

Living well



within our environment.

Commissioner for Environmental Sustainability
**State of the Environment
Reporting in Victoria**

Consultation Guide and
Background Paper



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Purpose of this paper

The State Government of Victoria is committed to producing a State of the Environment (SoE) Report at least once every five years. The responsibility for preparing the report lies with the Commissioner for Environmental Sustainability, Dr Ian McPhail AM. The Commissioner believes it is important to engage the community in developing the report to ensure that the Victorian SoE Report is useful to all stakeholders including policymakers, business, industry, non-government organisations, academics, students and the community at large.

The purpose of this paper is to propose an approach to public reporting on the state of Victoria's environment as the basis for

discussion and feedback. Input received from a wide range of people will ensure that the issues of most concern can be addressed and that the best framework for reporting can be developed. Victoria's SoE Report, when it is released by 2008, will be a most valuable resource for government and the community and will establish a process of monitoring that assists in achieving environmental sustainability.





Meeting the challenge of achieving environmental sustainability

One of the greatest challenges of our time is for government, business, the community and individuals to ensure that the quality and health of our environment is protected and enhanced for present and future generations. Our quality of life depends on it.

In order to achieve global sustainability we must recognise our connectedness with and interdependence on our global natural resources. What we do in our own homes, at work and in our communities, and the decisions we make, can have impacts in the Victorian environment and beyond.

In order to improve the way we use natural resources and reduce our impact on the environment, we need to understand our environment better and monitor its health and vitality. By monitoring and reporting on the environment we can identify and communicate adverse changes to it, and develop policies, programs and technologies to ensure its continued improvement.

Changes to the environment come about through pressures or threats that actually or potentially affect the state of the environment. Identifying and monitoring changes can lead to responses that mitigate or avoid negative outcomes. It is important to understand the link between fundamental pressures on the environment and the changing condition of the environment. Some significant pressures on the environment are listed in Figure 1 overleaf.

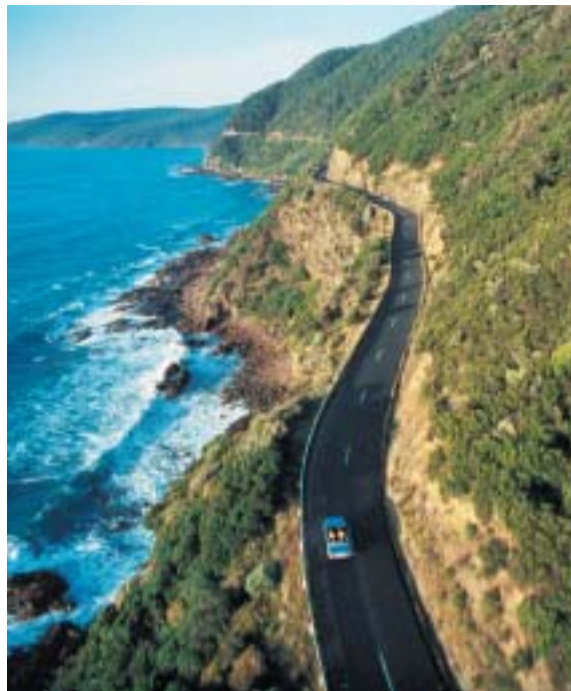


Figure 1 – Pressures

Population – size, location, lifestyle and age distribution of the population all have the potential to impact on the environment. For example, the trend towards hobby farms and rural and coastal getaways has an impact on biodiversity and resource usage, via the clearing of native vegetation.

Economic growth – traditionally, economic growth has been seen as the one measure of success within communities. However, economic growth is also tied to increased resource consumption, production of waste and emission of greenhouse gases.

Exports – the nature of the export market and international commodity prices partly drives the choices made by the community. For example, the choices made by farmers in terms of crops or farming methods could have a significant effect on water consumption, greenhouse gas emissions, river health and health of the land and soils. Some choices can have a positive impact, such as enhancing biodiversity on farms.

Energy – the debate on energy use and production is not restricted to Victoria, with many factors, such as carbon trading, being of international significance. Pressures of interest to Victorians include the reliance on coal-fired electricity generation, a significant source of greenhouse gas. Further, the move to renewable sources of energy may have both positive and negative environmental impacts.

