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Australian Energy Markets Commission
Lodged electronically

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AEMC – Consultation Paper - Real-time data for consumers

EnergyAustralia is one of Australia's largest energy companies with around 2.4 million electricity and gas accounts in NSW, Victoria, Queensland, South Australia, and the Australian Capital Territory. EnergyAustralia owns, contracts, and operates a diversified energy generation portfolio that includes coal, gas, battery storage, demand response, solar, and wind assets. Combined, these assets comprise more than 5,000MW of generation capacity.

We welcome the opportunity to make this submission to the AEMC's Consultation Paper on the ECA's Real-time data for consumers rule change request (Rule change request).

EnergyAustralia strongly supports access to data where there is real value to the customer, strong use cases, and the benefit of the reform outweighs the cost. However, we do not consider this case has been met with the current Rule change request, even considering its different possible permutations – local vs remote, access provided to the customer vs third parties.

We believe that customer interest in true real time data is niche and at the margins, around 3.8% of customers across the NEM, or 11% at its most conservative. We also consider the benefits are limited because of several viable alternatives that already exist to near real time or real time data, which customers can access today. Further, we have doubts over whether real time meter data is needed for the other use cases involving allowing businesses to orchestrate CER (as evidenced by many operational VPPs in the market). We also query whether there are issues with third party data access on a commercial basis more broadly Information has been omitted for the purposes of section 24 of the Australian Energy Market Commission Establishment Act 2004 (SA) and sections 31 and 108 of the National Electricity Law.

On the other hand, the complexity and cost of the Rule change request is substantial. Providing remote, real time data to third parties is particularly problematic, given to undertake it effectively would require building appropriate infrastructure (APIs) and setting up an entirely new regulatory framework for customer consent and protections, similar to that adopted by the Consumer Data Right (CDR). There is a real risk that the Rule change request could be used by third parties to entirely bypass the CDR, providing more detailed usage data at a lower cost, at the expense of consumer protection and data security.

In view of these considerations, EnergyAustralia does not support the Rule change request; and we strongly recommend that the AEMC undertake a cost benefit analysis to inform its consideration of the Rule change request before its Directions Paper.

Our full submission is below.

Submission

1. Benefits of use cases are limited as alternatives already exist

EnergyAustralia strongly supports customer access to data where there is real value to the customer, strong use cases, and the benefit of the reform outweighs the cost. However, we do not consider this case has been met with the current Rule change request.

Energy Consumers Australia's (ECA) Rule change request discusses three use cases. Specifically, real time data access can:

1. Support consumers to manage their own energy usage and lower bills (or allow third parties to do so e.g. identify patterns and trends in data, providing the consumer with value added insights and optimisation).
2. Facilitate a range of services that help consumers lower their bills including demand flexibility and CER coordination services.
3. Enable industry to operate the energy system more efficiently by better integrating consumer energy resources (CER) into the grid.

We discuss the purported benefits of each of the use cases, and other possible use cases, in turn below.

Use case 1: Consumers to manage their own energy usage and lower bills, or allow third parties to do so

We have some doubts around the actual customer demand for this use case, and question the proportion of customers which would assess their own energy usage on a true real time data basis.

We take real time data to mean meter data as its generated (less than 5 minute intervals) delivered in real time. We believe that any interest is likely limited to an extremely narrow margin of niche customers. In our experience, these customers would be the same type of customers that seek out historical metering data under the National Electricity Rules now, around Information has been omitted for the purposes of section 24 of the Australian Energy Market Commission Establishment Act 2004 (SA) and sections 31 and 108 of the National Electricity Law. This is usually because they are considering purchasing solar/battery, or there is a billing dispute or transposed metering issue.

Another proxy for the proportion of customers interested in real time data would be the current uptake of Powerpal (locally installed device which offers real time data) – around 250,000 in 2022 across the NEM.[1] Across the NEM, this is around 3.8% of customers[2], or 11% measured in Victoria only (where Powerpal is free). These percentages also reflect mature demand and are unlikely to increase materially given Powerpal has been in the market for over 5 years.

We suggest the AEMC conduct customer research on how valuable true real time data is to customers and their propensity to use it on an ongoing basis (or updated numbers on the uptake of in home displays like Powerpal in Victoria).

