

CHAPTER 16: HEALTHY ENVIRONMENT

Key findings of the Committee:

- 16.1** The Department of Sustainability and Environment has developed a number of processes to ensure that Catchment Management Authorities (CMAs) remain effective bodies, including regular reporting to the Minister for Environment and Climate Change updating the Minister on the delivery and implementation of their statutory functions.
- 16.2** A number of timelines for various initiatives under the Energy Technology Innovation Strategy (ETIS) have been adjusted. In particular, the International Power IP 2030 project and the HRL Limited 550MW Power Generation Plant projects have been delayed by at least two years. The Committee recommended that the Department of Primary Industries enhance their risk management framework over the ETIS program. This framework should include an internal review mechanism of project management to detect and rectify issues.
- 16.3** The Department of Sustainability and Environment has released a two year progress report on the Our Water Our Future: The Next Stage of the Government's Plan and presented information on these major projects in its Annual Report. The Committee recommended that the Department of Sustainability and Environment provide regular progress reports against key water project milestones and targets.
- 16.4** The Natural Resources Investment Program (NRIP) has achieved, or is on target to achieve, the majority of its performance measures. However, in relation to the initiative of improvement in the extent and quality of native vegetation cover in its first year, the NRIP delivered an additional 600 Habitat Hectares against a target of a 10,000 Habitat Hectare increase over the life of the five year initiative.
- 16.5** Among other initiatives, Barwon Water is currently preparing a strategy for expanding the use of recycled water and is implementing management changes to provide more effective and efficient delivery of recycled water products.
- 16.6** Barwon Water has put in place several measures to ensure that the Barwon Water Alliance is the most efficient model for delivering over 100 medium-sized projects, with a total value of \$350 million.

16.1. Introduction

Healthy Environment is the third *Growing Victoria Together* vision examined by the Committee in this year's Financial and Performance Outcomes Report.

This chapter contains outcome-related analysis and comment on selected government activities which support the Healthy Environment vision. The Committee asked departments and agencies a range of questions relating to the Growing Victoria Together goals of protecting the environment for future generations and effective use of natural resources.

16.2. Protecting the Environment for Future Generations

16.2.1 Effectiveness of Catchment Management Authorities

Victoria's catchment management system is currently established under the *Catchment Management and Land Protection Act 1994* (the CaLP Act). Under the CaLP Act, Victoria is divided into ten catchment regions with a Catchment Management Authority (CMA) established for each region.

The role of the CMAs includes:⁴⁵⁸

- ensuring the sustainable development of natural resource based industries;
- maintaining and where possible improving the quality of land and water resources;
- conserving natural and cultural heritage;
- involving the community in decisions relating to natural resource management within their region;
- advising government on matters relating to catchment management and land protection and the condition of land and water resources in the region; and
- promoting community awareness and understanding of the importance of land and water resources, their suitable use, conservation and rehabilitation.

The Department of Sustainability and Environment's 2008-09 Annual Report reports on Catchment Management Authorities including governance arrangements.⁴⁵⁹

458 Department of Primary Industries, *Victorian Resources Online*, <www.dpi.vic.gov.au/DPI/Vro/vrosite.nsf/pages/catchment_roles>, accessed 18 March 2010

459 Department of Sustainability and Environment, *Annual Report 2009*, October 2009, p.55

The Committee sought information in regard to DSEs processes for ensuring effective governance. The Department advised it has developed many processes to ensure that CMAs remain effective bodies. These processes include:⁴⁶⁰

- *Each CMA board is required to report to the Minister for Environment and Climate Change on a regular basis, updating the Minister on the delivery and implementation of their statutory functions;*
- *The Natural Resources Division provides ongoing support, advice and assistance to CMAs to facilitate sound and effective governance of these public bodies and expenditure of their public funds;*
- *The Department has recently completed an extensive review of guidelines for CMA corporate plans. As a result, the Minister for Environment and Climate Change recently approved and issued new guidelines to CMA chairpersons for their corporate plans. The guidelines incorporate an efficiency and effectiveness model for key performance indicators, consistent with new directions in accountability of public sector finance practices and legislation; and*
- *The Department has developed two specific, compulsory, capacity building sessions the CMA board members must attend that aims to enhance their effectiveness.*

16.2.2 Victorian Local Sustainability Accord

The Victorian Local Sustainability Accord is a partnership agreement between the Victorian State Government and local governments on environmental sustainability.

