Our Water Our Future Fact Sheet

Victorian Desalination Project

Timelines

In June 2007 the Victorian Government announced the centrepiece the response to a rising population and the threat of climate change: the Victorian Desalination Project, a rainfall independent way to drought-proof our water supply.

Since then, the Government has been getting on with the job of securing our water future.

June 2007	*The Next Stage of the Government's Water Plan* announced
November 2007	Environment Effect Statement (EES) Referral submitted by DSE
December 2007	Minister for Planning announced EES to be undertaken
February 2008	Commonwealth Government accredits EES process assessment under *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*
March 2008	Public comment on Draft EES Scoping Requirements
May 2008	Final EES Scoping Requirements released
June 2008	Expressions of Interest to bid for project issued
July 2008	Expressions of Interest closed
August 2008	EES report and EPA Works Approval Application (WAA) submitted and exhibited for public comment
September 2008	EES and WAA public exhibition closed
September 2008	Request for Proposal for construction and operation to two short-listed bidders issued
Oct/Nov 2008	EES Inquiry Hearing
December 2008	EES Inquiry submits report to Minister for Planning
January 2009	Assessment by Minister for Planning announced
March 2009	EPA issues Works Approval
March 2009	Commonwealth issues EPBC Approval
March 2009	Final bids due from shortlisted bidders
Mid 2009	Contract award
Late 2009	Construction starts
End 2011	Water delivered

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Local community

The Wonthaggi region has been selected for the desalination plant that will provide 150 billion litres of water each year by the end of 2011.

How will the local community benefit?

The Project will provide significant job opportunities during the construction phase, and a corresponding economic boost to the local region, including opportunities for local businesses.

Approximately 4,745 full-time equivalent (FTE) jobs (direct and indirect) are expected to be generated by the project over a two-year period. The project would generate direct construction employment of 1825 FTE jobs, with a further 2920 FTE jobs indirectly created over two years. During operation, direct employment of 50 FTE jobs would be created, with a further 100 FTE jobs indirectly generated.

EES research has shown that about 520 FTE construction jobs could go to local and regional people in civic construction, structural erection, electrical and mechanical installation and tunnelling, and there will be a further 580 FTE local jobs indirectly created in the region.

The construction of the plant will take around two and a quarter years following the necessary comprehensive environmental, geological and other assessments as well as a program of monitoring, consultation and engagement with the local community.

How can I express my interest for working on this Project?

The Industry Capability Network (ICN) has established an office in the Project Information Office at Wonthaggi to assist local industry to get involved in the Victorian Desalination Project

As of March 2009, over 900 individuals and businesses had registered to work on the Project.

You can contact the ICN through our Project Information Office at 1 McBride St, Wonthaggi (03 5671 3900), or through our freecall number 1800 811 214.

What did the EES say about economic benefits?

The EES found that economic benefits would flow from the project with increased employment and spending in the Bass Coast area and surrounding region. While there may be temporary pressure on social infrastructure, such as health and housing, there is potential for long-term positive outcomes for overall provision of services.

The EES also predicted a $1 billion economic boost to Victoria during construction of the plant.

How is the Project servicing the community?

The Project team is working with the local community and businesses to maximise the economic benefit of the facility in the region and minimise the impact on the environment and on the local community.

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A Desalination Project Information Office was established in September 2007 at 1 McBride Street, Wonthaggi (open Tuesday–Thursdays, 9.30am–3pm).

The office has information displays as well as fact sheets like this one, plus detailed information about environmental impacts, industry and employment opportunities, and feedback forms to provide comments to the project team. There are also free bottles of desalinated water to sample.

The Project team also provides information sessions, brochures, newsletters, letterbox drops and regular website updates.

A dedicated landowner liaison team continues to work with landowners and residents along the pipeline and power supply corridors.

How did the community have their say on the Project?

Input from the local community, councils, regional authorities and other stakeholders is playing, and will continue to play, a significant role in the Project.

Public comments have been invited on the Environment Effects Statement (EES) scoping document, and on the exhibition of the full EES.

The EES attracted over 400 written responses with a range of varying interests and concerns.

