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

The Clean Energy Council (CEC) welcomes the opportunity to provide feedback on the Australian Energy Market Commission (AEMC) Directions Paper for the review of the regulatory framework for metering services.

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.

The *Competition in metering* policy has been a major disappointment. The rollout is too slow. We welcome the AEMC's acknowledgement that arrangements for smart meter deployment are "not optimal" and that:

- Outside of Victoria the level of smart meter penetration is about 25% and, at the current rate, full deployment will not be achieved until the 2040s,
- The rollout of smart meters in the National Electricity Market (NEM) has been largely driven by installation of solar PV systems or by new connections and rollouts initiated by retailers "have been minimal at most", and
- Current arrangements for negotiating and utilizing data that the meter can provide are inefficient and likely not contributing to the long-term interest of consumers.

Consumers are paying for the smart meter rollout without realising the smart meter benefits. Smart meters can be beneficial but unless the data is accessible there is insufficient value for consumers. The potential benefits of smart meters have not been realised due to difficulties with accessing the data. The data is not made available to customers or their representatives in a useable form.

The most important objectives for this review should be to:

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

The current approach to the smart meter rollout and tariff reform is inequitable. It is being imposed on customers who install solar PV systems or with new connections. According to DNSPs, "retailer or customer led roll outs are in many respects non-existent". To make matters worse, cost-reflective tariffs are being imposed selectively on customers with smart meters. This discourages customers from obtaining a smart meter. The AEMC needs to recognise that smart meters and cost reflective tariffs are generally unpopular and inconvenient and most customers only take up a smart meter or a cost reflective tariff when they are required to. The regulatory framework should not single out a relatively small group of customers for the mandatory smart meters and cost reflective tariffs.

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 CSV file four times per year is not fit for purpose in 2021.

Customers and their representatives should have access to the data from their own smart meters now. The Consumer Data Right (CDR) process is taking too long, and the existence of the CDR proposal should not be used as an excuse to delay reforms to data access from smart meters.

The review should consider the future role of the device at the connection point and the capabilities it will be expected to have. The device at the connection point should be capable of receiving instructions and complying with Dynamic Operating Envelopes, as well as being able to measure and remotely disconnect and reconnect. The AEMC should consider the barriers to devices such as home energy management systems or smart inverters being recognised for settlement and becoming the gateway device at the connection point.

Policy makers should recognise that most customers do not want smart meters and cost-reflective tariffs and it is a false premise to assume they will be enthusiastically adopted by customers. It is more realistic to assume that most customers do not want a smart meter or a cost-reflective tariff and, generally, will only adopt them when they are required to.

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.

RESPONSES TO QUESTIONS FOR STAKEHOLDERS

Q1 BENEFITS WHICH CAN BE ENABLED BY SMART METERS

(a) Are there other benefits which can be enabled by smart meters that are important to include in developing policy under the Review?

Yes. Instead of referring to meters, we should be considering devices that act as the gateway at the connection point to the distribution network. That device at the connection point could be a meter (as it is now) or in future the role of the gateway at the connection point could be filled by other devices, provided they have all the functionality currently required by smart meters.

In future, it will be important for the gateway device at the connection point to be capable of receiving instructions and complying with Dynamic Operating Envelopes. The gateway device could also be responsible for orchestrating DER and controllable load behind the connection point.

Under the current regulatory arrangements, many homes and businesses participating in a virtual power plant (VPP) are required to have two revenue grade meters per site – one at the connection point and one to accurately record output from the solar / solar and battery. In the long term, it would make sense for the inverter / gateway device at the connection point to combine its functions with metering. We urge the AEMC to consider whether there are any regulatory barriers to allowing the gateway device or inverter to also fulfil the metering function. It is unclear whether this would require the inverter original equipment manufacturer (OEM) to become the metering provider, or whether the same objective could be achieved by giving the existing metering providers full access to inverter data. It would be efficient for VPP operators who have a direct relationship with the customer to also be the metering provider. However, this could become complicated when customers want to change their VPP provider.