The aim of the Accord is to strengthen co-operative efforts between State and local governments in the delivery of both local and State sustainability objectives of *Our Environment, Our Future: Victoria's Environmental Sustainability Framework*. It also aims to provide a mechanism for resolving issues of responsibility and for improving communication between State and local government sectors.

In summary, the Accord aims to:⁴⁶¹

- enhance support for strategic projects;
- strengthen inter-governmental dialogue; and
- build the capacity of local governments, individually and through regional arrangements.

460 Department of Sustainability and Environment, *response to the Committee's 2008-09 Financial and Performance Outcomes Questionnaire Part Two*, received 29 January 2010, p.25

461 Department of Sustainability and Environment, *What is the Victorian Local Sustainability Accord*, <www.dse.vic.gov.au/DSE/nrence.nsf>, accessed 22 March 2010

A key initiative of the Accord is the establishment of the Victorian Local Sustainability Advisory Committee (VLSAC). The functions of VLSAC are to:⁴⁶²

- oversee the implementation and evaluation of the Accord;
- act as a forum for strategic discussion and resolution of inter-jurisdictional issues between State and local government;
- represent local government interests for input into State policy making; and
- provide a pathway for the Victorian Government to engage with local government, local communities, and regional environmental and climate change stakeholders regarding policy, strategy and program design.

By joining the Accord each council is committing to the Accord principles and to an implementation process in conjunction with DSE.

The Department of Sustainability and Environment's Annual Report reported on outcomes under the Victorian Local Sustainability Accord, including that most councils had joined.⁴⁶³

The Department further advised the Committee that it has planned a range of engagement activities to encourage the remaining 8 (of 79) local councils to make a formal commitment to the Accord principles following the launch of the next phase of the Accord:⁴⁶⁴

As 71 of the 79 local councils have made the commitment, the activities aim to integrate the benefits to the remaining councils of joining the Accord. Benefits such as the access to Accord funding and an increase in the communication between State and Local Governments through the development of the Victorian Local Sustainability Advisory Committee will be highlighted.

16.3. Efficient Use of Natural Resources

16.3.1 Energy Technology Innovation Strategy

Through the Energy Technology Innovation Strategy (ETIS), the Victorian Government aims to drive advances in low emission technologies and secure Victoria's energy future. The strategy aims to accelerate a variety of pre-commercial energy technologies through research, development, demonstration and deployment stages, so they are ready for market-uptake.

The objectives of the ETIS are to:⁴⁶⁵

- *facilitate a co-ordinated approach to the advancement of low-emissions energy technologies to their commercial-ready points;*
- *support the progression of low-emissions energy technologies, particularly where a market gap has been identified through their innovation processes by:*

462 Department of Sustainability and Environment, *Victorian Local Sustainability Advisory Committee*, <www.dse.vic.gov.au/DSE/nrence.nsf>, accessed 22 March 2010

463 Department of Sustainability and Environment, *2008-09 Annual Report*, October 2009, p.67

464 Department of Sustainability and Environment, response to the Committee's Financial and Performance Outcomes Questionnaire – Part Two, received 29 January 2010, p.26

465 Department of Primary Industries, *Energy Technology Innovation Strategy*, <www.new.dpi.vic.gov.au/energy/projects-research-and-development/energy-technology-innovation-strategy>, accessed 31 March 2010

- *research and development: stimulating development of new low-emissions energy technologies to technical proof-of-concept;*
- *demonstration: enabling the progression of the most promising of these through product proof-of-concept and initial scale-up; and*
- *enabling demonstration of the most promising of these at pre-commercial scale to prove ‘bankability’ of the technology (i.e. an acceptably-low technical risk for commercial implementation).*
- *promote leading-edge technology capacity in Victoria to underpin local and export market growth to benefit the economy and the environment.*

The ETIS contains a number of initiatives. Two of these initiatives, which the Committee has focussed upon, are:

- International Power IP Hazelwood 2030 project; and
- HRL Limited 550MW Power Generation Plant.

