPA receives only part of the PIW Levy revenue for its operational budget. In 2015-16, EPA budgeted to receive $14.4 million (or 66 per cent of expected PIW revenue) – although this is at risk as a result of increased recycling claims. The remainder is reserved for special purposes through the PIW Minister's Fund and the HazWaste/PIW Charter Fund.

Environmental Protection Levy

The Environment Protection Levy is a three per cent levy charged on licence fees for licensed premises and is paid over and above the licence fee. Unlike the licence fee itself, which goes into the Consolidated Fund, the EPA retains the revenue from the licence levy for its operations. It currently raises less than $300,000 each year (or 0.4 per cent of operating revenues).

Investment income

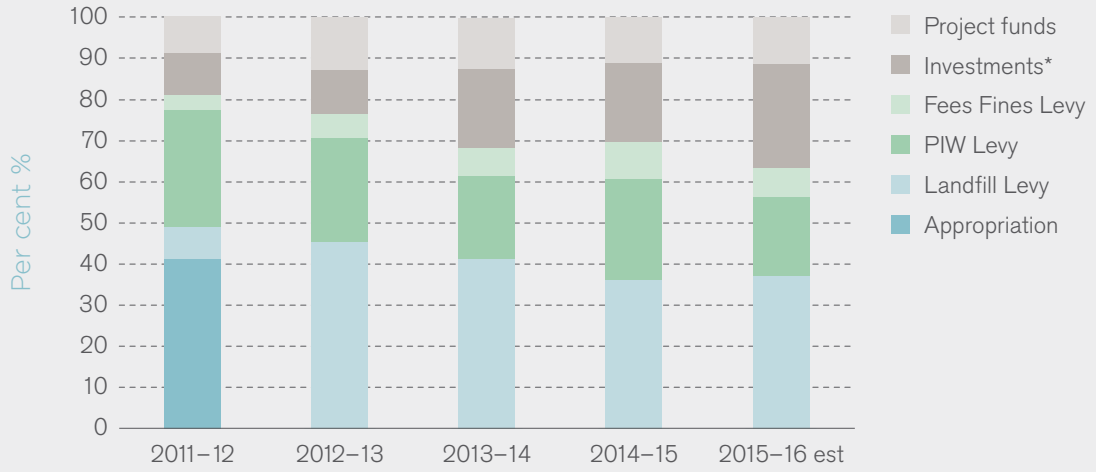
The EPA receives some income from direct EPA investments each year – a small amount earned on non landfill levy sources and an estimated $200,000 each year on quarterly collections of the landfill levy before it is transferred to DELWP. In 2015–16, income from direct EPA investments is forecast to generate approximately $3.8 million.

Before 1 July 2015, the EPA received investment income directly from the Sustainability Fund. DELWP now has custodial responsibility for the Sustainability Fund. But the EPA receives replacement grants, which are based on the fund's actual investment income. The EPA expects revenue from replacement grants to account for 25 per cent of its operating revenue in 2015-16. Because replacement grants will fluctuate with investment returns, we classified this revenue as investment income for this report.

21.2.3 Changes over time

EPA funding arrangements have fluctuated in recent years. Before 2012-13, the EPA received 40–50 per cent of its budget via direct budget appropriation, with PIW levies the next largest source (accounting for 19–28 per cent each year) (figure 21.2).

FIGURE 21.2: SOURCES OF EPA OPERATIONAL REVENUES (%)



Source: EPA Victoria.
*From 2015–16 previous investment income from Sustainability Fund converted to grant from DELWP

In 2012–13, the Victorian Government replaced annual appropriations to the EPA with additional allocations from the M&I Landfill Levy. Allocations from this source rose from $5.9 million in 2011–12 to $30.7 million in 2012–13.

M&I Landfill levies rose markedly in mid-2010, when the Government introduced a schedule of stepped increases in levy rates. Since then, rates have risen significantly between 2010 and 2015 (table 21.2).

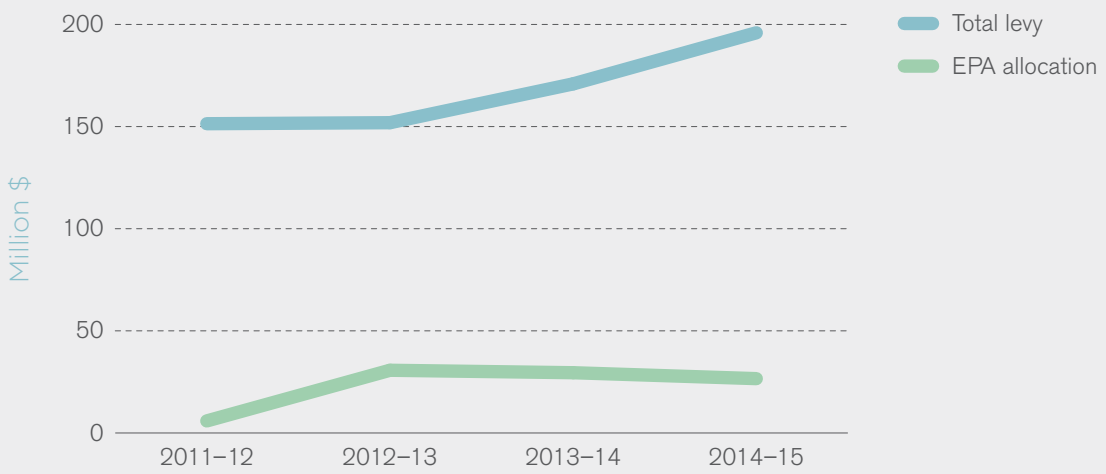
TABLE 21.2: SCHEDULE OF INCREASES TO M&I AND PIW LANDFILL LEVY RATES *($ per tonne)*

Year	Rural		Metro and provincial		PIW Rates – all regions		
	Municipal $	Industrial $	Municipal $	Industrial $	Asbestos $	PIW Cat C $	PIW Cat B $
2009–10	7.00	13.00	9.00	15.00	30.00	70.00	250
2010–11	15.00	25.00	30.00	30.00	30.00	70.00	250
2011–12	22.00	38.50	44.00	44.00	30.00	70.00	250
2012–13	24.20	42.40	48.40	48.40	30.00	70.00	250
2013–14	26.60	46.60	53.20	53.20	30.00	70.00	250
2014–15	29.30	51.30	58.50	58.50	30.00	70.00	250

Source: EPA Victoria 2014, *Future Funding Options – Environment Protection Authority*, Final Report, prepared for the EPA by PwC Australia, April, table 10, p. 62.

Theoretically, the switch from annual appropriations to a proportional allocation of the landfill levy gave the EPA access to a source of growth funding. But, in practice, the amount the EPA receives from the levy has not risen. Indeed, after the step change in 2012-13, distributions to the EPA have fallen in nominal terms (figure 21.3). Instead, the additional revenues have been accumulating in the Sustainability Fund.

FIGURE 21.3 GOVERNMENT DISTRIBUTIONS TO EPA FROM MUNICIPAL AND INDUSTRIAL LANDFILL LEVY



Source: EPA Victoria annual reports, various years.

At the same time, receipts from PIW levies have also fallen, and are projected to keep falling over the forward estimates to 2017–18 (figure 21.4). This result reflects lower levels of economic activity but also less prescribed industrial waste creation in response to the levy and in line with changes in Victoria's industrial base. A rising incidence of illegal dumping and other strategies to avoid the levy is also contributing to falling revenues.

Substantially offsetting the fall in PIW levy revenue, investment income grew strongly between 2012–13 and 2014–15. The EPA derived 17–20 per cent of its operational budget from investment income over this period, predominantly from investing landfill levy balances in the Sustainability Fund. However, in April 2013, the Ministerial Advisory Committee on Waste and Resource Recovery Governance Reform recommended transferring custody of the Sustainability Fund from the EPA to DELWP because '… the management of the landfill levy presents the potential for a perceived conflict of interest in management of the funds by agencies that are the primary recipients of those funds, such as Sustainability Victoria being the administrator but also a recipient of such funds' (box 21.2).[7]

BOX 21.2 TRANSFERRING THE SUSTAINABILITY FUND TO DELWP

To address potential conflicts of interest, and to streamline the complex institutional and governance arrangements for the Sustainability Fund, the Ministerial Advisory Committee on Waste and Resource Recovery Governance Reform recommended DELWP manage the Sustainability Fund. The amending legislation – the *Environment Protection and Sustainability Victoria Amendment Act 2014* – also changed the mechanism for distributing landfill levy revenue:

- The EPA pays all M&I Landfill Levy revenue into a General Landfill Levy Account (which is still part of the EP Fund). Each quarter, the EPA transfers these revenues to a new M&I Landfill Levy Trust Account held by DELWP.
- DELWP distributes landfill levy revenue from this new account.
- Landfill levy distributions occur via a ministerial determination instead of through regulations, so agencies receive more timely information about their distributions.
- DELWP pays any money remaining in the M&I Landfill Levy Trust Account at the end of each quarter into the Sustainability Fund Account.

Both the Premier and the Minister for Environment, Climate Change and Water must approve any money paid from the Sustainability Fund Account. The fund can be used to foster environmentally sustainable uses of resources and best practices in waste management, or community action or innovation to reduce greenhouse gas substance emissions or to adapt or adjust to climate change.

21.3 The case for change

The combined effects of recent policy and budgetary decisions, ongoing economic trends and deficiencies with the regulatory framework for PIW has left the EPA with a set of funding arrangements that are increasingly volatile and uncertain. Some key revenue lines are also poorly aligned to the EPA's environment protection role. In particular, some stakeholders consider replacing annual appropriations with levy revenues has compromised the EPA's independence. EPA funding relies on future growth in landfill, when the intent of these levies was to reduce waste disposal to landfill.

Echoing these concerns, in 2013 the EPA developed a long-term financial plan which documented problems with the sustainability of its funding:

- key funding sources are outside the EPA's control and generate highly variable revenue streams
- some funding sources involve an inherent conflict, impairing the EPA's capacity as a regulator to make independent decisions without affecting its revenue base
- revenue variability impacts the EPA's ability to budget for service levels and undertake environment protection activities
- strategic planning is also impacted by revenue variability and lack of certainty of funding.[8]

Further, when the government subsequently agreed to the Ministerial Advisory Committee's recommendation to transfer the Sustainability Fund to DELWP, the EPA could no longer offset falls in other revenue sources with growing investment income from the fund. Believing that some 40 per cent of its operating revenues could be at risk, the EPA engaged PwC Australia to review its funding and recommend a preferred model.

PwC Australia identified the following key issues with the EPA's funding arrangements:

- government policy changes have diminished the EPA's control over investment income
- variability and risks affect key funding sources, particularly the PIW Levy revenue, which has fallen in recent years
- funding arrangements are complex and not well aligned with the EPA's objectives, creating potential for perceived conflicts of interest.[9]

Each of these issues is discussed further below, together with the views of key stakeholders and the wider community.

21.3.1 Policy changes

The policy decision to transfer custody of the Sustainability Fund to DELWP raised initial uncertainty about how the EPA would fill the revenue void created by losing access to investment income. An investment income replacement grant from DELWP seems to partially resolve this issue for 2015-16. In 2015-16, the investment income replacement grant has been capped at $15 million; in future years, the EPA expects to receive only the actual investment returns.

21.3.2 Variability and uncertainty in key funding sources

The volatility and uncertainty of some of the EPA's major revenue sources makes it difficult for the authority to plan and budget for core regulatory services, to maintain key scientific assets and capabilities, and to deliver multi-year strategies to address complex environmental problems.

Investment income

As future replacement grants from DELWP are yet to be negotiated but are expected to be based on actual returns, the EPA will continue to bear the risks of any market volatility. Currently, year-to-date investment returns are significantly less than expected and the EPA now estimates a likely $7.6 million shortfall in its 2015-16 investment income replacement grant from DELWP.

We consider exposing as much as a quarter of the EPA's total operating budget to market risk constitutes an unacceptably high degree of reliance on a volatile and risky revenue source. Indeed, the projected $7.6 million shortfall represents more than 10 per cent of the EPA's annual operating budget for 2015-16.