It seems puzzling that there is an active policy conversation regarding the capability of inverters to respond to instructions using protocols compliant with IEEE 2030.5, but there is no consideration of whether the device at the connection point (currently the meter) should have this capability.

(b) What are stakeholders' views on alternative devices enabling benefits? What are the pros and cons of these alternative devices?

AEMC is correct in its observation that other devices such as home energy management systems or smart inverters are not currently recognised for settlement. However, there is no reason to assume that in future home energy management systems will not incorporate metering recognised for settlement.

The AEMC is also correct when it observes that "these devices are usually situated behind-the-meter, under the consumer's remit, making regulation and compliance of these devices complicated". However, in future home energy management systems could become the meter, rather than remaining behind it.

The AEMC should consider how alternatives to revenue meters can enable not only billing, but 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.

Useful lessons can be learned from pilot projects being undertaken in the South West Interconnected System (SWIS), which has tried two methods:

1. Measurement and Verification post flexibility event via AMI 30-minute interval data.
2. Measurement and verification based on agreeing contractually on an inverter size, solar panel ratings, sun angles for time-of-day etc and receiving inverter telemetry proving an action (e.g. turning an inverter up or down, air conditioning on or off etc).

In Western Australia's Wholesale Electricity Market (WEM), revenue grade meters are designed so that Western Power (and others) can pass on consumption data to retailers so they can bill people. However, if a DSO or others want to receive payment for a service, why should a revenue grade meter

be required? The decision regarding metering should be left to the organisation that is going to pay for the service.

Q2 PENETRATION OF SMART METERS REQUIRED TO REALISE BENEFITS

(a) Do stakeholders agree that a higher penetration of smart meters is likely required to more fully realise the benefits of smart meters? If so, why? In no, why not?

Yes. Higher penetration of smart meters is required to realise the benefits of smart meters. The *Competition in metering* policy has failed. Its failure is evidenced by the AEMC's acknowledgment that at the current rate of installation full deployment will not be achieved until the 2040s.

Metering can play a dual role, providing public benefits (e.g. improving network visibility and hosting capacity and enabling tariff reform) and private benefits (e.g. optimizing consumption profile and reducing electricity bills).

If the purpose of smart meters were only to provide private benefits, then continuing with a slow, voluntary rollout would not be problematic and there would be no pressing need for policies or other intervention by the AEMC. However, the failure of metering policy in the NEM undermines the prospects for other important reform initiatives, including tariff reform, improving network visibility, and increasing hosting capacity cost effectively. These are public benefits that justify intervention by the AEMC.

(b) Do stakeholders have any feedback on the level of smart meter penetration required for specific benefits? Or to optimise all benefits?

There should be 100% smart meter penetration to enable equitable implementation of tariff reform. Metering plays a pivotal role in enabling tariff reform. Cost-reflective tariffs cannot be implemented on customers with accumulation meters. Tariff reform cannot be introduced across the entire market until there is metering to support it.

The current approach to tariff reform is inequitable. As the AEMC has acknowledged, the rollout of smart meters in the NEM has been largely driven by installation of solar PV systems or by new connections. Rollouts initiated by retailers "have been minimal at most". More than a third of new smart meters are being paid for by customers who are required to as a condition of connecting DER. Very few customers request a smart meter because they want a smart meter per se. They request a smart meter because it is a mandatory requirement of a new connection or for installation of DER.

Cost-reflective tariff reform is primarily being imposed on customers who have been forced to install a smart meter. The regulatory framework should not single out a relatively small group of customers for the mandatory meter requirements. It is inequitable to place the cost burden of metering investments on this limited customer cohort. It is doubly inequitable for cost-reflective tariffs to only be imposed on customers who have been forced to upgrade their meter. Few customers want their life to be made more complicated by having to deal with more complex electricity tariffs.

