



COVER SHEET FOR SUBMISSIONS

Independent Review into the Future Security of the National Electricity Market

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Submission Instructions	
<p>The submission period will be open until close of business on Tuesday 21 February 2017.</p> <p>All submissions should be emailed to the NEM Security Review at the mailbox: NEMSecurityReview@environment.gov.au</p>	

Thank you for the opportunity to provide a submission to the Federal Government's *Independent Review into the Future of the National Electricity Market*.

Water Services Association of Australia (WSAA) is the industry body that supports the Australian urban water industry. Its members provide water and wastewater services to approximately 20 million Australians and many of Australia's largest industrial and commercial enterprises.

The water industry supports a shift to low emissions energy generation and a less carbon intensive electricity grid. We believe the industry, with the right mechanisms and incentives, can contribute beyond its own boundaries to deliver value to customers and the community in a way that is greater than its collective parts. This contribution could be the creation of renewable energy supply from cogeneration facilities, with spin off benefits such as diversion of waste to landfill and reduced emissions. It could also be in the form of contributing to a 'smooth' profile in the electricity grid by shifting their demands and reducing a burden on the grid during peak times.

Many of our members have significant emission reduction targets regulated. Water utilities in Victoria, NSW, ACT and South Australia all have targets of zero net emissions by 2050 with stretch interim goals beginning in 2020. These mandated targets sit hand in hand with requirements for renewable energy. These range from 25% in Victoria by 2020 and 40% by 2025, to 50% in South Australia (2025) and Northern Territory (2030) to 100% in the ACT (2020). Other than Tasmania, other States support the national renewable energy target of 20% by 2020. The costs to achieve these targets could be reduced with better deals in network tariffs.

Water utilities are significant energy-users. Energy is necessary to pump and treat water and wastewater within our networks to protect public health and the environment. Utilities also have the potential to be significant energy generators—from biogas, hydro-generators, solar and even wind. The capacity for generating energy from biogas at wastewater facilities, in particular, is much greater than is currently realised. Sydney Water, for example, generated 86GWh or 21% of its demand in 2015-16. This represents a proportion of what is possible. While a number of utilities have made efforts to import organic waste to increase their capacity to generate electricity through cogeneration, more could be done with a better deal in feed-in tariffs.

The water industry routinely operates the largest electrical loads in their local area, with assets often situated in non-industrial areas. As a result, these loads are usually more significant from a network point of view than their asset size suggests. The significance of these loads will increase as the grid migrates to more distributed energy resources.

Further to the above, WSAA members have highlighted a number of key points specific to the Review.

1. Incentives for the water industry to adopt innovative solutions (Ref Q1.2) for security of supply, such as on-line backup generation and onsite battery storage, could have compounding benefits. Those resources could also support frequency control and system strength, as well as absorbing variation in the output of VGE. Ideally, incentives would be in the free market and transparent in their service to the community.
2. A reduction in the large loss-factors currently applied to the variable component of our members' electricity bills would provide a fairer pricing structure for those where their sites are a considerable distance away from generation sources. This would, in turn, provide a benefit to water customers. This could be achieved by facilitating more distributed generation and/or a more equitable sharing of the cost of network losses (Ref Q1.2).
3. Investment in biogas cogeneration has proved financially viable, but only at a scale associated with the largest city water utilities to date. The value to businesses (and success of business cases) lies in avoided retail costs by using the energy 'behind the meter.' One barrier to further growth in cogeneration is the relatively poor return on investment when a large proportion of the energy is exported to the grid.

A local area network tariff that avoids the network transmission cost would provide a fairer outcome. This is particularly relevant when a water utility feeds power into the grid at one site

and either draws out of the grid at another point in the same area, or sells the electricity to a nearby customer (Ref Q2.4). Even better, would be virtual net metering and/or the use of microgrids. Virtual net metering, or something like it, would dramatically increase the amount of distributed renewable energy that water utilities can cost effectively generate through hydro-power, biogas and solar (Ref Q1.3). Note that this arrangement preserves the current incentives to match load with available generation, which is a mechanism that tends to mitigate the negative effects of VGE.

4. There is significant potential for medium to large scale solar on water utility assets (land, buildings, reservoirs and other assets). The low tariff for grid exports and the inability to obtain a better deal for distributed generation (local area network tariff, virtual net metering or other mechanisms) hampers uptake of solar projects on water utility assets (Ref Q3.1 & Q6.2).
5. Water utilities have significant capacity to act as distributed renewable energy sources to offset grid demand and/or provide network augmentation in times of peak usage.

Sydney Water supplied additional energy to the grid during the NEM high price event on February 10th 2017 using a diesel generator at one of its WWTPs. Transgrid and Ausgrid have recently released an Expressions of Interest for demand-side reduction and generation opportunities in parts of central and eastern Sydney. Sydney Water submitted a number of opportunities.

Battery storage and diesel generators located at water industry assets can help provide critical backup power supply for key water assets but could also support the network in times of peak demand (Review Q4.4.1)

At the request of the NSW government on 10 February 2017, Hunter Water was able, at short notice to shift demand of around 4 MW—half of their usual demand.

A more coordinated and long-sighted approach to demand management would allow water utilities to be a more significant contributor.

WSAA is happy to provide any further information that may support the Review. Please contact Jennifer Bartle-Smith on (03) 8605 7604 or jennifer.bartlesmith@wsaa.asn.au

Regards

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