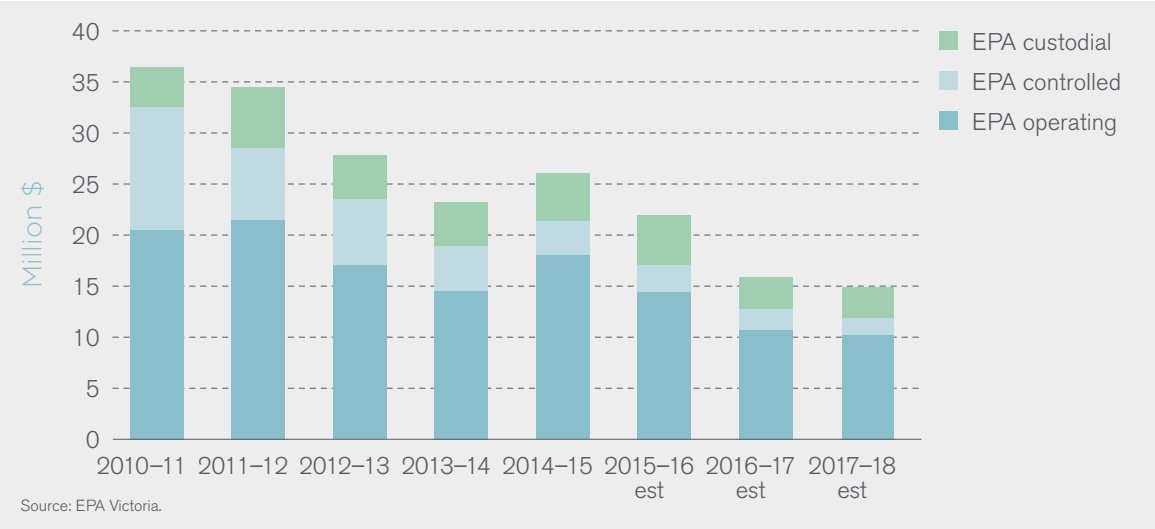
Further, such a high reliance on investment income is inconsistent with funding models for other regulators. The State Services Authority found only three of 69 regulators funded more than 10 per cent of their reported expenditure from investment income.[10]

Prescribed industrial waste revenue

Revenue from the PIW Levy – which currently represents almost a fifth of EPA's total operational revenue – is also increasingly volatile and uncertain. Recent court challenges to the levy are only adding to this uncertainty. In the current financial year, for example, the EPA advises that up to $7.5 million in PIW levies is at risk due to litigation.

As well as year-to-year volatility, total PIW Levy revenue has fallen significantly over time, from over $34 million in 2010-11 to a projected $21.9 million in 2015-16. By 2017-18, the levy is projected to generate just $14.8 million, with the EPA's share falling to $10.7 million (figure 21.4). This trend reflects the combined effects of changes to Victoria's industrial base, waste policy initiatives to reduce waste going to landfill and rising incidence of either illegal dumping or of waste management practices which are environmentally unsafe or undesirable.

FIGURE 21.4: PRESCRIBED INDUSTRIAL WASTE LEVY REVENUE



Source: EPA Victoria.

Municipal and Industrial Landfill Levy revenue

Although scheduled increases in the M&I Landfill Levy should ensure growth over time, revenue from this source is somewhat uncertain. Distributions are determined year to year, and they have been subject to government imposed savings.

Grants

Grant funding is also largely determined year to year. And while overall grant funding has been reasonably stable, these funds are typically earmarked for specific programs or one-off projects, and so cannot offset volatility in other revenue lines. Currently the EPA relies on ERC approved grants to fund strategic 'hotspot' projects – such as illegally dumped waste – that might be regarded as an environmental regulator's core functions.

21.3.3 Complexity and potential for conflicts of interest

Complexity

The EPA's funding arrangements are complex, with the agency collecting, holding, managing and reporting on several revenue sources in addition to its own operating budget. According to PwC Australia, this undue complexity:

- reduces transparency of reporting
- makes it difficult to understand the EPA's actual operational budget and its business activities
- reduces efficiency
- imposes additional cost, including costs of collecting, administering and reporting on funds.

The EPA is no longer responsible for administering and reporting on the Sustainability Fund, but it retains responsibilities for the PIW Levy, and also collects fees and fines that are passed on to the Consolidated Fund.

Potential for conflict of interest

Current funding arrangements are poorly aligned with the EPA's objectives as an environmental regulator. In particular, its reliance on the M&I Landfill Levy, PIW Levy and litter fines may create perverse incentives and involve either perceived or actual conflicts of interest.

Landfill levies currently comprise more than half (56 per cent) of the EPA's operating budget. While the policy objective of these levies was to reduce waste flows, achieving this objective should ultimately result in declining landfill levy collections. This leaves the EPA with a potential conflict between reducing waste and encouraging revenue-generating landfill.

For the M&I Landfill levy, any conflict may be more perceived than real, because it generates more revenue than the EPA needs. It is unlikely any fall in this revenue would affect the EPA's funding. However, community perceptions about a conflict may be reinforced by design flaws that inhibit its effectiveness in driving behavioural change (discussed below).

More concerning is the significant contribution of litter fines to the EPA budget. Maintaining access to this revenue stream carries a real risk that the EPA's resource allocation priorities will be skewed towards relatively low level environmental concerns.

21.3.4 Community views

Stakeholder comments on the EPA's resourcing – included in one in four submissions – indicated very little support for the current funding model. Several stakeholders were concerned about the perverse incentives of the EPA's increasing reliance on revenues from the M&I Landfill Levy where successfully reducing wastes could reduce revenues for the EPA's operations.

> *The current mix of funding is inappropriate and offensive to best practice public sector financial management.* (Ken Coghill et al, Monash Business School submission, p. 17)

> *The distribution of the landfill levy appears inconsistent with the purpose for which the levy is collected; that is to promote and support recycling, waste reduction and waste management.* (City of Kingston submission, p. 4)

Others stressed the importance of secure funding to preserve the EPA's independence:

> *In order for the EPA to be truly independent it must have a reliable and sustainable funding base, otherwise EPA will always be at the mercy of changing attitudes towards the environment, an increasingly politicised topic.* (Community and Public Sector Union submission, p. 29)

Most participants suggested financing the EPA from consolidated revenue as a state government expense, in accordance with Victorian government and OECD principles and guidelines. At the same time, landfill levies and industrial waste levies should be paid into consolidated revenue.

> *The EPA's role is for the protection of all Victorians and the whole of Victoria's environment and should be publicly funded rather than a cost recovery model.* (Qenos submission, p. 2)

Several submissions suggested better ways to use the landfill levies. For example the Waste Management Association of Australia stated:

> *…If the issue is one of resourcing, it is recommended additional resources be engaged using the funding collected from the Landfill Levy. Currently the bulk of the levy money is kept within the Department of Environment, Land, Water and Planning (DELWP) sustainability fund for projects which have not yet been identified. WMAA would prefer that a portion of this money is used to ensure EPA is adequately resourced.* (submission, p. 3)

A number of local councils argued they should receive a greater proportion of landfill levies to help fund the costs of investing in waste management and recycling, investigating and prosecuting illegal dumping offences, and rehabilitating legacy landfills. They saw the current use of the levy as particularly unfair on councils, because councils are the source of substantial revenue to the EPA but receive very little financial support for their own programs to reduce pollution and greenhouse gas emissions. This is particularly sensitive for councils that perceive that the EPA's operational limitations are the cause of cost shifting to councils.

21.3.5 DELWP and EPA views

In a joint assessment of future funding options DELWP and the EPA stated a modern regulator must be funded in a way that

- ensures its regulatory independence
- is sustainable in the long term
- enables the regulator to deliver on its core functions.

The agencies noted '… inadequate or volatile funding for core services is a distraction which increases the risk to the community of unacceptable environmental practices going unchecked or inadequately monitored,' and concluded:

> *… the existing funding model is inadequate to meet the requirements of EPA's regulatory services responsibilities and its environment protection role.*[11]

21.4 Funding objectives and principles

We based our proposed funding arrangements for the EPA on the following broad funding objectives and principles.

21.4.1 Funding objectives

Future funding arrangements need to ensure both sufficient resources for the EPA to carry out its core functions and also greater year-to-year certainty about its overall operating budget. The EPA needs greater revenue certainty to deliver multi year strategies, including developing and retaining appropriate scientific capabilities. In its report for the EPA, PwC Australia identified the following objectives:[12]

- **Sufficiency** – the ability of funding streams to meet operating needs sufficiently
- **Certainty** – the predictability of funding streams and potential to enable planning for the future
- **Simplicity** – the cost and effort to administer and comply with the funding model
- **Alignment of incentives and outcomes** – whether the model creates a conflict or has a positive/negative effect on the activities and operations of the EPA
- **Practicality** – ease of implementation and support from government and other parties.

The EPA and DELWP identified a similar set of criteria but added 'independence' and 'stakeholder confidence and acceptance'.

21.4.2 Best practice principles for funding regulatory agencies

Department of Treasury and Finance (DTF) cost recovery guidelines set out criteria for determining the most appropriate source of funding for different types of government activity (table 21.3). Relevant elements of the guidelines support the case for:

- taxpayer funding of public good type activities (for the EPA, this might include basic scientific research and general environmental monitoring and reporting functions that cannot be attributed to particular firms or industries)
- cost recovery of private goods (for the EPA, examples might include works approvals and environmental audits)
- cost recovery of regulatory activities associated with controlling negative externalities, such as pollution (such as the EPA's licence fees).

TABLE 21.3: TYPES OF GOODS, GOVERNMENT REGULATION AND CHARGING CONSIDERATIONS

Description	Examples	Charging considerations
'Pure' public goods display the following characteristics: ▪ they are non excludable, which means that anyone can have access to them once they are provided, and ▪ they are non rivalrous, which means that any person can benefit from them, without diminishing anyone else's enjoyment.	National defence Street lighting	Given the wide ranging and non exclusive nature of the benefits, there is a strong case for funding pure public goods from the community as a whole through general taxation.
'Selective' public goods are public goods that benefit specific groups. For example, the groups may be differentiated by: ▪ area of interest (e.g. all Victorian beef producers), or ▪ geographical region (e.g. wine grape growers in the Yarra Valley).	Basic strategic research Development of new crop varieties	A number of policy initiatives have been introduced to enable these type of public goods to be funded by the beneficiaries – e.g. legislation that allows compulsory levies to be introduced on identifiable groups that benefit from research and development. Funds may come from the budgets of the government departments responsible for the relevant activity/benefit group, where there are external benefits to society.
Club goods are those where people can be excluded from its benefits at low cost (unlike a public good) but its use by one person (within the 'club') does not detract from its use by another (at least until congestion becomes an issue). The key difference between a club good and (selective) public goods is that the ability to exclude implies the feasibility of charging for use.	Cable television Private schools National parks (where entrance fees can be charged)	Club goods may be provided (and funded) by member owned collectives (such as an industry organisation). In some cases, the public sector may also provide club goods, in which case charging the members of the 'club' can be an efficient way of recovering costs.

Description	Examples	Charging considerations
Private goods display the following characteristics: ▪ they are excludable – it is physically, technically and/or legally possible to prevent use by another party, and ▪ they are rivalrous, which means consumption/benefit by one party rules out consumption/benefit by another.	Birth certificate Research and development tailored to a specific party	There is a strong case for recovering the costs of a private good from those who benefit from it.
Merit goods have the property that the community as a whole desires a higher use of the output than would be likely than if they were charged at full cost. Similarly, some goods display positive externalities because they also benefit unrelated third parties.	Education Healthcare Exercise The Arts	There may be a case for charging at less than full cost – i.e. providing a government subsidy – because there may be both private and public benefits.
There is often a need for Government regulation in order to reduce the risk of harm or damage that may arise to consumers, the whole community or the environment.	Regulation to address: Negative externalities Inadequate information Market power	On economic efficiency grounds, there is a case for the administrative costs of regulation to be internalised into the cost structure of the regulated industry. Practical considerations normally mean charges are imposed on businesses (but may ultimately be shared with consumers with costs shifting along the production line).

