AEMC Review of the Regulatory Framework for Metering Services

Response to Discussion Paper

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Energy Networks Australia

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Key messages

- ENA supports the AEMC's conclusion that **smart meters are a key enabler to unlocking consumer benefits** as part of the energy sector transition. ENA welcomes the AEMC's **focus on exploring options to improve the current arrangements**, recognising that **the reforms introduced under the competition in metering rule change have not met expectations**.
- ENA **supports the introduction of a data access** and exchange **framework to make smart meter data more accessible** for Distribution Network Service Providers (DNSPs), industry participants and customers.
  - Access to standardised, timely and cost-effective data **will allow DNSPs to deliver numerous benefits to customers** including lower network costs, improved reliability and additional safety protections.
  - ENA supports the implementation of a data access and exchange framework that combines characteristics of both a Minimum Contents Requirement access framework and an Exchange Architecture platform.
- ENA **supports the AEMC's recommendation to consider measures to accelerate the smart meter roll out to** deliver the benefits of smart meters to consumers in a shorter time frame.
  - ENA's preferred options to accelerate the roll out of smart meters are an installation quota (including backstop date) or an age-based meter replacement trigger.

1 Overview

Energy Networks Australia (ENA) appreciates the opportunity to provide a response to the Australian Energy Market Commission's (AEMC) Directions Paper on its Review of the Regulatory Framework for Metering Services (Directions Paper).[1]

ENA is the national industry body representing Australia's electricity transmission and distribution and gas distribution networks. Our members provide more than 16 million electricity and gas connections to almost every home and business across Australia.

ENA acknowledges the AEMC's commitment to stakeholder consultation throughout the review, including in its facilitation of the reference and subreference groups. This approach has sought a wide range of stakeholder views and is more likely to lead to

[1] AEMC, *Review of the regulatory framework for metering services Directions Paper* (September 2021),

considered, customer-focussed outcomes. ENA supports the continuation of this constructive engagement.

ENA supports the AEMC's conclusion that smart meters are a key enabler to unlocking benefits to consumers as part of the energy sector transition. ENA welcomes the AEMC's focus on exploring options to improve the current arrangements, recognising that the reforms introduced under the competition in metering rule change have not met expectations.

In particular, ENA supports the development of a data access and exchange framework that combines characteristics of both a Minimum Contents Requirement access framework and an Exchange Architecture platform. Improved access to data will allow distribution network service providers (DNSPs) to implement services that will deliver benefits to customers, for example faster outage identification and restoration, or dynamic voltage management to improve distributed energy resource (DER) hosting capacity.

ENA also supports the principle to accelerate the roll out of smart meters. A higher penetration of smart meters will lead to a greater likelihood that economies of scale can be realised in service delivery and benefits can be delivered to consumers. ENA recommends implementation of either an installation quota (including a final backstop date by which a high percentage of meters should be installed) or an age-based meter replacement trigger to accelerate the roll out of smart meters. ENA also supports allowing parties other than Metering Coordinators (MCs) to take responsibility for smart meter installation and cost alongside these implementation options if the complexities of having multiple parties responsible for metering can be managed.

ENA's views on these and other areas of the AEMC's Directions Paper are discussed in more detail in the following sections.

2 Smart meter data access and exchange framework

2.1 Background

In its submission to the Consultation Paper[2], ENA identified numerous services that DNSPs could implement to improve customer outcomes if they had access to smart meter data. Some examples included faster rectification of community safety issues, greater visibility (and more control) of network voltage performance, improved network planning and better tariff pricing incentives.

Obtaining access to data under the current commercial negotiation framework has been challenging for several reasons:

[2] ENA, *Response to the AEMC Consultation Paper: Review of the Regulator Framework for Metering Services* (February 2021), p. 11, 13-14.

- The need to negotiate with several MCs and agree terms for data provision with each one to ensure DNSPs have access to a high proportion of available data.
- There is no ability to guarantee access to data at a specific meter as the customer may churn to a separate retailer and MC that DNSPs may not have agreements with.
- In some circumstances, costs for the provision of data can be prohibitive.
- Data is not currently provided in a standardised format.
- In some cases, MCs have been contractually prohibited by retailers from providing data to third parties (for example, to DNSPs) under any circumstances.

