Justice and Equity Centre

Review of the Wholesale Demand Response Mechanism

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About the Justice and Equity Centre

The Justice and Equity Centre is a leading, independent law and policy centre. Established in 1982 as the Public Interest Advocacy Centre (PIAC), we work with people and communities who are marginalised and facing disadvantage.

The Centre tackles injustice and inequality through:

- legal advice and representation, specialising in test cases and strategic casework;
- research, analysis and policy development; and
- advocacy for systems change to deliver social justice.

Energy and Water Justice

Our Energy and Water Justice work improves regulation and policy so all people can access the sustainable, dependable and affordable energy and water they need. We ensure consumer protections improve equity and limit disadvantage and support communities to play a meaningful role in decision-making. We help to accelerate a transition away from fossil fuels that also improves outcomes for people. We work collaboratively with community and consumer groups across the country, and our work receives input from a community-based reference group whose members include:

- Affiliated Residential Park Residents Association NSW;
- Anglicare;
- Combined Pensioners and Superannuants Association of NSW;
- Energy and Water Ombudsman NSW;
- Ethnic Communities Council NSW;
- Financial Counsellors Association of NSW;
- NSW Council of Social Service;
- Physical Disability Council of NSW;
- St Vincent de Paul Society of NSW;
- Salvation Army;
- Tenants Union NSW; and
- The Sydney Alliance.

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Contents

1. Introduction

The Justice and Equity Centre (JEC) welcomes the opportunity to respond to the Australian Energy Market Commission's (AEMC) Review of the Wholesale Demand Response Mechanism (the review).

Demand response (DR) provides direct value to consumers who participate in the service themselves. But it also provides value to all other consumers who benefit from reduced wholesale prices. Substantial DR offerings are a critical component of an efficient 21st Century energy grid and are necessary to deliver the reliability consumers expect at costs they are willing to pay.

All National Energy Market (NEM) participants, including demand response service providers (DRSP), should be held to requirements that protect the interests of consumers through maintaining the integrity of the energy market and system. However, these requirements should not restrict the efficient participation of generation, storage and demand response that could dependably and safely improve competition in the wholesale energy market and the outcomes it delivers for consumers. As it stands, current arrangements for the Wholesale Demand Response Mechanism (WDRM) do not appropriately strike this balance.

The role of misconceptions in impeding the WDRM

To date the key reasons for low take-up of WDR in the first five years of its existence are not related to its potential. Rather, implementation roadblocks have been imposed on it by both the AEMC and the Australian Energy Market Operator (AEMO). We outline these in section 2.

Underpinning these actions to a large degree is the belief that the WDRM is a temporary measure that will be made redundant by the onset of the 'two-sided market'. In section three we engage with this proposition directly and unpack the proposition to show that it relates to a set of beliefs about two distinct types of demand response:

- one which is incentivised through payment/compensation, and
- one which is incentivised through bill savings.

Our response is to rebut key AEMC assumptions regarding the differences between these, including the belief that the second type of DR does not require baselining. We then explain our disagreement with the extraordinary claim that expansion of the second type of DR will occur to such an extent that it will nullify the possibility of value being created by the first type of DR.

We argue that the two-sided market remains a theoretical ideal. It does not – and is unlikely to – provide any clear replacement for the WDRM in terms of opportunities for compensation-based demand response (DR). The WDRM will continue to exist alongside the Integrating Price Responsive Resources (IPRR) reforms and consumer energy resource (CER) benefits, as well as whatever other reforms are made to enable the two-sided market to develop in the coming years and decades.

Issues with restricting DR to retailers

In section four, we consider the limitations of restricting the offering of DR through a retail-centric market. A key difference between the two types of DR being considered is that the form

associated with the WDRM involves bypassing retailers, where the alternative form associated with the two-sided market does not. We draw on experiences of retailers and DR in the NEM to date. We also draw on observation of retailers' reticence to provide analogous services outside of their 'core' business to prosecute the case that retail-centrism constitutes a substantial risk to efficient DR expansion in the NEM.

Appropriately considering WDRM costs and benefits

In section five, we respond to the Commission's questions regarding the treatment of costs and benefits of the WDRM in the Review. We note that the treatment of benefits is unreasonably narrow, omitting benefits the AEMC has itself identified in the past. This includes benefits pertaining to the WDRM that it and AEMO have identified in relation to the Integrating Price Responsive Resources (IPRR) reforms.

To ameliorate this, we outline the multiple benefit streams relevant to the WDRM. We do not seek to comment on the materiality of each benefit stream but offer to work with the AEMC in the coming months to develop appropriate methodologies to calculating these.

