

18 May 2020

Energy Security Board
Level 26, 1 Bligh St
Sydney NSW 2000

Submitted by email to info@esb.org.au

Energy Security Board Moving to a Two-Sided Market

Snowy Hydro Limited welcomes the opportunity to comment on matters raised in the Energy Security Board Moving to a Two-Sided Market consultation paper.

Snowy Hydro understands that the NEM is undergoing fundamental changes and welcomes a considered and evidenced based assessment of a proposed Two-Sided Market design.

The existing market structure has been largely successful in achieving the National Electricity Objective (NEO) and already has the ability to support demand side response. The ESB should therefore not abandon the foundations of the existing market design. Any proposed changes should be participant and technology agnostic, and enable a transparent market that aids the price discovery process.

Most importantly, proposed changes must be tested through NEM modelling or an equivalent technique to establish that the impact on end-use consumers will in fact be positive. This modelling should be clearly targeted to proving that the perceived problem is actually going to be solved, to a reasonable degree of certainty.

This process is vital to maintain an equal playing field in the NEM, to minimise costs to consumers and to avoid reliability issues in the future. These points are explained in further detail in the remainder of the submission.

The NEM is structured to allow the demand side to both participate in and respond to price signals in the spot market, and for the interaction of supply and demand to determine an economically optimal outcome for all parties, including end-use customers. Facilities are already available for demand response to participate in the NEM, either directly as a wholesale participant, or via a retailer.

The Australian Energy Market Commission (AEMC) Wholesale Demand Response Mechanism (WDRM), which is currently being contemplated along with the two-sided market in effect privileges the demand side, which undermines the efficiency of the energy only market. There is also a risk of 'double dipping' through this mechanism, which will lead to consumers subsidising demand response that would have occurred without this mechanism. In this respect it represents a wealth transfer from those who do not participate, to those who do, without any corresponding overall benefit. The ESB should therefore address the concerns with the WDRM before further work is undertaken on the two-sided market.

It is important to acknowledge that demand response mechanisms involve both activation and opportunity costs. For business, the cost of demand reduction is foregone output (and therefore income), and for households, a loss of consumer welfare. These costs can be significant and are avoided when demand is fully supplied. If the assumption in the two-sided market argument is that energy consumers are highly engaged and hence the two-sided market will drive demand response

that will be an overall economic benefit the ESB needs to quantify that there is sufficient consumer engagement to deliver a positive net market benefit from introducing the two-sided market.

There is already a market available for demand response should consumers choose to participate and a quantitative case is yet to be made that the two-sided market costs outweigh the benefits and that energy consumers will be substantially better off. We do not have a problem with a two-sided market, in fact we always supported it through consistently arguing that the price discovery, transparency and overall more efficient utilisation of resources for the NEM is vital. Our concern is that this proposal for a two-sided market is an overly complex and a costly version which without a full cost benefit analysis will not factually prove the consumer benefit or whether this proposal could ever be a cost-neutral approach for consumers. Instead through this proposal we may see a bias in favour of some forms of investment or business models, with unintended consequences and additional costs that are passed through to consumers in form of higher prices, with flow on impacts to hardship, or unacceptable risks to the supply of an essential service. The ESB should therefore be analysing the effectiveness of the current market arrangements to facilitate demand response and why the proposed two-sided market will improve the current market.

The two-sided market consultation puts forward propositions to test, rather than statements of fact regarding the impact of the reform proposed. It is for this reason that our detailed comments on components of the two-sided market include:

- There is no evidence that the current level of demand response is sub optimal or that the market needs substantial change to achieve a more socially desirable or efficient level of demand response. Measures to promote a two-sided market that involve concessions for specific participants or particular business models will distort market outcomes and impose costs on consumers.
- The extent of latent demand response among small customers and extent to which they are willing to respond to high price events that can occur quite randomly and with uncertain duration is uncertain. More analysis is necessary to understand whether smaller customers want to adopt such pricing risks.
- Distributed Energy Resources (DER) at residential and small business level could facilitate greater demand side participation. However, it may not be as firm and therefore, as reliable, as some other forms of demand response or dispatchable supply. This would be counter to the objective for AEMO to rely on a volume of demand response that does not perform, and it doesn't work. There needs to be a quantitative assessment of this through current market trials.
- System and market operators require information about consumption decisions to perform their own functions which means there should be common scheduling, dispatch and other information provision obligations for consumers participating in demand response.
- Reduced obligations on some market participants may encourage over-investment in some technologies and business models and lead to a less stable system overall. This will likely necessitate more action on the part of system operators to maintain balance.
- The core function of retailers since the establishment of the NEM has been to manage pricing exposure on customers' behalf, while ensuring the continuous supply of an essential service. However, demand response involves the control and potentially the interruption of that essential service during times of peak consumption. This needs to be carefully managed.
- Consumer protections remain essential in this context and must apply in a competitively neutral way. It is important to align the AEMC's current work program to consider the appropriate form of consumer protections in evolving markets with the two-sided market program.

