

**Submission
No 58**

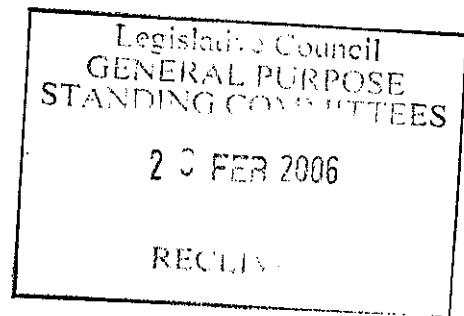
INQUIRY INTO A SUSTAINABLE WATER SUPPLY FOR SYDNEY

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Subject:

Summary

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General Purpose Standing Committee No. 5
NSW Legislative Council
Parliament House
Macquarie Street
Sydney NSW 2000

RE: Inquiry into a sustainable water supply for Sydney

Leichhardt Council would like to take this opportunity to provide a submission on the Parliamentary Inquiry into a sustainable water supply for Sydney.

Council considers that the planned desalination plant is not an appropriate solution to achieving a sustainable water supply for Sydney. The construction of the desalination plant should not be undertaken without a proper investigation of the range of solutions needed to address a water shortage in Sydney. Before a decision is made on this project, the financial, environmental and social impacts of all options to address Sydney's water crisis should be compared and publicly debated.

Council has serious concerns over many aspects of the Government's decision to go ahead with the desalination plant. In this submission, Council will make comment upon four of the issues identified in the Terms of Reference for the inquiry:

1. The environmental impact of the proposed desalination plant at Kurnell
2. The environmental assessment process associated with the proposed desalination plant
3. Methods for reducing the use of potable water for domestic, industrial, commercial and agricultural purposes, including sustainable water consumption practices
4. The costs and benefits of desalination and alternative sources of water including recycled wastewater, groundwater, rainwater tanks and stormwater harvesting

1. The environmental impact of the proposed desalination plant at Kurnell

1.1 Energy use and Greenhouse Gas emissions

The application of desalination as a solution to providing Sydney with more water is energy intensive compared to alternative options. Offsetting the associated greenhouse gas emissions by 50 per cent to bring the greenhouse gas emissions to a level equivalent to alternative water sources such as recycling is a costly and unsustainable solution.

Even with the offsets outlined in the Environmental Assessment the energy consumption and greenhouse gas emissions of the plant are still at unacceptable levels. Building the plant will result in a one-off increase in NSW's electricity demand of approximately 1.2 per cent. In full production the electricity consumption of the

desalination plant would be 906 gigawatt hours a year. In greenhouse-gas terms, that is the equivalent of adding 265,000 cars to the roads a year or the same amount of carbon emissions that the equivalent of 120,000 households would produce annually. These greenhouse gas emissions will exacerbate the climate change that is contributing to Sydney's variable weather and water shortage – this is not a sustainable option.

1.2 Ecological Impact

Council shares the community and environmentalists concerns about the effect of the desalination plant on the coastal and terrestrial environment. As reported by Sutherland Shire Council, the construction of a plant would result in significant loss to endangered ecological communities, such as fresh water wetlands, salt marsh communities, rare remnants of swamp oak and eucalypt forest, and the destruction of potential aboriginal archaeological sites. The impacts of positioning the intake and outlet pipes on the rocky reef, entrainment of aquatic species into the intake pipe and increased pollution resulting from the outlet pipe have the potential to significantly impact on the aquatic ecology of the area surrounding the proposal. The impacts of the construction and operation phases on the aquatic and terrestrial ecology have not been completely addressed in the Environmental Assessment. Therefore Council is not satisfied that appropriate mitigation strategies have been developed to ameliorate the negative impacts of the plant on the coastal and terrestrial environment.

2. The environmental assessment process associated with the proposed desalination plant

Without being legislatively bound by the guidelines set out by the Department of Environment and Conservation and by conducting an assessment on a general concept rather than on a detailed design there is a high level of uncertainty and ambiguity in the conclusions made in the Environmental Assessment. Council has made a formal submission to Sydney Water on the Environmental Assessment raising concerns over the:

- Energy use and greenhouse gas emissions
- Ecological impact of the plant
- Lack of investigation into alternatives
- Achieving a sustainable water supply

Sydney Water's desalination project is the first major project to be classified as "Critical Infrastructure" and be assessed under the associated statutory requirements of Environmental Planning and Assessment Act 1979 (EP&A). The Environmental Assessment has not met its statutory requirements as outlined under Part 3A of the EP&A Act. It does not provide sufficient detail to assess the environmental impacts of the proposal or meet the Director Generals Requirements.

The Environmental Assessment also greatly understates the impacts of the proposal on the conservation area, Endangered Ecological Communities, wildlife corridors and Towra Point Nature Reserve. The Environmental Assessment does not adequately assess these impacts nor do the mitigation measures in the Environmental Assessment sufficiently negate these impacts.