Q3 TO REACH A CRITICAL MASS IN A TIMELY MANNER, OPTIONS TO ACCELERATE THE ROLLOUT SHOULD BE CONSIDERED

(a) Do you consider that the rollout of smart meters should be accelerated? Please provide details of why or why not.

The rollout of smart meters needs to be accelerated so that cost-reflective tariff reform can be implemented across all customers. The current arrangements impose the cost of smart meter installation and the burden of responding to cost-reflective tariffs onto a limited cohort of customers. This approach is inequitable and unsustainable. As the AEMC has acknowledged, concerns over tariff reassignment are a disincentive to request a smart meter. If cost-reflective tariffs are to be imposed on unwilling customers, they should be imposed on all customers and not just on a limited cohort.

(b) What are the merits, costs, and benefits of each option? Is there a particular option which would be the most appropriate in providing a timely, cost effective, safe, and equitable rollout of smart meters?

The most appropriate option would be to set targets for the rollout under which retailers are required to replace a certain percentage of their customers' meters each year. This would allow retailers the flexibility to determine the most efficient pathway for them to meet their installation targets. This approach should be combined with the proposal to introduce a 'backstop' date by which time all accumulation meters or manually read meters must be replaced.

Requiring meters to be replaced once they have reached a certain age would impose logistical costs on the rollout. It would be better to allow retailers to target a particular area (for example) to meet targets rather than having to travel across the country for a meter replacement whenever a meter reaches its thirtieth birthday.

Improving incentives would give no assurance that rollout targets will be met. Improving incentives could be a useful approach, but only in conjunction with enforceable targets.

(c) How would each of these options for rolling out smart meters impact the cost profiles of smart meters?

Setting enforceable targets for the rollout would allow retailers to plan the rollout in the most cost-effective way. Requiring replacement of meters when they reach thirty years of age would limit the flexibility of retailers and would likely add unnecessary costs.

(d) **Are there options that you consider would better provide a timely, cost-effective, safe and equitable rollout of smart meters?**

The AEMC should consider prioritising mandatory smart meters for life support customers. This would assist DNSPs with prioritising life support customers in the event of an outage. It would also eliminate the need for meter reading visits to medically vulnerable customers during COVID-19 outbreaks or lockdowns. We support the proposal put forward by Essential Energy that DNSPs could be given an enhanced role in supporting the rollout of smart meters to life support customers.

Q4 OPTIONS TO ASSIST IN ALIGNING INCENTIVES

(a) What are the costs and benefits of each option? Is there a particular option which would best align incentives for stakeholders?

The Directions Paper proposes development of additional revenue streams from metering, such as from sale of power quality data to DNSPs. DNSPs should have been given access to power quality data when the *Competition in metering* policy was first put in place. It is unclear what DNSPs would be willing to pay for that data and whether that would be sufficient to materially change incentives for the retailers responsible for the smart meter rollout. The *Competition in metering* policy made the mistake of overestimating the value of services from smart meters.

The Directions Paper suggests a cost sharing model but does not suggest with whom the costs would be shared, and the proportion of costs allocated to retailers and others. With so little detail available, it is unclear how stakeholders can estimate costs and benefits of this proposal.

The Directions Paper suggests multiple parties could be made responsible for the rollout. This would seem to be a recipe to blurring the accountability for future failures of the smart meter rollout. It was electricity retailers that argued during the development of the *Competition in metering* policy that they should be given the sole role of leading the smart meter rollout across the NEM. They should not be let off the hook by a fuzzy allocation of responsibilities that could lead to no one knowing who is supposed to be doing what. During the development of the *Competition in metering* policy the CEC advocated a continuation of the DNSP-led rollout of smart meters. There are some compelling arguments for that

approach. For example, the smart meter rollout in Victoria means that Victorian DNSPs have much better visibility of their low voltage (LV) networks than their counterparts in other jurisdictions. Unfortunately, we understand that many DNSPs in the NEM are of the view that the metering system is 'broken' and they do not want to now be given responsibility for fixing it. We support SA Power Networks' position, that DNSPs should not be prevented from providing Metering Provider services to Metering Coordinators, on the request of the Metering Coordinator.

