Mr John Pierce
Chairman
Australian Energy Market Commission
Level 6, 201 Elizabeth Street
Sydney NSW 2000

12 September 2019

Dear Mr Pierce,

Wholesale demand response mechanism

ENGIE Australia & New Zealand (ENGIE) appreciates the opportunity to provide feedback on the draft determination for wholesale demand response in the National Energy Market (NEM).

ENGIE is a global energy operator in the businesses of electricity, natural gas and energy services. In Australia, ENGIE has interests in generation, renewable energy development, and energy services. ENGIE also owns Simply Energy which provides electricity and gas to more than 710,000 retail customer accounts across Victoria, South Australia, New South Wales, Queensland, and Western Australia.

Introduction

The issue of a demand response mechanism (DRM) has unfortunately become something of a political football in recent years.

It is sometimes inaccurately portrayed as a battle between old guard retailers and new business models against the background of unproven expectations and predictions about the "right" level of demand response for the NEM.

This has seen some interest groups and stakeholders become highly critical of those who would beg to question the merits of any given proposal to change the market for the purpose of creating a specific form of DRM.

This sort of criticism is not only misplaced but illustrates the challenges faced by the Commission and the market in adapting during the energy transition.

That said, it is not the role of the Commission to implement "good ideas" purely because they are advocated broadly, but to assess concepts rigorously to ensure only proven and well-articulated ideas lead to changes in what has, all in all, been a highly successful electricity market.

ENGIE strongly supports the work of the Commission and believes it continues to do an outstanding job in a very challenging environment, managing change within a very complex system; however, ENGIE retains several legitimate concerns regarding the proposed wholesale DRM.

These legitimate concerns relate to the DRM only, not the importance of demand response generally, nor the importance of customers maximising the benefits they directly receive from engaging in demand response.

As a customer facing business, ENGIE welcomes and encourages demand response and notes demand response has always been, and will continue to be, an essential feature of this market.

Nature of demand response

The debate about a DRM gives rise to two points which have never been appropriately resolved, and the failure to resolve these two points undermines the case for amending the market to support a highly complicated business model.

First, expectations around the "right" amount of demand response have become so alluring that little evidence is provided in support.

ENGIE has first-hand experience of working with its customers to progress demand response opportunities, has a Virtual Power Plant project underway, and has previously launched a number of programmes and platforms to influence consumption and demand.

ENGIE will continue to welcome any customers who wish to develop tailored energy solutions, including those interested in demand response. In fact, ENGIE continues to pivot its business away from the market and towards customers across its energy business and with its growing services business. On this basis, ENGIE understands that the current market can satisfy demand response preferences.

Second, retailers and AFSL holders are more than capable of currently operating as demand response aggregators in a manner which is consistent with the current market and less complex than the draft determination.

There has never been a strong argument as to why business models who wish to engage with the consumers and with the wholesale market should not have to: 1) face the same wholesale market risks as other participants; and 2) face the same licensing and financial obligations as existing retailers and AFSL holders.

ENGIE's assessment framework

In assessing the draft determination, ENGIE considers that any demand response arrangement will best meet a customer's needs when it is:

- **simple** to operate and understand;
- **flexible** so as to work under a range of market conditions;
- **transparent** to the market;
- has **low transaction costs** and **low implementation costs**;
- is **scalable** at the customers initiative;

- has a **short implementation timeframe**;
- is **compatible with existing arrangements**; and
- most importantly, can **maximise the value returned to the customer not a third party.**

ENGIE is not convinced the draft determination best satisfies these criteria.

In fact, ENGIE is very confident any customers seeking a better demand response deal would be able to structure an option to get a maximised financial benefit now, as opposed to waiting until 2022 for the implementation of the proposed wholesale DRM.

ENGIE would always welcome discussions with any such customers.