We recommend that the ESB proceeds with caution, with full cost benefit analysis of different options. It should use established NEM governance arrangements, which require careful consideration by the AEMC of proposed changes to National Electricity Rules (NER) and National Energy Retail Rules (NERR), with reference to the NEO and the National Energy Retail Objective (NERO). It will also need to consider how any model would apply in Victoria, given the national energy consumer protection framework does not apply in that jurisdiction.

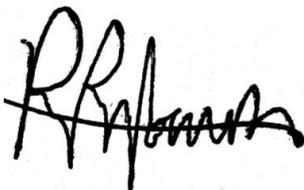
The ESB must also be mindful of equity considerations in that measures to promote greater participation by smaller consumers may involve cross subsidies that impose costs on those consumers least able to absorb them.

About the Snowy Hydro Group

Snowy Hydro Limited is a producer, supplier, trader and retailer of energy in the National Electricity Market (NEM) and a leading provider of risk management financial hedge contracts. We are an integrated energy company with more than 5,500 megawatts (MW) of generating capacity. We are one of Australia's largest renewable generators, the third largest generator by capacity and the fourth largest retailer in the NEM through our award-winning retail energy companies - Red Energy and Lumo Energy. Collectively, they retail gas and electricity in South Australia, Victoria, New South Wales, Queensland and the ACT to over 1 million customers.

Snowy Hydro appreciates the opportunity to respond to the Energy Security Board paper on moving to a Two-Sided Market and any questions about this submission should be addressed to Geoff Hargreaves at geoff.hargreaves@redenergy.com.au or myself at panos.priftakis@snowyhydro.com.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'P. Priftakis', with a stylized flourish at the end.

Panos Priftakis
Head of Wholesale Regulation
Snowy Hydro

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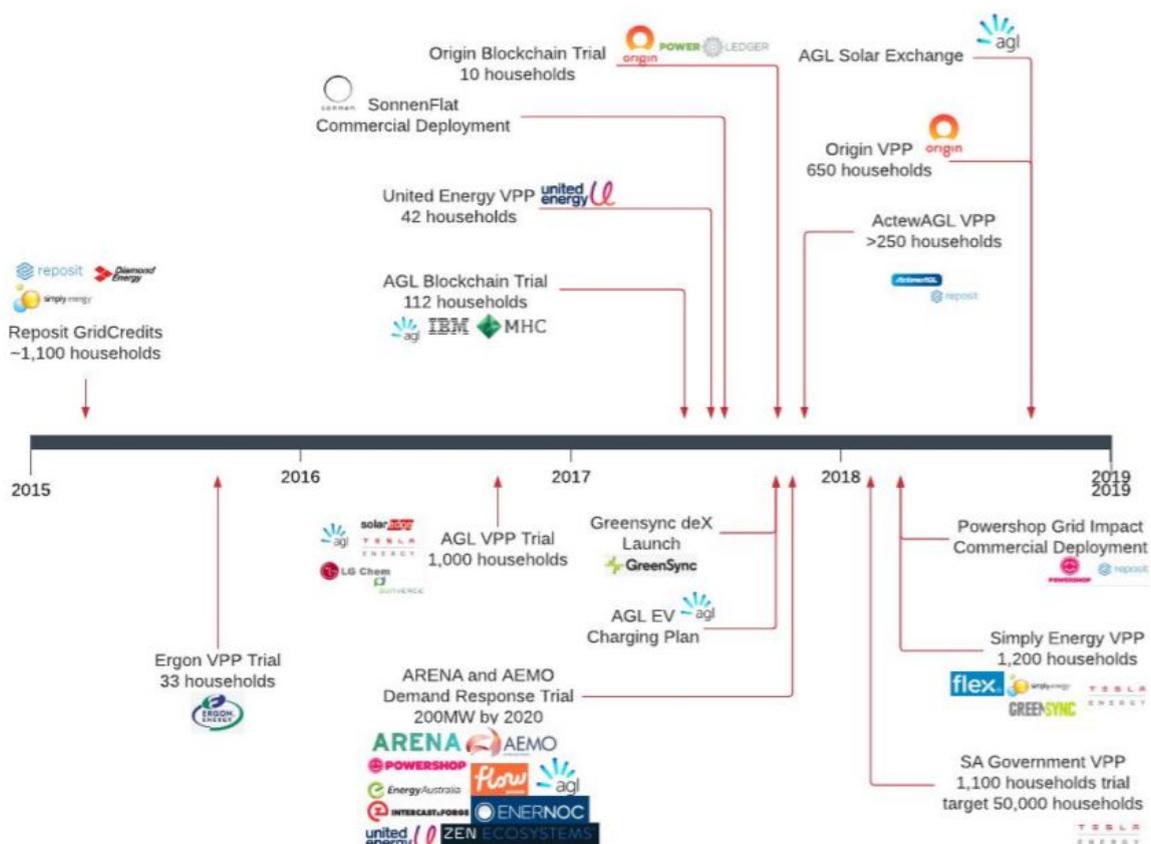
The move to a two-sided market