ENA notes that the AEMC has been engaging with these issues in the Services and Data Subreference Group and is currently of the view that developing a data access and exchange framework that addresses current issues is in consumers' long-term interest[3]. ENA supports this position and believes that significant customer benefits would be derived if an appropriate data access and exchange framework were implemented.

Access to data is the main factor preventing DNSPs from implementing services that would deliver customer benefits. While the penetration of smart meters is also a factor, DNSPs are able to deliver beneficial services to customers with lower smart meter data penetrations[4]. For instance, faulty neutrals could be detected, or more informed network planning could deliver better services and lower costs even at lower data penetrations.

Other more advanced services can also be delivered at lower data penetrations, for instance DNSPs can perform dynamic voltage management with data from only 20-30 per cent of all meters in their jurisdiction. More advanced services that typically function more effectively at higher meter penetrations are still likely to deliver overall customer benefits at lower penetrations. As the penetration of smart meters improves and more data becomes available, more customer benefits will be able to be delivered.

2.1.1 ENA summary of services

ENA has developed a summary of services that DNSPs could deliver if they had access to data for the purposes of informing stakeholders on the potential customer benefits, indicative required data penetration, type and timeliness of requisite data for each service and the estimated qualitative benefits profile as the penetration of meters and access to data improves.

The summary of services outlines both the indicative minimum penetration of data required to deliver overall customer benefits and the indicative data penetration

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[3] AEMC, *Review of the regulatory framework for metering services Directions Paper* (September 2021), p. 31.

[4] *Data penetration* means the percentage of smart meters providing data to DNSPs relative to the total number of all types of meters

required to deliver optimal customer outcomes through efficient service delivery. It is important to note that the summary of services refers to *data penetration*, which is defined as the percentage of smart meters providing data to DNSPs relative to the total number of all types of meters. This metric is used rather than meter penetration because DNSPs may not have access to data from all installed smart meters.

ENA provided its summary of services to the AEMC informally during the reference group consultation process, and it can be found at **Appendix A** of this submission.

2.2 Implementation of a data access and exchange framework

The AEMC considers in its Directions Paper that 'the current arrangements for negotiating and utilising data that the meter can provide are inefficient and likely not contributing to the long-term interest of consumers'[5]. As previously identified, the AEMC is also of the view that developing a data access and exchange framework that addresses relevant issues is in consumers' long-term interest. ENA supports these views and agrees that implementation of an appropriate data access and exchange framework is likely in consumers' long-term interests.

The AEMC has outlined four potential data access and exchange framework options in its Directions Paper, including:

- a **centralised organisation** that would hold all metering data,
- a '**minimum contents requirement**' approach that is conceptually similar to ENA/SA Power Network's proposed framework of providing DNSPs with 'basic' data,
- an **exchange architecture** that all participants would use, standardising the platform for meter data transactions, and
- a **negotiate-arbitrate** framework.

ENA discusses its views on each of the frameworks and its preferred option below.

2.3 ENA's recommended data access and exchange framework

After consideration of each of the options available and their relative costs and benefits, ENA believes that a combination of a minimum contents requirement and an exchange architecture is the approach most likely to lead to the highest net customer benefits. While each of these approaches have merit separately, employing a combination of both approaches would capture the benefits of each approach if they were implemented separately, while also eliminating some of the weaknesses of each approach.

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[5] AEMC, *Review of the regulatory framework for metering services Directions Paper* (September 2021), p. 30.

The key benefits of implementing a minimum contents requirement framework are that it guarantees DNSPs access to essential data (which ENA defines as basic data) and that it addresses issues with customer churn. Guaranteed access to basic data will allow DNSPs to deliver numerous beneficial services to customers.

