

**Submission
No 131**

INQUIRY INTO A SUSTAINABLE WATER SUPPLY FOR SYDNEY

Organisation:

Name: Ms Clover Moore MP

Position: Member for Bligh

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Subject:

Summary

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21 February 2006

Ian Cohen MLC
Chair
Inquiry into a Sustainable Water Supply for Sydney
General Purpose Standing Committee No 5
Parliament House
Macquarie Street
Sydney NSW 2000

Dear Ian

Inquiry into a Sustainable Water Supply for Sydney

Bold, innovative and urgent Government action is required to develop a sustainable, long term solution to address Sydney's current water shortage, and provide fair and equitable access to clean water for Sydney's growing population. Clean drinking water is the most basic of necessities, but water is a precious resource in our dry continent that must be carefully managed and conserved.

Concerned residents who have contacted me have all raised serious concerns about the proposed Kurnell Desalination Plant, and supported more sustainable solutions to provide for Sydney's growing water needs. I share community concern about the need for:

- Large-scale water recycling and reuse;
- Improved rain and stormwater harvesting;
- Programs to reduce demand; and
- Consideration of other sustainable solutions to Sydney's water shortage.

I agree with the Sydney Community United against Desal (SCUD), which includes the Nature Conservation Council, the Total Environment Centre, Clean Up Australia, Sutherland Shire Council, the Sydney Coastal Councils Group, and others, that the Government's desalination proposal should be completely abandoned.

The Government should immediately abandon planning, land purchase and construction of trial desalination projects and redirect funds to urgently investigate, plan, and implement sustainable long-term solutions to ensure Sydney's water supply for our growing population, now and into the future.

The Government must implement large-scale effluent recycling, programs to better harvest our rainwater, and incentives to reduce demand for water.

Sydney's Water Situation

In comparison to the “wet” decades of the 1950s, 1960s and 1970s, those that followed have had little rainfall, and the last 10 years have been particularly dry. While recent rainfall and reduced usage due to water restrictions have resulted in a slight rise in water levels in the Sydney Catchment authority dams, dam storage levels are still very low. The prospect of future drought and increasing demand from Sydney's expanding population, will strain Sydney's current water catchment facilities beyond capacity.

However, Sydney does not have a water shortage. It has been widely reported that more rain falls in Sydney than in London, and we have a far smaller population. Sydney rainwater is mostly clean drinking water, and we have plenty of it.

It is shocking that we allow this precious, but sufficient, natural resource to go to waste and it is time to recycle all our water – we can and should use water more than once. We need to increase rainwater harvesting and provide incentives to reduce demand. We also need to better manage the water we collect, with an estimated 11% of Sydney Catchment Authority water lost in Sydney's water's leaky old infrastructure.

Sydney's current water catchment problems require action from Government; however I share community concern that the Government's proposed desalination plan was ill considered, irresponsible and unsustainable. The NSW Government recently decided to shelve this proposal, prepare two aquifers to supply potable water, and expand some non-potable recycling and demand management programs. The announced plans include some welcome initiatives, including steps to help individuals reduce their water usage.

At the same time, this “plan” amounts to little more than stop-gap measures to be implemented as catchment dam levels drop – including fast-tracked construction of the same desalination plant should dam levels drop to 30%. More than \$120 million will still be spent purchasing land, ensuring planning approval, and building a trial plant for desalination.

Proposed Desalination Plant

The Government intends to proceed with the construction of the desalination plant, with no further opportunity for public consultation, and I am concerned about the inadequate environmental assessment, community involvement, and planning oversight since the Government's original proposal was announced. The Government's desalination proposal is environmentally and financially costly, unsustainable, and shortsighted.

Environmental Planning and Assessment

I share the concerns of the Total Environment Centre, Nature Conservation Council, local councils, and other community groups who have contacted me about the inadequate environmental assessment of the proposed desalination plant. Last year, I spoke and voted against the *Environmental Planning and Assessment Amendment (Infrastructure Planning and Other Reform) Bill*, and I remain concerned that this legislation could be a recipe for environmental degradation, urban chaos, and social dysfunction.