Reforms to realise the potential of the WDRM

Finally, we propose changes to the design of the WDRM aimed at expanding the take-up of the mechanism and enhancing the value the scheme produces. In section five we propose that

- The WDRM is expanded to include small users and households;
- The WDRM is extended so positive demand can be compensated at times of negative prices in order to contribute to the management of minimum system load; and
- The process of adding baselines should be streamlined and baselines appropriate for use with aggregated loads and customers with multiple connection points should be added.

The WDRM is an essential mechanism that creates unique offerings among the demand side participation options in the NEM. It allows energy users to do DR in the energy spot market without their energy retailer. It also allows DR providers to compete with generators on a level playing field in the energy spot market.

Implementation roadblocks in respect of large consumer loads, which have limited participation to date, can be removed and it can go on to be an effective tool for unlocking flexibility in both large and small customer loads. Failing to expand wholesale demand response opportunities to households would be an obvious and profound missed opportunity.

We expand on these points and respond to the specific questions outlined in the Review in the sections below.

We ask the AEMC team to consider our comments in the sections below in considering stakeholder feedback to the explicit questions outlined in the consultation paper.

2. Failures impeding WDRM utilisation

A number of actions and failures to act by the AEMC and AEMO have impeded the WDRM meeting take-up expectations in line with comparator jurisdictions. It is important for this review to assess the experience of the WDRM in light of these. Not doing so will produce a distorted image of the potential for the mechanism going forward.

The impact of viewing the WDRM as 'temporary'

In framing the mechanism as 'temporary', both at its inception and since, the AEMC has disincentivised demand response service providers (DNSP) and potential consumers of DR from undertaking the necessary investment to participate in the mechanism.

We can derive no reasonable explanation as to why the AEMC took this step - indicating to the market they expect a new reform to be an impermanent feature of the NEM - at the time of making a rule.

If the commission genuinely believed retailers would step up and fill the gap in the potential for wholesale demand response without further incentives, the obvious questions are:

- Why have retailers not done that in the past two decades, despite having every opportunity? and
- what is going to occur to change this in future?

If the Commission's view was that two-sided market reforms would provide incentives to realise those benefits, then the question is:

- Why make a reform to give retailers *additional* incentives to deliver on the promise of innovation, rather than implement a reform to remove barriers to innovators (such as DRSPs) accessing *existing* incentives in a manner supporting genuine competition?

If the reasoning behind the framing of 'temporary' was to reassure retailers and generators that they need not be concerned about the potential impacts on demand response provided by new entrants, this would appear to be anti-competitive.

The impact of baselining delays and focus on RERT

AEMO's delayed action on developing effective baselines and focus on promoting Reliability and Emergency Reserve Trader mechanism (RERT) as its primary avenue for DR participation - rather than the WDRM - have further sapped potential volume from the scheme and limited its expansion.

The motivations for AEMO's actions are clearer. WDRM was a material, and in part unwelcome, change to market operations at a time when a number of key changes were vying for AEMO's attention and resources. Promoting RERT has allowed AEMO to reassure nervous Governments it has a gigawatt of emergency supply to keep the lights on during reliability events.

Welcome or not though, any time DR is dispatched by AEMO, it is placing downward pressure on price avoiding more expensive generation from setting a higher spot price, and thereby reducing

cost for all energy users. While capturing DR in RERT may suit the pretences of governments, doing so at the expense of WDRM participation is not in the interest of consumers. Where a DR resource that could participate in WDRM instead participates in RERT, it is being paid a higher price to deliver the same benefit. It may in fact deliver less benefit, given the low frequency of actual Lack of Reserve events relative to high spot price events.

Whatever the beliefs or intentions behind them, these actions of the AEMC and AEMO have impeded the potential effectiveness of the demand response mechanism to date. Both market institutions have failed to meet the expectation to promote the long-term interest of consumers. The missed opportunity of demand response that hasn't participated, at a time of sustained high wholesale prices, should be acknowledged and addressed by the Commission, and a commitment made to improving the mechanism.

Recommendations

Based on the above, the JEC makes the following recommendations in relation to governance of the WDRM:

1. AEMO and the AEMC should unambiguously declare that the WDRM will continue to exist
    a. alongside the two-sided market, and
    b. into the long term.

2. Given that both market bodies acknowledge the importance of flexible demand to the future NEM - but that there are not a set of widely agreed assumptions in the sector - a series of workshops should be co-developed with the JEC, aimed at unpacking and expanding our collective understanding of flexible demand.