Why should we move toward a two-sided market?

The NEM is currently a two-sided market. There are already facilities available for the demand side to respond and participate in the NEM, either directly as a wholesale participant, or via a retailer. Retailers are incentivised to enter into demand response services with customers in order to win their business, or otherwise risk losing the customer to a competing retailer. The demand side currently has significant advantages in the market with no obligations and no enforced transparency which has made the push to correct a perceived 'market failure' unclear.

There is no evidence of market failure within the Australian market. There is no credible proof of a problem with the current market design, market signals and market frameworks not providing the appropriate price signals and incentives for the uptake of demand response. Figure 1 highlights what is being undertaken in the current market for demand response.

Figure 1: NEM DER Projects Timeline Snapshot



Demand side participation is happening everyday in a proportionate cost to consumption from small and large customers that want to save on energy by switching off appliances when they are not required. For small consumers, Time of Use (TOU) and other more complex pricing models can be used to introduce behavioural response at required times (implicit demand-side response), without the need for an explicit demand response mechanism. This is relevant for the consideration of how

to transition to a two-sided market as it suggests there is no need for substantial changes to the current framework.

There are market-based solutions which include demand response as intended in the NEM design. This allows the demand side to respond to price signals in the spot market resulting in the best and most economical solutions for all parties. This type of response doesn't occur due to a direct payment and the benefit for consumers with more flexible usage profiles is that they can avoid higher prices if they choose a more complex retail offer that offers exposure to higher prices but lower prices at other times. Demand response is occurring under current arrangements and this is increasing, driven by the value being presented by the changing NEM.

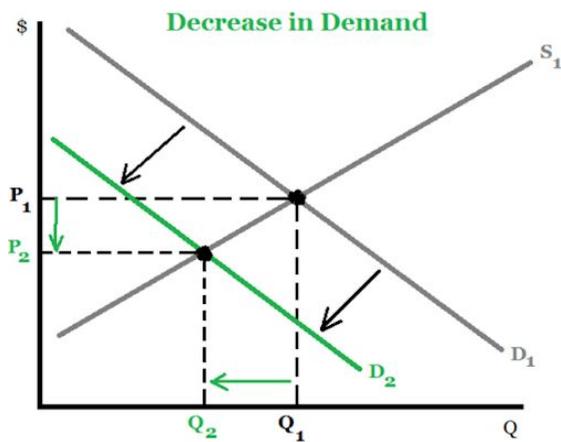
Demand response can also support the operation of networks and there are numerous examples of distribution networks engaging with consumers, large or some collection of smaller consumers, to alleviate peak demands on network capacity and to acquire other services to ensure network stability and security. Demand management at the small business and residential level, through the aggregation of the load, may offer the greatest benefit in this area, rather than at a broader level through the wholesale market. At this stage, however, the appetite for more active demand management - either directly or through an intermediary - among these consumers segments is low.

The NER allow for these arrangements and for networks to consider the potential for demand response when considering network augmentation and replacement (through Regulatory Investment Tests, for example). Distribution networks must also develop network tariffs that better reflect long run marginal cost, which can encourage behavioural change if implemented in a form that consumers understand and can realistically respond to.