The desalination plant is one of the first projects to be classified as a “critical infrastructure” project under this amendment, which removed previous requirements for up to 17 environmental assessment steps, and replaced them with project-specific assessment criteria set by the Minister for Planning.

Under the new provisions, the proposed desalination plant will have a single environmental impact statement to be completed at the concept design phase.

The legislation exempts these projects from further environmental assessment requirements, even if the environmental impact of the final, detailed proposal varies from the concept design. The amendment removes the community's recourse to interim protection orders, stop work orders, environmental protection notices and orders under section 124 of the Local Government Act 1993. There are no third party appeal rights, except with the consent of the Minister, who also determines community consultation requirements. I share community outrage about the lack of consultation about the need for, location, scale and cost of a desalination plant. The only opportunity to comment on the proposal was in response to the proponent's Environmental Impact Statement (EIS).

Sydney Water's EIS is based on a concept design for the plant, and the detail of how the proponent will address the majority of the assessment criteria identified by the Minister remains "to be developed", "still to be designed" or "yet to be identified". It is a serious flaw in our legislative framework that the community will have no input into the planning approval process for this enormous, and costly project, later in the process when these details are determined.

I believe that the requirements for "critical infrastructure projects" under the Environmental Planning and Assessment Act should be strengthened in order to ensure that projects are examined in detail and subject to full public scrutiny.

Environmental Impacts

There are serious concerns about the environmental impacts of the proposed desalination plant.

Greenhouse Emissions

The proposed desalination technology is 'reverse osmosis', where seawater is forced at high pressure through a membrane that retains salts and other impurities, extracting water of drinking quality. This is an extremely energy-intensive process, and Sydney Water originally estimated that the energy consumption of the desalination plant, operating at maximum output, to be 900 gigawatt hours a year. This level of energy consumption produces enormous amounts of greenhouse gas emissions, the equivalent of approximately 220,000 additional cars on the road each year, and represents a two percent increase in Sydney's electricity use. This estimate has since been revised – upwards.

With mounting evidence about the impact of climate change, the NSW Government should not plan to increase our greenhouse emissions, rather than reduce them, in order to produce clean drinking water when we have this resource in abundance.

Desalination is also expensive: the proposed cost of the desalination plant is over \$1 billion dollars, with another \$100 million planned to offset the plant's greenhouse gas emissions, through abatement schemes such as planting trees and other greenhouse reduction initiatives. There is no way to guarantee that these very high greenhouse gas emission levels will be offset, and I am concerned that water supply should be provided in a responsible way, with energy requirements planned to reduce overall greenhouse emissions.

The former Premier, Bob Carr, describing desalination in October 2004, said the "costs of the water is far more than the most expensive mineral water and it blows your greenhouse targets sky-high", yet the Government plans to go ahead with this scheme.

Marine Life and Surrounding Ecosystem

The fragile marine ecosystem surrounding the proposed location for the plant is complex and interdependent, and the Nature Conservation Council says that international experience predicts direct and immediate adverse impacts on the marine environment in the vicinity during construction and operation of the plant.

The desalination proposal requires construction of tunnels through the Kurnell peninsula, to accommodate pipelines for seawater intake and disposal of brine, as well as further pipelines across Botany Bay to carry purified water into the drinking water supply. Environmental impacts identified from this construction include the clearing of seagrass, irreparable damage to the sea floor environment, and damage to the wetlands of the Kurnell peninsula, threatening species such as the green and golden bell frog.

All commentators assume that 100% of all marine life sucked into the plant's intake pipes is killed, and there are no methods to screen out small fish and larvae. Analysis from the Morro Bay facility in the USA reports an annual "rate of impingement" of 55,000 invertebrates and 78,000 fish.

The proposed plant will deposit highly concentrated salty brine, and possibly chemicals or other contaminants, directly into the sea, degrading the marine environment and further harming marine life.