3. AEMO should actively promote the WDRM (alongside or in preference to RERT) in line with the commitments made at the mechanism's inception.

4. As a strong signal of the operator's commitment to the scheme, AEMO should commit to streamlining and easing the introduction of new baselines.

3. WDRM and the two-sided market

The two-sided market will not replace the WDRM nor make it redundant. They will both continue to co-exist into the long term. Both the AEMC and AEMO should cease referring to the WDRM as temporary or consulting on phasing it out. This does active damage to the mechanism, disincentivising consumers and DRSPs from undertaking the necessary investment of time and money to partake in the scheme.

In this section we interrogate and rebut the assumptions and assertions that underpin the claim that the two-sided market will render the WDRM redundant.

These are, in order

1. That there are two distinct types of DR;
2. One of these requires baselining while the other does not;

3. That baselining is inherently problematic;
4. The DR that occurs as part of the two-sided market will erase any opportunity for positive net value to be created in the WDRM; and
5. The expansion of the two-sided market will occur so quickly that it may be in consumers' interest to start phasing out the WDRM in the near term.

We disagree with nearly all these points.

Two types of demand response

We understand the two-sided market to refer to situations in which demand can respond to changes in price in the wholesale market in operational time.[1]

Exposure to the wholesale spot market on an appropriately partial basis can occur via a retailer or via a smart electricity service provider (SESP). An SESP is 'an entity that provides smart electricity systems to consumers and takes responsibility for providing demand flexibility services to the consumer.' [2] Importantly, the SESP does not disrupt the position of the retailer; it acts as a reseller with respect to the retailer and accesses the spot market via the retailer.

This is the first distinguishing point of DR via the two-sided market and DR achieved via the WDRM, where DRSPs access the wholesale market directly, and so do disrupt the retailer.

The second difference is the appearance of compensation for the consumer who alters their demand.

In the WDRM enabled form of DR, the consumer receives compensation for foregoing consumption of energy in the form of payment. This is calculated according to a measurement of the DR using a baseline and a pre-existing formula for compensation.

In the two-sided market enabled form of DR, the consumer is rewarded through bill savings. We will argue below that this still involves a baseline and a distribution of the benefits between multiple parties – either a consumer and a retailer, or a consumer, a retailer and an SESP. The difference is not the existence or not of a baseline and distribution of value, but whether or not there is a role for the central operator in determining these.

No established language exists to distinguish these two different types of DR. For the purposes of this submission, we will refer to the WDRM-enabled DR as 'wholesale DR' or 'WDR' and the two-sided market-enabled DR as spot price pass through DR or 'SPPT DR'.

A final way to describe the difference does so not from the perspective of the consumer, but the role of the provider of DR in the market. In the case of WDR, the DRSP appears in the wholesale

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[1] This is drawn from the *Integrating price-responsive resources into the NEM* (IPRR) reforms, the *Unlocking CER benefits through flexible trading* (CER benefits) rule change, and from the Energy Sector Board's (ESB) initial introduction of the term in its 2019 paper 'How Digitalisation is Changing the NEM: The Potential to Move to a Two-sided Market' and its 2020 paper 'Moving to a Two-sided Market'.

[2] Havyatt, D. (2020) 'Two-sided markets: application to electricity; A working paper on market design in the Australian electricity market', 18.

market as a provider of supply and competes against other providers of supply. In the case of SPPT DR, the retailer enabling the DR appears in the wholesale market as demand.

The significance of the nature of these differences will be explored in the remainder of this section.

The AEMC's unfounded propositions

In the Review, the AEMC carries forward two related propositions from the 2020 rule change that introduced the WDRM.

The first proposition is that that there is a theoretical level of load 'responsiveness' that could be supplied by SPPT DR that would render WDR redundant. That is, if the proportion of overall load demand in the system reactive in operational time (ie. SPPT DR) rose high enough, all of the value that could possibly be captured by WDR would already have been captured by SPPT DR. The system would still have substantial DR, but it would be exclusively in the form of SPPT DR, not WDR. In the words from the Review, a 'two-sided market is the enduring solution'.

The second proposition is normative. It states that it is preferable that DR take the form of SPPT DR rather than WDR as the former does not require baselines. Baselines, the AEMC claims, are intrinsically problematic as they refer to a counterfactual that can never be witnessed, and hence introduce inaccuracies which dilute the amount of value created by DR. They claim this also introduces risks, which need to be allocated.

We object to a number of elements of this argument. As we will discuss, there is no evidence provided to support these very substantial propositions.

Baselines are not problematic

We do not agree with the AEMC that the use of baselines is materially problematic and do not see any evidence to support the claim.

