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Dr Kerry Schott
Chair, Energy Security Board
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Dear Dr Schott

WSAA SUBMISSION TO ENERGY SECURITY BOARD POST 2025 MARKET DESIGN CONSULTATION PAPER

The Water Services Association of Australia (WSAA) is pleased to provide a submission to the Post 2025 Market Design.

WSAA is the peak body that supports the Australian urban water industry. Our members provide water and wastewater services to over 23 million customers in Australia and New Zealand and many of Australia's largest industrial and commercial enterprises.

Overview

WSAA and the urban water sector understand the significant challenges for the energy sector that are described in this consultation paper, and broadly supports the initiative and directions it proposes.

As significant energy consumers and producers, the water sector would welcome the opportunity to be closely engaged in future evolution of the energy system, as well as a range of other energy market operation and regulation matters that affect the sector's interests.

Water utilities are well on their way to becoming significant participants in energy markets, as a result of both financial and customer decisions, as well as compliance with legislative, regulatory and policy drivers in each state and territory.

Water utilities have a unique advantage in the energy production space, producing biomethane as a by-product of wastewater treatment, using the resulting treated recycled water to produce green hydrogen, and reusing the oxygen back into the treatment process. The distributed nature of water utilities is also a major benefit; having energy producers co-located in typical outer-urban areas has a co-benefit of typically being located near transport hubs and logistics centres which further cements the value proposition for water utilities as energy producers.

Biomethane and hydrogen production co-located with wastewater treatment are two big growth areas in energy production for water utilities that have the opportunity to reshape Australia's energy landscape. Water utilities can play a large role in decarbonising the economy through injection of biogas into the distribution network. As a transition fuel, biogas could form up to 9% of Australia's total energy needs, though it currently forms just 0.5%.

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Yarra Valley Water's Aurora Treatment Plant in Melbourne's north is looking to become a renewable energy hub with both food waste co-digestion producing enough biogas to power 2000 homes, and investigations ongoing into co-locating with hydrogen production.

WSAA is looking to collaborate with other organisations to support water utilities efforts in energy markets. We recently supported two joint letters to government on biomethane and hydrogen market development, in partnership with Bioenergy Australia. These letters called for more government support to showcase, activate and de-risk the renewable gas markets across Australia.

WSAA also made a submission to the Climate Change Authority on the Emissions Reduction Fund in support of water utility participation in decarbonisation through renewable energy initiatives, and Australian Carbon Credit Unit production and retirement.

Most, if not all, water utilities are looking to decarbonise their operations and meet regulatory conditions through Variable Renewable Energy (VRE) and Distributed Energy Resources (DER) behind the meter, including solar arrays, floating solar, and are also working to reduce Scope 2 emissions with customers, to use water in a smarter way at household level to reduce urban cooling needs and therefore loads on the electricity network and behind the meter emissions.

The circular economy is another driver for water utilities getting involved in the energy market, and WSAA has recently released a policy position paper in this area, available here: <https://www.wsaa.asn.au/publication/transitioning-water-industry-circular-economy>

WSAA broadly supports the Energy Security Board's ongoing reform of market mechanisms to achieve lowest overall cost for electricity. We suggest that there are currently a number of externalities preventing the effective operation of the electricity markets in achieving lowest cost outcomes for consumers, particularly inhibiting the ability for consumers to effectively utilise demand response.

The development of new products and markets proposed by the Energy Security Board in the Consultation Paper have the potential to address many of these issues if well designed. We particularly support the need for differentiating between long term capacity constraints and short term generation availability.

Specific industry feedback

Retailer Reliability Obligation (RRO)

Some of the measures and solutions proposed in the Consultation Paper are well intentioned but may have detrimental side effects, such as the RRO which dis-incentivises effective consumer behaviour and works against a true two-sided market – a stated goal of the reform process. We recommend considering alternative mechanisms to retailer reliability. For example, a capacity market would better provide for the incentives needed to support a modern National Electricity Market (NEM) than an expanded RRO. Demand inelasticity has historically been the main shortcoming of the NEM, therefore enabling greater demand side participation is critical.

The RRO discourages innovative retail solutions, including demand response, in favour of methods that suit large incumbent retailers. This will:

- Discourage existing consumers already actively managing their price risk through demand response
- Reduce the take-up of demand response
- Discourage consumer-led innovations and solutions to managing site loads and improving system reliability from entering the market
- For consumers to purchase more expensive and less efficient firming options from the market.