[1] www.amber.com.au/blog/amber-acquires-powerpal-to-power-up-customers-real-time-energy-insights
[2] Total NEM residential electricity customers Schedule 2 - Quarter 3 2023-24 Retail Performance Data.xlsm (live.com)

Even assuming customer interest, real time or near real time data is widely available today to support this customer use case:

a) **Local devices installed at the meter** – As mentioned above, in Victoria, the Powerpal energy monitor is subsidised through the VEU scheme so that the device and installation are offered at no cost.[3] The device draws on the smart meter data locally to provide real time data on the impact of appliances and behaviour on customer usage. It also provides further benefit than the Rule change request, by enriching the raw data and presenting meaningful insights graphically in an app. Outside Victoria, the device is fairly accessible at a cost of $130. We submit it would be more efficient and cost effective across the rest of the NEM for interested customers (roughly 3.8% of customers) to pay for this device – rather than rolling out the capability across all customers, the vast majority of which will not use it. The NSW Peak Demand Reduction Scheme is currently being reviewed, and the South Australian equivalent will follow in 2025. These present opportunities for devices like Powerpal to be added to Government subsidy schemes to further lower any cost barrier for customers.

b) **Hourly consumption in Retailer apps -** It is fairly standard for Retailers to offer hourly consumption data already in user friendly apps today. For example, see Figure 1, in the Appendix for EnergyAustralia's own My Account ap which displays hourly consumption which is sufficient to map to TOU hourly pricing in the use case. We acknowledge that the data used in these apps have a time lag of about 24 hours so the customer will need to make note of what their appliance use was a day ago, however we strongly believe this is unlikely to be a major friction point for customers. This could be a question posed by the AEMC's customer research, and would inform the incremental benefit between 24 hour old data (presented in hourly blocks) and real time data from a customer's perspective.

c) **Retailers with wholesale price pass through electricity plans have integrated real time data into their apps –** This is because this is key to the customers use of their plan, where real time usage is relevant to pricing that changes intra-daily. For instance, Amber has integrated its live wholesale prices into the Powerpal app, to show live wholesale pricing along side real time data usage.[4]

d) **CER solutions typically track real time grid imports and exports, sourced from OEMs:** Customers engaged in CER solutions typically have access to near-real-time data via Original Equipment manufacturer (OEM) mobile apps. These apps provide consumer insights on household energy behaviours in relation to solar, battery and electric vehicle charging; and also show energy that is imported (usage) and exported to the grid in real time. See Figure 2, from EnergyAustralia's portal which shows grid imports and exports in real time, which we receive from the OEMs. This shows that the data streams are readily available today. While this data has not been validated, it is sufficient to support the use case. We discuss CER optimisation in further detail in the next section.

Use case 2 and 3: Help consumers lower their bills including demand flexibility and CER coordination services, and enable industry to integrate CER into the grid

EnergyAustralia fully supports demand flexibility and CER coordination and its fundamental part in the clean energy transition. Our Customer Assets business is actively trialling CER products and CER orchestration in partnership with our VPP partner.

From our experience, we note that orchestrating VPPs is already happening today, without access to real time data from the market meter.

[33] www.powerpal.net/free-energy-monitor/
[4] www.amber.com.au/energy-monitor

With regard to solar and battery VPPs, our experience shows that data from the market meter is not required to orchestrate the customer's solar and battery assets. This is because measuring the generation of solar, and charge and discharge of the battery, occurs behind the market meter using a second meter installed by the OEM. VPPs simply charge and discharge these assets according to whether it would be more expensive during certain hours to draw from the grid (based on wholesale spot prices) and also factoring network tariffs. The key information is wholesale energy prices and retail and network tariff information, rather than real time usage from the market meter.

Even so, as above, we obtain data streams on energy that is imported (customer usage) and exported to the grid, from the OEM's meter that is installed. This OEM meter connects to the inverter, and relies on the customer's internet for communication. *This OEM meter should not be seen as inefficient duplicated hardware because it must be installed with the battery anyway, and with solar PV if there is a flexible export connection to the grid.* While this meter is not revenue grade (not used for settlement or billing) it is sufficient for the use cases identified by the AEMC.

VPPs can also involve other CER devices, like appliances within the home. A recent example involving EnergyAustralia is the South Australian Energy Masters pilot engaging consumers in real time via access Clipsal HEMS. Again, these approaches utilise non-market metering approaches to data gathering and are sufficient to support the relevant use case.

EnergyAustralia also operates a behavioural demand response program on currently available data. This involves notifying customers via SMS in real time to provide them the option to change their consumption during market peak times. Again, this relies on data about wholesale spot prices, and historical metering data is adequate to then ascertain whether the customer adjusted their behaviour in response and whether they should be rewarded.

For completeness, we note the potential use case around contingency FCAS. However again, similar to behavioural demand response, the relevant data is after the FCAS event (historical data). Real time data is not required.