Source: Department of Treasury and Finance 2013, *Cost recovery guidelines*, Melbourne. Also incorporates information formerly published in the 'Guidelines for setting fees and user charges imposed by departments and central government agencies'.

21.5 How other regulators are funded

While some regulators receive the majority of their funding through a direct government appropriation, others rely on a mix of appropriations, licence fees and other cost recovery arrangements, and industry levies. No funding model is likely to suit all regulators equally. Funding arrangements applied to other regulators nevertheless demonstrate the range of options that may be appropriate for the EPA.

21.5.1 Other Victorian regulators

Victoria's EPA is unusual in having no budget appropriation. The State Services Authority found that the vast majority (77 per cent) of Victorian regulators received at least some base funding from budget appropriations.[13]

Almost all Victorian regulators also relied on cost recovery charges in some way, including:

- regulatory fees, such as licensing and inspection fees charged to regulated entities to cover the cost of regulatory activities
- hypothecated levies or industry-specific levies for which the revenue is specifically collected to fund regulatory activities
- user charges to recover the cost of additional services, such as publications, data services, and the like.

Some regulators are fully funded by industry fees or levies. For others, cost recovery represents only a minor source of overall operating revenues.

Recovering the costs of industry regulation from regulated entities is considered appropriate provided those costs are reasonable and efficient. In Victoria the requirement to issue a regulatory impact statement for significant categories of fees and charges and to consult with affected stakeholders before determining the nature and level of those charges helps to ensure some level of accountability by regulatory authorities and may encourage them to improve their efficiency.

On the other hand, using general industry levies to fund regulatory activities does not clearly link the levy charged with the direct cost of providing regulatory services. General industry levies may be appropriate in certain circumstances, but they can be abused if there is little accountability back to industry for the cost and quality of the services funded.

21.5.2 EPAs in other jurisdictions

Although some regulators receive a majority of their funding from industry, this is unusual for environmental regulators. Environmental regulators in the United Kingdom, New Zealand and most other Australian states receive the majority of their funding through direct government appropriations, supplemented to varying degrees with licence fees and other cost recovery charges:

- For the UK Environment Agency, government appropriations contributed 62 per cent of operating revenue in 2012-13, with user charges, licence fees and penalties making up a further 32 per cent.
- In New Zealand, government appropriations made up 78 per cent of the environmental regulator's funding, with user charges, licence fees and penalties making up around 20 per cent.
- In other Australian jurisdictions, only South Australia relies heavily on revenue from levies on waste, which comprise 54 per cent of its operating budget, while fees and charges contribute 41 per cent and grants a further 4.3 per cent. By comparison:

  i) New South Wales receives over 86 per cent of its funding through government appropriations and another 9.5 per cent through grants

  ii) Queensland receives around 87 per cent through government appropriations and another 6.4 per cent through grants

  iii) Western Australia receives over 93 per cent through government appropriations.[14]

21.6 Future funding options for Victoria's EPA

We propose a new funding model be developed for the EPA that provides a more balanced mix of revenue sources, including an increased reliance on cost recovery and user charges. One possible revenue neutral option that could deliver increased stability and better align with the EPA's regulatory mission is outlined in section 21.6.5 below.

In considering future funding options for the EPA, we assessed the potential contributions of the following revenue sources against the criteria of sufficiency, certainty, simplicity, incentive alignment, practicality, independence and stakeholder acceptance outlined earlier:

- appropriations
- levies (including the M&I Landfill and PIW levies)
- pollution taxes
- licence fees
- charges for services
- fines and penalties.

21.6.1 Appropriations

A number of stakeholders believe the EPA should receive a significant portion of its funding through a direct budget appropriation.

Reinstating a significant funding contribution through direct government appropriations would simplify the EPA's funding arrangements and better align with its core mission than relying on levies. It may also improve funding certainty if it reduces the EPA's reliance on more volatile funding sources. This approach is consistent with arrangements in most other jurisdictions and would better satisfy community expectations for an independent regulator.

Restoring budget funding could be revenue neutral (at least in principle) if the Parliament reassigned revenues from the M&I Landfill Levy to the Consolidated Fund, and then redistributed these funds to agencies and activities (including the EPA) through direct appropriations.

We believe this option should be actively considered in the longer term. However, for the immediate future we acknowledge that reinstatement of a budget appropriation may not be practical as the current hypothecated levy revenues have had the support of both parties and successive governments over a number of years. There would also be ongoing issues of funding sufficiency and certainty, given competing claims on the Consolidated Fund.

21.6.2 Levies

Currently, the M&I Landfill and the PIW levies are the EPA's principal sources of levy revenue.

Municipal and Industrial Landfill Levy

Revenue from the M&I Landfill Levy is more likely to secure funding sufficiency and certainty for the EPA, given the political and budgetary impediments to reinstating a direct budget appropriation. It is also more practical, because it does not involve any changes to current legislative arrangements.

By contrast, the community is concerned about conflicts of interests (whether actual or perceived) relating to the EPA's increasing reliance on levies. But of more concern to us are questions about whether the levy satisfies the objectives for which it was originally designed.

To increase community acceptance of the EPA's ongoing reliance on landfill levies, we recommend redesign of the M&I Landfill Levy to better meet its regulatory objectives, and maintain a sustainable source of funding environment protection activities.

The levy's stated rationale was to send a price signal to households, firms and waste management facilities to reduce disposals to landfills, and to encourage reuse and recycling.[15] Yet despite substantial increases in the levy over recent years, waste disposal to landfill continues to grow. Indeed, over the past 10 years, the average amount of waste attributable to each Victorian every year increased by 29 per cent.[16] Recovery rates for municipal solid waste have stalled at just 44 per cent in both 2011 and 2014, well below the *Towards Zero Waste* target of 65 per cent for the final year (table 21.4).

Evidence that the M&I Landfill Levy is having little impact on household behaviour feeds into community concerns that the levy's purpose is to raise revenue, rather than reduce waste. A key criticism of the levy in relation to household waste is that there is no direct relationship between the amount of waste a household generates and the price that it pays for disposal. In its 2006 review of waste management arrangements in Australia, the Productivity Commission found that: '… most householders currently pay a flat annual waste disposal fee'. As a result '… the cost for a household of generating an additional unit of waste is effectively zero (until the bin is full), hence there is little incentive to curb waste disposal'.[17]

By contrast, levies for commercial and industrial waste, and for construction and demolition waste, provide a clearer price signal to generators of these waste streams, there is a direct relationship between the volume of waste and the price that must be paid. On the face of it, this may appear to have encouraged stronger recovery rates for construction and demolition waste. For example, in both 2010–11 and 2013–14 this sector recorded an actual recovery rate of 83 per cent, exceeding the *Towards Zero Waste* target of 80 per cent by 2014.

However, a key factor behind reduced disposal of construction and demolition waste to landfill is the widespread and growing incidence of illegal dumping. This appears to be driven largely by the desire to avoid landfill costs, including the rising cost of landfill levies. As the price of landfill rises, so too does the incentive for illegal disposal, with the risk of illegal disposal greatest when landfill is the only available or economically viable option for waste generators and disposers.

TABLE 21.4: SECTORAL RECOVERY RATES OF SOLID WASTE FOR REUSE, RECYCLING OR ENERGY GENERATION

Per cent by weight of solid waste recovered for reuse, recycling and/or energy generation	2010–11 projected %	2010–11 actual %	2013–14 projected %	2013–14 actual %
Municipal solid waste	53	44	65	44
Commercial and industrial waste	70	55	80	73
Construction and demolition waste	70	83	80	83

Source: Sustainability Victoria survey data.

Construction and demolition material accounts for approximately half of the illegally disposed waste identified by the EPA. In 2014–315, it cost the state an estimated $30.6 million, comprising $19 million in foregone landfill levy, $10.5 million in clean up costs and $1 million in prosecution and enforcement costs.[18] These costs could potentially outweigh the benefits of landfill levies received.

Given these issues, we propose the Government redesign the M&I Landfill Levy, so that it better satisfies its primary regulatory objective of providing a financial incentive to avoid, reduce or recycle waste. A redesigned levy could help the Government achieve its waste reduction objectives and avoid the considerable financial and social costs of illegal dumping, while also providing a sustainable source of funding for environment protection. Stakeholders and the general community would also find the levy more acceptable as an ongoing source of funding for the EPA.

There may also be a case for sharing M&I Landfill Levy revenues with local councils. Local government authorities dislike the current arrangements for collecting and disbursing the levy. They must incorporate the levy into household waste disposal charges, yet little is returned to their local communities:

> *At present our community is paying the landfill levy and seeing little in return as the money leaves the region and the utilisation of the funds is not transparent.* (Southern Grampians Shire Council submission, p. 9)

> *Maribyrnong Council would like to see that all funds collected by the landfill levy are spent every year and that projects and initiatives from the funds are used to benefit the communities that contribute the funds.* (Maribyrnong City Council submission, p. 5)

> *The distribution of the landfill levy must be significantly increased with a focus applied to new large scale resource recovery and waste management facilities across Victoria.*
> (Corangamite Shire Council submission, p. 8)

We propose in chapter 18 to expand some local environmental protection activities of local government, for which local authorities will require additional funding. A landfill levy revenue-sharing arrangement may help local government to meet these additional costs.

Prescribed Industrial Waste Levies

Falling revenues, and the rising costs of rebates and of defending rebate claims in court, make PIW levies an increasingly volatile and uncertain source of future revenue for the EPA. We recommend replacing PIW levies as a source of funding for the EPA. We also recommend redesigning the PIW Levy and the accompanying regulatory framework for transporting, storing and disposing of hazardous wastes, to minimise incentives for illegal dumping.

The volatility of PIW levy revenues reflects several factors. First, recycling rebates apply if waste deposited at a landfill is subsequently recycled, reprocessed, recovered or purified. Recycling PIW rebates, which lower the amount a landfill operator pays, can be made within three years of the waste being removed from the premises. This process creates uncertainty about whether and when rebate claims will be made.

Second, as well as managing the budgetary impacts of legitimate rebate claims, the EPA is increasingly defending the PIW revenue base against disputed claims. In 2015-16, for example, the EPA is defending a disputed PIW levy rebate claim of $7.5 million. Losing this case could cost the agency as much as 10 per cent of its total operating budget.

Third, the rising incidence of illegal dumping and other avoidance behaviour reduces revenues. It also suggests fundamental design problems with the PIW Levy and the associated regulatory framework for transporting, storing and disposing of hazardous waste.

The PIW price on landfill is intended to encourage greater waste recovery and recycling, but there will always be some hazardous waste streams that cannot be recovered economically. In these circumstances, high landfill levies are likely to drive increased illegal dumping and other avoidance activity. Evidence to other inquiries established the clear link between high levies and illegal dumping of hazardous wastes. For example, in a submission to the 2006 Productivity Commission Waste Inquiry, Hanson Landfill Services (sub. DR125) noted that the high levy imposed in Victoria on disposal of asbestos waste to landfill (then $26 per tonne) discourages decontamination of sites, and encourages disposers to illegally dump asbestos, or to hide it among other waste going to landfill.[19]

There is also evidence that some operators deliberately game the levy by establishing so called 'recycling centres' that collect waste but with no intention of significant recycling or reuse. And some recycling operations, while technically compliant, spread contaminants back into the environment in diluted form – for example, as 'clean fill' soil. The EPA is concerned that these practices – which are difficult to detect or effectively manage – are likely to result in a legacy of hazardous waste and contamination around Victoria for future generations to address.[20]

Further, when Victoria's industrial waste landfill levy rates are significantly higher than those in other jurisdictions, waste generators have strong financial incentives to transport waste to states with lower landfill costs. The EPA reports around 2,000 approved interstate movements of prescribed industrial waste each year, plus an unknown number of unapproved vehicle movements.