Implementing an exchange architecture alongside a minimum contents requirement framework would deliver the benefits of a minimum contents requirement framework as well as standardising the communications infrastructure used to transfer data and reduce long-term transaction costs. The use of data is becoming more important to deliver beneficial customer outcomes in a digitised energy system. Transactions for the provision of data are likely to continue long into the future, and ENA therefore places a high value on reducing the long-term transaction costs for the provision of data.

This combined approach would also facilitate development of partially completed contracts for data provision that are likely to improve the chance of successful negotiation for access to more frequent or different types of data. Access to more frequent or different types of data will become increasingly valuable as the penetration of smart meters continues to improve.

ENA supports defining basic data required to be provided under a minimum contents requirement framework in line with ENA's proposed definition of 'basic' data, which is:

> *instantaneous 5-minute readings of voltage, current, real and reactive power per phase provided to DNSPs at least every 24 hours.*

Recommendations one and two

- ENA recommends that the AEMC implement a data access and exchange framework based on a combination of a minimum contents requirement and an exchange architecture on the basis that this approach is most likely to lead to the highest net customer benefits.
- ENA recommends defining basic data required to be provided under a minimum contents requirement framework in line with ENA's proposed definition of 'basic' data, which is 'instantaneous 5-minute readings of voltage, current, real and reactive power per phase provided to DNSPs at least every 24 hours.'

2.3.1 A 'minimum contents requirement'

A 'minimum contents requirement' access framework would be based off New Zealand's Electricity Information Exchange Protocols, which facilitate the transfer of consumption data held by metering parties to DNSPs. This type of framework is conceptually similar to SAPN and ENA's proposed tiered framework for data access.

A minimum contents requirement would specify basic data that must be mandatorily provided to DNSPs at their request and at 'reasonable' cost, guaranteeing access to basic data, which the AEMC would be required to define. As previously mentioned, ENA supports the AEMC defining basic data in line with ENA's definition of 'basic' data in its submission to the consultation paper. Data that does not meet the basic data definition, for instance, the provision of more frequent data or different types of data, would be subject to commercial negotiation.

Guaranteed access to basic data addresses concerns of DNSPs losing data access when customers churn to other retailers/MCs and removes the need to individually negotiate for access to basic data. A 'minimum contents requirement' access framework uses the current market structures and would likely be reasonably low cost to implement. DNSPs will be able to introduce services that will provide customer benefits, and with likely low overall costs, this option is very likely to deliver net beneficial customer outcomes.

A minimum contents requirement framework would still require DNSPs and MCs to negotiate for access to more frequent or different types of data. It may also result in the DNSP needing to manage different sources of data potentially from different systems or in different formats, with the necessary requirement to merge them each time new data is collected.

2.3.1.1 *Determining 'reasonable' cost*

To the extent that there are costs, ENA believes that efficient customer outcomes would arise from including the costs of providing mandatory basic data access in the fee for metering services agreed between the retailer and the MC, effectively letting competitive market forces determine 'reasonable cost'.

This approach is preferable because retailers are in a position to manage their contracts with MCs and have the ability to appoint a new MC if they are unsatisfied with the costs or services provided by the MC. Contrarily, DNSPs have no recourse to handle MC contract costs and are unable to place competitive pressure on MCs. Including the costs in the retailer-MC transaction incentivises MCs to provide efficient service delivery.

2.3.2 An exchange architecture

Under an exchange architecture framework, all industry participants would use the same exchange platform, where data formats and transaction architecture would be standardised by using a common Business to Business transaction or Application Programming Interface.

NERA, in its advice to the AEMC, notes that there are two key components to an exchange architecture. The first is a standardised communications interface where suppliers would upload data and DNSPs or third parties would download data. The second is a semi-standardised set of contracts that could be adapted to the requirements of DNSPs or third parties, with the terms potentially agreed upon in advance[6].

A common exchange architecture used among industry participants is likely to reduce long-term transaction costs for data access because industry participants will be using the same communications platforms.

MCs would have flexibility to offer different types of data services in timeframes and prices that are suitable to them. It also incorporates some level of flexibility into the framework if the future data needs of industry change because MCs can update their service offerings. MCs would also be able to price the provision of data at different frequencies, providing DNSPs and third parties with visibility of the price and availability of data at different frequencies.