(b) Are there other options that you consider would better align incentives

The costs of installing a smart meter exceeds the benefits to the customer. That will not be changed by realignment of incentives. Relying on the market to roll out smart meters based purely on their inherent benefits and incentives will fail. A measure of obligation must be introduced to the regulatory framework to ensure the rollout is completed this decade.

Q5 THE CURRENT MINIMUM SERVICE SPECIFICATIONS ENABLE THE REQUIRED SERVICES TO BE PROVIDED

(a) Do you agree with the Commission's preliminary position that the minimum service specification and physical requirements of the meter are sufficient? If not, what are the specific changes required?

Minimum specifications can deliver most of the anticipated benefits of the smart meters, however the National Electricity Rules need to be amended 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.

In 2020 the South Australian (SA) Department for Energy and Mining (DEM) introduced new regulations requiring that all new or replacement meters must be multi-element and all new distributed energy resources (DER) connecting to the SA Power Networks grid must utilise a multi-element meter. It would be helpful for the AEMC to review the usefulness of the SA reforms in relation to multi-element meters and whether this approach should be considered elsewhere.

The CEC's view is that regulators should require capabilities rather than mandating specific technologies. If dynamic customer connections can be achieved using inverters communicating with Application Programming Interface (API) this would be a superior solution to mandating the use of multi-element meters. Dynamic customer connections will have the capability to support dynamic operating enveloped whereas a multi-element meter will be limited to a simple disconnect and reconnect function.

(b) Are there changes to the minimum service specifications, or elsewhere in Chapter 7 of the NER, required to enable new services and innovation?

It is unclear why, in future, all inverters will be required to be capable of communicating using a protocol compliant with IEEE 2030.5, but smart meters will not. It means that the device that acts as the gateway between the grid and the home will be significantly dumber than the devices behind the meter. It would be helpful for the AEMC to indicate whether this is a deliberate decision and the rationale and thinking behind it.

(c) What is the most cost-effective way to support electrical safety outcomes, like neutral integrity? Would enabling data access for DNSPs or requiring smart meters to physically provide the service, such as via an alarm within the meter, achieve this?

While alarming features of smart meters to detect broken neutral could be useful, it is not a preventive measure. Enabling data access along with data analytics approaches have proven to be the most effective preventive measure to detect the fault and asset degradation well before it results in a serious safety issue. Moreover, enabling data access provides additional benefits such as improved network visibility that is important for increasing the hosting capacity of DER connected to distribution networks.

(d) Do you agree smart meters provide the most efficient means for DNSPs to improve the visibility of their low voltage networks? Why, or why not? What would alternatives for network monitoring be, and would any of these alternatives be more efficient?

Voltage data is available from smart meters. The data exists and can 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 but if there is one available, we would be keen to consider it.

(e) Can smart meters be used to provide an effective solution to emerging system issues?

No. The energy transition is being driven by the increasing uptake of DER. Smart meters are unable to address these issues and changes effectively because they are not able to efficiently manage the complex variety of different DER and they are not owned or controlled by the consumer, who has purchased the DER and has the greatest stake in how their DER is operated.

Smart meters are important to provide better data to DNSPs and energy retailers, but they are incompatible with the other DER management requirements for Grid 2.0.

Q6 ENABLING APPROPRIATE ACCESS TO DATA FROM METERS IS KEY TO UNLOCKING BENEFITS FOR CONSUMERS AND END USERS

(a) Do you agree there is a need to develop a framework for power quality data access and exchange? Why or why not?

DNSPs should have access to voltage data from meters for all the reasons outlined in the Directions Paper. We look forward to understanding the details of the AEMC's proposed framework for power quality data access and exchange.

(b) Besides DNSPs, which other market participants or third parties may reasonably require access to power quality data under an exchange framework? What are the use cases and benefits that this data can offer?