What is being proposed:

- is a highly **complex arrangement** which creates a further overlay on the operation of the market for a service that can already be provided within the current framework;
- will likely have **high transaction costs** with an expectation the bulk of any financial benefit will go to demand response aggregators and not customers and will need to cover the additional costs of infrastructure to provide the DRM;
- may lead to **high compliance requirements**, which could be an unfortunate barrier to entry, may be costly, and will again reduce benefits to the customer;
- due to its complexity and pervasiveness, which requires the involvement of at least five parties in every transaction, is expected to have a **long implementation timeframe**;
- requires significant **system modification costs** as well as costs to other affected parties, and will see AEMO's role change to include settlement and transaction of "non-physical products" against a demand baseline;
- requires the **determination of baseline methodologies** which are only likely to ever be inaccurate and uncertain – as is the case with forecasting which by its nature is impossible to accurately predict; and
- relies on an **inaccurate reimbursement** to retailers, which is potentially the type of subsidisation arrangement the AEMC have previously worked against introducing into the market.

Capturing the benefits of demand response

The primary benefit of demand response is the avoided cost of pool purchases. This is especially attractive when prices are high. (As an example, part 5 of the attachment to this submission shows how ENGIE Hazelwood actively manages demand at times of high prices without a third party).

Additional revenues can be obtained when a customer's consumption is below the hedged amount and the market price is above the hedge strike price. The management of negative prices may also create incentives for some customers.

Nonetheless, the main benefit of hedging is management of price risk.

No new money

The DRM contained in the draft determination has some significant supporters; however, it may be giving rise to false expectations.

There is no new money for customers and participating customers will simply be getting a portion of their hedging costs, as contained in the retail tariff, given back to them during demand response events with a larger portion expected to go to demand response aggregators.

The draft determination is based on this concept – retailers hedging the load and then making difference payments to AEMO for distribution to customers or demand response aggregators.

The retailer is unlikely to be left whole as the reimbursement rate will be imprecise and the market is likely to evolve an appropriate risk premium if this practice becomes widespread.

If the practice does not become widespread, then this issue will likely be put to the side; however, if this is the case the justification for introducing such a complex scheme needs to be further questioned.

To assist, ENGIE has included a short overview of approaches to demand response in the attachment to this submission to illustrate the financial flows.

A two-sided market

ENGIE endorses the Commission's view that further work be undertaken on the introduction of a two-sided market.

The NEM was designed on the expectation that it operates as a two-sided market with market loads participating as non-scheduled price sensitive loads or scheduled market loads with explicit bidding.

Smaller loads entering into pool pass through arrangements with retailers and acting as price sensitive loads is also consistent with the NEM design.

In this regard, if the Commission has a two-sided market as a future ambition, then there may be simpler, easier changes which could be more quickly adopted and are likely to have larger payoffs for customers as opposed to changing the market to suit a specific third-party business model.

First, the Commission could mandate participation of large loads in the market above a designated threshold. Large loads are already by their nature actively involved in managing their energy costs especially in light of the large and challenging price increases they have faced in the past decade.

Encouraging large loads to opt out of managing this risk themselves, as opposed to opting into being market customers, would be a low risk nudge of that customer class.

Further, if as advocates continually suggest, that there is a large untapped appetite for demand response, mandating participation will ensure the market strives to best meet the needs of these customers in the most tailored manner – through both retail hedges and demand response.

The attraction of allowing the market to settle the best arrangements to manage customer price risk and facilitate demand response over a single party's preferred business model should not be lost on the Commission.

Second, and to extend the application of demand response, the Commission could mandate for retailers to make pool pass through arrangements an available option for smaller loads and mass market customers to assist customer choice.

A two-sided market would provide transparency around demand response participation in the market that should exceed those expected with a regulated DRM.

Benefits of the draft determination can be better captured

The notional additional benefit of the draft rule change is a better measure of smaller price sensitive loads in the dispatch process. However, the value of this inclusion is uncertain from an electricity market perspective.