Baselines are used extensively and successfully in DR schemes the world over. The AEMC has provided no reasons why the particular nature of the NEM or its settings renders baselining for the purposes of facilitating WDR inappropriate.

Baselining is also conducted regularly by AEMO itself. As the review notes, as part of the RERT, AEMO may, for example, compensate an aluminium smelter for pausing operations to reduce its demand during specific periods of high demand or low supply.[3] In such a situation, AEMO must rely on a baseline of some kind to determine the amount of compensation owed to the smelter. In fact, most of the reserve contracted by AEMO in the RERT takes the form of WDR and thus relies on baselining. There has been no suggestion that the RERT will also be made redundant by the onset of the two-sided market reforms or that it will move away from reliance on WDR and so baselines.

To broaden this point, baselining is fundamentally similar to demand forecasting. It formulaically hypothecates load curves, based on a sample of historical consumption data and some other

[3] AEMO, 2025, 'Review of the Wholesale Demand Response Mechanism', 8.

variables, for a period of time. Given AEMO's reliance on forecasting, and that even the most complex of baselining tools are simpler than the most basic forecasting tools, if AEMO is uncomfortable with baselining, the implications for its forecasting activities are much more profound.

Finally, gaming baselines is prohibitively expensive and/or risky. Selecting expensive times to consume energy (to take the example in the Review, again transferred forward from the 2020 rule change determination) in the hope of one day having an opportunity to be compensated an amount for not consuming and hoping that will outweigh the losses incurred from intentional earlier distortions in most cases will not be rational. Such a strategy has been likened to playing slot machines in the hope of getting rich. There are situations that can be constructed where such a play will work, but in the vast majority of cases and in the long run, it will not. Possibly even more to the point, it does not cohere with the types of behaviour that most consumers of WDR exhibit. They are energy users, first and foremost, not energy speculators.

The JEC also notes the (much greater) risk of gaming exists in other aspects of the NEM. We question why the Commission appears to have a disproportionate focus – and starting point of distrust – in the case of DR baselining. For example, generators can already 'game' the spot market through rebidding. The AEMC's response to this is not to avoid bidding – or even rebidding – being a feature of the market, but instead to have monitoring and compliance arrangements to ensure bidding is done in good faith and redress instances where it isn't. In the JEC's view, the gaming risk related to baselining can and should be dealt with similarly. The AEMC should take an approach in line with its management of the risk in other areas.

WDR value above that captured by price responsive demand's upper limit

There is an upper limit to the proportion of demand which can be turned into smart demand. This limit is imposed from a number of different places. Among them is the economics of exposure to the spot market from the perspective of the consumer. Another, the profit opportunities for generators and storage when the load is increasingly flexible.

The upper limit is important for its own sake. But for our purposes here, both what the upper limit is and its cause are not. What is important is the implicit assertion the AEMC has made that at whatever level it is,

- A unit of SPPT DR and WDR are direct substitutes and
- The marginal unit of SPPT DR produces more benefit to the consumer than the marginal unit of WDR.

Stated alternatively, the AEMC asserts that the economically marginal unit of DR takes the form of SPPT DR, not WDR. However, there is no reason provided in the Review for this to be the case. It is difficult to argue against an argument that hasn't been made. We will limit our comments to noting that we see no reason why it should be the case.

It is not clear when in time such an upper limit will be reached

Leaving aside the theoretical point above, the AEMC considering 'phasing out' the WDRM carries the implicit proposition that not only will this upper limit of SPPT DR saturation be reached, but

this will occur soon. The implication is that it will occur soon enough that the benefits of the WDRM can be foregone with no net loss of benefits to consumers. This is despite the earlier concession in the rule change establishing the WDRM that the mechanism has potential in the existing market to return net benefits.

We do not expect the transition to a two-sided market to occur soon. Arguably, retailers already have the capacity to provide SPPT DR offerings and IPRR aims to add yet further incentives for them to do so. We anticipate the nature and interests of retailers to impose substantial limits (as we will discuss in section four, below), or at least delays, on the take up of SPPT DR offerings.

As a second important point, we have constructed a hypothetical milestone in the point at which the upper limit for smart demand as a proportion of overall demand is reached. The AEMC has produced no such milestones or markers on the path to the two-sided market. There is very little to guide stakeholders' conceptualisation of the transition. As there is no threshold SPPT DR saturation level either in absolute or relative form, the point at which we 'enter' the two-sided market is unclear. Also unclear is the point at which the AEMC suggests that the degree of two-sided market-ness of the NEM will render the WDRM obsolete.