In essence, the RRO does not work for customers such as water utilities who have discretionary load and either choose to contract around the spot price or even participate directly in the NEM as a market customer, responding directly to short term price signals. The industry strongly advocates that customers with a spot price contract are exempt from any form of RRO.

Ultimately, the industry believes the current form of the RRO will lead to significantly higher costs for consumers, who would have otherwise managed their own price and capacity risk through demand response, passing on higher costs for all consumers due to a less efficient market.

Two-sided market

The water sector would also suggest that achieving a true two-sided market is impossible without true transparency in price – where retailers and wholesalers are the same company there is very little transparency on price which inhibits market forces, and is an area the market operator should be considering.

Increasing demand response will lead to more efficient utilisation of existing infrastructure over time, lowering the overall cost of electricity. It also moves towards a user-pays model that better allocates the cost of providing peak capacity to consumers who are unable or unwilling to respond. However, this must be balanced against externalities in the marketplace such as price security for vulnerable electricity consumers – mechanisms developed to support increasing demand response must include provisions that allow for these services to continue to be provided.

Other barriers include the complexity and scale needed to participate in demand response, noting that demand response aggregation services will facilitate the lowering of this barrier. For essential public service providers such as water utilities, there is always a need to balance business continuity with the benefits of demand response. The loss of end user control that would occur through participation in the central dispatch process is seen as a significant barrier to participation in demand response if centralised dispatch were to become mandatory. The water industry does not support any form of mandatory centralised dispatch for electricity demand.

The ongoing reliability of electricity supplies enables the provision of essential services and the ability to protect vulnerable customers who are unable or should be protected from participating in demand side activities. However, these are typically externalities that arise from current contracting arrangements, one such example being the positive public health outcomes associated with elderly and critical customers having access to reliable and affordable electricity during hot weather. Water utilities generally have specific Board and regulatory regime-driven customer outcomes in this area, and as such the industry supports the provision of appropriate protections to preserve these important public services.

Load management

Load management should not be discounted as a method to ensure customers pay the cheapest price for power – the recent Western Australian Whole of System Plan (WOSP) is a good example of this.

Ageing thermal generation

A market re-design must ensure that development of replacement capacity projects are more accountable to an appropriate level of generator access standards than they appear to have been.

The risk and cost implications associated with the exit of existing generation technology and the adequacy of emerging technology to maintain system security and reliability are understated as this is by far the most significant transition event the NEM has seen. This is the key risk to be managed, and the cost implications of getting it right and getting it wrong are both material to consumers.

Essential System Services

We are broadly supportive of providing an operating reserve through spot market provision. This mechanism may reduce the need for procurement of Reliability and Emergency Reserve Trader (RERT) to the same extent and could lower overall cost. It is not evident that during times of high demand (when it is most needed) there will be sufficient capacity available to procure operating reserve.

We support the development of additional markets to better manage frequency and support system strength within the NEM.

Inertia and System Security services have been undervalued and are increasingly significantly lacking predominantly due to the structural transitions already occurring in the electricity market. A market re-design must ensure that development of replacement capacity projects are more accountable to an appropriate level of generator access standards than they appear to have been.

The development of inertia markets or structured procurement mechanisms should be a high priority activity for the Energy Security Board (ESB).

We support the continued use of limited technology trials to test innovative products and services, outside of market rules. Where trials demonstrate the efficacy of a product or service change, we would support providing Australian Energy Market Operator (AEMO) with some flexibility to expedite adjustments without requiring full regulatory change processes.

Demand flexibility and integrating DER

The issue of balancing unscheduled demand and DER availability is an important one for the water sector. Mechanisms to facilitate Virtual Net Metering, such as spot price contracting where generation exported at one site can effectively be consumed at another site, are key to unlocking greater behind the meter generation capacity in the short to medium term. Water utility projects with substantial solar generation potential are often limited due to the need to match project capacity to the size of the metered load. The inconsistency created is that end user consumption at one National Metering Identifier (NMI) may be charged at peak energy rates while net exports at a nearby NMI have minimal to zero value during the same time periods of the day.

With DER's primary benefits flowing to behind the meter consumption, it appears the challenge of balancing unscheduled demand and DER availability at a consumer level is understated.

We are happy to discuss this submission further, please contact Elliot Stuart, WSAA's Liveable Communities Advisor on mobile 0429 291 982 or email elliott.stuart@wsaa.asn.au.

Kind regards



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Water Services Association of Australia