Table 16.1: Energy Technology Innovation Strategy initiatives

Project	Project description
International Power IP Hazelwood 2030 project	Consists of two parts which are independent of each other: <ol style="list-style-type: none"> 1. A large scale coal drying and combustion plant; and 2. A 25 tonne per day carbon capture plant to demonstrate the latest carbon capture technology.
HRL Limited 550MW Power Generation Plant	Build and run a large-scale power plant using world-first clean coal technologies developed in Victoria. The plant will trial a high-efficiency, integrated drying gasification technology, which is both low-cost and low-emission. The new technology is expected to deliver around a 30 per cent reduction in carbon dioxide emissions and a 50 per cent reduction in water usage compared with best practice brown coal-fired power generation in the Latrobe Valley.

Source: Department of Primary Industries, *Victoria’s Energy Technology Innovation Strategy, Your energy future lies in Victoria*, p.7, 10, 14.

The Department of Primary Industries Annual Report provided information on the progress with the ETIS and has indicated that the timelines for the ETIS initiative have been adjusted.⁴⁶⁶

The Committee sought further information on project timelines. The Department advised that the adjusted timelines for projects under the ETIS include:⁴⁶⁷

- ***International Power IP2030*** – *the coal drying and combustion component has been delayed by two years. Carbon capture is complete with commissioning having taken place in July 2009.*
- ***HRL Limited, 550MW Power Generation Plant*** – *project is behind schedule by at least two years. The project is currently awaiting approval on a planning application which has been lodged.*

466 Department of Primary Industries, *Financial Statements and Appendices 2008-09*, October 2009, p.50

467 Department of Primary Industries, response to the Committee’s 2008-09 Financial and Performance Outcomes Questionnaire – Part Two, received 4 February 2010, pp.6-7

The delays to these projects were due to the following:⁴⁶⁸

- ***International Power IP2030's coal drying and combustion component of the project has not commenced due to significant cost increases since the project was first announced. The project is also relying on the learning and success of a similar technology being applied in Germany. Negative impacts from the recent Global Financial Crisis and uncertainty associated with the introduction of the Commonwealth's Carbon Pollution Reduction Scheme have also contributed to the timing being revised.***
- ***The HRL Limited 550MW Power Generation Plant has experienced delays to construction due to the difficulties in securing a suitable site and sourcing an appropriate supply of coal. Following an assessment of various options, HRL has now decided to build the plant on their Morwell Power Station site. HRL have advised that the maximum capacity of the plant will now be 550MW, rather than the previous 400MW due to changes in turbine size and plant configuration. As the construction of the Large Scale Clean Coal Power Generation Plant has not commenced, grant funds have not been paid.***

The impact of the timing adjustments on outcomes includes:⁴⁶⁹

- *The status of the **International Power IP2030** project is under review with new milestones being negotiated between DPI and International Power. Subject to agreement on the new milestones, the project is unlikely to be completed before 2015. This will delay the development of coal drying technologies in Victoria.*
- ***HRL** remains committed to the delivery of the 550MW Power Generation Plant and Financial Close for the project is expected to be in the first quarter of the 2010 calendar year. This will delay the development of coal drying technologies in Victoria but remains a critical part of the ETIS program to reduce carbon emissions.*

The Department believes it has mitigated the State's risk under the ETIS program by ensuring:⁴⁷⁰

...each milestone within their respective projects are complete before any grant funds are paid. The Department still holds a significant proportion of the allocated grant funds for each of the projects and where appropriate it is in the process of negotiating new milestones. However completion of these projects is subject to improving financial conditions and the successful delivery of these projects by the project operators.

The Committee notes that a number of initiatives under the ETIS initiative have experienced significant delays. In particular, the IP Hazelwood 2030 and HRL 550MW Power Generation Plant projects have experienced delays of over two years. The significant delays in these two projects will delay the development of coal drying technologies in Victoria. Given that scientific research has found that drying brown coal, through a process of mild heating and squeezing to remove 70 per cent of the water, could cut greenhouse gas emissions by a third⁴⁷¹, the delays

468 ibid.

469 ibid.

470 ibid.