3. Methods for reducing the use of potable water for domestic, industrial, commercial and agricultural purposes, including sustainable water consumption practices

The proposed desalination plant will not promote sustainable water consumption; in fact, it is likely to undermine attempts to reduce domestic potable water use. Finding a new source of water instead of rethinking our potable water consumption will perpetuate the notion that water is an endless resource that is cheaply gained. Water needs to be treated as a valuable and scarce resource. 'Sydneyiders' should be encouraged to use it in a sustainable manner.

Construction of a large effluent treatment plant to produce water suitable for agriculture and industry would take no longer and cost no more than building a desalination plant and it would also cut the amount of effluent going into the sea. Services Sydney insists that reusing water from Sydney's waste treatment plants is the sustainable answer to Sydney's water crisis by providing water for industry, agriculture and irrigation, significantly reducing Sydney's potable water demand (Services Sydney 2005).

4. The costs and benefits of desalination and alternative sources of water including recycled wastewater, groundwater, rainwater tanks and stormwater harvesting

No detailed research into the feasibility of seemingly sensible alternatives is provided within the Environmental Assessment (or in any other Sydney Water report): Until this occurs it is impossible to assess how to best secure Sydney's water for the future. A large number of documents, including those commissioned by the Government, assert that desalination should be the last option to solve Sydney's water shortage, not the first. One option, recycling waste water, offers a sustainable, cost-effective option that requires half the power of a desalination plant. This option has not been seriously considered by the Government.

It is unlikely any scheme would supply as much water from one source as the proposed 500 megalitre a day (182.5 gigalitre a year) desalination plant. However, sustainability experts and conservationists claim a range of more environmentally friendly and sustainable options should be adopted to help 'drought-proof' Sydney as part of a fully integrated water cycle management plan.

One of the main alternatives to the desalination plant is waste water recycling which experts say is the logical option for a city that received 1200mm of water a year and only recycles three per cent, dumping 30 times that amount into the ocean. Re-using the waste water that is otherwise discharged into the ocean and rethinking our 'use once' approach to water is important to achieving a sustainable water supply for Sydney. According to Government documents and expert opinion it is cheaper and more environmentally friendly to recycle sewage than seawater. Along with permanent restrictions this could provide up to 85GL of water per annum (a greater water harvest than from a stage two desalination plant). (Prof. Nicholas Ashbolt 2005).

The reuse of grey water and rain water for non-potable uses at a domestic level has the potential to cut water demand between 38-60 per cent (Prof. Nicholas Ashbolt 2005). Grey water (water from showers, basins, washing machines etc) can be used internally in toilets and externally to water the garden. Alone, the installation of 5000-litre

rainwater tanks in existing homes has the potential to cut annual household water demand by between 12 per cent and 31 per cent, says the Nature Conservation Council of NSW, a saving of up to 115 gigalitres a year. The cost to government would be in the vicinity of \$1.5 billion if it offered residents a rebate of \$1000 per tank.

The NSW Government has recently announced that it will be putting plans for the desalination plant on hold in light of the discovery of new ground water sources in Sydney's west and Southern Highlands. Apparently these new water sources could supply up to 30 billion litres of water a day for three years. However, this is not a sustainable solution and there would be inevitable environmental impacts from pumping such a large amount of water from the ground.

Additionally should the dam levels fall below 30% construction of a desalination plant will begin almost immediately and it is possible that a small scale plant will be built at Kurnell nevertheless. Hence the issues raised in this submission are still relevant and important.

Many of the State's groundwater systems and dependent ecosystems are experiencing some degree of stress either through over extraction or contamination. However, Jeff Angel from the Total Environment Centre has warned against seeing ground water sources as a solution to Sydney's water problems. "They're only drought security fixes because aquifers need recharging and you can't just rely on aquifers as an alternative supply of water," he said. "What we have to do is stop the amount of consumption, wasteful consumption, and the core problem with our wasteful consumption is we aren't recycling." But mining the aquifers will raise questions of the environmental effects of extracting groundwater on this scale.

Conclusion

The information available in the Environmental Assessment, other Government reports and independent studies reveal that building a desalination plant to solve Sydney's water crisis is a short-sighted, expensive and environmentally damaging option. Council strongly opposes the desalination plant on the grounds that it will cause considerable environmental impacts upon the aquatic and terrestrial environment around Kurnell and result in significant greenhouse gas emissions (just to power the plant will result in 1.25 million tonnes of greenhouse gas emissions per annum). Council is not confident that adequate process has taken place to ensure that the desalination plant is the best option, socially, financially and environmentally and will continue to lobby for a more sustainable solution to Sydney's water shortage.

I trust that the information provided in this submission will receive appropriate attention during the Parliamentary Inquiry process. If you wish to clarify any matter in the submission or require further information, please contact Bridget Dwyer (Senior Environment Officer) on 9367 9051 or bridgetd@lmc.nsw.gov.au.



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