Aside from the increased risk of harm to the environment and to public health, these various avoidance activities represent significant revenue foregone to the state. They also impose substantial additional costs on the EPA and raise questions about whether PIW levies can be an ongoing source of funds for future environment protection activities.

We recommend mitigating these risks by redesigning the PIW Levy and accompanying regulatory framework for transporting, storing and disposing of hazardous wastes to:

- curtail the growing problem of illegal dumping of hazardous waste (including asbestos)
- reduce mounting costs of additional compliance activity targeted to illegal dumping
- prevent further avoidance-driven erosion in the PIW revenue base.

In the meantime, replacing PIW levies in the EPA's budget with a more stable and sustainable revenue source would better align EPA funding with its regulatory mission, and reduce its reliance on an increasingly volatile and uncertain funding source. PIW levy revenues could be redirected into the Consolidated Fund, with the EPA receiving replacement funding via:

- an annual Budget appropriation
- an increased allocation from M&I Landfill Levy collections, or
- broadly equivalent revenues from regulatory fees currently paid into the Consolidated Fund.

Further, we consider it appropriate that the EPA should either be relieved of defending the revenue base against avoidance and evasion, or be funded explicitly for the additional litigation and enforcement costs.

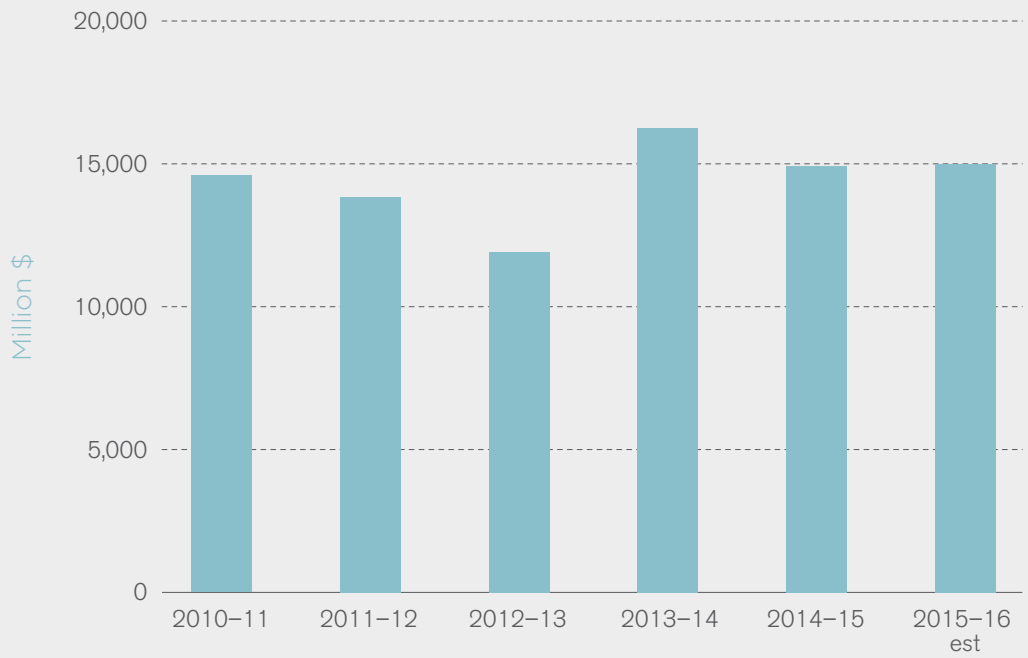
21.6.3 Licence and other regulatory fees

We propose the EPA retain licence fees and waste permit charges it levies to recover the costs of administering its licensing and permit regimes. Currently, these revenues are paid into the Consolidated Fund.

We consider it appropriate for the EPA's funding arrangements to reflect a greater cost recovery component. Provided costs are reasonable and efficient, greater reliance on cost recovery fees and charges better aligns the EPA's funding with its core functions and improves accountability to regulated entities for regulatory services it provides. Licence fees and other user charges account for significant proportions of the operating revenues of environmental regulators in other jurisdictions – 32 per cent of the UK Environment Agency's operating revenues, for example, and 41 per cent of the operating revenues of South Australia's EPA.

Over the past two years, EPA regulatory fees (including fees for licences, waste transport permits and works approvals) netted $15 million to $16 million each year, representing 20–24 per cent of the agency's overall operating budget. Figure 21.5 indicates the revenue that would be available to the EPA if it retained the regulatory fees that it currently administers on behalf of the state.

FIGURE 21.5: EPA REGULATORY FEES



Source: EPA Victoria; EPA annual reports, Notes to financial statements, Administered items.

Additional regulatory fee revenue over and above these amounts would be generated if the EPA introduces a second regulatory tier of registered businesses, as we recommend in chapter 12. We consider it appropriate for the EPA to retain these additional funds, to cover its additional costs. We recommend the EPA also retain charges for other services that it carries out at the behest of industry. This approach is consistent with arrangements that apply to most other regulatory bodies that provide services on a cost recovery basis. Further, there is no in principle reason for paying these charges directly into the Consolidated Fund.

Including cost recovery revenues in the EPA's overall funding model would contribute to revenue sufficiency and independence and better align with its core functions than the current funding mix. Efficient and transparent cost recovery fees give the EPA an incentive to recover the full cost of the services it provides. They also send a better price signal to its clients.

Adequacy of cost recovery fees

We propose better aligning the EPA's licence fees and charges for works approvals and other regulatory services with the costs it incurs.

Following a review, the Environment Protection (Fees) Regulations 2012 introduced revised fees for the majority of EPA administered licences and approvals, including:

- works approvals fees
- licence fees
- waste transport permit fees
- environmental audit fees.

These revisions better reflected the EPA's efforts in regulating each type of licensed activity, with base fees to incorporate risk as a factor in setting the fees. Other changes included:

- extending fees for environmental audits to section 53V audits that were not previously charged a fee
- simplifying the system of charging for works approvals
- simplifying categories of waste permit transport fees and incorporating a risk factor into the fees (with these fees falling around 38 per cent).

However, the recent review by PwC Australia found disparities remain between rates of cost recovery and estimated actual output costs for some core regulatory activities.[21] The review found evidence of significant under recovery of some costs – with actual costs incurred to process works approvals estimated to be up to four times greater than the fee revenue collected against those outputs. Similarly, once all relevant related activities are included, the cost of administering licences may exceed the value of licence fees collected.

Further work is necessary to refine these cost estimates, but we consider there is scope for better recovering costs from works approval and licensing activities.

21.6.4 Fines and penalties

We propose the EPA no longer retains revenues from litter fines and penalties for environmental offences. Retaining these revenues is a clear conflict of interest and aligns poorly with the EPA's mission. The availability of these receipts may distort the regulator's incentives and encourage it to dedicate a disproportionate share of its limited resources to a relatively minor environmental hazard.

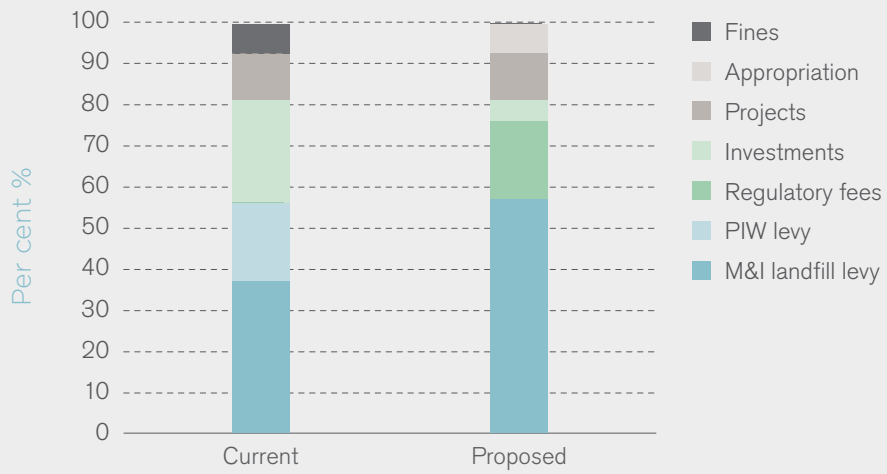
21.6.5 Proposed alternative funding mix

We recommend a new funding model for the EPA that provides for increased reliance on cost recovery and user charges and reduced reliance on investment income, PIW levies and litter fines which are poorly aligned with the EPA's regulatory mission.

Figure 21.6 illustrates one possible alternative funding mix for the EPA. The current funding mix is based on the EPA's 2015-16 operating revenues, the proposed alternative is based on a broadly revenue neutral set of adjustments to funding transfers between the EPA, DELWP and the Consolidated Fund, as follows:

- EPA continues to receive annual disbursements from the M&I Landfill Levy that replaced annual budget appropriations in 2012-13.
- EPA retains regulatory fees currently paid into the Consolidated Fund (around $15 million).
- PIW levy revenues of $14.4 million currently retained by EPA are directed to the Consolidated Fund to offset the loss of regulatory fees.
- Litter fine revenues (netting between $3.6 and $4.7 million annually) are paid into the Consolidated Fund, and replaced by an equivalent budget appropriation (or alternatively by additional disbursements from the M&I Landfill Levy).
- Additional disbursements from the M&I Landfill Levy replace the $15 million investment income replacement grant provided by DELWP, with the EPA retaining only that portion of investment income that derives from its direct investments (around $3.8 million).

FIGURE 21.6: EPA FUNDING MIX: CURRENT AND PROPOSED



Source: Current based on 2015–16 funding mix; proposed mix developed by Inquiry.

Importantly, these reforms ***do not*** address issues of funding adequacy, which are discussed below. However, the proposed alternative funding model reduces the EPA's exposure to volatile and uncertain revenue streams and places the risks of revenue volatility with central government, where they can be better managed. It also resolves potential conflicts of interest that arise from the EPA's current reliance on PIW levies and litter fines. Finally, allowing the EPA to retain revenue from its regulatory fees better aligns revenue with its regulatory functions and is more consistent with funding models applied to other regulatory agencies.

21.7 Adequacy of EPA Funding

In considering the adequacy of resources for the EPA to fulfil its proposed future mission, we focused on the resource implications of our proposed changes. In particular, we considered the implications of increasing the EPA's focus on prevention and of introducing a general duty. We also considered:

- community views expressed through public consultation
- resourcing levels for environmental regulators in other jurisdictions
- the available evidence on the EPA's current cost base, including the resource impacts of the EPA's role in emergency management
- the scope for the EPA to improve efficiency.

Many stakeholders suggested that the EPA is already underfunded and that this has resulted in deterioration in its core capabilities, particularly in scientific analysis and environmental surveillance.

We consider the EPA will need more resources in the future to fulfil the broader suite of functions and responsibilities and deliver on the vision that we propose. This view is regardless of whether funding is adequate for current functions, or further business efficiency improvements can yield some savings.

A more authoritative EPA with a clearer focus on prevention will require:

- strengthened scientific capabilities and assets to underpin an enhanced environmental (including environmental health) surveillance and advisory functions
- an enhanced outreach function to support a much broader range of duty holders and a general duty
- enhanced support to local government, which will have a greater role in addressing local issues.
- investment in up-to-date information, communication and surveillance technologies
- greater strategic involvement in areas such as land use planning

21.7.1 Community views

One in four submissions to our inquiry commented on finances and generally argued the EPA's funding was inadequate.

> *The EPA has a number of technically strong staff but is under resourced.* (Australian Contaminated Land Consultants Association submission, p. 10)

Many submissions recommended enhancing the EPA's future role, which also implied a need for greater resources. These submissions variously argued for an increased EPA budget so it could:

- play an active role in community education, particularly in regional areas
- attract and keep outstanding scientists and specialist advisors to educate and influence all stakeholders
- maintain professional laboratories, extensive libraries and sophisticated database systems
- undertake major prosecutions without compromising its day-to-day operations
- invest in research and education, and in maintaining its reputation
- scope environmental challenges and lead a whole of government response to them
- collaborate regularly with overseas experts and pursue best practice
- continue to invest in internal IT to ensure its potential is realised
- market its brand and conduct advertising to complement its operational initiatives
- constantly train and develop its enforcement officers and other technical staff, particularly in basic toxicology and biology
- sustain a customer focused accessibility that includes regional offices.