Data is becoming more important to businesses and is likely to continue to become even more important in the future as the energy system becomes more complex and reliant on data. Standardising the communications interface that industry participants are using and developing standard contract terms are likely to significantly reduce long-term transaction costs for the provision of data.

Additionally, ENA believes that it would be worthwhile to define consistent national data service standards such as accuracy, reliability and delivery timeframes that would apply to data services. These data service standards could be implemented within an exchange architecture to ensure that data services are standardised across businesses and jurisdictions, leading to more streamlined and consistent data service provision.

Standalone implementation of an exchange architecture would still require successful negotiation to secure data access, and issues with customer churn and loss of data access would remain unresolved. ENA believes it would be best to implement an exchange architecture alongside a supporting data access and exchange framework to also guarantee DNSPs access to basic data.

2.4 ENA’s views on other data access and exchange frameworks

2.4.1 A centralised organisation

This data access model would be based off the United Kingdom’s Data Communications Company (DCC), which is responsible for the collection and distribution of all smart meter data in the United Kingdom. NERA identifies in its report provided to the AEMC[7] that under this model, Metering Data Providers (MDPs) would effectively cease to exist as a competitively appointed role, and instead a single MDP would be appointed by all MCs, or a single MDP per state or DNSP area.

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[6] NERA, *Smart Meter Data Access Framework Options*, (August 2021), p. 27.

[7] NERA, *Smart Meter Data Access Framework Options*, (August 2021), p. 23.

Under this model, all data that the centralised organisation collected would be made publicly available for free. This option would result in the widespread provision of data to industry participants, allowing industry participants access to more data to improve the quality of services delivered to customers and potentially driving data innovation in the energy sector.

The centralised organisation would need to be designed, established, implemented and operationalised, and the associated regulatory framework would also need to be developed. This organisation will not become operational for a substantial amount of time, delaying the benefits of coordinated data delivery.

The costs involved in establishing and operating the organisation would likely need to be socialised among all electricity consumers via regulation and implementing and operating a centralised organisation would likely impose large costs on consumers. NERA outlines that DCC costs in the United Kingdom are currently around $74 AUD per customer.[8]

On balance, ENA believes that the costs, complexities and long implementation timeframes of a centralised organisation structure are likely prohibitive to delivering net customer benefits and therefore does not recommend this as the preferred data access and exchange framework solution.

2.4.2 A negotiate-arbitrate framework

ENA believes that there may be a role for a negotiate-arbitrate framework to support other implemented frameworks as a last-resort option in the event that negotiations for access to more frequent or different types of data continue to be unsuccessful. A last-resort negotiate-arbitrate procedure would add an incentive for parties to negotiate in good faith and successfully reach commercial agreement to avoid the potential of arbitration. ENA therefore suggests that it may be worthwhile exploring the implementation of a negotiate-arbitrate procedure alongside other frameworks as a last-resort option.

However, standalone implementation of a negotiate-arbitrate framework is not a substitute for other, more appropriate data access and exchange frameworks. A standalone negotiate-arbitrate framework would not guarantee access to basic data, would not guarantee standardisation of data across the industry, is still susceptible to customer churn issues and does not materially reduce the administrative burden of contractual negotiation with multiple parties.

2.5 Minimum Services Specifications

The Minimum Services Specification (MSS) specifies what services smart meters must be capable of performing and is defined in the National Electricity Rules (NER) in

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[8] NERA, *Smart Meter Data Access Framework Options*, (August 2021), p. 12.

schedule 7.5. ENA notes that the AEMC's preliminary position in its Directions Paper is that no changes are required to the MSS for smart meters[9].

ENA does not support this preliminary position as we believe that changes to the MSS are warranted. ENA's primary concern is that the MSS does not specify that voltage, current and power quality data must be provided under the *remote on-demand meter read service* or the *remote scheduled meter read service*.