To claim knowledge of the dynamics that occur at this point without being able to define it in any meaningful way stretches credulity and cannot reasonably be taken as a basis for curtailing or ceasing WDR.

SPPT DR opportunities created by IPRR and CER benefits are unlikely to reach the 'upper limit'

Finally, the opportunities for SPPT DR created by IPRR and CER benefit are passingly small relative to the hypothetical upper limit that we have postulated, that being the point at which the 'two-sidedness' of the NEM is maximised.

Reaching this upper limit - or more pertinently reaching the point where the marginal unit of DR is unambiguously SPPT DR and WDR is technically redundant (if such a point exists) - will almost certainly require more than the IPRR and CER benefits reforms. What reforms these are and how long they will take to devise, and implement is wholly uncertain. To abandon the WDRM on the belief that whatever these unspecified reforms are will unlock substantially more SPPT DR would be a gamble that does not promote consumers' interests.

4. Retailers and demand response

Some retailers do offer limited demand response incentives. From a consumer perspective these arrangements tend to be underutilised and problematic, and they fail to deliver the substantial potential benefits of flexible demand.

There is nothing stopping retailers doing DR. With existing customers and a direct line to the wholesale market it should actually be easier for them to facilitate spot market DR than anyone else. However, most do not and for good reason. Retailers don't gain from DR and it's not their core business.

Retailers manage risk by hedging, with generation (and increasingly, storage) assets and contracts. This is their core business, and consumers benefit from it - energy bills may be higher if they didn't hedge - and it incentivises investment in generation.

Hedging limits exposure to high spot prices for retailers, and derisks generation from price volatility. However, maximising the value of wholesale demand response - both for participating energy users and the wider market - *requires* exposure to high spot price volatility.

The nature of business models for DR

Over the last 12 or more years, JEC has closely observed retailers' ad-hoc dabbling in demand response for households. Typically, retail DR initiatives appear spurred by one of two things:

To address a shortfall in hedges relative to their retail position, leaving some of their demand exposed to the wholesale spot prices.
This has given rise to short-lived, ad hoc DR programs that aren't widely available or suited to the types of DR that works for most households – that is, they tend not to be the set-and-forget energy services that can be bundled with the purchase and/or operation of consumer energy resources like EVs, batteries and smart appliances or home energy management systems.

Importantly, as they are responding to their own contract and hedging position (rather than spot price alone) the retailers with these schemes don't offer potential DR customers - especially household customers - the same frequency of participation or cut of wholesale energy value that DR aggregator typically would.

In response to a pending regulatory or policy decision about DR.
Over the last decade, most retail-led DR programs for households have been announced during a window period when the Commission, ESB or Government has been consulting on reforms that would allow third parties to do DR. It could therefore be argued that DR by third parties is effective in incentivising retail DR. However, as demand response is generally not part of core retail business models, retail DR programs tend not to endure and only a minority of those announced remain today.

It is critical that in considering arrangements for DR, the AEMC takes a clear-eyed view of fit-for-purpose business models. DR isn't well suited to retailers, and we need look no further than contestable metering to see the continuing consumer detriment and governance headache that arises from depending on retailers to deliver products and services that lie outside of their core business, and where their incentives are not well-aligned with the best interests of consumers.

DR is well suited to aggregators for whom it is a core business. In a CER-rich future, relying on market forces (and reforms like IPRR and unlocking CER) to push the round peg of DR into the square peg of retail, without also supporting the options that work better for consumers, falls a long way short of promoting their best interests.

The aim of reform should be ensuring the WDRM allows energy users to do DR in the energy spot market without their energy retailer, and ensuring it allows DR providers to compete with generators on a level playing field in the energy spot market. That is – it should get retailers out of the way of progress.

5. Costs and benefits of the WDRM

The JEC does not support the AEMC's proposed methodology to estimate the costs and benefits of the WDRM.

If the purpose of the review is to inform potential future changes to the WDRM, any assessment of the costs and benefits must be

- Forward looking.
    - Establishment costs of the mechanism are sunk. These cannot be changed, therefore are irrelevant to future consumer benefits.
    - Historical participation should be used as an input to projections of future participation, but in and of itself will inherently underestimate future benefits.
    - Current operational costs are pertinent to future operational costs to the extent these are expected to remain constant, but should be adjusted for anticipated efficiencies and/or increases

- Comprehensive.
  The JEC questions the point of a cost benefit assessment that is not "formal or detailed". It would be inappropriate to make changes to the WDRM on the basis of promoting the long-term interests of consumers without understanding the realistic costs and benefits.