Infrastructure – the age, quality and suitability of infrastructure is creating a pressure on materials as old buildings and transport systems make way for new ones. Demolition of buildings has a significant impact on waste and resource consumption. Construction of new roads may aim to ease congestion but those same roads can result in more traffic and the associated resource consumption and emission of greenhouse gases.



The Victorian Government's role

The Victorian Government has made a commitment to develop the state as a world leader in environmental sustainability by promoting changes to the way we use energy, water and other resources. The government has recognised the need to act and has made significant changes in management of greenhouse issues, renewable energy, energy conservation and urban development.

The appointment of the Victorian Commissioner for Environmental Sustainability as an advocate, auditor and

reporter on environmental issues is an important initiative. Other significant initiatives being implemented to improve our environment include *Our Water Our Future* (DSE 2004) and *Towards Zero Waste* (EcoRecycle Victoria 2003). Government agencies now have an increased focus on the triple bottom line¹ outcomes of environmental, economic and social wellbeing that is demonstrated by the implementation of environmental management systems and a management action plan that is designed to reduce consumption and waste.

The Commissioner for Environmental Sustainability's role

Dr Ian McPhail was appointed Victoria's first Commissioner for Environmental Sustainability in 2003. The Office of the Commissioner is an independent government organisation responsible for promoting, auditing and reporting on environmental sustainability. It performs its functions and activities separately from government departments. The Commissioner reports directly to the Minister for Environment.

Victoria is one of a few jurisdictions in the world that has an independent Commissioner reporting on the state of the environment.

The Commissioner aims to raise the profile of environmental sustainability in Victoria by:

- > reporting on the state of the environment;
- > promoting environmentally sustainable development;
- > enhancing knowledge and understanding of environmental issues;
- > promoting a culture of cooperation and acting as a catalyst of change for the community; and
- > promoting sound environmental practices across government.

The Commissioner looks forward to the closest possible relationship with interested individuals and organisations in fulfilling these tasks.

¹ See Auditor General Victoria, 2004, 'Measuring and Reporting on Sustainability – Beyond the Triple Bottom Line', Melbourne, Victorian Auditor General's Office.

What is state of the environment reporting?

A state of the environment report is a tool for delivering useful information about the environment to the public, government, industry and non-government organisations. It allows decisions to be made with knowledge of the environmental issues that may be involved and enables progress towards environmental sustainability.

State of the environment reporting is scientifically credible, identifies trends and emerging issues, assesses efforts to deal with important environmental issues, is regular and is relevant to the goals of Ecologically Sustainable Development. Environmental reporting identifies pressures on the environment and uses indicators to assess current status and to enable trend analysis. In some cases, a recommendation may describe changes required to achieve environmental improvements.

There has been state of the environment reporting at both national and state levels for a number of years. The National Strategy for Ecologically Sustainable Development has national SoE reporting as one of its objectives (Commonwealth Government 1992). It led in part to the production of the first national SoE report in 1996, with a subsequent report released in 2001. National reporting obligations were legislated in the *Environment Protection and Biodiversity Conservation Act* (Commonwealth Government 1999). Victoria now has a legislative obligation to produce an SoE report

every five years. A wealth of knowledge and information has emerged over a decade of reporting in Australia to help inform the Victorian process.

Many previous state of the environment reports have adopted similar themes, however, methods of measurement and analysis are continuing to evolve. The Commissioner is drawing upon other reporting experiences, methods and lessons and understands the importance of the contribution the Victorian community can make to ensure the development of the best and most appropriate reporting process for the state.





An approach to state of the environment reporting in Victoria

Victoria has not published a formal state of the environment report since 1992. That report focused on agriculture and inland waters. Victoria produces numerous reports relating to particular environmental issues using data from various sources. These include the Victorian *State of the Parks* report (Parks Victoria 2000), a report on the health of our catchments (Victorian Catchment Management Council 2002) and the EPA Air Quality Index².

The Commissioner is required to prepare an accurate and up-to-date report on the state of Victoria's environment and make that report publicly available and published on the internet. The report will be:

- > a stocktake of environmental issues
- > a snapshot in time to be used to develop trend analysis
- > a useful source of information for stakeholders
- > a resource for government policymakers and environmental managers
- > a resource for business, industry, educators, NGOs and the general community
- > a tool to encourage change in the way we interact with our environment

The SoE Report will enable Victorians to have a better understanding of the current state of the environment. It will make recommendations to government on the

options for future management so that real improvements are achieved as we move together towards environmental sustainability. This will result in an enhanced capacity for knowledge-based decision-making based on a better understanding of the condition of the environment.