The AEMC WDRM, which is expected to be incorporated in the two-sided market proposal, introduces substantial risk to retailers as well as potential distortions to investment signals. If the AEMC were to progress with a WDRM in the form proposed, Snowy Hydro considers that the issues regarding the scheduling, baseline measurements and methodology, costs to the consumers, reimbursement and settlements still need to be thoroughly assessed before further work is undertaken on a two sided market.

While an interesting aspiration is for demand to fully participate in the NEM it cannot fully operate as a two-sided market. Electricity is an essential service which prevents equivalence in supply and demand exposure to outcomes. Should demand be allowed to bid for supply at a specific price, and exposed to not receiving supply if the settlement price is above bid levels, then the NEM wouldn't be able to preserve its essential service nature. The ESB mentioned that a customer could bid at Value of Lost Load (VoLL) to have guaranteed supply of electricity however does the ESB envisage stopping the flow of electricity to a site who failed to bid for electricity above the settlement price even though it is attempting to draw electricity from the grid?

In the unlikely event the NEM is permitted to evolve as a two-sided market, alike to a commodity market, then the draft WDRM is fundamentally at odds with the functioning of a commodity market. A commodity market determines the price by matching the supply with the demand curve; as mentioned by the ESB, demand can respond based on its value preference and get rewarded with lower prices by reducing the quantity purchased. The proposed WDRM is paying the demand side at the same rate as the supply side for not buying. As shown in the figure below, while it incentivises demand to reduce in quantity, it does not reduce the settlement price, instead it relies on a retailer to pay the difference between P1 and P2 to the demand respondent.



This model is not economically sustainable and ultimately results in the destruction of supply and demand without commensurate reduction in prices. When applied to a commodity market it is easy to understand how it can not operate, it is equivalent to paying the purchaser of the commodity for not buying the commodity in the first place. In other markets the reward for the customer not consuming is simply not having to pay more for the product than its value to the customer.

The NEM was designed to operate in a competitive national market with volatility being another electricity market feature since deregulation. Volatility is especially important when assessing the market design, as it is the only opportunity peaking power stations have to recover fixed costs and sustain investment and maintenance while also complementing demand response.

Table 1 below shows the relative contributions of baseload and peaking generation to wholesale price outcomes. It shows that the contribution of peaking generation (volatility) to spot prices are generally minor. In NSW for 2018, volatility contributed \$1 per MWh, or 2 percent of average prices. Even in Victoria, severely depleted by the retirement of Hazelwood, the contribution of volatility was 12 percent.

Table 1: Wholesale Spot prices by underlying (limited to \$300/MWh) and volatility (>\$300/MWh) components, 2008 to 2014 average, 2016, 2017 and 2018 (to June 2018)¹

		2008 to 2014	2016	2017	2018 (to June)
\$/MWh and proportion of price by component					
Queensland	Underlying	\$37 (86%)	\$61 (90%)	\$85 (83%)	\$68 (98%)
	Volatility	\$6 (14%)	\$7 (10%)	\$17 (17%)	\$1 (2%)
NSW	Underlying	\$37 (90%)	\$58 (98%)	\$90 (95%)	\$76 (98%)
	Volatility	\$4 (10%)	\$1 (2%)	\$5 (5%)	\$1 (2%)
Victoria	Underlying	\$36 (91%)	\$46 (97%)	\$92 (100%)	\$82 (88%)
	Volatility	\$4 (9%)	\$1 (3%)	\$0 (0%)	\$11 (12%)
South Australia	Underlying	\$40 (75%)	\$66 (82%)	\$97 (92%)	\$89 (83%)
	Volatility	\$13 (25%)	\$15 (18%)	\$8 (8%)	\$18 (17%)
Tasmania	Underlying	\$38 (92%)	\$92 (96%)	\$97 (99%)	\$83 (97%)
	Volatility	\$3 (8%)	\$4 (4%)	\$1 (1%)	\$3 (3%)

Source: ACCC analysis of AEMO data.

AEMO noted that WDRM would incentivise most responses during high market price events triggered by peak demand or an unexpected generator outage, rather than the potential daily

¹ ACCC electricity report 2018

occurrence of high photovoltaic generation causing low or negative prices in the middle of the day². Volatility may be a more important driver for more participation of demand response.

How parties participate in a two-sided market: scheduling and bidding

The ESB should continue to promote transparency in areas that are currently quite opaque as well as being predictable, so that market participants can make efficient investment and operational decisions.

As the NEM continues to evolve, it is sensible to have scheduling obligations not remain only with generators with the market having no understanding of the future market intentions for the demand side of the market. With the introduction of the Retailer Reliability Obligation (RRO) and the proposed WDRM it is important to have frequent updates and market transparency for demand.