A 15-day public hearing was held across October and November 2008, where an independent panel heard in-person submissions from 20 community groups, five councils, and 74 members of the public.

A range of public activities have been held since the middle of 2007, including community information sessions at Inverloch, San Remo, Kilcunda and Wonthaggi and information stands at local markets and festivals. Briefings have been given to councils, local groups, landowners, water authorities and other interested parties.

Members of the community are invited to talk to the staff of the Desalination Project Information Office, Wonthaggi and to submit feedback forms through the Information Office or the website. More information on the Desalination Project is available at www.ourwater.vic.gov.au or by calling 1800 811 214.

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State and Federal Environmental Approvals

In August 2008, a full Environment Effects Statement (EES) was released for public exhibition.

Spanning five volumes and over 80 specialist technical reports, the EES covers a broad range of issues concerning the project's effects on land, the marine environment, flora and fauna of all kinds, visual impact, greenhouse gas emissions, and social and economic effects.

The EES found that the project would not cause any significant or long-lasting harm to the environment.

Following an independent panel hearing in October and November 2008, an inquiry report on the EES was submitted to the Minister for Planning, along with some 400 written submissions from the public.

In January 2009, the Minister for Planning, in his assessment, accepted the EES and stated that any environmental impacts resulting from the desalination plant could be largely minimised or off-set to acceptable levels through the application of strict requirements to determine how the final project would be delivered.

On 5 March 2009 the Environment Protection Authority (EPA) issued a Works Approval. The EPA was satisfied that the proposed works met the requirements of the Environment Protection Act (1970) and were consistent with the State environment protection policies.

Under the Australian Constitution, the States have primary responsibility for environmental protection and management and the Federal Minister has authority over defined matters of national environmental significance under the Environment Protection and Biodiversity Conservation (EPBC) Act 1999.

The Federal Minister for Environment, Heritage and the Arts, approved the project under the EPBC Act on 19 March 2009.

The Department of Sustainability and Environment also continues to liaise with councils and communities to ensure social and economic benefits are optimised.

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Water transfer pipeline

Water from the Desalination Plant at Wonthaggi will be piped to Melbourne via a new 85 kilometre underground pipeline.

The pipeline will connect into the existing network at Berwick. This water will then enter the Melbourne water supply system through Cardinia reservoir.

Desalinated water can also be provided to towns in Western Port and South Gippsland through new pipe infrastructure and to Geelong via a new 50 kilometre pipeline connecting Geelong to the Melbourne water system by 2011.

What route will the pipeline take?

A pipeline alignment was included in the Reference Project for the Environment Effects Statement (EES).

The pipeline will go through Bass Coast Shire, City of Casey and Cardinia Shire Council areas.

The current plan of the pipe route is available online at www.ourwater.vic.gov.au.

How will landowners be affected?

Landowners whose properties fall within the 400m wide pipeline corridor have been in regular contact with a dedicated landowner liaison team. Discussions with landowners combined with environmental and technical studies are helping to identify the final pipeline alignment.

What happens if my property is subject to a pipeline easement?

If it is necessary to acquire an easement on your land, compensation will be paid under the *Land Acquisition and Compensation Act 1986*. This will vary depending on the effect on each individual property.

What did the EES say about the transfer pipeline?

The EES found no significant impacts are likely to occur to land based plants and animals. The plant site is mostly agricultural pasture with little habitat for supporting indigenous species. The pipeline corridor is mostly pasture and introduced vegetation and the grid connection corridor is generally along agricultural land. The EES found that if native species and ecological communities were impacted they would recover within a short time.

Where there is potential for impacts, mitigation measures are suggested in the EES. Performance Requirements will also be demanded to ensure the successful bidder manages these risks. Techniques include avoiding key vegetation and tunnelling under dunes at the plant site, and aligning pipe and power infrastructure to avoid significant species and vegetation where possible.

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Public Private Partnership

In September 2007, Premier John Brumby and Water Minister Tim Holding announced that the Desalination Project would be delivered as a Public Private Partnership (PPP) under the Government's *Partnerships Victoria* (PV) framework.

Through a PPP, the Government will tap into private sector expertise in designing, building, financing, operating and maintaining the project for a period of time before handing it back to the Government.