471 The Age newspaper, 'Clean Coal? Squeeze it, say scientists', 4 August 2004, <www.theage.com.au/articles/2004/08/03/1091476492485.html>, accessed 1 April 2010

experienced in these projects, along with the delays encountered with the Commonwealth Government's Carbon Pollution Reduction Scheme (CPRS), will in turn delay the process of providing reductions in greenhouse gas emissions from the brown-coal fired power stations in the Latrobe Valley.

Recommendation 53: The Department of Primary Industries enhance their risk management framework over the ETIS program to prevent delays to project completion. This framework should include an internal review mechanism of project management to detect and rectify issues.

16.3.2 Our Water Our Future Plan

Our Water Our Future: The Next Stage of the Government's Plan outlines the Government's approach to secure Victoria's water supplies. The Plan, launched in June 2007, was estimated to cost \$4.9 billion and included:

- a new desalination plant for Melbourne;
- modernising Victoria's FoodBowl irrigation system;
- expansion of Victoria's Water Grid;
- upgrading Melbourne's Eastern Treatment Plant; and
- supporting new and existing water conservation programs for homes and industry.

The Department lists five major aspects of *Our Water Our Future* plan in its Annual Report:⁴⁷²

- Desalination Plant;
- Water Grid Expansion;
- Upgrading Irrigation Systems;
- Water Conservation Programs; and
- Water Recycling.

The Committee sought further information against each of these aspects as detailed in table 16.2, overleaf.

472 Department of Sustainability and Environment, *2008-09 Annual Report*, October 2009, p.34

Table 16.2: Our Water Our Future projects

Project	Progress against milestones	Expected completion date	Budgeted expenditure to 30/6/09	Actual expenditure to 30/6/09	Outcomes anticipated by 30/6/09	Outcomes achieved by 30/6/09	Explanations for variations
DESALINATION PLANT	On schedule	December 2011	\$157.1 million	\$157.1 million	EES exhibited Minister for Planning's decision on EES Issue RFP to short list bidders Lodgement of Works Approval Application (WAA) with EPA EPA decision on WAA Federal Minister's decision EPBC	EES exhibited on 20/08/08 Minister for Planning's decision received 9/01/09 RFP issued 29/09/08 Lodged WAA with EPA on 14/08/08 EPA decision on WAA handed down on 3/3/09 Federal Minister's decision received 27/03/09	
WATER GRID EXPANSION							
Melbourne Geelong Pipeline	On schedule	December 2011	\$3 million	\$3 million	Final business case submitted by water corporation. Award of full detailed design contract scope, completion and implementation of community engagement plan.	Final business case submitted by water corporation. Contract for detail design awarded; landholder consultations commenced.	

Project	Progress against milestones	Expected completion date	Budgeted expenditure to 30/6/09	Actual expenditure to 30/6/09	Outcomes anticipated by 30/6/09	Outcomes achieved by 30/6/09	Explanations for variations
Sugarloaf Pipeline ^(a)	On schedule	February 2010	This is a Melbourne Water project – State Government expenditure is nil.	Not applicable	Construction to commence in September 2008.	Construction commenced on 18 September 2008.	
Hamilton Grampians Pipeline	On schedule	April 2010	\$4.5 million	\$4.5 million	Detailed design completed. Complete tender process & award contract for pipes. Complete tender process & award contract for construction.	Detailed design completed. Tender awarded for pipes. Tender awarded for construction.	
UPGRADING IRRIGATION SYSTEMS	Early Works almost completed – some water installations outstanding. 2009 season works commenced by 30 June 2009 following initial delays.	2013-14	\$303 million (project life to date).	\$ 139 million (project life to date).	8 GL LTCE Water Savings (early works component)	On target to be met. Audit results due to be released in the near future.	The lower than expected expenditure is due to landholder signoff on associated legal agreements occurring after the end of the financial year.