There still needs to be more transparency into AEMO's forecasting processes and methodologies. We want to understand what AEMO intends to do to improve its forecasting accuracy and how the Commission is expected to work with the market operator.

Snowy Hydro has consistently argued that the price discovery, transparency and overall more efficient utilisation of resources for the NEM is vital. In 2017, Snowy Hydro and ENGIE submitted rule changes relating to the accuracy of pre-dispatch demand and price forecasting which were unsuccessfully not made into a final rule. The major reason for the rule change in 2017 was that the behaviour of non-scheduled generation and price-responsive load cause pre-dispatch forecasting inaccuracies leading to inefficiencies in the market.

The price discovery process will become more challenging in a dynamic NEM environment over time, with increasing distributed generation and demand response. System and market operators require information about consumption decisions to perform their own functions which necessitates common scheduling, dispatch and other information provision obligations. The scheduling features necessitate a number of obligations and incentives consistent with the obligations imposed on current scheduled generators. These include compliance with dispatch targets, bidding and rebidding obligations and incurring Frequency Control Ancillary Services (FCAS) contribution factors deviating from dispatch targets, as these obligations are vital for maintaining the integrity of the central dispatch and price setting process.

The consultation paper notes that *"the technical requirements imposed on current scheduled generators should not be required to apply to all scheduled traders in a two-sided market. There is an important trade off to be made between the benefit of achieving higher levels of visibility for the system operator to operate the power system and the cost of the technical requirements it might impose on scheduled participants."*³ Snowy Hydro believes that care must be taken in reducing obligations on certain participants and more analysis needs to be undertaken. Reduced obligations on some market participants may encourage over investment in demand response capabilities and a less stable system overall, depending on the firmness and reliability of that response. This will likely necessitate more action on the part of system operators to maintain balance.

We are concerned with the proposed approach to dispatch compliance. The consultation paper states *"we will consider the details of a framework that proportionally rewards traders when they meet their targets and penalises those who do not. When setting these incentives/penalties, thought will be given as to how they can be both commensurate to the benefit/cost and impact on the*

² AEMO, 2018, "Wholesale Demand Response Mechanisms – Consultation Paper", pp13

³ ESB, 2020, "Energy Security Board Moving to a Two-Sided Market", pp16

market." This is not consistent with the strict dispatch requirements which currently apply to Registered Participants (NER, clause 4.9.8(a)), as well as the enforcement policy adopted by the Australian Energy Regulator⁴. That is, the current rules do not allow a 'proportional' approach to compliance with dispatch instructions, and do not have regard to the fact that "a severe penalty could place an unfair burden on participants when expectations genuinely do not match reality". Currently, absolute compliance is taken as the minimum and only requirement, unless there are risks to safety or equipment. Modifying this requirement for different categories of traders would be inequitable and would distort efficient investment incentives.

The causer pays criteria for regulation FCAS for example is key to the way that regulation services are paid. Excluding this from demand response could lead to loads not responding as expected and a regulation service needed to be procured to manage the frequency. This could lead to non-DRSP demand subsidising demand response as residual causer pays gets lumped on customer load. Any causer pays factors that cannot be allocated to a generator are by default assumed to be caused by the retail load which means that these costs are then smeared onto the retailers.

Recently the AEMC's WDRM Draft rule determination noted that *"it is unclear how much demand response would be provided through the mechanism, and what the impact of this demand response would be on power system frequency, the second draft rule does not require contribution factors to be determined for DRSPs."*⁵ This is worrying as AEMO's recent frequency rule change expresses concerns regarding the deterioration in power system frequency performance. If AEMO has concerns regarding minimising the ongoing operational impact on each generating system and reducing the risk of load shedding or generation shedding following power system frequency events then all scheduled loads should be subject to causer pays. The cost of not knowing the amount of demand response will be greater if frequency is impacted than the costs of AEMO implementing the changes.

It is important that AEMO has the visibility of demand response and the implication on its ability to manage power and system security in the short-term and longer-term. The ESB should understand in any scheduling obligations there needs to be a consequence for not responding and not providing a service otherwise the scheduled service will not have a reason to improve the reliability and performance of the service.

In addition to scheduling obligations, AEMO has and will increase its access to available demand side response through the existing Demand Side Participation Information and will increase this with the global settlements initiative, register of DER (which installers and distributors populate) and Consumer Data Right (CDR). These measures will further inform AEMO's planning functions and obviate the need for further obligations on other market participants, such as retailers, over and above those that currently exist.