Desalinated water will be delivered from the private sector to the State Government owned water authorities who will deliver this water to households. The Government will own the water, thus the public interest and ownership of water is protected.

Under a PPP project, the successful bidder is paid if it delivers the required service to the required standard. For the Desalination Project, this will include delivering the required quantity of water to the appropriate water quality standard.

The Victorian Government's experience in delivering complex major projects under the PPP model has shown projects are delivered on-time, to a high standard and in a cost effective way.

The PPP framework has already proven successful with projects contracted to build hospitals, water treatment facilities, and transport developments in Victoria.

After Expressions of Interest, two bidding consortia were shortlisted to submit proposals for the project:

Aquasure, comprising SUEZ Environnement SA, Degŕemont SA, Thiess Pty Ltd, and Macquarie Capital Group Limited; and

BassWater, comprising Veolia Water Australia Pty Ltd, John Holland Pty Ltd, and ABN AMRO Australia Pty Ltd.

Final bids from these consortia were received in the first half of 2009.

In accordance with *Partnerships Victoria* policy, these bids be tested against the Government's quantitative benchmark, the Public Sector Comparator (PSC), and will also be required to meet public interest tests.

The successful bidder will be announced in mid 2009.

Further information on the *Partnerships Victoria* policy can be obtained via their website – www.partnerships.vic.gov.au.

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Marine Environment

As part of the Environment Effects Statement (EES), a comprehensive range of assessments were undertaken into marine aspects including flora and fauna, particle dispersal, underwater noise, and marine biological conditions. Some of the findings are listed below. No impacts are expected on Bunurong Marine Park, local marine reserves or Williamsons Beach.

The recent assessment of the EES by the Minister for Planning found that the construction of the marine structures for the Reference Project would have limited impacts, which could be minimised by avoiding high biodiversity reefs. Similarly, operation of the marine discharge would have limited ecological impacts if rigorous control of the quality of the discharge is maintained and the siting of the outlet is suitably separated from high biodiversity reefs.

Intake structure

An underground shaft from the plant site will emerge from the sea bed in water more than 15m deep and almost t a kilometre from the plant site. The intake may have a mushroom structure head that allows drawing of water at a very low speed. This means that even smaller fish could swim against the intake current. A specially sized grill on the intake structure reduces the possibility that larger marine life can swim into the structure. The intake will entrain a small percentage of marine larvae but this will not affect overall marine populations.

Outlet structure

The outlet structure will return salty output to moving ocean water at a depth of more than 10m. Initial dilution of the discharge, which is about twice as salty as normal ocean water, occurs within seconds, and will return to background levels within a short distance with no significant impacts.

Little penguins

A population of little penguins exists 25 km from the project area, feeding on schooling fish. EES research indicates that less than 10 per cent of movement of these penguins is towards the project area. The size of the screening grill means penguins are unlikely to be affected by the intake structure. The availability of food sources for the little penguin will not be affected by the project.

Australian fur seals

A colony of Australian fur seals exists at Seal Rocks at Phillip Island, approximately 25km from the project area. Some of the seals, which feed on schooling fish and squid, have used the vicinity of the project area. According to research, seals and their food sources are unlikely to be affected by the project.

Marine mammals

The plant site's marine area does not provide important habitat for Southern right whale, humpback whale, the Australian sea lion, Southern elephant seal and blue whale, although individuals may visit occasionally. Mitigation techniques will be used to warn species to avoid the area during construction. Whale watchers will also be used to avoid noise generation should whales be in the area.

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Energy consumption

How much energy will the plant use?

The plant and booster pump station are estimated to use about 90 megawatts (MW) of power.

What sort of power will be used?

All options for potential, reliable power generation for the desalination plant will be considered and assessed on their merits in terms of environmental, social and economic impacts. There will be no nuclear plant built. The Victorian Government has legislation in place that prohibits this.

How will the Project be carbon neutral?

While it would be impractical to power the Project directly with wind, solar, tidal or other green energy, Renewable Energy Credits (RECs) will be purchased to offset the electricity the plant and the transfer pipeline will use.

RECs provide a way for power users such as the Victorian Desalination Project to invest in developing renewable energy in Australia.