DNSPs will be the primary beneficiaries of voltage data on the LV network if the data is provided via the cloud and with the usual three-day delay.

It is important to distinguish between data access via the cloud versus local access. Access to billing data is delayed by about three days and what is needed is local access to real time data. If there is real time access to local data then customers would benefit because they would not be required to pay for a second meter, which is often the case today due to lack of local access to metering data.

One approach would be to extract the utility meter's data via ModBus TCP/IP/SunSpec agreements to allow DER to use this data. This would reduce the installation and metering cost for the customer's DER on site.

(c) Do you have any views on whether the provision of power quality data should be standardised? If so, what should the Commission take into consideration?

Applications of power quality data from smart meters for improving network visibility and safety are common across the networks. So, a standardised approach is appropriate and potentially would result in less cost as it offers consistency across all metering coordinators. The standard should be embedded in the NER and could be one of the first tasks of the proposed AEMC DER Technical Standards Governance Committee, should the establishment of that proposed Committee proceed.

(d) Do you consider the current framework is meeting consumers' demand for energy data (billing and non-billing data), and if not, what changes would be required? Is there data that consumers would benefit from accessing that CDR will not enable?

Customers should have access to their data, and it should be easy for them to assign access to their data to third parties and service providers, such as aggregators. Electricity retailers should be prevented from obstructing such requests. This data should be able to be received by the service providers in an automated near real time manner, with a fully online digital sign-up process. This would require the electricity retailer or Meter data providers to provide secure access to data via an API.

Q7 FEEDBACK ON THE INITIAL OPTIONS FOR DATA ACCESS THAT THE COMMISSION HAS PRESENTED

(a) What are the costs and benefits of a centralised organisation providing all metering data? Is there value in exploring this option further? (e.g. high prescription of data management)

The CEC does not object to this proposal in principle, however we would need to understand the potential costs.

This option would have many benefits. It would guarantee the widespread provision of data to all industry participants, improve visibility of the LV network, improve customer service, remove the need for costly negotiation for data access, and would alleviate costs for Metering Coordinators (MCs), DNSPs and third parties.

However, it could be a very expensive solution if the only new use case is the collection of power quality data on behalf of DNSPs. It could also take a period of several years to establish. Further analysis is needed to understand whether this approach would reduce costs to consumers over the long term and what other roles, if any, the centralised organisation would undertake.

(b) What are the costs and benefits of minimum content requirements for contracts and agreements for data access to provide standardisation? Would such an approach address issues of negotiation, consistency and price of data?

The CEC strongly supports the proposal to standardise minimum content requirements for contracts and agreements for data access to provide standardisation. This would assist with overcoming problems associated with management of multiple contracts. It would reduce the costs associated with inconsistency. However, it would not guarantee data access. It is necessary, but not sufficient. It should be implemented in tandem with the proposal to develop an exchange architecture.

An agreed standard for power quality and other relevant data available from smart meters, DER and other devices would be very helpful. The CEC has nominated standardisation of electricity-related data as a priority for the work of the Distributed Energy Integration Program (DEIP) in 2022. Industry has already developed a DER Visibility and Monitoring Best Practice Guide, which could be used as a starting point for the proposed data standardisation work of the DEIP.

(c) What are the costs and benefits of developing an exchange architecture to minimise one-to-many interfaces and negotiations? Could B2B be utilised to serve this function? Is there value in exploring a new architecture such as an API-based hub and spoke model?

This proposal would reduce transaction costs and simplify data exchange but could fail unless it is coupled with a requirement for provision of power quality data. Relying on willing buyers and sellers of data has failed and it is not clear that the failure will be addressed simply by reducing transaction costs. There should be regulated pricing for data that is essential to the efficient operation of the electricity system.

(d) What are the costs and benefits of a negotiate-arbitrate structure to enable data access for metering? Is there value in exploring this option further? (e.g. coverage tests or non-prescriptive pricing principles).