2. Other benefits around removing barriers due to MDPs "competitive advantage", need to further tested

The ECA suggests that Metering Data Providers might not have the incentive to provide third parties remote access to real time data, because of their own competing services. We understand that some businesses made submissions on this during the metering services review e.g. Rheem needing *local* access to real time data. We understand that an alternative reason for declining such requests include safety and security issues, or a lack of multiple communication ports.

With regard to *remote* access to real time data for third parties, in our experience, Metering Data Providers have offered and negotiated actual commercial access to additional data streams.

Even if there were a competition issue, we consider a more straightforward solution would be to address that issue directly, i.e. require Metering Data Providers to negotiate access in good faith, in a principles-based obligation under the National Electricity Rules (there are a few instances of good faith obligations in the NER already). If that obligation did not resolve the issue, then the AEMC could then consider stronger forms of mandated data provision to third parties. We suggest that the AEMC consider these issues and alternative solutions in greater depth, with clear evidence and consideration of the root cause.

We also note that in our discussion of the use cases 1-3 above, there are multiple alternatives to using real time data from the market meter, which suggests that metering data providers do not have an entrenched competitive advantage.

It is important that these alternative data streams continue to be able to support the use cases. This would require the AEMC and other policy organisations to not *increase* regulation to mandate that data for the use cases be of an equivalent standard to billing or settlement data, including that it be validated. This would have the perverse effect of making it difficult to bypass metering data provider data streams and therefore provide metering data providers a competitive advantage.

3. Costs of real time data outweigh the limited benefits (above)

As above, we believe the benefits of the rule change are limited as viable alternatives already exist. On the other hand, the costs are likely to be substantial and would outweigh any benefits.

We agree with the ECA's assessment that true real time access is likely only able to be provided *locally* at the customer's premises through the meter being intercepted by a device. We understand that the barriers to this are due to safety issues and a lack of an additional communication port. The Metering Parties can comment further.

Remote real time data access for customers, and especially third parties, is a material implementation proposition. While we do not have enough detail on the Retailer's role to provide a cost estimate, taking into account key cost considerations, it will involve significant cost to implement it properly, including the establishment of new infrastructure and a new regulatory framework. A new regulatory framework would be key to ensure data security, customer consent and family violence protections. These costs should be detailed in any cost benefit analysis by the AEMC.

Key cost considerations include:

1) Costs will increase for interval data of less than 5 minutes. This means significantly more volumes of data, transmitted at a myriad number more instances. Even taking a slower 5-minute interval data transmission (as proposed by the Rule change request), this will mean Metering Data Providers will increase their data sending from once a day to 288 times. We understand that increasing the frequency to every two hours (near real-time) would be within reasonable cost, but a higher frequency will be exponentially more expensive. However, we also question the incremental benefit of reducing the time lag from 24 hours to two hours. From a customer standpoint, there is likely little value add.

2) Expenditure will also increase if the data is to be validated in real time prior to sending.

3) Establishing effective frameworks for customer verification and customer consent (to consent to third party access) is also a substantial undertaking. The Consumer Data Right (CDR) established an entire regulatory framework to verify the customer (through one time

password authentication administered by the Retailer); clear customer consent requirements to ensure third parties have the customer's permission to access data; and measures to protect against disclosures of data which raise family violence risk. Family violence risks are heightened in a real time data context, as they are likely to reveal when a person is home, versus historical usage which only conveys daily patterns.

4) Infrastructure to enable the delivery of the data e.g. between metering data providers to retailers, and then retailers to customers or third parties, will need to be reviewed for customers, and established for third parties. The CDR established API infrastructure to allow real-time delivery to third parties. Non-functional requirements set timeframes for delivery to align with near real time requirements. Establishing completely new API infrastructure and user portals similar to the CDR will be costly. EnergyAustralia's share of its own costs in meeting the CDR obligations (i.e. not including AEMO's costs or third party APIs and security requirements) was Information has been omitted for the purposes of section 24 of the Australian Energy Market Commission Establishment Act 2004 (SA) and sections 31 and 108 of the National Electricity Law. For a description of the CDR see Figure 3, in the appendix.

5) Third party costs in meeting any data security requirements, for the data that is accessed, used and stored via the new mechanism, should also be considered. Data security requirements for third parties does not feature heavily in the AEMC's current consideration of the Rule change request.

Much of the cost associated with the above will impact Metering Data providers, but to the extent that Retailers are the intermediaries in the delivery of data, there will be costs for Retailers. Based on the above complexities, EnergyAustralia believes that the costs of the rule change will likely outweigh the benefits.