Project	Progress against milestones	Expected completion date	Budgeted expenditure to 30/6/09	Actual expenditure to 30/6/09	Outcomes anticipated by 30/6/09	Outcomes achieved by 30/6/09	Explanations for variations
WATER CONSERVATION PROGRAMS – Melbourne's residential household water use for 2008-09 has reduced by 35 per cent per person when compared to the 1990s. Melbourne's industry water use for 2008-09 has reduced by about 41 per cent per person when compared to the 1990s.							
Water Smart Gardens and Homes Rebates Program	On schedule	June 2011	2008-09 budget \$5 million	2008-09 expenditure \$5 million	Target was 32,800 rebates for 2008-09	During the 2008-09 year 48,680 rebates were claimed. Overall the scheme has saved 2.3 GL of water per year. Total rebates since 2003 is 244,000.	
Showerhead Exchange	On schedule	Ongoing – Further 50,000 showerheads to be distributed to Melbourne households by December 2010	Program run by metropolitan water corporations – no Government funding.	n/a	Target to 30 June 2009 was 122,800 showerheads exchanged.	Actual showerheads exchanged were 127,749.	
WaterMAPs	On schedule	Ongoing – currently 1750 WaterMAP customers	\$1.25 million	\$1.25 million	100 per cent compliance with the requirement to complete a water management action plan. 8 giganlitres of water savings since the inception of the program.	100 per cent compliance with the program achieved. 15 giganlitres of water savings since the inception of the program.	

Project	Progress against milestones	Expected completion date	Budgeted expenditure to 30/6/09	Actual expenditure to 30/6/09	Outcomes anticipated by 30/6/09	Outcomes achieved by 30/6/09	Explanations for variations
WaterSmart Behaviour Change Program	On schedule	March 2010	\$4 million	\$4 million	Target of 22,000 participating households in metropolitan and regional Victoria.	Up to 100,000 households in metropolitan Melbourne and 10,000 households from Ballarat, Bendigo and Geelong.	
Schools Water Efficiency Program	On schedule	February 2010	\$3 million	\$4 million	A target of 1000 schools participating in the program by 30 June 2009.	1737 schools enrolled at 30 June 2009 saving 269 ML per year.	The over expenditure is due to additional funds being available from each school repaying the Department for project costs. The money is reinvested in delivering the program.
WATER RECYCLING							
Eastern Treatment Plant upgrade	On schedule	December 2012	Melbourne Water project	NA	Completion of technical trials. Design of works underway.	Technical trials completed. Design of works completed.	
Business case on use of new recycled water from upgrade of Eastern Treatment plant	Completed	Completed	\$6.3 million	\$4.0 million	To complete the business case on use of new recycled water.	Business case completed.	The cost of delivering the business case was less than expected.

Notes:

(a) *There is no General Government Sector expenditure associated with the Sugarloaf pipeline. However, the Committee notes that expenditure is incurred by Melbourne Water Corporation for this project at a budgeted cost of \$750 million.*

Source: *Department of Sustainability and Environment, response to the Committee's Financial and Performance Outcomes Questionnaire – Part Two, received 29 January 2010, p.15–20*

The Department of Sustainability and Environment has published a *Water Plan - 2 Years On* progress report and presented information on these major projects in its *Annual Report*. The Committee is pleased with this reporting via a number of means and looks forward to the continuing frequency and detail of reporting throughout the duration of these projects.

However, the Committee noted that the progress report and annual report provided only high-level information on actions taken to date and an indication as to whether the project was on track to achieve delivery date. There is limited reporting against project milestones and targets.

The Committee's *2009-10 Report on the 2009-10 Budget Estimates Part One – Volume Two* as part of the budget estimates hearings included discussion on water savings to be derived from the Foodbowl Modernisation Project. Further, the Auditor-General recommended in his report in April 2008 on *Planning for Water Infrastructure in Victoria*, that:⁴⁷³

DSE publish the detailed analysis underpinning the estimates of water savings and costs for the foodbowl modernisation project.

The Committee is of the view that it is important for regular reporting to take place against project milestones and targets for major water infrastructure projects. Further details on the various projects under the *Our Water Our Future: The Next Stage of the Government's Plan* are contained in Chapter 3 *Public Sector Infrastructure and Asset Investment* of this report.

Recommendation 54: The Department of Sustainability and Environment provide regular progress reports against key water project milestones and targets.

16.3.3 Natural Resources Investment Program

The 2008-09 Budget provided \$110 million over five years to the Natural Resources Investment Program (NRIP). The NRIP funds projects that address key environmental issues including:

- species and habitat loss;
- salinity and water quality;
- productive and sustainable landscapes; and
- climate change.

These natural resource management projects are being undertaken in conjunction with catchment management authorities and regional communities.

The Committee sought more details on the program including progress, expenditure and achievement against objectives.