This approach would very likely fail. The value of the data is not sufficient to justify the transaction costs of this approach. Arbitration would be too expensive, compared to the value of the data. It would also not address the problems of lack of standardisation of metering data. We recommend the AEMC does not proceed with developing the proposed negotiate-arbitrate structure.

Q8: A HIGHER PENETRATION OF SMART METERS WILL ENABLE MORE SERVICES TO BE PROVIDED MORE EFFICIENTLY

(a) Are there other potential use cases that third parties can offer at different penetrations of smart meters? What else is required to enable these use cases?

Yes, there are other potential use cases. Local access to real time data (rather than cloud-based access to billing data three days later) will be important to enable other use cases.

Q9: IMPROVING CUSTOMERS' EXPERIENCE

(a) Do you have any feedback on the proposal to require retailers to provide information to their customers when a smart meter is being installed? Is the proposed information adequate, or should any changes be made?

Using the installation of a smart meter as the trigger for tariff reassignment is a disincentive for smart meter uptake. If a mandatory tariff reassignment will accompany the meter replacement, the implications of the tariff reassignment should be explained clearly.

(b) Should an independent party provide information on smart meters for customers? If so, how should this be implemented?

There would be value in having an independent organisation able to respond to customer enquiries regarding meters. Energy Consumers Australia would appear to be well placed for this role.

(c) Should retailers be required to install a smart meter when requested by a customer, for any reason? Are there any unintended consequences which may arise from such an approach?

It is unclear whether this is a real problem. We recommend the AEMC provide data on the following:

- How common is it for a customer to request a smart meter (aside from when they are forced to because it is a new connection, or they are connecting solar)?
- How common is it for a retailer to refuse to install a smart meter when requested?
- What reason does the retailer give for their refusal?
- Can the customer address this by switching retailer?

Q10: REDUCING DELAYS IN METER REPLACEMENT

(a) Do you have any feedback on the proposed changes to the meter malfunction process?

The proposed approach seems reasonable.

(b) Are there any practicable mechanisms to address remediation issues that can prevent a smart meter from being installed?

It would be unreasonable to force low-income households to undertake asbestos remediation if they were charged directly for remediation that is unaffordable. However, it is our understanding that

metering installation and remediation costs are smeared over all customers and over an extended period. Insofar as that is a true reflection of current practice, there is not a strong case for remediation costs to act as a barrier to meter installation.

Q11: MEASURES THAT COULD SUPPORT MORE EFFICIENT DEPLOYMENT OF SMART METERS

(a) Do you have any feedback on the proposal to reduce the number of notices for retailer led rollouts to one?

It seems reasonable.

(b) What are your views on the opt-out provision for retailer-led rollouts? Should the opt-out provision be removed or retained, and why?

It would be reasonable to remove the opt-out provision, provided there is a way of addressing the situation where a low income household becomes responsible for unaffordable asbestos remediation to enable installation of a meter that they did not request and do not want.

(c) Are there solutions which you consider will help to simplify and improve meter replacement in multi-occupancy premises? Should a one-in-all-in approach be considered further?

Yes, the proposed one-in-all-in approach for multi-occupancy premises should be further developed. This would assist with the meter rollout timeframes.

Q12: FEEDBACK ON OTHER INSTALLATION ISSUES

(a) Do you have any feedback on any of the other installation issues raised by stakeholders? Are there any other installation issues the Commission should also consider?

Q13: IMPROVEMENTS TO ROLES AND RESPONSIBILITIES

(a) Are there any changes to roles and responsibilities that the Commission should consider under this review? If so, what are those changes, and what would be the benefit of those changes?

One of the most significant barriers to better utilisation of smart meter data is the power exerted by electricity retailers regarding data access. Access to the data from smart meters should not be dependent on electricity retailers' cooperation. The framework for data access should be regulated. DNSPs should have access to voltage data from smart meters to enable network visibility at low cost to DNSPs and their customers. The regulatory framework should limit electricity retailers' monopoly powers over data by enabling customers to easily assign data access to service providers without obstruction.

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.