21.7.2 EPA resource levels in other jurisdictions

As the two largest and most industrialised states, New South Wales and Victoria could be expected to have larger environmental protection agencies than the other states. In turn, New South Wales, with its bigger population and much larger geographic spread, would be expected to commit proportionately more resources to its EPA than Victoria.

Direct comparisons between the two agencies are difficult, given the functional and geographic differences. However, simple comparisons based on population shares may be instructive. In 2015–16, the NSW EPA had budgeted operating revenues of around $114 million (after deducting grants passed on to other entities). The equivalent for Victoria would be around $89 million.

21.7.3 Current resource pressures

According to the EPA, it currently faces significant budgetary pressures, reflecting both revenue shortfalls and expense increases.

The key drivers behind this year's projected revenue shortfalls are lower than expected returns on investments (which are now forecast to fall $7.6 million short of the original budget estimate) and up to $7.5 million in PIW levies at risk due to litigation.

Neither of these problems necessarily implies ongoing revenue inadequacy, but they highlight how the volatility of some of the EPA's key revenue lines can affect year-to-year operations.

By contrast, the key drivers behind unbudgeted increases in expenditure – the resource implications of the EPA's role in emergency management and increased litigation costs – are more likely to be ongoing.

Emergency management

We recommend the EPA receive additional funding to fulfil its emergency management role. As part of the 'all hazards, all agencies' approach, the EPA is expected to be more involved in emergency management. We proposed a refocusing of the EPA's emergency management role in chapter 9, however, the exact nature of the EPA's role in this space is still evolving, and will remain a new and unfunded responsibility.

The EPA estimates that resourcing the emergency management function currently consumes an unrecoverable $2.5 million of its annual budget, significantly affecting its core activity.

Litigation costs

The EPA faces rising litigation costs associated with defending the PIW Levy revenue base, as the levy system is increasingly challenged in the courts. We consider the EPA should be relieved of this responsibility or have its litigation costs reimbursed. Revenue protection should not be a core function of a regulatory agency.

21.7.4 Resource implications of proposed changes to EPA objectives and functions

The EPA will require additional resources to perform the new and expanded functions we recommend, including its wider focus on public health and its broader span of functions.

Increased environmental health and scientific capabilities

A stronger focus on environmental health surveillance requires new and strengthened capabilities to gather and analyse data, monitor pollution and identify risks. Specifically, we propose a new group with expertise in areas including environmental health epidemiology and toxicology. We also propose elevating the level of the EPA's senior scientific officers – including creating a Chief Environmental Scientist – to ensure the EPA has both the expertise and the authority to influence decision making across government. Including people with high level scientific and other skills on the EPA Board will also have some additional resource implications for the agency.

Our proposal to establish an environmental health surveillance group within the EPA also requires sufficient funding for DHHS to provide support to and work with the group and for liaison with the Chief Health Officer.

A stronger focus on prevention will also require:

- an ability to adapt to changes in industry practices and to respond to new and emerging environmental risks
- better dissemination of science and technical information through better data systems and hardware (for example, monitoring equipment).

Other additional functions

The EPA of the future will also require additional resources for the following functions:

- **Outreach activities associated with a general duty**: A new general duty applying to a larger regulated cohort will require an early focus on educating and informing businesses and the community about new obligations and how to comply. We consider the general duty will improve environmental practices and lessen the need for regulatory intervention over the longer term. But the EPA will require additional resources in the short term, to develop and disseminate clear guidance material and educate both new duty holders and joint regulators, including local government.
- **Support for devolved functions**: The EPA will require capabilities to provide statewide coordination and support to local government authorities, which will have greater responsibility for local issues. The EPA will need to develop targeted interventions, provide technical support and training and step in where necessary.
- **Enhanced role in land use planning**: Given the importance of increasing the EPA's strategic input to land use planning, the EPA of the future must devote additional resources to providing this advice, as well as educating and supporting land use planning decision makers about pollution and waste impacts.

Funding the expanded role for local government

Local government authorities will also require additional funding to fulfil their increased role for managing local issues. Specifically, they will need funding to appoint local government environment protection officers. We recommend in chapter 18 that DELWP bring a proposal to government to identify additional resources for local government to fund these additional functions. As noted earlier, one option would be to develop a landfill levy revenue-sharing arrangement with local councils.

One off investments

In addition, we identified several critical one off investments, with some ongoing maintenance costs, to improve the EPA's capability. These include:

- increased capability to undertake environmental monitoring, both for ambient environmental monitoring and in response to incidents
- preparing initial codes of practice to support a general duty and updated operational policy, standards and guidance material
- informing and educating businesses and the community about the reforms and their obligations under an enhanced statutory regime, and
- updating and improving business systems and retraining authorised officers.

To play a stronger and more proactive role in prevention through increased environmental scanning while continuing to deliver core regulatory functions associated with known environmental risks, the EPA must have access to up-to-date information, communication and surveillance technologies, including remote monitoring of environmental impacts. Investment in modern technologies and more sophisticated use of data analytics will also be increasingly essential to the efficient delivery of core regulatory functions. A multi-year investment strategy is required to establish these platforms.

Offsetting savings

Partially offsetting these additional resource requirements, some of our recommendations will allow the EPA to divest itself of some functions that are better performed elsewhere. In particular, devolving some local issues to local government would free up some resources to focus on more significant local and statewide environmental hazards.

Transferring responsibility for recovering avoided landfill levies to DELWP would also represent a saving to the EPA's operating budget, not just in direct litigation costs but in associated enforcement activity.

21.7.5 Scope for efficiency improvements

We did not consider the EPA's efficiency in carrying out its functions, but we identified some potential for efficiency improvements. Reallocating resources from lower order risks to focus on more significant environmental hazards would also enable the agency to deliver stronger environmental protection within existing resource levels.

Other potential areas for efficiency improvements and other savings include the following:

- introducing a general duty may in time reduce enforcement activity and make litigation more cost effective
- a clearer focus on prevention, including strengthened licensing and post-closure requirements, and greater strategic involvement in the early stages of the planning process, should yield some future savings in clean up and enforcement costs
- significant costs associated with addressing illegal dumping of hazardous waste could be avoided by redesigning the M&I Landfill and PIW levies
- transferring custody of the Sustainability Fund from the EPA to DELWP should reduce the EPA's administration costs and associated reporting costs
- improved cost recovery for certain activities, such as the consultation processes associated with works approvals, could reduce the budgetary impact of these activities
- improved information and communication technology may allow the EPA to deliver some regulatory services more efficiently and at lower overall cost.

The EPA has already started detailed work on allocating costs to its various functions, to better understand key cost drivers. This work will also reveal the relative resource intensity of alternative means of carrying out certain functions – for example, the relative costs of carrying out onsite inspections compared with desktop assessments. The EPA could also use unit cost information to benchmark its costs against best practice or similar activities with other regulators.

However, we expect the additional costs associated with our recommendations to more than outweigh these possible savings.

Recommendations

RECOMMENDATION 21.1

Develop a new funding model for the EPA that provides greater revenue certainty and stability, and reduces reliance on funding sources with conflicts of interest, including consideration of options for the EPA to:

i) continue to receive annual distributions from the Municipal and Industrial Levy, unless or until a decision is taken to reinstate annual budget appropriations

ii) retain revenues from regulatory fees and user charges that are currently paid into the Consolidated Fund

iii) no longer retain Prescribed Industrial Waste Levy revenues which should be directed instead into the Consolidated Fund

iv) receive additional disbursements from the Municipal and Industrial Landfill Levy to replace market linked investment income replacement grants from the Department of Environment, Land, Water and Planning

v) receive an annual budget appropriation that replaces litter revenue which should instead be paid into the Consolidated Fund.

RECOMMENDATION 21.2

Redesign the Municipal and Industrial Landfill Levy so that it better meets its regulatory objectives and to reduce incentives for illegal dumping, while maintaining a sustainable source of funding for environment protection activities.

RECOMMENDATION 21.3

Reform the Prescribed Industrial Waste Levy (and the associated regulatory framework for transporting, storing and disposing of hazardous waste) to:

i) curtail the growing problem of illegal dumping of hazardous waste

ii) reduce mounting costs of additional compliance activity targeted to illegal dumping

iii) avoid further erosion in the Prescribed Industrial Waste Levy revenue base due to avoidance activity.

RECOMMENDATION 21.4

The Department of Environment, Land, Water and Planning prepare a business case to support an increase in the EPA's future resource levels to enable it to fulfil the additional functions and responsibilities recommended by this inquiry including:

i) environmental health and scientific capabilities

ii) activities to support a general duty

iii) EPA coordination and oversight of local government environment protection officers

iv) land use planning expertise

v) investing in up-to-date information, communication and surveillance technologies.

1 Grant payments from the Sustainability Fund and specific programs funded from Prescribed Industrial Waste levies (for example, HazWaste and Regional Waste Management Groups) are excluded from the operating budget because these funds are not available to the EPA for its own purposes.

2 However, the EPA expects actual revenues in 2015-16 to fall well short of this estimate, reflecting lower than forecast returns on investments and higher than expected rebates of the Prescribed Industry Waste levy.

3 Although administration of the Sustainability Fund was transferred to DELWP on 1 July 2015, investment income replacement grants to the EPA continue to reflect actual income earned on investment of Fund balances.

4 After provision of $1.1 million in doubtful debts, net receipts from litter fines of $3.6 million are expected.

5 EPA has run a statewide biological monitoring program in rivers and streams since 1990. DELWP has largely funded the River Monitoring and Assessment Program (RiverMAP) since the early 2000s. Under current arrangements, RiverMAP is funded from November 2012 to June 2016 with a budget of $3.2 million.

6 An allocation from the Sustainability Fund, announced in December 2013, provided $2.165 million to the EPA over four years (2013-14 to 2016-17) to implement actions 6, 13, 14 and 15a of the Yarra and Bay Action Plan. The EPA was to contribute $800,000 in-kind.

7 Victorian Government 2013, *Report of the Ministerial Advisory Committee on Waste and Resource Recovery Governance Reform*, Melbourne, p. 59.

8 EPA Victoria, 2016.

9 EPA Victoria 2014, *Future Funding Options – Environment Protection Authority*, Final Report, prepared for the EPA by PwC Australia, April, p. iii.

10 State Services Authority 2009, *Review of the rationalisation and governance of regulators*, Melbourne, p. 48.

11 EPA Victoria 2015 *Future Funding Options Assessment*, Assessment Panel Report, August, p. 1.

12 EPA Victoria 2014, *Future Funding Options – Environment Protection Authority*, Final Report, prepared for the EPA by PwC Australia, April, p. vii.

13 State Services Authority 2009, *Review of the rationalisation and governance of regulators*, Melbourne, p. 48.

14 EPA Victoria 2014, *Future Funding Options – Environment Protection Authority*, Final Report, prepared for the EPA by PwC Australia, April, table 12 p. 79.

15 In debate on the Environment Protection Amendment (Landfill Levies) Bill 2011, the then Minister for Environment and Climate Change told Parliament that 'the new levy will set appropriate incentives for waste reduction alternatives and strike the right balance between greater recycling and limiting the burden on households and businesses' (R Smith, Hansard p. 1371); Mr Morris (p. 1732) stated 'the landfill levies will provide a financial incentive to reduce the level of waste. That is what the bill is about. The likely outcome of this bill is a reduction something in the order of 282,000 to 285,000 tonnes of waste going to landfill per annum'.

16 Victorian Government 2013, *Getting full value – the Victorian waste and resource recovery policy*, April, Melbourne, p. 12.

17 The Productivity Commission found that using levies to reach selected landfill targets, or to generate revenue, was incompatible with the desired objective of internalising the externalities of waste disposal to landfill. To improve price signals to households the Commission recommended a low cost variable charging systems for municipal waste disposal and resource recovery should be considered. Productivity Commission 2006, *Waste Management*, Inquiry report no. 38, Canberra, October, p. 226.

