

Australia’s Climate Policy Options – Sydney Water response

Sydney Water appreciates the opportunity to provide comments on the review of the Australia's climate policy options and supports the action to reduce future emissions and global support to reduce the risks of climate change.

The water industry is energy intensive. Four Australian water utilities are in the top 200 net energy consumers and top 100 scope 2 carbon emitters in Australia. However the water industry also generates a large amount of renewable energy.

Water industry assets are highly exposed to the effects of climate change such as sea level rise. Many wastewater networks and treatment assets are at or near sea level and close to the coast.

Half of Sydney Water’s total electricity consumption is used for wastewater treatment, one third for water pumping stations and around 8% for sewer pumping stations. Energy is a significant cost in the water industry, however energy consumption can vary across the facilities due to numerous factors like geographic and climate factors as well as variability of processes involved in treatment. These factors make it difficult to set meaningful baselines. Wastewater utilities can also have significant fugitive emissions like methane and nitrous oxide.

In 1998 Sydney Water’s customer base was 3.9 million; by the end of 2015 it had grown by 24% to 4.9 million. Population growth, as well as the demand for more energy intensive water sources, increases the energy demand for wastewater treatment. Sydney Water’s energy consumption has also increased by about 24% since 1998. However grid power energy consumption has remained the same as 1998, as we have been able to offset increases with energy efficiency and renewable energy generation (see Figure 1)

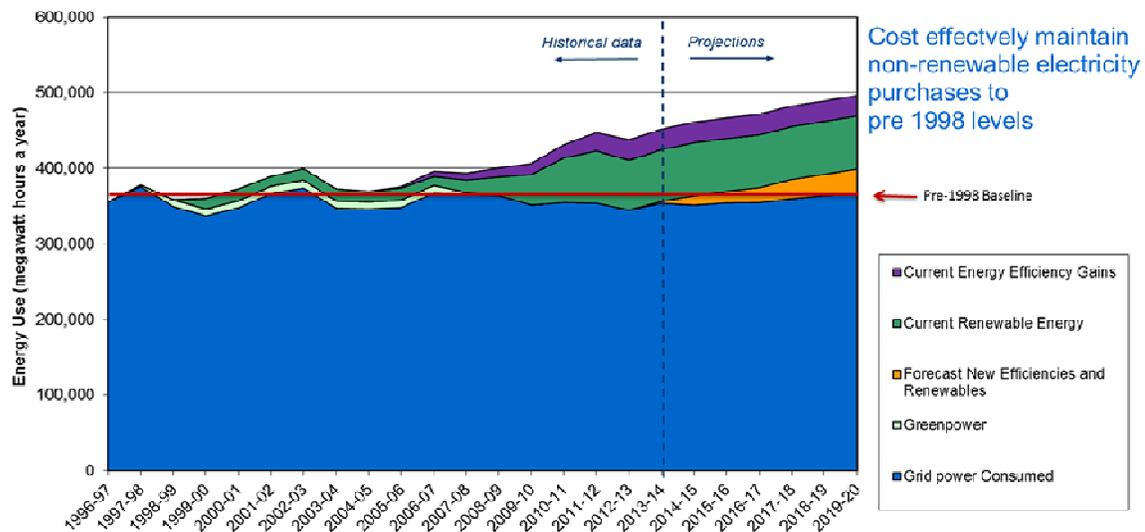


Figure 1: Energy consumption 1996 to 2020 (Note: REG=Renewable energy Generation)

Sydney Water produces renewable energy from onsite biogas cogeneration, hydro-turbines and solar power assets to reduce grid electricity use. In 2014-15 our renewable energy generation was equivalent to 17% of our overall electricity demand. Increasing energy prices, a broader focus on the benefits of self generating energy, and incentive schemes (RET, NSW GGAS and ESS) have been key to our success in managing grid electricity demand.

The following points address the relevant questions posed in the Climate Policy Options paper.

Q.10. What lessons can be learned from Australia and overseas on the effectiveness of information programs and innovation support, and their interaction with other climate policies?

Sydney Water has made effective use of grants and pre-commercialisation funding (NSW OEH and ARENA) to progress renewable energy projects. These grants have assisted us with understanding and proving the potential for co-digestion of food waste at wastewater plants, and understanding the potential to move some sites off grid using battery storage.

Q.11. How do information programs and innovation support perform against the principles of cost effectiveness, environmental effectiveness and equity?

It is important that the full footprint of environmental and carbon impacts are considered in the development of climate policy (eg including all Scope 1, 2 and 3 emissions). Carbon emissions are a global issue and so the impacts of decisions must be considered in a global context. Information programs and innovation support should assess projects using full lifecycle assessment.

In regards to cost effectiveness it is important that full lifecycle cost, discount period and environmental costs are considered.

Q.12. What policies do you consider are best suited to which sectors and why?

Policy options such as the RET and a carbon price are simple and make it easy to develop business cases for renewable energy, energy efficiency and emission reduction projects. Sydney Water found that higher electricity prices have been an effective incentive for emission reduction and renewable energy generation projects. Coupling this with the RET, a relatively simple mechanism for rewarding new renewable energy projects, has seen Sydney Water increase renewable energy generation from 4.9% to 17.5% of total demand since 2008 and implement an energy efficiency management program with a pre-approved budget of \$1m per year.

Sydney Water is yet to apply for ERF accreditation for any projects. We have found that the NSW ESS is easier and provides greater benefit for energy efficiency projects. We continue to assess the potential for ERF accreditation to help build the business cases for new projects.

Q.13. Are there sectors that are better suited to voluntary pricing in the short term and mandatory policies in the longer term and why?

The Australian National Carbon Offset Standard (NCOS) provides a consistent approach for voluntary carbon neutral commitments. We have found the standard useful to guide our voluntary carbon footprint assessment and reporting. However the water industry is less suited to voluntary pricing due to the regulation of our prices. Sectors that have strong consumer competition and a customers that favour environmental protection are most suited to voluntary pricing.