Further, such an arrangement would reduce benefits to affected customers due to the previously mentioned complexity, implementation costs, compliance costs, and capture of most of the benefits by third parties.

But what the draft determination fails to clarify is: if current arrangements don't provide enough signals to incentivise the "right" level of demand response, how will the participation be increased under a new arrangement with reduced financial incentives? It is not beyond reason to suggest that the proposed DRM will result in costs that are higher than the proposed derived benefits for many potential participants.

ENGIE welcomes increased demand response but does not believe, based on the evidence and analysis supporting the draft determination, that the proposed model will result in changes that will be highly valued by customers.

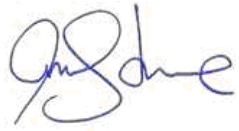
Conclusion

ENGIE remains focused on delivering innovative energy and services solutions to customers that meet their unique needs during the energy transition. ENGIE remains concerned the proposed DRM will not be overly successful as it provides a payback to customers which is arguably less than is currently available.

Without a major change in direction, the proposed arrangement will provide a rich ground for consultants, demand response service providers, software developers, and regulatory compliance staff, that is unlikely to deliver large benefits to customers.

Should you have any queries in relation to this matter, please do not hesitate to contact me on, telephone, (03) 9617 8415.

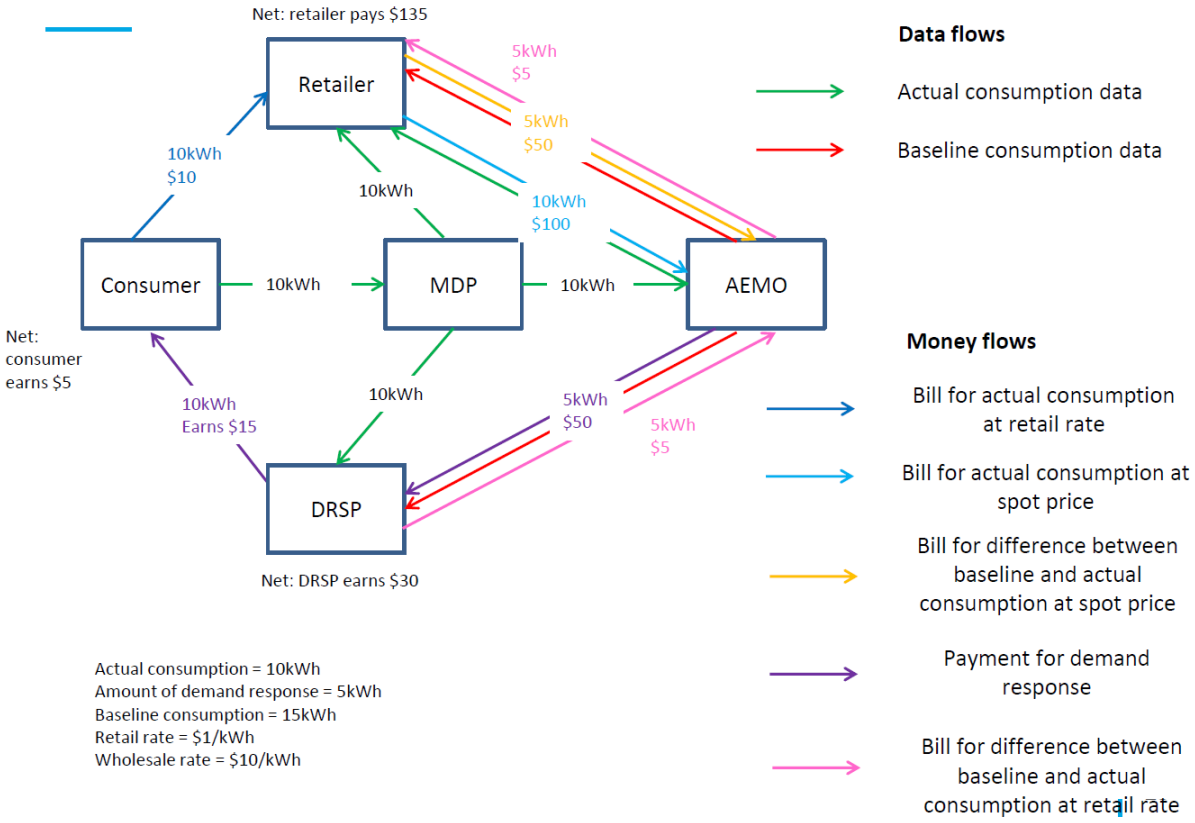
Yours sincerely,



Jamie Lowe
Head of Regulation

Appendix A - Potential demand response mechanisms – overview and ratings against criteria

1. AEMC draft rule change mechanism