The AEMC's assertion that using deadweight loss alone is the narrowest possible description of the benefits DR produces. It captures only the value created in a single spot price formation and is distributed amongst the actors immediately involved in that formation. It does not capture systemic effects, which go beyond these. System effects include increases in competition and innovation in the offerings across the market, and the potential for less network investment being needed to provide the same or better reliability outcomes across the network.

The Review also fails to consider

- Hard to quantify benefits such as those arising from increased choice and so closer alignment of market offerings with consumer preferences.
- Cost savings for consumers arising from the WDRM through lessened need for new generation, network augmentation, and use of out of market mechanism such as the RERT.
- Impacts on emissions reductions.

In section 5.1 below, we identify some of the benefit streams associated with the WDRM that are not considered in the Review and provide initial considerations of their materiality.

Considering the WDRM only in terms of immediate impacts on the spot prices is also narrow in that it presumes a counterfactual of a market in which the WDRM does not exist. In reality, the counterfactual is demand-side participation provided through a series of alternative mechanisms. Helpfully, these are listed on page 8 of the Review, though strangely, given the AEMC's position that the main replacement for the WDRM is the two-sided market, the IPRR reforms and the CER benefits are not included on the list.

In section 5.2, we consider the impacts of removing the WDRM in terms of the lacuna removing it would leave in demand side participation offerings. We note that the WDRM is unique in enabling consumers and aggregators to access the wholesale spot market without the need for a retailer, and in enabling bundling of wholesale DR services with CER provision. Consumers would be left with a smaller range of services in the event that the WDRM is removed as there is no like for like replacement.

Further benefits of the WDRM

The Review limits its analysis of the benefits of the WDRM to the immediate spot price impacts. It does this in a simplistic way, leaving the counterfactual as zero demand side participation, despite the point made earlier in the Review that there are alternative modes of demand side participation available.

There is also little interrogation of the distribution of the value 'created'. This is not necessary for the narrow purpose of calculating the net value from immediate impacts on formulation of spot prices but is significant to the ongoing viability of the mechanism. The immediate participants must receive adequate compensation to participate and so for the benefits accruing to non-participating consumers via reduced prices to continue to appear. As the ongoing viability of the mechanism is an open question (according to the AEMC) the analysis of deadweight loss should be expanded to include distribution.

These points aside, we do not object to the use of deadweight loss benefits as an element of the Commission's analysis of the benefits of the WDRM or object to how it is being used in the Review.

We do object to the benefits of the WDRM being limited to its impact on spot price formulation. We note that this contrasts strongly with AEMO and the AEMC's identification of the multiple benefits associated with the IPRR reforms. AEMO listed these benefits as including:

Direct consumer benefits

- Access to supplementary revenue streams beyond existing feed-in-tariffs and retail energy plans;
- Supporting uptake of distributed resources;
- Maximising market interaction alongside any network flexible export limits;
- Matching consumers appetite for trader-led control of their CER.

Indirect benefits for all consumers

- Increasing the provision of energy and ancillary services, enhancing competition and lowering overall costs to all consumers.
- Minimising the activation of emergency interventions curtailing consumer-owned resources.
- Avoiding the otherwise higher levels of procurement of additional emergency reserves and FCAS.
- Consumer-driven investments in rooftop solar PV reducing the emissions intensity of the supply of electricity from the grid.[4]

[4] AEMO, 2023, 'Electricity Rule Change Proposal; Scheduled Lite', Appendix A1, p.5.

The AEMC, in its Final Determination on the IPRR, concurred with this, identifying benefits for security and reliability, efficiency, and emissions.[5]

It is therefore confusing that while nearly all these channels of benefits apply to the WDRM as much as to the IPRR, they have been omitted from the analysis.

To ameliorate this, we have identified five separate groupings of channels by which benefits accrue in ways beyond spot price formulation and present them briefly here. In the next section we compare these channels of benefit with those of the other demand-side participation mechanisms listed in the Review.

We do not seek to provide quantification of the materiality of these benefits but would be happy to work with the Commission in developing appropriate methodologies for each. We acknowledge that some of the benefit streams below are more amenable to quantification and some are less. We posit that all of them are important and should feature in the Commission's consideration of the costs and benefits of the mechanism.

System impacts

The AEMC's analysis of deadweight loss and spot price formulation captures the impacts of the WDRM that accrue from DRSPs competing directly with generation and storage.

This is not the only competition enhancement the WDRM provides, however. DRSPs also compete with retailers and distribution network service providers (DNSP) for the provision of energy services to consumers. In doing so, they produce a set of benefits to consumers that do not appear in the analysis of deadweight loss. These include

- Increased competition
  aggregators and new entrants introduce more competition, driving efficiency gains in the (retail) energy market.