18 EPA Victoria 2016.

19 Productivity Commission 2006, *Waste Management*, Inquiry report no. 38, Canberra, October, p. 223.

20 For example, landowners such as marginal farmers who, knowingly or otherwise, accept contaminated waste will often lack the resources required to cover the considerable clean up costs.

21 EPA Victoria 2015, *Cost and capacity review*, Final Report, internal working report prepared for EPA by PwC Australia, November, pp. 21–22.

APPENDICES

TERMS OF REFERENCE

Inquiry Into The Environment Protection Authority

Preamble

Our promise to Victoria at the election was to respond to concerns about how our environment and our industries are managed together to protect the health of Victorians.

We promised to look closely at the Environment Protection Authority (EPA) to establish how we can develop the authority to ensure it can protect public health, while protecting our precious Victorian environment for future generations.

Since the EPA was first established, our population has changed and so have our challenges. Victoria's population is expected to double by 2050. Increases in resource consumption, traffic and waste volumes will follow. Demand for housing and urban density will continue bringing communities into closer proximity with potentially contaminated land, industrial areas and with each other. We need to better protect Victorians from exposure to chemicals and pollution than we unfortunately sometimes have in the past. And we need to ensure that the principle of environmental justice is adhered to. We all have the right to participate in making decisions on our shared environment, and share in the benefits it provides.

Victoria's environment protection approaches need to be ready to deal with the range of human and environmental impacts and challenges we expect to face in the future.

The review will examine whether the EPA has the right powers, right tools and proper resourcing to ensure it is agile and efficient and can tackle the environmental challenges of today and tomorrow.

Undertaking a public inquiry will ensure we are setting the EPA up for success – to be able to respond to the justifiable public health concerns arising from contaminated sites, water quality, air pollution and community concerns such as exposure to asbestos.

To ask if the EPA is our environmental protector or regulator or both.

In undertaking this inquiry, the government will seek the advice of a ministerial advisory committee on the EPA's most appropriate role in public health issues related to land, air and water pollution, and in protecting our environment. It will also examine how to best prevent contamination of sites as well as the EPA's ability to respond to day-to-day environmental issues.

The ministerial advisory committee will seek the views of the community, industry and workers in related industries as well as those of other relevant stakeholders.

From this review, I expect to see recommendations about the way the EPA can execute the right powers, duties and functions to achieve sustainable health for our State.

Hon Lisa Neville, MP
Minister for Environment, Climate Change and Water

Establishment of a Ministerial Advisory Committee to conduct inquiry

The Minister for Environment, Climate Change and Water (Minister) establishes an independent ministerial advisory committee (MAC) to be known as the 'Environment Protection Authority Inquiry MAC' by these terms of reference to conduct a public inquiry into the EPA.

Scope of inquiry

The inquiry will be conducted by the MAC which will inquire into, report on, and present any recommendations and/or options that it considers appropriate in relation to the matters specified below. These are to be considered in the following order of priority:

1) the EPA's appropriate role in relation to public health issues, including at least: community concerns such as exposure to asbestos, chemicals and other pollutants; the prevention and management of site contamination, air quality, and water quality in rivers and other waterways;

2) the Victorian community's and industry's expectations of the EPA as its environmental regulator;

3) the EPA's appropriate role in protecting the environment;

4) the ability of the EPA to ensure that the principle of environmental justice is adhered to, the environment is protected for the benefit of the community, and members of the community can be meaningfully involved in, and access fair treatment through, environmental regulation;

5) the ability of the EPA's current governance structures and funding arrangements to enable it to effectively and efficiently discharge its powers, perform its duties and implement its required functions;

6) the scope and adequacy of the EPA's statutory powers, and the effectiveness and efficiency of the suite of tools available to and utilised by the EPA, in enabling protection of the Victorian community and the environment, particularly in light of recent, new and emerging risks and issues; and

7) any other matter reasonably incidental to these above matters.

In conducting this inquiry, the MAC will consider the best way to combine environmental protection with economic viability and growing sustainable jobs in Victoria, including through improving regulatory efficiency and minimising regulatory burden. The MAC will also seek the views of the community, industry and workers in related industries, local government and Victorian government agencies, as well as those of other relevant stakeholders.

Functions of the Ministerial Advisory Committee

The MAC will conduct the review, operating from **1 June 2015** to **31 March 2016**, with the following functions:

a. Conduct the inquiry, including:

   i. consulting with interested parties (including the community, industry and workers in related industries, and Victorian government agencies)

   ii. seeking and reviewing submissions

   iii. commissioning necessary advice and information through its secretariat

b. Provide the "public face" for the inquiry

c. Through its secretariat, oversee inquiry administrative and organisational arrangements

d. Provide written report to Minister on its findings, making recommendations and/or options as appropriate

e. Request advice from, and refers matters to, the Government Reference Group

f. Request advice from the Community and Industry Advisory Group.

Accountability

The MAC will report to the Minister.

A diagram of the overall governance structure for the inquiry is provided.

Reporting arrangements

The MAC is to provide a written report to the Minister by **31 March 2016**. The Minister intends to publicly release the report and a response to its findings and recommendations on behalf of the Victorian Government.

Appointment

MAC members are appointed by instrument by the Minister.

The MAC comprises three members.

The Minister will appoint one member as chairperson and one member as deputy chairperson.

Term of appointment

A member of the MAC holds office for the period specified in the instrument of his or her appointment.

EPA and Environment Protection Board (EPB) contribution

During the course of its review, the MAC must consult with the EPA Chairman and the EPB members for advice on:

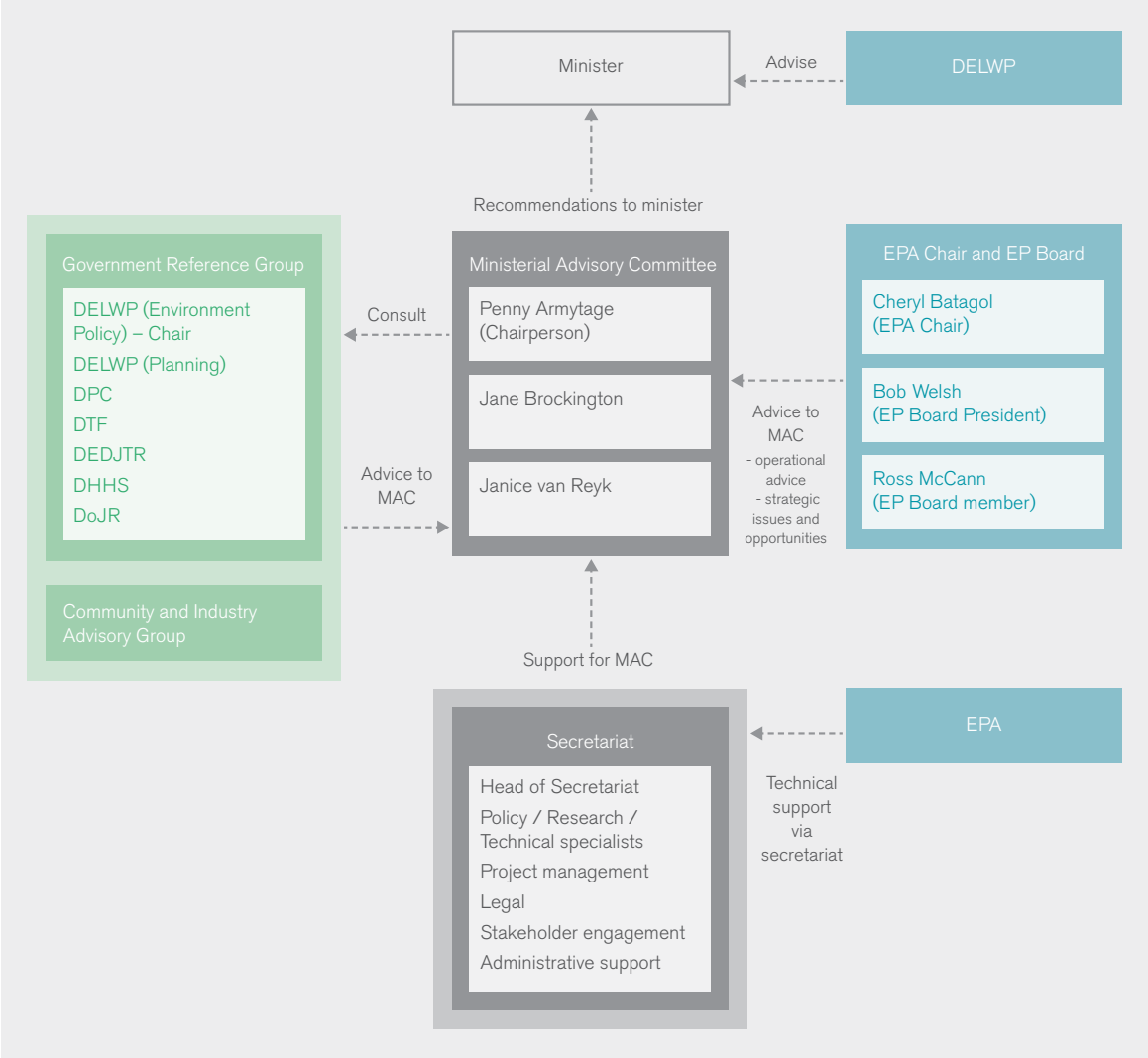
- strategic issues and opportunities for EPA; and
- the operational implications of reform options for EPA.

The EPA Chairman and EPB members will provide this and any other advice to the MAC in response to requests from the MAC.

Government Reference Group

The MAC will be supported by a Government Reference Group, to be chaired by the Executive Director Environment Policy, DELWP, and with representatives from the Planning Division, DELWP; Department of Premier and Cabinet; Department of Treasury and Finance; Department of Economic Development, Jobs, Transport and Resources; Department of Health and Human Services and Department of Justice and Regulation. The Government Reference Group will provide advice to the MAC in response to requests from the MAC.

GOVERNANCE STRUCTURE



Hon Lisa Neville MP
Minister for Environment, Climate Change and Water

8 Nicholson Street
East Melbourne, Victoria 3002
Telephone: 03 9637 9654
DX210098

Ms Penny Armytage
Chair - Ministerial Advisory Committee
PO Box 21428, Little Lonsdale Street
Victoria 8011

Dear ~~Ms Armytage~~, Penny

INCORPORATING ENVIRONMENTAL JUSTICE PRINCIPLES IN THE EPA

The central element of 'Environmental Justice' is recognition that the burdens of environmental pollution should be fairly distributed, as well as equal access to the public health benefits of a clean environment, for all people regardless of their social, economic or political status. Environmental Justice also encompasses a commitment to an inclusive processes for decision making in environmental policy and regulation.

Environmental Justice as a guiding concept for public policy makers has been in use for several decades internationally and there is a wide range of literature and case studies to draw from when seeking to incorporate it into the Victorian EPA.

The functions of the other countries' EPAs will invariably differ to that of the Victorian EPA, just as the scope and focus of each agency differs. Nevertheless environmental justice principles and how they are incorporated by other jurisdiction's environmental regulators and watchdogs is worth considering in the Victorian context.
While understanding the broad set of environmental justice concerns are, in your work reviewing the EPA it's important to apply a filter of what is relevant to a modern and effective environmental regulator.

I believe that environmental justice considerations encompass three issues:

1. ***Access to justice and access to decision making***

Ensuring that processes for complaint and redress are genuinely accessible to – and actually accessed by - all parts of the community, is critical. Regulators should operate transparently while being accessible to the community within reason. Implicit in this is recognising that some sections of the community – often lower socio-economy areas which reside close to polluting activities - face barriers to engagement, so there should be a responsibility on behalf on the regulator to pro-actively engage in these cases.

2. ***Avoid disproportionate burdens from environmental pollution, share environmental benefits equally.***

As a result of the legacy of past industrial practices, as well as the practicalities of the current economy, it is not possible to avoid all environmentally harmful practices. However, when deciding where to allow new sources of pollution and the conditions of their regulation, regulators should

VICTORIA State Government

attempt to minimise those harms, by identifying the most vulnerable areas as well as those communities have carried the heaviest burden historically, to help avoid ongoing and continual burden in these concentrated areas. The regulator should seek to ensure that benefits, such as access to clean air, water and soil, and the positive public health impact that flow from these, are derived by the host community.