Who should participate in a two-sided market?

More analysis is necessary to understand the extent to which smaller customers want to adopt such pricing risks before proceeding with substantial changes to the current framework. Snowy Hydro could not support a framework that offers benefits to a very small proportion of consumers but exposes other consumers with less ability to invest in DER and/or with less flexible consumption profiles to additional costs.

⁴ AER, Compliance Bulletin No. 1 July 2016, Compliance with dispatch instructions, offers and bids

⁵ AEMC, Wholesale demand response mechanism, Draft rule determination, 12 March 2020, pp152

The consultation paper spends considerable time discussing how best to encourage more active demand side participation. However the paper fails to address that even with an existing framework that enables demand side participation, the willingness of some consumer segments to actively participate demand side initiatives.

The demand for energy is derived and is therefore a function of many factors, one of which is its price. Others drivers of demand for smaller consumers include weather, income levels, previous investments in appliances (such as air conditioners or pool pumps) that consume energy, and the demand for goods and services that require energy for their production. Households are concerned about the potential wear and tear on appliances if they are frequently switched on and offer and business practices and processes are not always flexible enough to allow for interruptions. For many of these consumers, the demand for energy is inelastic with respect to price.

Another factor to consider is other aspects of the broader regulatory environment that might prevent consumers from shifting their consumption to other times of the day. Pool pumps are a frequently cited example of energy use that could be easily shifted without impacting a consumers' quality of life. However, noise control regulations in NSW prevent residential consumers from using pool pumps between 10pm and 7am on weekdays.⁶

As a result, the extent to which consumers, particularly those with smaller consumption levels, are willing to respond to high price events that can occur quite randomly and with uncertain duration is unclear. We recognise that this could increase over time through technological change. For example, increased penetration of electric vehicles could facilitate this but ownership is very low at present and the pattern of usage and demand for energy by owners of electric vehicles is highly uncertain. At this stage, it is unlikely that a significant proportion of all small consumers will be interested in either direct participation in the wholesale market or the prospect of an uncertain interruption to their supply during a peak time if they outsourced that participation to a third party (such as a retailer or aggregator).

These consumer segments are more likely to manage their demand in a way that suits their needs and preferences. This will generally be through a response to pricing structures in established retail offers, rather than through ad hoc direct participation. This could involve greater exposure in a retail contract to wholesale prices, and lower rates during off peak periods, or by responding to cost reflective network tariffs that are built into a retail offer. There are no obstacles to consumers seeking out such offers in competitive retail markets or to retailers developing more complex prices if consumers express a preference for them.

To this point, however, we have seen a reluctance on the part of many small consumers to accept greater pricing risk through more complex pricing models.

For example, consumers with less flexibility to respond to high prices could face higher prices as they disproportionately contribute to the recovery of historic investments in network infrastructure or generation capacity. Similarly, prices might be higher than they would otherwise be if system operators need to take more action, such as procuring reserve supplies, to manage less centralised systems. ESB should account for these equity considerations when it evaluates different models for a two-sided market.

A further issue for the ESB to consider is the impact of retail price regulation and related regulatory obligations on small consumers' ability to respond to sharp price signals. Policymakers across the NEM have implemented measures to encourage market participation by improving consumers'

⁶ See <https://www.environment.nsw.gov.au/questions/times-residential-noise-restrictions> for more details.

ability to compare offers in the market. The Default Market Offer and Victorian Default Offer are now reference prices for retail offers but these comparisons are prescribed levels of consumption and are based on regulatory assumptions about the timing of consumption. It is not easy for consumers to compare offers that involve more complex pricing, including greater exposure to peak prices, which they can avoid by shifting their consumption to off peak times.

In a more extreme example, the Essential Services Commission (ESC) will soon require retailers who want to offer ‘innovative’ retail offers, that include exposure to wholesale prices, to submit their proposals for assessment and approval prior to offering them to retail consumers. We assume this obligation would also apply to any new “traders” looking to benefit from a two-sided market but the ESC does not make this clear. However, initiatives such as this not only reflect policymakers’ concerns about whether consumers will benefit from more complex tariffs but will undermine the incentive of retailers and any other intermediaries to develop them in the first place. The ESB will need to account for tensions in policy objectives as it assesses how to proceed.