- Increased innovation
  aggregators and new entrants introduce new technologies and business models

- Reduced monopolistic power
  - With respect to retailers
    While the retailer market is large, it is not diverse in terms of the offerings for consumers. New types of providers and offers in the market increases the alignment of the collective market offerings with consumer preferences both at a given point in time and over time – that is, the market becomes more agile and responsive to changing market conditions, regulatory environments, and consumer preferences.

  - With respect to DNSPs
    The capacity of consumers to bypass monopoly service providers squeezes the margins such incumbents are able to extract from consumers.

[5] AEMC, Final Determination IPRR, pp. ix-x.

These benefits accrue specifically from the WDRM providing a place in the market for DRSPs. These service providers do not necessarily have a place in a two-sided market, and so the benefits accruing from increased diversity in the market should be associated with the WDRM specifically, not demand-side participation in general.

Reduced costs for consumers

In addition to the benefits born of impacts on market dynamics occurring before the actual transaction (and so not captured by spot market price formation analysis) consumers receive benefits from the WDRM through reduced costs in other areas. The two most important of these are the potential for reduced network augmentation and new generation costs and reduced costs of ancillary market services and mechanisms, such as RERT.

The AEMC has actually identified and acknowledged some of these potential savings in the past. In its 2018 Reliability Frameworks Review Final Report, the Commission noted that

> *allowing third parties to sell demand response into the wholesale market could have a number of benefits including… [i]mproving the reliability of the power system. In many instances, wholesale demand response can more efficiently contribute to reliability than building new generation. This is particularly true when a tight supply-demand balance is only forecast to occur for a short period of time.*[6]

We would add to this that sufficient take-up of the WDRM could reduce the benefits of large-scale transmission and distribution projects to a point where they are no longer deemed necessary. Such an occurrence would imply a very material windfall gain for consumers.

An increase in the take-up of WDRM would also imply a direct reduction in backstop mechanisms that provide reliability. An increase in the take-up of the in-market-DR-based WDRM directly implies a lessened use for the costly out-of-market DR-based Reliability and Emergency Reserve Trader (RERT) and these avoided costs should be included in addition to the benefits of the increased use of the WDRM.

In addition, the costs associated with the Retail Reliability Obligation (RRO) and with achieving jurisdictional reliability targets would decrease due to the in-market contributions the WDRM makes to easing market pressures at times of stress.

Finally, if the WDRM were to be extended to activate loads during periods of negative pricing in line with our proposal below, this would substantially lower the cost of management of minimum system load events.

Reduced emissions

In an operational timeframe, the WDRM enables ‘negawatts’ to compete with energy generation. This is generally at peak times when fossil-fuel based generation takes up a greater proportion of overall supply than its average contribution. The displacement of units of emission-producing

[6] AEMC, Reliability Frameworks Review Final Report, 2018, 53.

generation with non-emission producing consumption abatement directly contributes to the aim of reducing the NEM's overall emissions.

With regard to an investment timeframe, the supply of electricity in the NEM remains heavily dependent on coal generation. A successful WDRM, including one which utilises small customer loads, will contribute to bringing forward the exit date of coal power stations. Once coal generation has largely diminished, at the time of peak demand or long-term weather-related disruption of VRE supply, the WDRM will displace the need for gas peaking generation. The lowering of the reliance of the NEM on coal and gas generation will reduce greenhouse gas (GHG) emissions and help to achieve government emissions targets.

Parenthetically, if the WDRM were to be extended to activate loads during periods of negative pricing in line with our proposal below, this would also bring substantial emissions benefits.

The WDRM provides distinct benefits to consumers and the energy market

Section 2.4 (p8) of the Review lists different options for demand-side participation.
The Review notes the WDRM is the only option available for non-financially responsible maker participants (FRMP) to access spot prices. There are a number of other aspects of the WDRM – that are beneficial both to participating consumers and the wider market pertinent to consider alongside other demand side participation options listed.

The JEC has summarised some of these on the following table, distinguishing those pertinent to the current design of the WDRM and those that would be realised with improvements to the WDRM.

We also note that while the Review refers to the IPRR in a number of locations, IPRR is conspicuously absent from the list in 2.4. We have nonetheless included IPRR (based on our understanding of how it is intended to operate) in the table following, to assist the Commission and other stakeholders to understand the different value proposition of the WDRM compared with 'alternative' measures.