These RECs will be purchased in addition to the Government's current renewable energy targets.

What energy efficiency measures will be included?

Reverse osmosis is the most energy efficient method of desalination, and energy efficiency and membrane technologies are constantly improving.

The energy consumption of the Victorian plant is estimated to be proportionate to other plants in Australia and around the world.

.The plant will feature Energy Recovery Devices which capture the energy created by water moving through desalination processes.

How much would the Desalination Plant's energy consumption contribute to a household's energy consumption for using water?

About the same as a 4-star fridge and considerably less than a hot water service.

Figures from the CSIRO indicate that a city's water system uses only about two percent of its total energy. A standard 4-star fridge would use about the same energy as the Desalination Plant per household per day.

A standard hot water service uses almost eight times as much energy as a desalination plant per household per day.

In fact, a recent CSIRO report found that if Victorian homes used 15 per cent less hot water each day, the energy savings would offset all the power used to produce and deliver our water for a year.

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Power supply

How will the plant be powered?

A decision has not yet been made on the power supply for the Project. The Project team submitted a Reference Project for assessment by the Minister for Planning. This Reference Project involved a northerly connection to Victoria's main power grid.

A final decision on the project's power source will depend on assessment of the final bids from the project's two short listed bidders, which is currently underway.

What options are being investigated?

An investigation corridor was identified for the grid connected power supply as part of the EES studies.

The Minister for Planning's recent assessment determined that both overhead and underground technologies provide viable means to deliver power to the Desalination Plant.

The Minister noted that the visual impact of power supply would be reduced through use of poles (rather than lattice towers) and/or undergrounding in certain locations.

In addition, careful siting of lattice towers or poles could reduce operational impact of power infrastructure on farming activities and reduce risks of spreading soil pathogens.

Why not supply power from the network that supplies Wonthaggi and Phillip Island?

The existing electrical supply to the Bass Coast area is insufficient for the needs of this project. It is likely that even without the Desalination Project, the Bass Coast community would require new power infrastructure in the near future.

What does the grid connection power supply option involve?

The 500m wide corridor mentioned in the Reference Project is about 75km long. This involves connecting to the existing electricity supply network near Garfield/Nar Nar Goon and establishing a new transmission line running north from Wonthaggi. If this option is used, the final easement may be around 40 metres wide.

How do I find out if my land is affected?

A landowner engagement team has been working with owners of properties identified as being within the broad area of interest for the grid connection option. Affected landowners have been contacted by the team. A landowner liaison representative is a single point of contact for landowners for any matter.

A copy of the current alignment for the power supply is available at www.ourwater.vic.gov.au.

Were landowners and communities consulted before route selection?

Substantial stakeholder engagement is involved in investigating a possible power transmission route. Input from landowners in the 500m wide investigation corridor is important to properly understand relevant issues and perspectives along the corridor to minimise impact on the environment.

If a grid connection is selected, what will the transmission lines look like?

Depending on the voltage, this could include transmission lines located underground or overhead on lattice steel towers or poles. Where possible, visual and amenity impacts will be minimised. Some ways this can be done are using native vegetation as screens, revegetating affected areas, and adjusting pole types and heights.

Will undergrounding be used?

The Minister for Planning's recent assessment determined that both underground and overhead technologies provided viable means to power the Desalination Project. The final decision will depend on assessment of the final proposals of the shortlisted consortia, which is currently underway.

What environmental protections are in place?

Impacts on the environment will be minimised. The Government has conducted a full Environment Effects Statement (EES) including a range of technical studies, including flora, fauna, cultural heritage, hydrology, geotechnical, design and visual landscape analysis. The EES found that there would be no significant or long-term effects on the environment as a result of this Project.

Have greenhouse gas emissions and costs of power been considered?

Whichever option is ultimately adopted for supplying the plant with a reliable source of energy generation, Renewable Energy Credits (RECs) will be purchased to fully offset the electricity the plant and the transfer pipeline will use.

RECs provide a way for power users such as the Victorian Desalination Project to invest in developing renewable energy in Australia.

These RECs will be purchased in addition to the Government's current renewable energy targets.