3. Intergenerational equity

Use of environmental resources and the creation of long term environmental harms has clear issues for intergenerational equity. We live today with the legacy of decisions made decades ago that have led to widespread environmental contamination from poorly regulated industrial processes and extractive industries, as well as extensive land clearing for various purposes. Protecting remaining resources appropriately for future generations is a critical consideration for environmental justice. Ensuring the future generations are involved in the decision making process is key.

Turning the principles into action

While looking to adopt environmental justice principles in a Victorian context for an environmental regulator, the role of the EPA as a keeper of information is important. Already the EPA identify areas of contamination; mapping areas of contamination and pollution both current and historical. This data should be considered alongside which areas face greater socio-economic disadvantage and isolation, such as newly arrived migrant communities or Aboriginal Victorians.

But disadvantage can manifest in less obvious ways. When looking at regulation of certain industries we might find that workers experience disadvantage in participating in processes relating to their employers. Cultural barriers can also inhibit active engagement with government agencies due to language barriers or mistrust of the state.

In *Guidance for Considering Environmental Justice During Development of Regulatory Actions*, the US EPA advises that "rule writers and decisions makers respond to three core EJ questions" when developing relevant policies, rules or procedures:

- How did the public participation process provide transparency and meaningful participation for minority populations, low-income populations, tribes and indigenous peoples?
- How did the rule-writers identify and address existing and/or new disproportionate environmental and public health impacts on minority populations, low-income populations, and/or indigenous peoples?
- How did actions taken under the previous two points impact the outcome of the final decision.

Clearly in the Victorian context those three tests would need some modification, but the essential elements of them are entirely pertinent to the Victorian situation; real participation, that takes account of existing or new sources of disproportionate environmental impact, and what's the evidence that the consultation process was sincere, rather than perfunctory?

But incorporating environmental justice principles into the Victorian EPA could be broader than just those issues that relate to the Authority's direct involvement with the public. Metropolitan planning or provision of transport services will create both environmental benefit and disadvantage both at the time of delivery and into the future –the state's environmental regulator, with these principles should play a role in maximising the benefit and minimising the negative impacts.

VICTORIA State Government

There are doubtless other options and variations for how to integrate environmental justice principles into the legal architecture, and day to day operation of the Victorian EPA, and the Government looks forward to receiving the advice of the EPA review MAC.

Yours sincerely

Hon Lisa Neville MP
Minister for Environment, Climate Change and Water

4 / 2 /2016

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VICTORIA State Government

LIST OF SUBMISSIONS (BY CATEGORY)

ACADEMICS

Centre for Aquatic Pollution Identification and Management
Centre for eResearch and Digital Innovation – Federation University
Eric Windholz – Faculty of Law – Monash University
Monash Business School – Monash University
Roger Hawthorn – Swinburne University
Waterway Ecosystem Research Group – University of Melbourne

COMMUNITY GROUPS AND NON-GOVERNMENT ORGANISATIONS

Australian Clean Air Action Network
Beach Patrol Australia
Bellarine Landcare Group
Bendigo and District Environment Council
Brooklyn Community Representative Group
Brooklyn Residents Action Group
Community Over Mining
Community and Public Sector Union
Croydon Conservation Society
Cultivating Community
Doctors for the Environment
Drysdale Clifton Springs Community Association
Environment Victoria
Environmental Justice Australia
Friends of Mallacoota
Friends of Steele Creek
Glen Eira Environment Group
Green Wedges Coalition
Gippsland Environment Group
Hume Residents Airport Action Group
Kanagulk Landcare Group
Lawyers for Forests
Lighter Footprints
Maribyrnong Truck Action Group
Nelson Coastcare
Our Korumburra
Residents Against Toxic Waste in the South East – part 1
Residents Against Toxic Waste in the South East – part 2
Save our Suburbs
Stop the Bulla Dust
Stop the Tip
Surf Coast Air Action
Terminate Tullamarine Toxic Dump Action Group
Trust for Nature
Victorian Marine Animal Defence Conversation Society
Voices of the Valley
Werribee River Association
Wind Industry Reform Victoria Inc
Yarra Riverkeeper Association

INDUSTRY AND BUSINESS

AGL Energy
Australian Paper
BP Australia Pty Ltd
Cardno Victoria
Confidential submission 1
Confidential submission 2
EcoEnergy Ventures
Environmental Auditors
Fonterra Australia
Garden City Fuel Station
Hg Recoveries Pty Ltd
Ileowl Pty Ltd TA Greenchip Recycling
Landserv Pty Ltd
Orica Australia
Pacific Hydro
Power-Less
Qenos
Southern Ocean Mariculture
Suez Environment
Transpacific Industries
Trustpower Australia
Viva Energy

INDIVIDUALS

Anonymous – 3000
Anonymous – 3011
Anonymous – 3016
Anonymous – 3025
Anonymous – 3032
Anonymous – 3036
Anonymous – 3049
Anonymous – 3070
Anonymous – 3095
Anonymous – 3121
Anonymous – 3123
Anonymous – 3149
Anonymous – 3207
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Anonymous – 3342
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Anonymous – 3691
Anonymous – 3810
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Anonymous – 3927
Anonymous – 3945
Anonymous – 3960
Anonymous – 5076

Anonymous 1 – 3012
Anonymous 2 – 3012
Anonymous 1 – postcode not supplied
Anonymous 2 – postcode not supplied
Anonymous 3 – postcode not supplied
Anonymous 4 – postcode not supplied
Arthur, Margaret – 3401
Bull, Lorraine – 3840
Caine, Paul – 3163
Confidential submission 1
Confidential submission 2
Confidential submission 3
Cooper, Russell – postcode not supplied
Crump, Frederick – 3931
Cumming, John – 3229
Earl, Nina – 3195
Eley, Damian – 3141
Ellinger, Rosalind – 3223
Farr, Lindsay – postcode not supplied
Fehring, Max – 3568
Fiedler, Stefan – 3000
Flann, Dr Elizabeth – 3196
Gleeson, Regina – 3230
Gordon, James – 3182
Greacen, Dr Jane – 3909
Joy, Robert – 7252
Just, Alan – 3364
Laird, Andrew – 3000
Lewis-Jones, Tony – postcode not supplied
McCubbin, Jo – 3850
Mitchell, Peter – 3225
Munro, Dave – 3289
Musil, Dan – 3840
Nugent, Michael – 3187
Oates, Jim – 3122
Olsen, Neil – 3950
Pearce, Dr Dora – 3350
Penfold, Bob – 3222
Penrose, Ian – 3113
Pickin, Dr Joe – 3440
Puddy, Lola and Davis, Mary – 3660
Radford, Wendy and Bardsley, John – 3551
Ryan, Patrick – 3352
Serrurier, Alex – 3352
Sevenson, Andrew – postcode not supplied
Sisely, Dr Diane – postcode not supplied
Speechley, Catherine and Leigh – 3764
Stanley, Professor John – 3937
Tsekouras, Arthur – 3102
Walter, Clare and Walter, Professor Lou – 3123

Ware, Melissa – 3215
Weller, Sally – 3056
Whitla, Jean – 3690
Williams, Rod and Willians, Alix – 3825
Yates, Alison – 3197

LOCAL GOVERNMENT

Bass Coast Shire
Baw Baw Shire Council
Bayside City Council
Borough of Queenscliffe
Brimbank City Council
City of Boroondara
City of Greater Bendigo
City of Port Phillip
City of Wodonga
Corangamite Shire Council
Hobsons Bay City Council
Hume City Council
Kingston City Council
Knox City Council
Latrobe City Council
Maribyrnong City Council
Moira Shire Council
Moreland City Council
Mornington Peninsula Shire
Mount Alexander Shire Council
Moyne Shire Council
Pyrenees Shire Council
Shire of Campaspe
Southern Grampians Shire Council
Surf Coast Shire Council
Warrnambool Shire Council
Wellington Shire Council
Yarra Ranges Council

PEAK BODIES AND ASSOCIATIONS

Australian Contaminated Land Consultants Association
Australian Environment Business Network
Australian Industry Group
Australian Industry Group – Waste Industry Alliance Victoria
Australian Organics Recycling Association
Cement Concretes and Aggregates Australia
Clean Energy Council
Energy Supply Association of Australia
Law Institute of Victoria
Minerals Council of Australia – Victoria
Municipal Association of Victoria
Planning Institute of Australia – Victoria

Plastics and Chemicals Industries Association
Property Council of Australia
Victorian Automobile Chamber of Commerce
Victorian Employers' Chamber of Commerce and Industry
Victorian Farmers Federation
Victorian Trades Hall Council
Victorian Waste Management Association
Victorian Water Industry Association
Waste Management Association of Australia

WATER SECTOR

City West Water
Coliban Water
Confidential submission 1
Gippsland Water
Goulburn Valley Water
Lower Murray Water
Melbourne Water
North East Water
South East Water
Yarra Valley Water

STATUTORY AUTHORITIES

Confidential submission 1
Confidential submission 2
Confidential submission 3
Emergency Management Victoria
Metropolitan Fire and Emergency Services Board
North East Catchment Management Authority
Wimmera Catchment Management Authority

SHORTENED FORMS, GLOSSARY AND REFERENCES

SHORTENED FORMS

CCS	carbon capture and storage
CES	Chief Environmental Scientist
CEO	Chief Executive Officer
CHO	Chief Health Officer
CSG	Coal seam gas
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CUTEP	Clean Up To The Extent Practicable
DEDJTR	Department of Economic Development, Jobs, Transport and Resources
DELWP	Department of Environment, Land, Water and Planning
DHHS	Department of Health and Human Services
EHO	Environmental Health Officer
EMV	Emergency Management Victoria
EPA	Environment Protection Authority
EREP	Environment and Resource Efficiency Plans
ERR	Earth Resources Regulation
e-waste	electronic waste
GIS	geographic information system
GQRUZ	Groundwater Quality Restricted Use Zone
Hazmat	Hazardous Materials
M&I	Municipal and Industrial
MPA	Metropolitan Planning Authority
MWh	Megawatt hour
NEPM	National Environment Protection Measures
NEPM (AAQ)	National Environment Protection Measures (Ambient Air Quality)
OHS	Occupational Health and Safety
PFOS	perfluorooctanesulfonic acid
PIW	Prescribed Industrial Waste
PM_{10}	PM_{10} is particulate matter 10 micrometers or less in diameter
$PM_{2.5}$	$PM_{2.5}$ is particulate matter 2.5 micrometers or less in diameter
SEPP	State Environment Protection Policy
TSFs	Tailings storage facilities
VCAT	Victorian Civil and Administrative Tribunal
VPPs	Victoria Planning Provisions
WMP	Waste Management Policy

LEGISLATION

Title	Shortened Form
Climate Change Act 2010	
Emergency Management Act 2013	
Environment Protection Act 1970	EP Act
• **Environment Protection (Scheduled Premises and exemptions) regulations**	
• **State Environment Protection Policy (Air Quality Management)**	SEPP (AQM)
• **State Environment Protection Policy (Prevention and Management of Contamination of Land)**	
• **State Environment Protection Policy (Waters of Victoria)**	
• **Waste Management (Siting Design and Management of Landfills) Policy**	WMP (Landfill)
• **Best Practice for Environment Management guideline, Siting, Design, Operation and Rehabilitation of Landfills**	Landfill BEPM
Financial Management Act 1994	
Mineral Resources (Sustainable Development) Act 1990	MRSD Act
Occupational Health and Safety Act 2004	OHS Act
Planning and Environment Act 1987	P&E Act
Protection of the Environment Operations Act 1997 **(NSW)**	POEO Act
Public Health and Well Being Act 2008	PHWB Act
Transport Integration Act 2010	