What this enables	AEMO can dispatch DR (or load) into energy spot market	Response is to spot price (not retailer market position)	Consumer can still participate if retailer unwilling	Avoids retailer barriers to entry for DR aggregators	Bundles wholesale DR services with CER provision (eg. EV sale and charge)	Households can participate	Flex demand can be isolated
WDRM as is	Y	Y	Y	Y	Y (limited to large users)	N	Y
WDRM w/ recommended changes	Y	Y	Y	Y	Y	Y	Y
IPRR	Y	N	N	N	N	Y	Y
Contingency FCAS	N	Y	Y	Y	N	N	Y
SGA Framework	N	Y	Y	N	N	N	N
Voluntary Scheduled Resources	N	N	N	N	N	N	?
Scheduled load classification	Y	Y	Y	Y	N	N	N
RERT scheme	N	N	N	Y	N	N	Y
Network Support +Control Services	N	N	N	Y	N	N	Y

6. Changes to the WDRM's design

The JEC recommends three changes to the design of the WDRM. These recommendations are made with the aims of:

- increasing the value created by the mechanism,
- allowing energy users to do DR in the energy spot market without their energy retailer, and
- allowing DR providers to compete with generators on a level playing field in the energy spot market.

Including small users and households

The AEMC should approve a rule change extending the existing WDRM to allow aggregated small customer loads to be a qualifying load and wholesale demand response units (WDRU). These loads will then, in a similar way to existing WDRU, be bid into the wholesale market by a DRSP as a single WDRU with a minimum aggregate bid size of 1 MW. They will then be dispatched by AEMO as a reduction target to be met by the DRSP using the WDRU. There will need to be amendment to the WDRM to add a definition of qualifying loads for small customer loads, and related changes regarding baselining, settlement, and careful consideration of customer protections.

Doing this would solve the following issues:

- Consumers have limited opportunity to access products and services leveraged by wholesale demand response, due to a lack of offerings.
- Third parties are unable to access the wholesale market to offer related products and services to consumers that want them.
- The wholesale energy market lacks efficient and effective ways to ensure sufficient activation of demand response from small customer loads.
- The market operator cannot efficiently see or dispatch the levels of demand response which are available from small customer loads, in the same way as it can see and dispatch generation.

Enabling symmetrical DR

Consideration should be given to enabling compensation to be offered to consumers willing to provide demand during periods of negative pricing. Doing so will provide a positive externality of contributing to the management of minimum system load. Whether this can be done through the WDRM or a parallel mechanism is unclear.

It is very likely that a mechanism that enabled this would return more benefits to consumers than it costs.

Streamlining the process of baseline addition

AEMO has been tardy in developing the process for considering and approving new baselines. AEMO should be accountable to a timeframe in the rules to ensure these processes happen in a timely manner and with minimal unnecessary burden on participants.

There should be one or more versions of each type of baseline to allow for aggregated, multiple meters as well as subtractive metering arrangements. Aggregation-friendly baselines are important for enabling small users and customers with multiple connections points to participate in the WDRM. Subtractive metering is needed for enabling accurate baselines for consumers with solar generation.

DRSPs and FCAS cost recovery

The JEC supports DRSPs continuing to be excluded from FCAS recovery.

As DRSP's participation in the market occurs when there is high demand and low supply, they can be viewed as adding benefit and no contribution to FCAS cost. As loads, consumers of DR via the WDRM already contribute to FCAS through their existing statuses as retail customers.

Level of WDRM reimbursement rate

The JEC sees no reason to change the existing reimbursement rate.

Sites with multiple points of connection

The JEC supports the inclusion of sites with multiple points of connection in the NEM. The benefits accruing from greater participation outweigh the costs associated with this expansion.

7. Accuracy and suitability of baselining

Baselines and increasing levels of CER

Effective baselining is critical. The relevant question is how to ensure appropriate baselines.

1. ***Question:***
   Does the increased volume of investment in CER result in fewer loads able to meet a baseline?

No, the opposite is true.
If you have more CER, you will have more loads able to meet baselines.

2. ***Question:***
   Does the combination of CER benefits and IPRR mean that the demand side is appropriately catered for in dispatch?

No, not without the WDRM.
CER benefits and IPRR do not isolate the demand side. They are provided for predominantly by gentailers. In any case, CER benefits and IPRR are, for now, unproven.

3. ***Question:***
   Is there a role for the WDRM in facilitating access to the wholesale market by third-parties?

Yes, this is implicit in the construction of the mechanism.

8. Continued engagement

We welcome the opportunity to meet with AEMO and other stakeholders to discuss these issues in more depth. Please contact Michael Lynch at mlynch@jec.org.au regarding any further follow up.