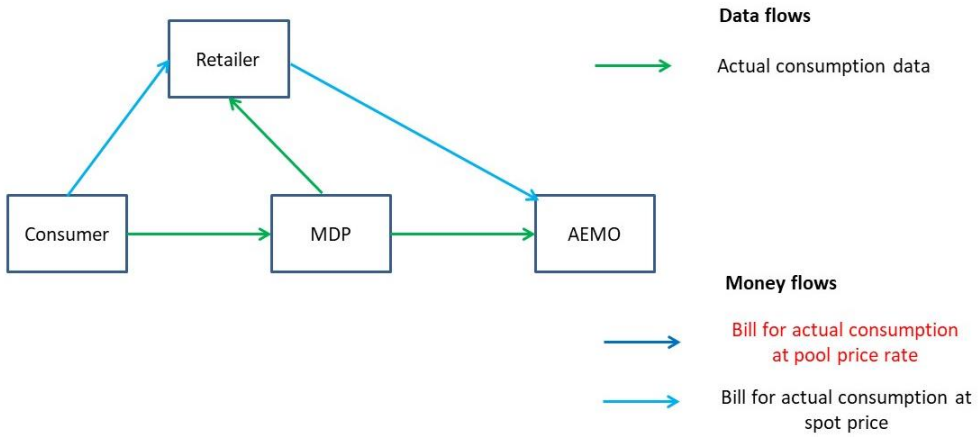
Note: Under this arrangement there is a wealth transfer from the customer to the DRSP of $30 (of the $50 - $5 = $45 saved. Customer has already paid for an implied hedge but isn't receiving the benefit).

	Assessment criteria	
1	**Simple** to operate and understand	✗
2	**Flexible** so as to work under a range of market conditions	✗/✓
3	**Transparent** to the market	✓
4	Has **low transaction costs** and **low implementation costs**	✗
5	Is **scalable** at the customers initiative	✓
6	Has a **short implementation timeframe**	✗
7	Is **compatible with existing arrangements**	✗
8	Can **maximise the value returned to the customer not a third party**	✗

2. Demand response using customer response to pool prices

The key elements of the price sensitive load arrangement are as follows:

- Customer has exposure to the pool price, either as a market load or using a retail arrangement
- Customer establishes a load shedding arrangement suitable for their operation/production
- Customer monitors pool prices
    - automatically or using an external service provider/retailer
- Customer sheds load when prices (actual or forecast) reach predetermined levels
    - This can be achieved manually or automatically depending on the type of operation
- Main benefits of this scheme are that the customer:
    - receives the full value of the avoided pool price
    - doesn't not have to pay a risk premium
    - doesn't have to pay a demand side aggregator
    - doesn't require modifications to the settlement process with AEMO or the retailer
    - process is kept simple
    - process works within the current market rules framework
- Transparency – Whilst arrangement is not inherently transparent, AEMO are skilled at estimating the amount of price sensitive load on the system