Interactions with ahead markets

The consultation paper correctly notes that *“any decisions about the level of ‘aheadness’ would create winners and losers. It is not possible to choose an optimal settlement interval for an ahead market without assuming the resource mix needed to meet the required energy services (including system services such as inertia and system strength).”*⁷ Snowy Hydro therefore believes that careful consideration will be needed to understand what level of aheadness is required or if any further aheadness is needed in the market.

Benefits of a day-ahead market are already addressed by the forward contract market that supports the NEM’s real-time market. Market participants can already hedge pricing risk using financial derivatives under the current frameworks so any scheduling improvements from a day-ahead market would likely be limited. In addition Generators can structure their bids in the real-time market based on their costs, plant characteristics and contract position to ensure dispatch of their generation fleet to cover their contract positions. This provides some certainty over which plant will be running and for how long. If the expectation is that the proportion of fast-start plant in the NEM is going to increase to manage real-time volatility then market signals for slower-start generation may not likely be needed. The implementation of the NEM’s real-time market also delivers benefits similar to those of a day-ahead market. AEMO’s pre-dispatch already signals expected market outcomes at a 30-minute resolution to the end of the next market day. The information in pre-dispatch means any scheduling improvement through the implementation of a day-ahead market may be limited.

Incentives for long-term reliability

The energy industry’s investment focus has shifted to a combination of gas generation, renewables and enabling technologies with more than 3,000 megawatts of coal generation exiting the market in Australia over the last three years. The changes in these market conditions have led to the on-going development of demand response products in the current market providing the appropriate incentives.

Prices in the spot and contract markets provide signals for adequate generation and demand-side resources to be built and dispatched, as well as information about the balance of supply and demand

⁷ ESB, 2020, “Energy Security Board Moving to a Two-Sided Market”, pp28

across different places and times. In addition the RRO provides another alternative. The RRO obliges retailers to hold a minimum amount of contracts with dispatchable generators in relation to their own demand.

The incentive for long-term reliability needs to be met with an understanding of the firmness and dispatchability of the service. The consultation paper notes that *“digitalisation provides an opportunity to improve the way we deliver adequate levels of generation to meet the reliability standards demanded by customers.”* To deliver the adequate level of generation it is therefore vital that participants in the NEM meet dispatchability and flexibility needed to make sure the needs of the grid and provide sustained output.

In understanding the dispatchability and flexibility, Snowy Hydro believes factors should be looked at, such as:

- Predictability of the resource;
- The capacity over time
- Location of the resource and;
- The ability of the resource to match load.

There is currently no measure to categorise whether a particular generation source is flexible over sustained periods. The flexibility metrics could be considered for the system to understand how each source of generation could perform. The test for flexibility of dispatchable generation should not be confined to tests over a few hours rather the flexibility should also include tests over consecutive hot days.

Importance of maintaining consumer protections

One of the core functions of authorised retailers since the establishment of the NEM has been to manage pricing exposure and market risk on their customers' behalf. This will carry over into any two-sided market. However, retailers are also subject to extensive regulatory obligations, primarily through the National Energy Consumer Framework (NECF) - and the Energy Retail Code in Victoria - and through technical standards for the delivery of energy, because electricity is an essential service. These obligations include requirements to assist consumers experiencing payment difficulties, complaint handling (through membership of jurisdictional ombudsman schemes), information provision and importantly, limitations on disconnections and additional protections for consumers requiring life support.

However, demand response, either from an individual consumer or through aggregation, involves control and potentially the interruption of supply, generally during periods of peak demand. The move to a two-sided market needs to account for any principal / agent issues if additional parties are able to aggregate the load of small consumers and then act on their behalf - including through automated responses - in order to participate in the wholesale market or provide network support.

There are two related elements to this. Firstly, all consumers should receive the same core protections that cover the supply of an essential service. This includes consumers who enter into contracts with other participants who might take control of their supply. Secondly, those protections should ensure that market participants are incentivised to act in their customers' best interests. Effective competition encourages this but it has been augmented with explicit informed consent (EIC) provisions since the establishment of competitive energy markets.

Core protections are enshrined in standard retail contracts and will need to apply to any other market participants who participate in wholesale markets on a small consumer's behalf. This should include obligations to provide essential information about contractual terms, confirmation of life support status, notification ahead of supply interruptions and complaint handling obligations. Otherwise, the foundations of the NECF and the Victorian framework are eroded.

The consultation paper suggests that consumers should have the option to knowingly agree to alternative terms and conditions that would allow an intermediary to participate in the wholesale market on their behalf. This is possible through a market retail contract (although some core protections apply to both standard and market retail contracts).