We note that remote real time data access for customers could be less costly and easier to implement, where Retailers can leverage existing data sending channels and existing customer apps to present the data. However, new infrastructure for third party access will need to be entirely built. It is also possible that if remote third party access is pursued, provided that a cost benefit analysis supports it, it could be lower cost to provide this via the CDR or CER Data Exchange (currently being considered by AEMO) than through new infrastructure. Further, if the Rule change were to operate separately alongside the CDR, there is a real risk that the Rule change could be used by third parties to entirely bypass the CDR, providing more detailed usage data at a lower cost, at the expense of consumer protection and data security.

One option for the CDR mechanism would see metering data providers send real time usage data to AEMO as a central intermediary, to send to Retailers, and Retailers to send to third parties (whereas today, AEMO sends historical usage data to retailers, not metering data providers).

Given the material cost considerations and complexity, another option for the AEMC to consider, is making the Rule change optional or voluntary for Metering Data Providers and Retailers to adopt. This would have the benefit of providing a standardised data access mechanism to be adopted, if and when customer demand supports it.

Other questions

For completeness, we have answered the AEMC's questions that are not addressed above.

Question 5: Who should have a right to real-time data in the NER?

a) Should consumers, their authorised representatives or any other party, including DNSPs, have a right to access real-time data?

We do not consider the benefits of the use cases have been substantiated to support a right of access to real time data being provided to customers or third parties. However, we note that third party access is particularly problematic, and could involve greater cost to implement. The CDR illustrates the significant investment it would require to implement it securely and with the necessary customer protections. See our discussion of costs above in Section 3.

Question 6: How should real-time data be defined ?
a) Do stakeholders agree with the proposed definition of real-time data and customer power data?
b) What should be defined and/or further expanded in AEMO procedures?
c) Should data be validated or not?

Give the burden that providing real time data could impose and the need for industry to have certainty over their obligations, we recommend that real time data and customer power data be defined in the Rules.[5] To meet the use cases, the definition should align with usage data, in the first instance, with further Rule change requests required to amend this definition in future.

We also consider that the AEMC needs to provide some guidance as to whether local or remote access is required. Additionally, key obligations around all customer facing elements should be provided in the rules at least at a high level, and the obligations of MDPs vs Retailers should also be clearly delineated in the Rules again at least at a high level.

We believe that non-validated data is sufficient and fit for purpose for the use cases, and is already accessible today. There is an extra cost and time required to validate data, which we suggest is excessive for the use cases. This data is not being used for billing or settlement purposes.

Question 8: Who should bear the costs of accessing real-time data?
a) Should all consumers bear the cost of accessing real-time data?
b) What would be the benefits of a dispute resolution framework and how should it operate?

We believe that the vast majority of customers (96%) will not be interested in real time data, and therefore we question whether these costs should be cross-subsidised by spreading recovery across all customers for the benefit of the few. This raises equity, fairness and efficiency issues. The same issue is even more pronounced if customers were to cross-subsidise third party business access. We believe that third parties should pay for the direct cost of being providing the data, but also some proportion of indirect costs of storage and data collection.

We would support a dispute resolution framework being introduced for disputes around third party access.

Question 10: Do existing arrangements sufficiently protect consumer privacy and maintain cyber security for any real-time data framework?
a) Would any additional consumer privacy and cyber security protections be required if a real-time data framework were implemented?

[5] National Energy Retail Rules and National Electricity Rules

b) Do you consider other work programs could provide any additional protection required, such as the Roadmap for CER Cyber Security?

The existing meter data provision obligations under the National Electricity Rules are fit for purpose for the very few customer requests that occur information has been omitted for the purposes of section 24 of the Australian Energy Market Commission Establishment Act 2004 (SA) and sections 31 and 108 of the National Electricity Law. However, the customer safety risks of real time data are heightened (e.g. family violence, as discussed in section 3) such that new protections should be considered. This was a key issue raised at several times in the Consumer Data Right, with customer protections introduced to address it. Additionally, community expectations around data security have increased with greater awareness due to high profile data breaches like Optus' data breach in 2022. We recommend that greater security and customer protection is required, especially for data access provided to third parties, similar to what was implemented for the CDR. This includes regulatory frameworks which address customer verification, customer consent to third parties, and data security for data used and stored by third parties.

Appendix – Information has been omitted for the purposes of section 24 of the Australian Energy Market Commission Establishment Act 2004 (SA) and sections 31 and 108 of the National Electricity Law.