While it is impossible to predict exactly how these impacts will affect the marine ecosystem, the Nature Conservation Council has identified a reduction in available food source for migratory mammals and birds, including whales and dolphins; loss of species diversity; and beach closures due to contamination.

I recommend that planning approval for the desalination plant be withheld unless the proponent provides detailed plans for mitigating these environmental impacts.

Cost and Private Sector Investment

The proposed construction cost of the desalination plant, at more than \$1 billion dollars, is an enormous imposition on the taxpayers of NSW, and has not been proven necessary or fiscally responsible. Desalination plants are very expensive to run, with energy costs a primary consideration, and I understand that desalination plants in California have closed due to excessive operational costs.

While staggered increased charges for water use, including high penalties of excessive industrial use, may help manage demand, I am concerned that the enormous and unnecessary price of desalination will be passed to NSW taxpayers through taxes and increased water charges.

The benefits and risks of private sector investment in public infrastructure always need to be carefully considered on a case-by-case basis, and all Public Private Partnerships must be demonstrably in the public interest. Recent experience with infrastructure projects has demonstrated that Government has too often borne the risk but provided the benefits to commercial interests rather than the community.

I am concerned that privatisation of public energy and utility infrastructure may result in increased energy and water consumption, and waste of our natural resources because commercial incentives are to increase consumption and sales.

There is a conflict between selling water for profit and reducing water consumption and wastage. Any privatisation of our water infrastructure must be tied to stringent regulation and financial incentives to ensure water conservation.

Sustainable Water Supply

The NSW Government should urgently investigate, plan, and implement sustainable long-term solutions to ensure Sydney's water supply. The Government must implement large-scale effluent recycling, programs to better harvest our rainwater, and incentives to reduce demand for water.

Effluent Recycling

The Government's recently announced plan to increase water recycling is a commendable first step, but does not go far enough, and is too dependent on private investment. These plans include a recycling scheme for Western Sydney, with private enterprise constructing and operating a treatment plant to treat effluent from the Quakers Hills, Penrith and St Mary's sewerage treatment plants. The treated water would be diverted to substitute environmental flows in the Hawkesbury Nepean, and later for outdoor industrial use, and residential use in homes with dual reticulation systems. It is unclear why treated "clean" water would not be reused rather than simply adding to river flow.

The Total Environment Centre (TEC) has proposed a similar treatment plant for waste water from Western Sydney sewerage treatment plants, for indirect potable reuse. The TEC plan would redirect the water back into Prospect Reservoir or Warragamba Dam, where it would be diluted. The treated water would be further treated at the Prospect Water Filtration Plant to drinkable standard (with all water from the both reservoirs), and diluted further in the water delivery system. The TEC plan would provide for 35 gigalitres additional clean drinking water annually, and I share the TEC's belief that Sydney residents will accept this twice treated, twice diluted recycled water.

I recommend that the Government investigate the Total Environment Centre plan for recycling for indirect potable water reuse in Western Sydney.

Large-scale effluent recycling, preferably for potable reuse, also needs to be investigated for Sydney's ocean outfalls, where more than 450 billion litres of barely treated sewage are pumped into the ocean annually. Treating this water to drinkable standard and delivering it through Sydney's existing water delivery system, could provide enough water, and sustainable infrastructure, for Sydney's current and future needs.

I recommend that the Government investigate and implement large-scale water recycling projects, to recycle all reusable harvested water.

Grey water reuse

The Government recently announced an initiative to remove some planning hurdles for homeowners who wish to install grey water reuse systems. Financial incentives and education are required to encourage wide spread grey water reuse. Education programs should focus on simple, inexpensive grey water use for households and businesses, such as redirecting shower and bath water for outdoor use.

I recommend that the Government provide genuine financial incentives, including partial cost rebates, and education programs to encourage individuals, communities, and businesses to retrofit for grey water reuse.

I recommend the Government require all new residential and commercial construction to incorporate grey water reuse infrastructure.

Rainwater/Stormwater harvesting

According to Greg Cameron, an industry professional, the installation of rainwater tanks to replace mains drinking water in one million Sydney homes would yield up to 80 billion litres of water – almost double the proposed yield of the Government's proposed desalination plant.