However, this is dependent on the consumer providing EIC to those terms. EIC provisions ensure that consumers are actively involved in decisions about their energy supply, and that they are making considered and informed choices including understanding the financial risks of exposure to the wholesale markets. They have been a core element of energy consumer protections and exist to ensure competitive markets serve consumers' interests and deliver products that reflect their needs and preferences. They are a minimum provision that should cover any market participants in a two-sided market.

The concept of EIC is well understood by retailers under the current framework. However, it would need to evolve to capture issues such as the implications of exposure to wholesale market risk, the potential for interruptions to supply during peak demand and the impact on appliances if they are frequently switched on and off.

We note that policymakers and regulators are extending consumer protections support to all small customers, regardless of the mechanism through which they obtain their energy. The Australian Energy Regulator and Essential Services Commission have applied core protections to exempt sellers and the AEMC has proposed a revised regulatory framework that would cover exempt sellers and stand-alone power systems. As the ESB is aware, the AEMC is also looking at the appropriate form and coverage of consumer protections in an evolving market.

Competitive neutrality is an important guiding principle for this work and the ESB must keep consumer protections top of mind, ensuring that the careful controls that relate to the supply of an essential service apply to all participants.

Access, charging and integrating DER

The wholesale market should be supported by distribution pricing and access arrangements that encourage efficient investment in new infrastructure and utilisation of existing networks. Without the appropriate price signals, there is the potential for DER to locate in areas on the distribution system where it is least required exacerbating problems such as network supply constraints during peak times. Furthermore, the two way flow of energy creates challenges for distribution network operators to maintain system security.

The ESB will be aware that distribution businesses are required under the NER to develop network prices that reflect the efficient costs of providing network services. This encourages consumers to respond to network prices by reducing their consumption in higher cost periods and reward through lower network charges. It should also encourage efficient investment behind the meter (in solar, batteries and smart appliances, for example). In the coming years, these prices will influence when owners of electric vehicles charge their vehicles and when they feed energy back into the network.

There has been little progress towards implementing cost reflective network tariffs that consumers and retailers have been willing to embrace or reflect their preferences and needs. There is an opportunity for networks to improve their processes. They can do this through more effective engagement with consumers and with retailers. In the past, some networks have proposed overly complex network tariffs that few small consumers understand and have then sought to mandatorily assign them. This strategy has been less than successful because consumers need to understand the price signal embedded in the tariff to reduce their overall network usage or change their usage patterns to avoid using the network in peak times.

The consultation paper acknowledges the Distributed Energy Integration Program, which is currently examining different models for network access, the role that demand response can play in alleviating network constraints (and to mitigate the need for further system augmentation), and pricing models. Similar to other measures to transition to a two sided market, the ESB must carefully consider the impact of different options on end users.

For example, system operators (including distribution networks) will incur additional costs to ensure the security and reliability of their networks if there is increased two way energy flows from inefficient investment in distributed generation by small business and residential consumers.

Possible path forward

Snowy Hydro recommends that the ESB proceed with caution, with full cost benefit analysis of different options and being mindful of competitive neutrality. It should use established NEM governance arrangements such as the careful consideration of rule change proposals by AEMC, with reference to NEO and NERO

Otherwise, we may see a bias in favour of some forms of investment or business models, with unintended consequences and additional costs that are passed through to consumers in form of higher prices - with flow on impacts to hardship - or unacceptable risks to the supply of an essential service.

For example, reduced obligations on some market participants may encourage over investment in demand response capabilities and a less stable system overall, depending on the firmness and reliability of that response. This may necessitate more action on the part of system operators (AEMO and / or distribution networks) to maintain balance. Similarly, inefficient pricing, whereby DER doesn't contribute to additional distribution network costs could entrench cross subsidies, encouraging further consumption - rather than generation - at peak times.

We see little need for substantial change to the current market arrangements but the ESB could consider some intermediate steps that could encourage a more active demand side, particularly among smaller consumers. This includes:

- Alignment of policy frameworks across the NEM - the emergence of different forms of regulated pricing potentially undermines signals for efficient consumption and investment.
- Continued rollout of smart meters to small customers
- Better distribution network pricing models that encourage efficient utilisation and investment in distributed generation.
- AEMC should continue its work program to evaluate the form and coverage of consumer protections in evolving markets - it should maintain a guiding principle of competitive neutrality, with common consumer protections irrespective of the mechanism through which the sale of energy occurs.