Although there are numerous reporting models the most commonly adopted model for state of environment reporting internationally and nationally, and the one favoured by the Commissioner, is known as Pressure – State – Response (PSR). The basis of the PSR framework is that pressures are exerted on the environment. These pressures then act to change the state of the environment. Society then responds to the changes in pressures or state through programs to improve the environment. The Commissioner is considering expanding the model to include other factors, such as driving forces and impacts of management activities on the environment. Adoption of this broad model will ensure that Victoria's report is compatible with those of other states and the national system of state of the environment reporting. A diagram illustrating this model is provided overleaf.

² See www.epa.vic.gov.au/search.asp

PRESSURE

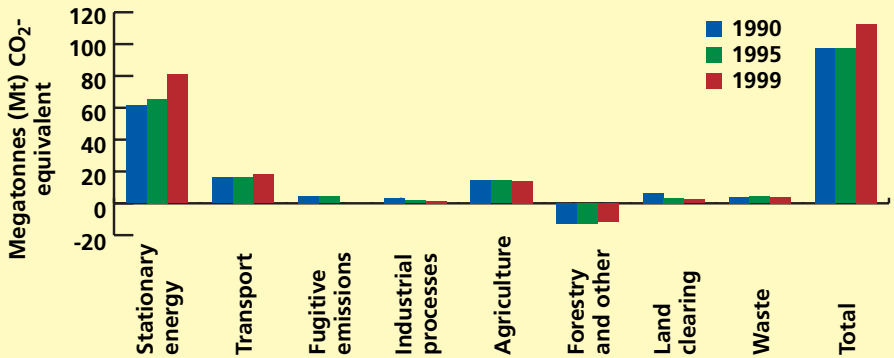
Human activities

- burning fossil fuels,
- land clearing,
- development of more intensive agricultural systems

STATE

GHG Emissions: Trends in GHG emissions by sector 1990-1999
(Source: DNRE, Victorian Greenhouse Strategy, 2002)

Trends in Victorian greenhouse gas emissions by sector – 1990,1995 and 1999



RESPONSE

Strategy: Victorian Greenhouse Strategy. This sets out a vision and actions to deliver reduced GHG emissions.

Performance Measures: savings of 5-8.3 megatonnes CO₂ pa over 2008-2012.

Commitment/Implementation: \$100 million to climate change programs to 2004.

Monitoring process: Annual monitoring on financial year basis. Progress in trends in GHG emissions and implementation of actions. Strategy reviewed biennially (Source: VCMC, 2002).

Do you have any comments on the Pressure-State-Response reporting model?

The Commissioner has identified the following themes to be considered for investigation in the Victorian SoE Report. They include particular aspects of the environment

or natural resources, pressures on the environment and the more overarching theme of measuring 'progress towards sustainability'.



Figure 2 – Reporting themes

Fundamental Pressures – are those primary drivers that lead to environmental change and issues on a broad scale. They can include population growth, resource utilisation and consumption.

Atmosphere – including climate change, greenhouse issues, changes in the ozone layer and outdoor air quality.

Biodiversity – including processes that may threaten biodiversity, such as habitat destruction, wildfire, extinctions and introduced species, and conservation initiatives that may enhance biodiversity, such as Landcare.

Land – including the condition of the land and outcomes of initiatives to promote productive and sustainable agriculture, which address issues such as erosion, salinity and other threats to soil stability.

Inland waters – including ground water, surface water and aquatic habitats.

Estuaries and sea – including marine habitat, fisheries, estuarine and marine water quality, marine pollution and global marine processes, such as sea levels and temperatures.

Natural and Cultural Heritage – includes tangible and intangible aspects, like buildings, objects, landscapes and languages, which help to form our sense of place and identity.

Human settlements – including communities, towns and cities. Human settlements influence, and are influenced by, the environment. Issues can include population patterns and health, resource consumption, transport, energy, water, waste, urban design and community actions.