EPA REGULATORY INSTRUMENTS

Instrument	Description
clean up notice	Clean up notices (CUN) are issued under section 62A of the *Environment Protection Act 1970*. They aim to prevent further contamination and impact on beneficial uses through removal of waste, undertaking clean-up activities, ongoing management of pollution, altered handling, storage or location of industrial or prescribed industrial waste.
licence	An EPA licence is required for all scheduled premises, unless the premises are exempted in the Environment Protection (Scheduled Premises and Exemptions) Regulations 2007. Licences contain standard conditions that aim to control the operation of the premises so that there is no adverse effect on the environment. These conditions address areas such as waste acceptance and treatment, air and water discharges, and noise and odour.
penalty infringement notice	A penalty infringement notice (PIN) is used by EPA as a way of dealing with common breaches of the law where the impacts are not considered serious enough to warrant prosecution.
pollution abatement notice	Pollution abatement notices are issued under section 31A of the *Environment Protection Act 1970*. They aim to prevent further occurrence of pollution or potential environmental risk through installation of risk controls and changes to on-site processes and practices.
remedial notice	A remedial notice is a written statutory direction that requires, by law, that a notice recipient undertake works or activities as detailed in the notice. For example, the direction may be to conduct a clean-up, stop works, install controls, or change a process or activity.
scheduled premises	The Scheduled Premises Regulations define 'scheduled premises', specifying which activities require a works approval, licence, financial assurance, payment of landfill levies and/or payment of environment protection levies.
works approval	A works approval is a document issued by EPA permitting, subject to certain conditions, the construction of a plant, the installation of equipment or the modification of a process. A works approval is required for industrial and waste management activities that have the potential for significant environmental impact.
enforceable undertaking	An enforceable undertaking is a binding agreement between a person and the Environment Protection Authority. By entering the agreement, the person undertakes to carry out certain activities in connection with the matter relating to a breach or alleged breach of the *Environment Protection Act 1970*.

GLOSSARY OF TERMS

Term	Definition
administrative office	A public service agency established as a discrete office related to a Department by an Order made under s. 11 of the *Public Administration Act 2004* by virtue of Order is by Governor in Council.
agent of change principle	A principle as used in land use planning that states that if there is a conflict between existing and proposed land uses, the existing land use should have primacy.
ambient (air)	An unconfined portion of the atmosphere; also open air or surrounding air.
amenity	Is a broad concept used in land use planning that could include character and appearance of building and works, proximity to retail facilities, quality of infrastructure and absence of noise, unsightliness or offensive odours. It has been said to embrace all the features, benefits and advantages inherent in the environment.
beneficial use	Uses or values of the environment which are conducive to or declared to be of public benefit in a State Environment Protection policy.
brownfields land	Land previously used, (often for industrial purposes), which is vacant, derelict or contaminated. Brownfield development sites are often sites for urban-renewal projects and typically require remediation work before any new development goes ahead.
civil penalties	A financial penalty imposed as restitution for wrongdoing.
civil remedies	Orders enforcing a duty by requiring a person to take action or restrain from taking action compensate for any loss.
diffuse source pollutions	Pollution discharged over a wide area (air, land or water), not from one specific location or point source.
duty holder	A person responsible for complying with a requirement.
earned autonomy licence program	A pilot EPA regulatory program to acknowledge good licensee performance.
ecologically sustainable development	The National Strategy for Ecologically Sustainable Development, endorsed by all Australian jurisdictions in 1992, defines the goal of ESD as: 'development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.'
e-waste	e-waste comprises of electronic equipment with a plug or battery that requires a current to operate and that has reached end of life. It includes televisions, computers, monitors and whitegoods such as fridges and washing machines.
Emergency Management Commissioner	Is responsible for coordinating the response to major emergencies (including ensuring appropriate control arrangements are in place) and operating effectively during Class 1 and Class 2 emergencies. The Commissioner is also responsible for co-ordinating consequence management and recovery for all major emergencies.
environmental auditor	The *Environment Protection Act 1970* (the Act) provides for the statutory appointment of environmental auditors under section 53S. Their responsibility is to ensure high-quality, rigorous environmental audits are conducted.
environmental hazard	A substance or a situation in the environment where exposure to that substance or situation has the potential to cause adverse effects to human health or the environment
environmental health	Those aspects of human health determined by physical, chemical, biological and social factors in the environment. Environmental health practice covers the assessment, correction, control and prevention of environmental factors that can adversely affect health, as well as the enhancement of those aspects of the environment that can improve human health.
environmental health surveillance	Is the systematic, ongoing collection, integration, analysis and interpretation of data about environmental hazards, exposure to environmental hazards and health effects potentially related to exposure to environmental hazards in order to prevent and monitor disease.

GLOSSARY OF TERMS *continued*

Term	Definition
general duty	A requirement for duty holders to take reasonably practicable steps to minimise risks of harm.
Governor in Council	Where the Governor exercises powers of the Crown at a meeting of the Executive Council established under s. 87 of the Constitution Act 1975. It exercises the chief executive authority in the State. It consists of all Ministers but a quorum consists of the Governor and two Ministers.
Growth Areas	Locations on the fringe of metropolitan Melbourne designated in planning schemes for large-scale transformation, over many years, from rural to urban use.
harm	Involves some form of damage, impairment, alteration, misuse, loss.
hazard	Inherent property of a contaminant or situation having the potential to cause adverse effects when a population may be exposed to that contaminant. It is also described as the disposition of a thing, a condition or a situation to produce an adverse health or environmental effect; or an event, sequence of events or combination of circumstances that could potentially have adverse consequences (adapted from ACDP 1996).
hazardous chemical	See Prescribed Waste.
land use buffer	Land use separation or buffers are used to separate conflicting land use such as industrial use from more sensitive use such as residential.
landfill levy	A levy applied at differential rates to municipal, commercial and Industrial waste and prescribed wastes disposed of at licensed landfills in Victoria.
liveability	A measure of a city's residents' quality of life, used to benchmark cities around the world. It includes socioeconomic, environmental, transport and recreational measures.
load-based licensing	A licensing scheme where licence fees are linked to the level of pollutants emitted by the licensee.
low carbon	In reference to a power source is that has minimal output of greenhouse gas especially carbon dioxide.
Minister	Member of the elected government appointed by the Governor to be responsible for one or more portfolios.
Ministerial Direction – under P&E Act	The Minister for Planning can issue directions to planning authorities under Sections 7(5), 12(2) (a) and 46M of the *Planning and Environment Act*, about the preparation of planning schemes and amendments to planning schemes.
nuisance	It is an offence under the nuisance provisions of the *Public Health and Wellbeing Act 2008* for a person to cause a 'nuisance' that is considered to be 'dangerous to health' or 'offensive'.
offensive	The *Public Health and Wellbeing Act 2008* defines 'offensive' as being 'noxious or injurious to personal comfort'.
planning permit	A planning permit is a legal document that gives permission for a use or development on a particular piece of land.
planning scheme	The planning scheme controls land use and development within a municipality. It contains State and local planning policies, zones and overlays and other provisions that affect how land can be used and developed.
planning scheme overlay	In addition to the requirements of the zone, further planning provisions may apply to a site or area through the application of an overlay.
planning scheme zones	A planning scheme zones land for particular uses, for example, residential, industrial, business or other. The zones are listed in the planning scheme and each zone has a purpose and set of requirements.
pollution	The introduction of substances into waste, land or the atmosphere, so that the condition is adversely altered to be: detrimental to its use, or harmful to the health or welfare of humans.

GLOSSARY OF TERMS *continued*

Term	Definition
potentially contaminated land	For land use planning under the *Planning and Environment Act 1987* potentially contaminated Land is land that may be contaminated due to past industrial, mining activity or the past storage of chemicals, wastes or liquid fuels.
Precinct Structure Plans (PSPs)	Sets the future structure of new suburbs. They are master plans for whole communities of generally up to 30,000 people.
prescribed waste and prescribed industrial waste (PIW)	These wastes are defined in the *Environment Protection (Industrial Waste Resource) Regulations 2009*. EPA closely regulates these wastes because of their potential adverse impacts on human health and the environment.
product stewardship	A concept of shared responsibility by all sectors involved in the manufacture, distribution, use and disposal of products, which seeks to ensure value is recovered from products at the end of life.
prosecution	The institution and conducting of legal proceedings against someone in respect of a criminal charge.
public health	Refers to all organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole. Its activities aim to provide conditions in which people can be healthy and focus on entire populations, not on individual patients or diseases.
Public Sector	The sector that comprises the public service, public entities, and special bodies. s. 4(1), *Public Administration Act*.
reasonably practicable	A duty under the *Occupational Health and Safety Act 2004* to ensure so far as is reasonably practicable health and safety by eliminating risks to health and safety or if it is not reasonably practicable to eliminate risks to health and safety, to reduce those risks so far as is reasonably practicable.
reverse buffer	The concept of a 'reverse buffer' is where an impact generating use is protected from encroachment by sensitive uses, rather than the sensitive use being protected from encroachment by a use with adverse impacts.
risk	The probability that, in a certain time frame, an adverse outcome will occur in a person, group of people, plants, animals and/or the ecology of a specified area that is exposed to a particular dose or concentration of a hazardous agent, that is, it depends on both the intrinsic toxicity of the agent and the level of exposure.
risk based	A risk-based approach can ensure that resources are focused on issues that pose the highest risk to human health and the environment, while avoiding unnecessary and costly action of low-risk issues. A risk-based approach involves considering the likelihood and consequences of impacts, when making decisions in relation to an issues.
risk management	The culture, processes and structures that prevent the chance of something happening that will have an adverse impact on a public entity's objectives.
separation distance	Means the space between industrial land uses and sensitive land uses.
Septic tank – domestic waste water	Domestic onsite wastewater treatment systems and their associated effluent recycling systems are referred to as 'septic tank systems' in the *Environment Protection Act*, Part IXB, Clauses 53J-53O.
solid waste	Non-hazardous, non-prescribed, solid waste materials.
State environment protection policies (SEPPs) and Waste Management Policies (WMPs)	Are subordinate legislation made under the provisions of the *Environment Protection Act 1970* to provide more detailed requirements and guidance for the application of the Act to Victoria.

Term	Definition
statutory authority	In context of the *Financial Management Act 1994* it is a Department or a person or body prescribed as an authority for the purposes of the *Financial Management Act*. s. 3.
statutory land use planning	The *Planning and Environment Act 1987* establishes a framework for planning the use, development and protection of land in Victoria. The Act sets out procedures for preparing and amending the Victoria Planning Provisions and planning schemes, obtaining permits under schemes.
strategic land use planning	Strategic land-use planning focusses on planning issues at a municipality or precinct level, rather than on a proposal-by-proposal or site-by-site basis. Precinct Structure Plans are one type of strategic land use planning exercise.
subsidiarity principle	A principle used in governance that states that responsibility for a function should, where practicable, be allocated to the tier of government that is closest to those affected by the decisions and/or is best placed to deliver the function.
The State Planning Policy Framework	The State Planning Policy Framework provides overarching policy to guide land use, subdivision and development in Victoria.
third party rights	The rights of a person other than the regulator and the regulated entity to challenge a decision or enforce a requirement.
trade wastes	All liquid wastes, including clean wash water, used during business activities being discharged into the sewer system. It is more contaminated that normal domestic sewerage and therefore needs to be managed correctly.
unreasonable	Section 48A of the *Environment Protection Act 1970* makes it an offence to cause 'unreasonable noise' from any residential premises. Residential noise may be unreasonable at any time of the day, depending on its volume, intensity and duration, and the time, place and other circumstances in which it is emitted.
Victoria Planning Provisions (VPPS)	Set standard statewide planning provisions. Councils use the VPPs to create local planning schemes, which must include standard provisions selected from the VPPs and local provisions developed by the council.
Victorian WorkCover Authority	Manages Victoria's workplace safety system. It promotes a culture of safety through public awareness programs, education and other communication activities.
waste	The *Environment Protection Act 1970* uses a broad definition of waste, which includes the discharge, emission or depositing of any substance into the environment (to air water or land).

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