ENA recognises that readings of voltage, current, and power quality are included in the *meter installation enquiry service* specification, but this service is intended to be undertaken on an ad-hoc basis rather than on a regular basis. If the MSS remains the same and a data access and exchange framework is implemented that provides voltage, current, and power quality to DNSPs, smart meters would only be required to provide voltage, current, and power quality under the rules through the *meter installation inquiry service*.

One interpretation of the MSS is that DNSPs could make numerous ad-hoc requests for this data under the *meter installation enquiry service* to replicate the effect of the *remote on-demand meter read service* or the *remote scheduled meter read service*. However, ENA understands that the original intent of the *meter installation enquiry service* is for ad-hoc readings rather than on a regular basis. This understanding is supported by the fact that the *remote scheduled meter read service* references the retrieval of data 'on a regular and ongoing basis', whereas the *meter installation enquiry service* does not reference a frequency for the provision of information.

ENA therefore believes that it would be more appropriate to specify that smart meters must be capable of providing voltage, current, and power quality data under both the rem*ote on-demand meter read service* and the *remote scheduled meter read service*. Leaving the MSS as it currently stands introduces unnecessary interpretation risk into the Rules.

Recommendation three

- ENA recommends that the AEMC amend the MSS to specify that smart meters must be capable of providing ENA's definition of basic data, including voltage, current, and power quality under both the rem*ote on-demand meter read service* and the *remote scheduled meter read service* under schedule 7.5 of the NER.
  - For completeness, ENA's proposed definition of basic data is 'instantaneous 5-minute readings of voltage, current, real and reactive power per phase provided to DNSPs at least every 24 hours.'

[9] AEMC, [Review of the regulatory framework for metering services Directions Paper]() (September 2021), p. 29.

3 Smart meter roll out

The AEMC recommends in its Directions Paper that options to accelerate the roll out of smart meters should be considered. This is predominately on the basis that a relatively higher penetration of smart meters is needed for customer benefits to be realised. The AEMC outlines numerous measures to accelerate the roll out, including direct options to accelerate the roll out, and potential solutions to amend incentives to roll out smart meters. ENA considers that the intent of both types of measures is to accelerate the roll out of smart meters and discusses these options below.

The AEMC identifies several potential levers to accelerate the roll out of smart meters in its Directions Paper, including:

- an **age-based trigger** for meter replacement,
- an **installation quota or backstop date** that would require retailers to install a specified percentage of smart meters in each distribution area by specified dates,
- **development of additional revenue streams** likely for service provision,
- **spreading the cost of installation**, and
- allowing **multiple parties being responsible** for metering.

ENA supports the principle to accelerate the roll out of smart meters. Higher smart meter penetration will lead to economies of scale in service delivery and additional benefits can be delivered to consumers. ENA's specific views on the potential levers to accelerate the roll out of smart meters, along with the recommended option, are discussed below.

3.1 ENA's recommendation

ENA recommends accelerating the smart meter roll out by implementing either an installation quota (including backstop date) or an age-based meter replacement trigger. These options are most likely to accelerate the roll out of smart meters through hard targets and provide certainty to industry. They will also deliver economies of scale in the roll out, which will naturally improve the incentive to roll out smart meters over time.

The implementation of these options should be conducted in a way that considers the efficiencies that can be derived during meter roll out. For instance, the installation of all meters in a geographic area at once, or the prioritisation of higher value smart meter sites or meters that are more expensive to maintain. Utilising efficiencies will reduce costs across the industry and subsequent costs to customers.

ENA also believes that implementing a framework that allows parties other than MCs to roll out smart meters at their own responsibility and cost is in customers' interests as it provides a level of flexibility to industry and would accelerate the meter roll out. These types of provisions could be implemented in addition to other measures designed to accelerate the meter roll out.

Recommendations four and five

- ENA recommends the implementation of either an installation quota (including backstop date) or an age-based meter replacement trigger to accelerate the roll out of smart meters. These options should be implemented with consideration given to meter roll out efficiencies.
- ENA recommends the implementation of a framework where parties other than MCs could roll out smart meters at their own responsibility and cost. This could be implemented in addition to other measures designed to accelerate the meter roll out.