The Department advised that:⁴⁷⁴

...the overarching objectives of the program are: Biodiversity Conservation; Sustainable Use of Natural Resources; Community Capacity Building and Institutional Change.

473 Victorian Auditor-General's Office, *Planning for Water Infrastructure in Victoria*, April 2008, p.3

474 Department of Sustainability and Environment, response to the Committee's 2008-09 Financial and Performance Outcomes Questionnaire – Part Two, received 29 January 2010, p.27

The objectives of the program were developed as part of the Victorian Land Health and Biodiversity Green Paper and are consistent with the over-arching objectives set out in GVT2 and Our Environment Our Future and the recently released Securing our Natural Future.

The main aims and objectives of the program are to:

- *maintain and enhance the condition and integrity of Victoria's natural assets;*
- *use and manage Victoria's ecosystems sustainably for the valuable products and services they provide;*
- *actively manage change across the landscape; and*
- *foster land stewardship and resilience in regional communities.*

The key milestones for the program as advised by the Department are:⁴⁷⁵

- *improvement in the extent and quality of native vegetation cover;*
- *improve the extent and quality of targeted threatened species and ecological communities;*
- *improve the extent and condition of the reserve system;*
- *enhance the resilience characteristics needed to allow our natural and productive ecosystems to survive and respond to climate change;*
- *reduce the impact of salinity and soil degradation in stressed catchments;*
- *secure knowledge and improve information base through better NRM monitoring and reporting;*
- *improve community capacity to participate in environmental decision making; and*
- *build partnerships that achieve environmental, social and economic outcomes.*

The Committee was advised that the progress included:⁴⁷⁶

- *NRIP has committed to a Market Based Instruments (MBI) approach to increase the extent and quality of native vegetation over the life of the program;*
- *the first tranche of \$1 million was committed under BushTender in 2008-09;*
- *programs implemented by CMAs to protect high priority threatened species was undertaken across the state;*
- *additional high priority land has been acquired under NRIP to add to the Natural Reserve System in Victoria; and*
- *projects to enhance resilience and address salinity and soil degradation.*

475 *ibid.*

476 *ibid.*, pp.27–8

The following table details high priority outcomes against performance measures:

Table 16.3: NRIP Performance Measures and Performance Outcomes

Initiative	Performance measure	Performance outcome
Improvement in the extent and quality of native vegetation cover	At a minimum, an increase of 10,000 Habitat Hectares across private land is delivered over the life of the 5 year initiative.	In its first year NRIP has been able to deliver an additional 600 Habitat Hectares.
Improve the extent and quality of targeted threatened species and ecological communities	Key threatened species' populations are provided with a high level of security to protect them against change. As a minimum, 10% of high priority actions for species and communities at high priority locations are delivered annually.	10% of high priority actions were delivered for species and communities at high priority locations.
Improve the extent and condition of the reserve system	Significant private land is managed sustainably and appropriately for biodiversity outcomes, including supplementing the functionality of the reserve system as necessary. As a minimum increase the area of land eligible for reserve system by 15,000 hectares over the life of the initiative.	In its first year NRIP has been able to deliver an additional 4,000 hectares of land eligible for reserve system.
Enhance the resilience characteristics needed to allow our natural and productive ecosystems to survive and respond to climate change	Rural and agricultural land is managed to build ecosystem resilience across the landscape. Sustainable land management practices will be promoted in response to a changing climate, emerging risks will be kept at manageable levels, volunteer and community groups will be supported in managing local priorities, and dispersed assets such as threatened species will be managed.	In its first year NRIP has been able to deliver: <ul style="list-style-type: none"> • extension services to promote sustainable land management practices to cope with a changing climate; • providing funding to deal with emerging risks (including funding to deliver threat abatement plans for key threatened species); and • supported community NRM groups in maintaining group capacity and provided funds to protect dispersed assets such as threatened species and communities.
Reduce the impact of salinity and soil degradation in stressed catchments	Soil health is managed to ensure it continues to support key ecosystem services, and its potential for offsite impacts or threats to other natural assets is limited. An increase of 20,000 hectares, over the life of the initiative, of privately owned land adjoining key natural assets is managed according to Environmental Best Management Practice (EBMP).	In its first year NRIP has been able to deliver an additional 5,000 hectares of land managed according to EBMP.

