Clean Energy Council submission to the Resumption of the Australian Energy Market Commission Review of the Regulatory Framework for Metering Services

The Clean Energy Council (CEC) welcomes the resumption of the Australian Energy Market Commission (AEMC) review of the regulatory framework for metering services. We are taking the resumption of the review as an opportunity to provide additional feedback, especially regarding the scope and sequencing of the review.

The Clean Energy Council is the peak body for the clean energy industry in Australia. We represent and work with Australia's leading renewable energy and energy storage businesses, as well as rooftop solar installers, to further the development of clean energy in Australia. We are committed to accelerating the transformation of Australia's energy system to one that is smarter and cleaner.

In our previous submissions to the AEMC, the CEC strongly advocated that the most important objectives for the review should be to:

- Ensure that smart meter data is available to consumers (and their authorised representatives),
- Make power quality data available to distribution network service providers (DNSPs), and
- Speed up the rollout.

When the AEMC commenced the review of the regulatory framework for metering services in 2020 its preliminary position was that the minimum service specification and physical requirements of the meter are sufficient. There have been several significant developments since 2020 that, we believe, necessitate broadening the scope of the review to include the minimum service specification and physical requirements of the meter. There has been rapid development of interoperability policies and standards and the question arises as to whether metering capability ought to be reconsidered in the context of interoperability policies. This has raised concerns that there is a risk of speeding up the rollout of meters that are not capable of doing what is needed from the device at the connection point. Rolling out the current generation of 'smart' meters at scale with the current default billing meter specification could result in a huge legacy fleet of meters that are unable to support the transformation to a dynamic connection point that leverages consumer market participation.

We are conscious of the need to make some progress in the regulatory framework for metering services and it would be undesirable to delay reforms until interoperability policies are settled. We therefore recommend the AEMC consider undertaking the review in two stages, as follows:

- Stage 1: Address visibility of data for consumers, their agents and DNSPs,
- Stage 2: Consider metering capability (in the context of interoperability policies and standards) and measures to speed up the rollout of meters with adequate capability.

In the remainder of this submission, we elaborate on the evidence and arguments to support our position. We would be happy to discuss these issues in further detail with representatives of the AEMC. We look forward to contributing further to this important area for policy development.

1. The changed context for this review

Since the AEMC commenced its review in 2020, there have been some significant developments which, in our opinion, necessitate broadening the scope of the review to include the minimum service specification and physical requirements of the meter. Those developments include the following:

- The Australian Renewable Energy Agency (ARENA) Distributed Energy Integration Program (DEIP) Interoperability Steering Committee (ISC) has progressed the development of the Australian Common Smart Inverter Profile (CSIP-Aus),
- The South Australia (SA) Department for Energy and Mining (DEM) introduced its 'Relevant Agent' system, to improve the ability of distributed energy resource (DER) systems to respond to external signals,
- The New South Wales (NSW) Department of Planning, Industry and Environment (DPIE) has commenced a review of DER policy and has identified "Providing access to near real time data[1] and meter minimum specifications" as a high priority,
- There is an emerging consensus among policy makers that Dynamic Operating Envelopes (DOEs) should apply at the connection point and that the device at the connection point (i.e., the revenue grade meter) should be capable of receiving and responding to DOE instructions, as well as being able to measure energy flows and remotely disconnect and reconnect, and
- The Energy Security Board (ESB) has commenced its review of roles and responsibilities for implementation of interoperability policies in relation to DER.

In CEC's view, these developments are material enough to warrant reconsideration of whether it would be desirable to speed up the rollout of meters with legacy capabilities.

2. Access to smart meter data by consumers and their authorised representatives

In the time since the AEMC review of metering services was put on hold in late 2021, the CEC has provided additional information to the SA DEM for its review of smart meter policies in SA. Submissions provided to DEM are included as attachments to this submission and key issues include:

- There would be benefits to consumers if they and their authorised representatives have access to local, real-time data from the revenue meter,
- Customers and their authorised representatives do not currently have a right to access local, real-time data from the revenue meter under the National Electricity Rules (NER), and
- This issue will not be solved by the Consumer Data Right (CDR).

<u>What are the benefits of local, real-time data access and what problems would this address?</u>

The problem confronting consumers is knowing in real-time how much energy they are consuming and generating so that they can decide when to run shiftable loads.

Consumers pay for the meter. It is their data and their right to access it should be recognised. Many consumers want a third party to simplify energy optimisation for them. This requires low-cost access to the energy generation <u>and</u> consumption data. It should be simple for customers to assign access to their data to third parties and service providers, such as aggregators. Local, real-time data access avoids duplication of metering between inverter and utility meter. It is already a feature of some metering platforms.

In future, it will be important for the gateway device at the connection point to be capable of receiving instructions, complying with DOEs, and enabling settlement for emerging new services and markets

[1] Very few smart meters are currently capable of delivering real-time data (where 'real time' is assumed to mean one message per meter per minute). Whilst the sampling capability of the meters is sufficient, the communication infrastructure (to get the data from the meter to the metering coordinator) as well as the receiving end (where the data goes for storage and further processing) is not developed to manage the amount of messages and data that would result.

including demand response and for virtual power plants (VPPs). The gateway device could also be responsible for orchestrating DER and controllable load behind the connection point.