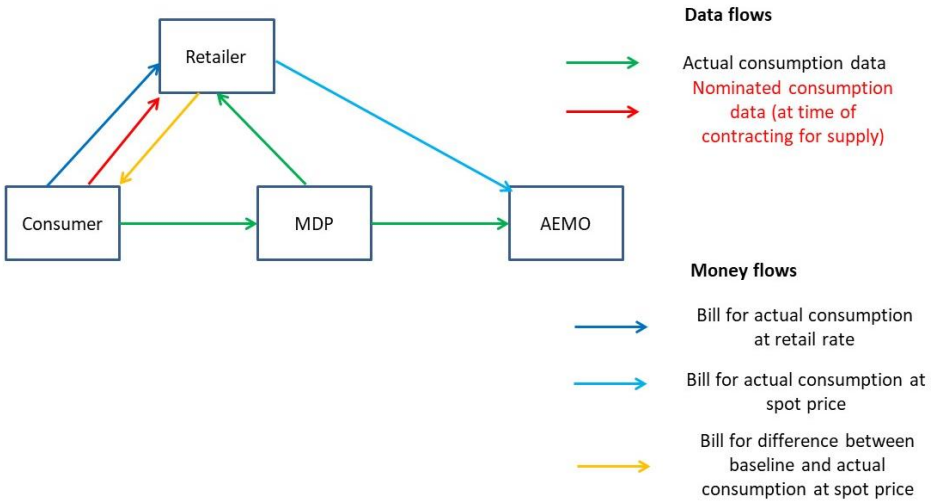
	Assessment criteria	
1	**Simple** to operate and understand	✔
2	**Flexible** so as to work under a range of market conditions	✔
3	**Transparent** to the market	✗/✔(*)
4	Has **low transaction costs** and **low implementation costs**	✔
5	Is **scalable** at the customers initiative	✔
6	Has a **short implementation timeframe**	✔
7	Is **compatible with existing arrangements**	✔
8	Can **maximise the value returned to the customer not a third party**	✔

(*) Can be made transparent/more transparent but depends on the implementation details

3 Demand response using customer nominated baseline with a retailer, no separate AEMO payment for response

The key elements are as in the previous arrangement with the following additions:

- The customer can arrange to manage their risks of exposure to high prices by nominating a demand profile to be hedged. This can be an explicit hedge (swap or cap) or an implicit arrangement using a suitable retail tariff.
    - Customer with a retail arrangement specifies a demand profile to be covered by the price cap
    - Customer pays
        - for all their consumption at the pool price
        - the retailer a hedging premium for their specified demand profile
    - Customer receives:
        - If the pool price > cap price
            - (pool price - cap price) * demand profile
- The complexity of the arrangement is slightly increased as it now covers the settlement of hedge as well as the physical consumption
- Retail systems may need to be modified to accommodate this arrangement and may increase retail costs (to the demand response customers only, or all customers if these costs are socialised)
- Under this arrangement the customer pays a hedging premium and possibly increased retailing costs. Both serve to reduce the customers pay off when compared to the previous arrangement described above.



	Assessment criteria	
1	**Simple** to operate and understand	✔
2	**Flexible** so as to work under a range of market conditions	✔
3	**Transparent** to the market	✗/✔(*)
4	Has **low transaction costs** and **low implementation costs**	✔
5	Is **scalable** at the customers initiative	✔
6	Has a **short implementation timeframe**	✔
7	Is **compatible with existing arrangements**	✔
8	Can **maximise the value returned to the customer not a third party**	✔