Increased use of rainwater collection would also reduce the amount of rainwater rushed out to sea, contaminated with debris and rubbish from our streets, through Sydney's stormwater drains. Our stormwater infrastructure needs to be upgraded to allow for the collection and use of this water.

The Government should investigate and implement strategies to harvest Sydney's stormwater for treatment and diversion into catchment dams or water delivery system.

Financial incentives and education programs are required to encourage the installation of rainwater tanks. Homeowners and business operators who install rainwater tanks provide a service to the wider community, in the form of reduced use of mains water.

I recommend that the Government provide stepped financial incentives to ensure that the purchase and installation of rainwater tanks are affordable, and encouraged, at all income levels.

Constituents who have contacted me have asked that the Government mandate the incorporation of rainwater collection tanks in all new construction, or in all properties at point of sale. I am concerned that appropriate safeguards would be required to protect low-income earners from an unmanageable financial burden, and strategies such as low cost loans may help achieve this.

I recommend that the Government legislate requirements for rainwater tank installation in new construction or at point of sale that do not place financial pressure on homeowners.

Managing demand for water

Water pricing should encourage conservation, including for very heavy water users, such as business and industrial users. The Independent Pricing and Regulatory Tribunal (IPART) recommended last year that Sydney Water's residential customers pay a stepped price for water usage, with those using over 400 kilolitres annually charged a higher price for each additional kilolitre. No such recommendation was made for wholesale purchasers of water, or other business or industrial customers.

The Total Environment Centre (TEC) says that the current system provides Sydney Water with "perverse incentives to under-invest in demand management" and that the wholesale step price structure should penalise Sydney Water for bulk water purchases in excess of its demand management targets.

There appears to be little public information about high water use consumers, with most attention directed at residential users. I am concerned that all consumer segments should contribute to water conservation measures, including Government, commercial and industrial users.

I recommend that the Government investigate and identify targeted strategies for all water consumer groups, with the most stringent regulation and monitoring of high-use water consumers.

I recommend that water pricing be tailored to the reasonable water needs of specific industry types, with stepped rates that provide financial incentive to reduce water use, and prevent water wastage.

Permanent Water Restrictions

A household survey conducted as part of the IPART review of metropolitan water prices found that 70% of respondents supported some form of permanent water restrictions. Since the introduction of mandatory water restrictions, Sydney residents have significantly reduced water use, and shown their willingness to conserve water.

The Total Environment Centre report *The Sustainable Alternative to Desalination* proposes permanent water restrictions on outdoor water use, banning hosing of hard surfaces, and requirements to use buckets, trigger nozzles or low volume, high pressure devices when washing cars and boats. The report suggests that restrictions two-thirds as stringent as those in place now would save 40 gigalitres of water annually.

Water restrictions need to be supported with education and incentives for other water demand reductions, including the rating system for whitegoods, and low water use irrigation and systems and plants.

I recommend permanent low-level water restrictions and a concerted community education campaign to encourage water conservation.

The Government could also play a leadership role in improving water efficiency of new and existing homes by mandating minimum standards of water efficiency.

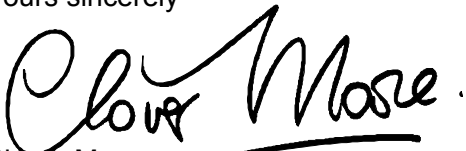
I recommend that the Government liaise with other State and Territory Governments and the Commonwealth Government to develop a national standards program that requires new whitegoods to use less water.

Conclusion

The community has expressed strong support for a range of large-scale effluent recycling, programs to better harvest our rainwater, and incentives to reduce demand for water, rather than the proposed technological "solution" promised through desalination.

The Government should immediately abandon the discredited desalination plant and redirect resources into sustainable and cost-effective water supply strategies.

Yours sincerely

A handwritten signature in black ink that reads "Clover Moore". The signature is fluid and cursive, with a long horizontal stroke extending from the end of the name.

Clover Moore
Member for Bligh