The current framework for metering makes the energy retailer the gatekeeper for the smart meter and its data. A customer or their service provider can only access this data via their electricity retailer and only in the timeframe and format determined by the retailer. Electricity retailers are conflicted in this role as they have a financial interest in preventing release of data to third parties where that could threaten their business model. The power exerted by electricity retailers is one of the most significant barriers to better utilisation of smart meter data. Access to the data from smart meters should not be dependent on electricity retailers' cooperation. The framework for data access should be regulated. Customers should be able to easily assign data access to service providers without obstruction. DNSPs should have access to voltage data from smart meters to enable network visibility at low cost.

Do consumers already have a right to access local, real-time data from the revenue meter?

Customers and their authorised agents do not have a right to access local, real-time data from the revenue meter. There is currently no "service type" for local access to real time metering data at the small customer's metering installation. Local access at the meter is not offered as a "service" under the NER. The NER's *Table S7.5.1.1 Minimum Services Specification – services and access parties* states that the small customer can authorise a remote (part e) "Metering installation inquiry service" and that data is time-stamped beyond energy data (i.e., voltage, current etc) but the data comes via the metering coordinator cloud and there is no option of accessing the data in real time by interfacing with the meter itself. The request description specifically says a "remote" request. There is no mandated timing for the delivery of the cloud data, and it could arrive days later.

Whilst relevant revenue meter service operators are often able to provide data of increasing dispatch frequency on a service basis, these service offerings are not technically capable of providing real-time data suitable for self-consumption or export limiting applications. Additionally, these service offerings represent additional costs typically considered on a network investment efficiency basis, which is not always reflective of consumer interests.

Will this problem be solved by the Consumer Data Right?

It is important to distinguish between data access via the cloud versus real time local access. Real time local access is important for enabling better coordination of devices behind the connection point. A comma-separated values (CSV) file four times per year is not fit for purpose in 2022.

It is not an objective of the CDR to provide access to local, real-time data. The CDR will not solve the problems caused by the inability to access local, real-time data.

Do inverters already incorporate a second meter?

Many original equipment manufacturers (OEMs) already incorporate a meter within the inverter for their monitoring and export limiting functionality. However, less than 20% of solar inverters have a consumption meter installed, hence consumers can only see generation.

If OEMs and utility smart metering companies decide to collaborate by allowing utility smart meters to integrate with on-site DER to perform consumption monitoring and export limiting, this will be in the hands of each individual OEM and meter provider to support. However, this would also require development time, cost, and effort in comparison with current approaches.

The power of telemetry data from the utility smart meter will become apparent when the DNSP wants to know specific site telemetry data in 5-minute intervals. If the OEM is required to report this telemetry data as well as provide dynamic export limiting and production limiting etc. then the cost to the cloud infrastructure would increase as a myriad of sites would have to report data to another server. This would be an unnecessary additional cost, as this data can be extracted from the utility smart meter which is already on site and has access to the required telemetry data for retailer billing reasons.

3. Access to power quality data by DNSPs

Smart meters provide the most efficient means for DNSPs to improve their visibility of low voltage networks. The data exists. DNSPs should have been given access to power quality data when the *Competition in metering* policy was first put in place. The data can easily be made available to DNSPs with a change to correct the mistakes made during the *Competition in metering* proposal and rule change. It is difficult to think of an alternative that would be cheaper.

Victorian DNSPs were not restricted by the *Competition in metering* rule change, and they have been able to use data from smart meters to improve network management. The availability of the data allows the Essential Services Commission to regulate voltage management by DNSPs at a level of sophistication that would be unthinkable in jurisdictions that are subject to competitive metering.

Enabling DNSPs access to real time data would provide a huge, direct benefit for consumer safety. It would enable DNSPs to detect out-of-power events for their life support customers much faster. They can use the data to identify broken neutral issues and even detect neutral line issues before they break. Electric shocks from broken neutral conductors can be fatal and are a major issue for all DNSPs.

Are the current meter specifications sufficient with respect to power quality data?

The current minimum metering specifications can provide DNSPs with visibility of their low voltage networks. Metering specifications would not need to be amended for this proposed first stage of the review. All that would be required for improved visibility would be amendment of the NER to ensure voltage, current and power quality data is required to be provided through the remote on-demand meter read service or the remote scheduled meter read service, rather than the meter installation enquiry service.

4. Capability of meters and speeding up the rollout

Speeding up the rollout without consideration of meter capability could risk early obsolescence of the fleet. Measures to speed up the rollout would be better considered at the same time as the AEMC considers the capability of meters. This aspect of the review could be delayed to a second stage if resources available to the AEMC are a constraint or to enable the review to progress before the details of interoperability policy and standards are settled.

When the AEMC can consider the capability of meters, it should address the following:

- Would it be beneficial for smart meters to support interoperability policy, e.g., by having the capability to communicate using a protocol compliant with IEEE 2030.5 such as the Common Smart Inverter Profile Australia (CSIP-Aus)?
- Are there any regulatory barriers preventing the inverter / gateway device at the connection point to combine its functions with revenue grade metering?
- Could alternatives to revenue meters enable distribution system operator (DSO) capabilities such as verification and settlement / payment of non-network services delivered via DER, and payment of wholesale market services delivered by DER?
- How would DOEs be applied at the connection point and how will devices behind the connection point be orchestrated if the if the meter lacks the required functionality?
- If the meter at the connection point is incapable of supporting interoperability, will consumers with multiple DER devices be required to ensure that each device is interoperable and has its own meter?