Progress towards sustainability – this is a new and evolving field of monitoring and reporting that seeks to measure the performance of society as a whole – environmentally, economically, socially and culturally – to assess whether we are moving towards or away from sustainability. Measuring our progress requires a move beyond traditional GDP measurements, to include indicators, indices and methods of measurement, for example, quality of life indicators and ‘ecological footprint’ analysis³. This evolving field can inform state of the environment reporting processes and conversely be supported by state of the environment processes.

³ Ecological footprint measures our natural resource consumption. To calculate your ecological footprint go to <http://www.epa.vic.gov.au/Eco-footprint>

Are the identified themes the most important ones, or should others be included in the SoE Report?

The proposed format of the Victorian SoE Report is likely to be similar to other jurisdictions' models, based on the environmental themes described in Figure 2. It is intended that the reporting model will evolve to measure the effectiveness of the implementation of government environment policy and report on Victoria's progress towards environmental sustainability. The model to be used to assess progress towards sustainability is yet to be fully explored. It could be a separate chapter within a conventional state of the environment report that integrates other themes and describes how environmental issues influence progress towards sustainability, or a completely separate sustainability reporting model.

The Commissioner intends to draw on the same nationally agreed indicators used by other jurisdictions (ANZECC, 2000). They are proven and have already been used for environmental reporting, for State-based reports or by the Australian Government in the national SoE Report. An advantage of using those indicators is that they provide a useful benchmark for subsequent reporting.





Do you have any comment on which indicators may be the most suitable for the SoE Report?

What are the priorities for reporting?

Before embarking on a reporting process, the Commissioner is seeking the community's input to identify the priorities for reporting for Victoria. This paper aims to generate debate and discussion about state of environment reporting, the results of which will feed into the final report structure and analysis. Data collected by the CSIRO shows that a number of environmental issues may be of concern in Victoria (CSIRO Sustainable Ecosystems 2004, commissioned by DSE).

Figure 3 overleaf identifies some of the environmental issues that the Commissioner might investigate in the SoE Report. When the report is published it will include detailed information on the latest trends and environmental issues.



Figure 3 – Environmental Issues

Atmosphere/Climate Change

Victoria's climate will change over the coming decades as a result of increases in global concentrations of CO₂ and other greenhouse gases. This is likely to involve an increase in average annual temperatures, a decline in average annual rainfall and an increase in the frequency of storms and of dry conditions during spring and summer. While these climatic changes may have positive benefits for wheat and timber production, they are likely to have widespread negative impacts on biodiversity. Climate change will also affect energy consumption, particularly during summer, as electricity demand for cooling increases considerably.

Biodiversity

Over the years, Victoria's biodiversity has been significantly affected by land clearing. The result is that since European settlement many native plants and animals are believed to be extinct, threatened or vulnerable to extinction. Native vegetation has been cleared from much of the state, with many areas containing a high degree of fragmentation of remnant native vegetation. Aquatic plants and animals depend on the quality of our waterways. Many of Victoria's rivers are thought to be in 'poor' or 'very poor' condition with only a few in 'good' or 'very good' condition. Pressures on Victoria's biodiversity are likely to increase as land and water usage intensifies.

Water Resources

Victoria's average annual use of water is about 5788GL, with most coming from surface water and a small portion from groundwater. Of the total water used, the majority is for irrigation and a small portion is for urban and industrial use in Melbourne, regional urban areas and for rural stock and domestic uses. The majority of water used for irrigation is used in the Goulburn and Mallee regions. There was an increase in water usage for irrigation and urban/industrial use between 1984 and 1997, largely attributable to the significant increase in the use of groundwater during that time. While the demand for water is increasing, there is a reduction in input to streams and groundwater due to climate change, reforestation and other factors.



Land Resources

Currently, more than half of Victoria is used for agriculture, with most of that used for crops and sown pastures. While the total area devoted to agriculture has declined in the past 60 years, land-use has continued to intensify during that time. The total area of agricultural land affected by land degradation is steadily increasing. Land management changes are improving the situation in some cases.

Settlements, Structures and Urban Development

When considering settlements and urban development, some of the key issues are increasing pollution emissions and growth in energy consumption. In the road transport area while we are making advances in reducing emissions per vehicle, this is offset by the increasing number of vehicles on our roads. Energy consumption in dwellings is increasing, particularly the use of gas but also to a lesser extent, electricity. Population growth and lifestyle choices are driving growth in house size despite a decline in persons per household, implying the use of more building materials, more contents and more energy.

