

Climate Change Summit Paper Submission

Direction 2: Supporting an Emissions Trading Scheme with complementary measures that smooth a transition for the Victorian Economy.

Conducting research into alternative fuel sources may assist the transition to an ETS. Measures to support the transition include:

- Improve support for research and development into potential measures of renewable energy sources from such sewage at on-site, local and metropolitan scales through use of carbon and nutrients contained in sewage.
- Develop mechanisms for integrated urban planning including transport, urban development location and form, energy and water services including use of technology for energy and water efficiency.
- Provide opportunities to take an integrated approach to the planning, buildings and infrastructure in not only greenfields, but also brownfields and greyfields development that could lead to greater energy and water efficiency, and consideration of centralised and decentralised options.

Direction 6: Increasing our knowledge about climate change impacts and adaptive possibilities.

The science behind climate change underpins our knowledge of climate change impacts. There is a need for:

- providing a single focus for information and science. There are many different studies and scientific analysis taking place across Victoria in government and non-government organisations and private industry. Where appropriate, this information should be available to the public and business through a single point such as the Climate Change Adaptation Program within DSE. This will help align organisations and ensure consistent advice and information is used.
- the Victorian Government to play a critical role in coordinating climate monitoring and projections to capture economies of scale and scope. Melbourne Water could potentially offer its expertise and experience in developing these programs. Melbourne Water in collaboration with CSIRO in 2005 completed a world leading study on the potential implications of climate change for water, sewerage, drainage and waterways and has developed considerable expertise in the area of climate change adaptation and greenhouse gas mitigation and is able to provide assistance in these programs.
- improving and providing consistent support for climate change groups and alliances. There are a number of alliances and climate change focused groups across Victoria that receive different levels of support from government. Equivalent support should be offered to all group and alliances involved in mitigating or adapting to climate change
- continuing monitoring trends in climate change parameters against climate change projections and to assess impacts relevant to the various sectors including the water sector. Modelling future possible trends is required to assess how climate change is evolving over time, providing short, medium and long term projections with upper and lower bounds for general planning purposes that are consistent with more detailed studies.

Direction 7: Increasing the climate change resilience of the State's regions and communities

There are already a number of strategies, programs and projects aimed at improving the state's resilience. They are:

- Melbourne Water and VICSES are working together to roll out a flood education and awareness program, Floodsmart and Stormsmart to all municipalities across the Port Phillip and Westernport region. VICSES has also delivered some Floodsmart and Stormsmart programs to regional areas such as Benalla. These programs could be used as a template for similar climate change programs such as 'Climate Change in your municipality'.
- Melbourne Water and the metropolitan retailers are developing a sewerage strategy that has climate change as one of the critical dimensions to be addressed. System options that manage the impacts of climate change will be developed during this process. The outcomes will provide input to an integrated water planning process, that will consider the total water cycle, in the lead up to the next metropolitan water plans for Melbourne Water and the metropolitan retailers.
- Our Water Our Future provides a plan for securing Victoria's water security through a number of projects and initiatives such as the Desalination Plant the upgrading of the Eastern Treatment Plants recycled water scheme. Melbourne Water has been central to the planning of these projects and will be crucial in their delivery.
- Consider opportunities for use of recycled water to provide greater security of supply for urban, agricultural and industrial water use.

Direction 8: Assisting our natural assets and ecosystems deal with the pressures and challenges that climate change will bring.

A key area for further climate change study and adaptation is in the area of natural ecosystems.

- Melbourne Water has undertaken a business wide risk assessment to review and update our understanding of the extent of risks identified in the 2005 study and identified that natural ecosystems are an area where there is limited quantitative information to assist adaptation and further study of the extent of risks are warranted. We will also be undertaking detailed risk assessments in specific areas of the business further identify and respond to areas of risk.
- There is potential to start a new initiative and create a State risk database for natural assets, identifying some of the risks and actions that are being taken in response to climate change by government to inform Victorians.

Direction 9: Supporting Victorian individuals and communities to get active on climate change.

The state government should:

- Provide clear and consistent approach to funding and clear direction from government for climate change alliances and regional groups. Government should be encouraging and driving the establishment of such alliances.
- Encourage activities on a regional, catchment or risk area basis to provide a more holistic approach.

Other

Climate change projections

- The discussion around 'new' climate change impacts such as sea level rise implies that we haven't seen any sea level rise yet, however current data indicates that some sea level rise has already been recorded. The third paragraph under *Climate change projections*, highlights the work undertaken by CSIRO and the emission scenarios. According to CSIRO's latest work, 'observations of carbon dioxide concentrations, global mean temperatures and sea level rise have been tracking close to the upper limit of projections from the Intergovernmental Panel on Climate Change (IPCC).'¹

¹ Climate Change in Port Phillip & Westernport, The Victorian climate change adaptation program 2008

Climate change impacts and implications for Victoria

- Australian Rainfall and Runoff, the guide by which all flood modelling and routing in Australia and therefore Victoria relies on, requires updating to incorporate the last 20 years of rainfall data and modelling methodology. This requires a large amount of funding and will take a number of years to complete. The Department of Climate Change announced a portion of funding to support this review on 30 June 2008, however further funding is required. It should be considered whether support is required from state governments, because there is currently a risk that development across Victoria and other states are being approved and proceeding under current rainfall and flood information that could prove to be a future risk.
- The table in *Vulnerabilities to change in the climate* would benefit from more in depth discussion around river health, drainage and sewerage.

Sector/System: Natural resources and biodiversity

Sensitive natural systems should also include our creeks, rivers and waterways. A decline in environmental flows will see dramatic changes in the health of waterways and consequently biodiversity (For example, loss of habitat for platypus).

Sector/System: Water

Sewerage and drainage is briefly mentioned as impacted in the Water Sector in addition to water supply, however receives no discussion because it is assumed that sewerage and drainage are 'underpinned' by water supply. Melbourne Water considers there are many inherent risks associated with climate change impacts on sewerage and drainage that are not dependent on water supply and warrant exploration.

Drainage is an issue because we anticipate with changes to current climate patterns for rainfall events, we will see an increase in flood events. This poses a high risk to the community.

Changes to ambient temperatures and rainfall will potentially see changes to the concentrations and chemical composition of sewage. Sewage treatment and network systems will need to be monitored and changed where necessary.

There is also strong link between the water sector and the environment. Reduced rainfall produces water shortages because of reduced streamflow. This also means a compromise in environmental flows and river health.

Sector/System: Land-use, planning, building and infrastructure

Land use and planning sectors will come under increasing pressure to re-examine the use of land agricultural or related industries to residential uses as land becomes arid and unusable for agricultural purposes. This may require an investigation into current land conditions and identify areas at risk to incorporate into future planning.

Wedges: A tool for understanding potential opportunities for reducing Victoria's emissions

- There are 21 wedges identified for exploration. Other potential tools include feed-in tariffs, facilitating grid connection of distributed energy generation systems, district heating and cooling and combined heat and power.

Action for Framework

- The State Government should also be responsible for implementing appropriate policy and framework to enable local government and private industry respond and adapt to climate change. Guidelines should include recommendations on how to consider climate change in local government and community activities. The Victoria Planning Provisions should also be reviewed to account for climate change adaptation and mitigation of greenhouse gas emissions in planning decisions.

- The *Flood Management and Drainage Strategy for the Port Phillip and Westernport Region* was published and released in December 2007. This is a strategy as opposed to an 'assessment'. The strategy outlines how Melbourne Water, local government and stakeholders can work together to improve existing and future flood risks in the region rather than just focusing on new dwellings in flood prone areas. Please find a copy attached.