Source: *Department of Sustainability and Environment, Response to the Committee's Financial and Performance Outcomes Questionnaire, Part Two, received 29 January 2010, p.28–9*

In total, \$22 million has been committed to be spent with \$18.8 million allocated in the 2008-09 financial year. The remainder is due to be allocated early in the 2009-10 financial year.⁴⁷⁷

⁴⁷⁷ Department of Sustainability and Environment, response to the Committee's 2008-09 Financial and Performance Outcomes Questionnaire – Part Two, received 29 January 2010, p.27–9

16.3.4 Water Recycling - Barwon Water

Barwon Water's Annual Report indicates that the corporation has a water recycling target of 25 per cent by 2015, up from 16.8 per cent in 2008-09.⁴⁷⁸ The Committee sought information on what strategies Barwon Water has in place (or is planning) to increase usage of recycled water and overcome any obstacles to achieving that aim.

Barwon Water advised it is currently preparing a strategy for expanding the use of recycled water, and is implementing management changes to provide more effective and efficient delivery of recycled water services.

The following projects will create new and expanded opportunities for recycled water use:⁴⁷⁹

1. *The **Black Rock Recycled Water Plant**, expected to be completed in 2011, will ultimately produce 7 billion litres of Class A and C recycled water per year. It will produce the following recycled water products:*
 - *Improved (lower salinity) Class C recycled water – creating new and expanded opportunities for re-use; and*
 - *Class A recycled water – for dual pipe schemes serving growth areas at Armstrong Creek and Torquay North.*
2. *The **Northern Water Plant** – a \$90 million project saving 2,000 ML/year of potable water, currently used by the Shell refinery, will produce Class A recycled water. Most of the Class A recycled water will be used by Shell, but the resource will also be available for community facilities, including sporting fields. The plant will also cut reclaimed water ocean discharges at Black Rock by 10 per cent a year.*
3. *The **Western Edge Water Reclamation Plant** will provide Class A recycled water via dual pipe to the Fyansford developments and to Queens Park golf course and sporting grounds. These projects aim to substitute 380ML per annum of potable water with recycled water by 2015, with a potential for a further 1780 ML per annum in development.*
4. ***Aquifer Storage and Recovery (ASR)** is being investigated at Lara, Fyansford, Angelsea and Armstrong Creek. The project scope includes aquifer viability, site evaluations and concept design of potential ASR/recycled water schemes. End uses for ASR recycled water could include potable substitution uses like dual pipe, industrial reuse and potentially Indirect Potable Replacement (IPR).*
5. *A **Recycled Water Business Plan** is being developed as part of Barwon Water's Strategic Intent which is incorporating market research and a marketing plan for recycled water.*

478 Barwon Region Water Corporation, *2008-09 Annual Report*, October 2009, p.56

479 Barwon Region Water Corporation, response to the Committee's 2008-09 Financial and Performance Outcomes Questionnaire – Part Two, received 29 January 2010, pp.6–7

Barwon Water also advised the Committee that the major obstacles to increased usage and proposals to overcome these major obstacles are:⁴⁸⁰

1. **Low/slow uptake of domestic Class A recycled water use** – to mitigate the demand risk, Barwon Water will adopt a staged implementation of the water reclamation plants using technologies that can be modularly augmented to respond to changed demand and mandate connections in areas serviced by a dual pipe scheme, including Armstrong Creek, Torquay North, and Fyansford.
2. **Confusion regarding the different classes of recycled water** – to mitigate this, Barwon Water will organise a focused education program with community representatives, property developers, landowners, residents and schools at Armstrong Creek and other areas serviced by dual pipe, which will address specific health and safety issues.
3. **High salinity of Class C** – the new Black Rock Recycled Water Plant will produce lower salinity Class C recycled water. This lower salinity water will benefit customers and further enhance sustainable long-term use.