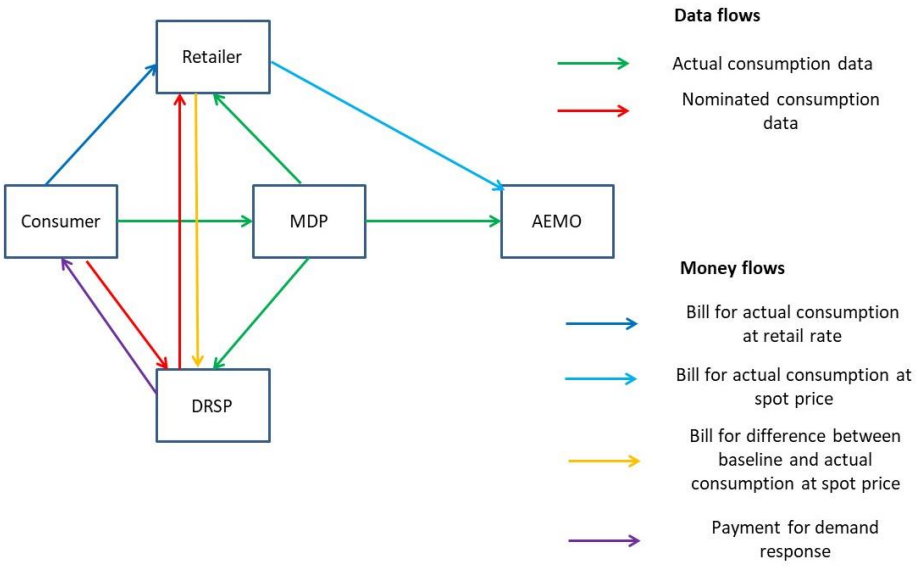
(*) Can be made transparent/more transparent but depends on the implementation details

4. Demand response using customer nominated response to a DRSP, no separate AEMO payment for response

The following arrangement is like the previous arrangement described in 0 and adds a DRSP function.

The main differences are as follows:

- The customer uses a DRSP to determine the nominated demand profile (i.e. baseline) which is then hedged by the retailer
- The DRSP arranges to aggregate demand response customers and deals with the retailer on their behalf
    - Seeks economy of scale
    - Prices in diversity of response (i.e. some firm, other non-firm) to arrange the most appropriate hedging arrangements
- The customers net costs are increased when compared to the previous arrangements (0) as they now include a third party, the DRSP, which are expected to be significant
- The net effect is that this arrangement caters for a wider potential response bur reduces the incentive for individual loads to participate in the scheme



	Assessment criteria	
1	**Simple** to operate and understand	✗
2	**Flexible** so as to work under a range of market conditions	✓
3	**Transparent** to the market	✗/✓ (*)
4	Has **low transaction costs** and **low implementation costs**	✓
5	Is **scalable** at the customers initiative	✓
6	Has a **short implementation timeframe**	✓
7	Is **compatible with existing arrangements**	✗
8	Can **maximise the value returned to the customer not a third party**	✗

(*) Can be made transparent/more transparent but depends on the implementation details

5. ENGIE Hazelwood mine load demand side management

The Hazelwood mine requires large electric pumps and diesel backup pumps for fire systems and dewatering requirements. The pumping loads are registered as a market load with AEMO. Electricity is purchased at the prevailing spot price. Subject to firefighting mitigation constraints, the electric pumping load may be reduced, and fire services supplemented by diesel pumps.

Subject to operational and safety requirements, ENGIE runs the fire service pumps as a price sensitive load. The following figure shows an actual demand response in preparation for and during an extreme price event. The RH scale is in MWh/30mins, so the actual response is approximately 2.8MW (ie 2*(1.6-0.2)). The benefit this demand response was in excess of $200,000. However, it should be noted that this was an atypical day with prices at record levels.

However, this response isn't free and for this response to occur, the following items need to be included in detailed planning:

- conduct an overall risk assessment of the alternate operating regime;
- take into account any plant limitations and breakdowns incorporated in the planning;
- remote operation of various items is not currently possible and generally not feasible;
- staff needs to be available to implement the plan, including outside of normal working day hours;
- cost of operating diesel pumps;
- establish the starting and finishing levels in several holding ponds; and
- volumes delivered and maximum flow requirements needed for fire prevention (dust suppression sprays)

The cost of the above items is significant and needs to be carefully considered, particularly on less extreme price days.