Waste and Recycling

Over the past decade, waste generation in Victoria has increased significantly and waste to landfill has also increased. The quantity of waste recovered for reuse grew by almost 90 per cent. We are now generating nearly 2 tonnes per capita of waste each year, which is up from 1.4 tonnes 10 years ago. A key issue for the future will be the extent to which waste can be diverted from landfill to recycling. To some extent, this will depend on behavioural changes in the way we as individuals dispose of waste and also on the mix and composition of discarded items.

Source: CSIRO, 2004

Which environmental issues are of highest priority for reporting?

Are there other environmental issues that you think should be included within the SoE Report?

Can you refer the Commissioner to information or data sources that might assist in the preparation of the SoE Report?

What will a state of the environment report mean to me?


State of the environment reporting is intended to inform debate and generate action on environmental issues in Victoria. The process of developing Victoria's SoE Report is as important as releasing the report itself. A successful process will require the engagement of all stakeholders including the general community, government and non-government organisations, industry and business groups and special interest groups throughout the State. A successful report will be one that is useful to all those involved and to the community as a whole and one that prompts changes in the way we interact with our environment.

It is envisaged that there will be a range of potential audiences for Victoria's SoE Report. It will be a significant resource for the Minister for Environment and for Parliament. The information in the report will enable development and review of environmental policy that is based on the most current and accurate data. The Commissioner has made a commitment to making clear and practical recommendations for future management that result from the SoE Report. It will then be the responsibility of the Government of Victoria, particularly the Department of Sustainability and Environment (DSE), and other relevant agencies and statutory authorities, to implement the recommendations. These government

departments and agencies will also have a crucial role in monitoring different aspects of the environment and providing information that will feed into the state of environment reporting process.

The SoE Report will be useful for a wide variety of land and environmental managers including those in State Government departments and agencies, local governments, catchment management authorities, water authorities and others. It is anticipated that a range of non-government organisations and industry peak bodies will benefit from easy access to accurate and timely information about Victoria's environment. The SoE Report will also be an invaluable resource for environmental educators, scientists, students, the media and community groups.

With such a wide range of stakeholders and interested groups as potential users of the SoE Report, the information it contains is likely to take a variety of forms and have differing levels of complexity.



Are there important groups or stakeholders who you think should be consulted during this phase of the development of the SoE Report?

Consultation outcomes

It is intended that feedback collected during this consultation period will help inform the Commissioner on stakeholder and community preferences for the SoE Report structure. Having an understanding of community priorities for Victoria's environment will help to ensure the SoE Report is both relevant and useful to the widest range of people and organisations.

The results of this consultation program will be made publicly available at the conclusion of the consultation program.



Having your say

The early involvement of stakeholders and the community in the development of the SoE Report recognises a fundamental principle of environmental sustainability – ‘we are all responsible’.

The Victorian community is invited to help shape the content and structure of Victoria’s SoE Report, by providing written submissions that address each of the following questions:

What are your main concerns for the Victorian environment?

Do you have any comments on the Pressure-State-Response reporting model?

Are the identified themes the most important ones, or should others be included in the SoE Report?

Do you have any comment on which indicators may be the most suitable for the SoE Report?

Which environmental issues are of highest priority for reporting?

Are there other environmental issues that you think should be included within the SoE Report?

Can you refer the Commissioner to information or data sources that might assist in the preparation of the SoE Report?

Are there important groups or stakeholders who you think should be consulted during this phase of the development of the SoE Report?

Are there any products, such as theme reports or issues papers that could be developed throughout the reporting process prior to the release of the final report that would be useful for you?



Additional information

Further information on Victoria's Commissioner for Environmental Sustainability and the process for reporting on the state of the environment may be obtained by visiting the Commissioner's website www.ces.vic.gov.au/soe/consultation or by contacting the DSE Customer Service Centre on 136 186.

Making submissions

Submissions are invited by 31 March 2005 and may be lodged by:

MAIL: SoE Report Consultation
Commissioner for Environmental Sustainability
PO Box 500
East Melbourne, Victoria, 3002

ON-LINE: By completing the response form on the Commissioner's website www.ces.vic.gov.au/soe/consultation and emailing to soe.report@ces.vic.gov.au.



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Notes

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February 2005