16.3.5 Barwon Water Alliance

Alliancing is a method of procuring major capital assets, where a State agency (the owner participant) works collaboratively with private sector parties (non-owner participants). Working as an integrated, collaborative team, they make unanimous, principle-based decisions on all key project issues. The concept of collective assumption of risk applies in alliance contracts where the alliance participants bear all risks equitably (although not equally regarding financial consequences).⁴⁸¹

Barwon Water has formed an alliance partnership with the private sector to deliver over 100 medium-sized projects worth \$350 million. The venture is an alliance between Barwon Water, GHD and John Holland. The two private sector partners are contributing the following expertise to the alliance:⁴⁸²

- GHD is contributing predominantly design, environmental and stakeholder management expertise; and
- John Holland is contributing predominantly construction and commercial management expertise.

Projects to be delivered by the Alliance include those associated with water supply, water distribution, water treatment, sewer collection, water reclamation and disposal and recycled water.

The Committee sought further information from Barwon Water in regard to assurances of the effectiveness of the alliance model.

480 ibid.

481 Department of Treasury and Finance, *Project Alliancing*, <www.dtf.vic.gov.au/CA25713E0002EF43/pages/project-alliancing>, accessed 24 March 2010

482 Barwon Region Water Corporation, *Barwon Water Alliance*, <www.barwonwater.vic.gov.au/about/corporate/alliance>, accessed 24 March 2010

Barwon Water advised that, with assistance from consultants Sinclair Knight Merz, it:⁴⁸³

...undertook a strategic review of its capital delivery capability and capacity between August and November 2008.

In assessing various delivery models available, consideration was given to Barwon Water's key objectives of surety of delivery, capability building, quality of deliverables, ability to demonstrate cost competitiveness, regional support and impact on our people and reputation.

The key outcome of the strategic review, endorsed by the Barwon Water Board, was that an Alliance would be the most efficient and effective delivery model for mid-sized projects (generally between \$250,000 and \$25 million) until such a time that the size of the capital works program returned to a more historically normal level.

Each project referred to the Alliance is subject to a Barwon Water Business Case approval (including consideration of procurement method). Specific deliverables and costs are controlled on each project via a governance structure that includes Barwon Water approval gateways at the functional and detailed design stages of each project.

Barwon Water also retains the services of an independent estimator and external financial auditor to ensure the costs and performance of the Alliance represent value for money.

The Committee notes that a benchmarking study into alliancing titled *In Pursuit of Additional Value: A Benchmarking Study into Alliancing in the Australian Public Sector* was published in October 2009 covering 71 alliances across the Public Sector in Australia. The study was undertaken through a collaborative effort between Evans & Peck and the University of Melbourne with the Victorian Department of Treasury and Finance as the lead sponsor. The major findings from the study were as follows:⁴⁸⁴

- *business cases often did not clearly define the project Value for Money proposition to the rigour required for investment decision making. In particular, the average increase from business case cost estimate to Actual Outturn cost (AOC) was of the order of 45–55 per cent and a robust program and budget was not evident from the business case stage;*
- *the primary reasons for selecting the alliance delivery method were to achieve early project commencement through early involvement of the Non-Owner Participants (NOPs);*
- *often physical works commenced prior to finalising the commercial arrangements with the NOPs;*
- *there was no clear correlation between the number of Owner resources provided to the alliance and enhanced Value for Money; and*

483 Barwon Region Water Corporation, response to the Committee's 2008-09 Financial and Performance Outcomes Questionnaire – Part Two, received 29 January 2010, p.9

484 Department of Treasury and Finance, *In Pursuit of Additional Value: A Benchmarking Study into Alliancing in the Australian Public Sector*, October 2009, p.xi–xiv

- *the project's physical works were able to be commenced many months in advance of what would have been possible using traditional delivery methods leading to a commensurate earlier completion date. The majority of projects met the Owners' target completion dates as set out in the business case.*

Given the study found that there were significant variations between the business case cost estimate and actual outturn cost, the Committee believes that for infrastructure projects being delivered under an alliance, central agencies (such as DTF) should closely monitor performance with a view to providing continuously updated guidance and training in project planning and implementation using the Alliance concept. In particular, greater emphasis needs to be placed on lessons learnt in the preparation of business cases and their approval.⁴⁸⁵

Barwon Water advised the Committee that to ensure that the costs and performance of the Alliance represent value for money they retain the services of an independent estimator and external financial auditor. The Committee is pleased to see this approach being adopted to enhance the process of ensuring costs and performance of the Alliance continue to represent value for money.

485 *ibid.*