3.1.1 Installation quota including backstop date

An installation quota would require retailers to install smart meters for a specified percentage of their customer base in each distribution area by a predetermined date. A backstop date would specify a date by which a high percentage of or all smart meters should be replaced. It is ENA's understanding that a backstop date could be treated as a form of installation quota that specifies a very high penetration of meters and ENA will refer to both approaches as installation quotas.

An installation quota has the advantage of providing certainty to industry about the timeframes that smart meters will be installed in. This allows industry participants to plan and prepare for the installation of smart meters, potentially resulting in lower installation costs for smart meters overall. It also provides an investment signal for industry participants to efficiently invest in anticipation of a certain percentage of smart meters by a certain date.

In implementing an installation quota, it may be worthwhile considering whether metering roll out efficiencies could be incorporated, for instance the replacement of all meters in an area at once to reduce overall metering costs to consumers.

While installation quotas may incentivise the installation of lower cost smart meters first, a drawback of this approach is that they may not directly incentivise the installation of smart meters in higher value areas.[10] It would also be useful to consider whether a mechanism could be implemented that would allow DNSPs to signal high value areas for smart meter installation that could be prioritised by retailers.

If installation quotas are used to accelerate the meter roll out, ENA suggests that the AEMC consider the implementation of a sequential set of quotas at staggered intervals. A sequential set of quotas will have the benefit of ensuring that the meter roll out avoids a situation where a disproportionate amount of smart meters are

[10] For instance, in areas where data provision would be relatively more valuable, such as in areas that incur frequent outages, or areas that have high DER penetration.

installed closer to the quota date, potentially increasing meter roll out costs through an increase in demand for meter installation.

The final installation quota in a sequential set of installation quotas should function similar to a backstop date and stipulate a date by which a very high penetration of meters would need to be installed. This final installation quota would ensure that regional customers have sufficient smart meter penetration.

3.1.2 Age-based meter replacement trigger

An age-based meter replacement trigger would designate that a smart meter is installed when an individual accumulation meter (basic meter) reaches a certain age, or a group of co-located accumulation meters reaches an average age.

One of the benefits of an age-based meter replacement trigger is that older meters are closer to their end-of-life and on average require more maintenance than newer meters. Older meters are more expensive to maintain and are more susceptible to failure. Replacing relatively older meters before newer ones is likely to reduce the overall cost to maintain the remaining accumulation meter fleet when compared to a case that doesn't replace relatively older meters first.

ENA believes that it would be beneficial if the age of smart meters is considered as a relevant factor in the installation of smart meters. There may need to be separate age triggers in each DNSP jurisdiction as the relative age of meters in one network may be materially different than the relative age of meters in other networks. This option can also be implemented alongside other options to accelerate the meter roll out, for instance an installation quota.

Applying the age-based trigger to a group of co-located meters would require the replacement of all co-located meters when the average age of the meters surpasses the trigger age. This could improve efficiencies with the metering roll out by making it easier to roll out multiple meters in a geographic area at once, but these efficiencies would need to be balanced against the loss of efficiencies from not replacing individual meters at their exact age trigger.

There may also be additional efficiencies in implementing replacement strategies that consider factors other than meter age. For example, it might be useful to target the replacement of relatively more expensive meters to maintain such as controlled load meters, or target meter sites that would deliver more valuable information to DNSPs and customers such as in legacy solar sites or for life support customers. ENA believes that the AEMC should consider the additional efficiencies of implementing replacement strategies that prioritise more expensive to maintain or higher value sites alongside a broader age-based replacement trigger.

3.1.3 Multiple parties responsible for metering

This option for accelerating the roll out of smart meters would give parties other than MCs the option to bear the cost and responsibility for the roll out of smart meters. ENA understands that under this option, parties other than MCs could opt to install chosen smart meters at their own discretion and cost.

There are challenges with the current approach to meter installation, including assigning responsibility and managing the coordination of multiple parties to be on site simultaneously. Allowing multiple parties to take responsibility for the cost and roll out of certain smart meters would have the advantages of removing responsibility issues and reducing the coordination required to install smart meters.

It would also provide greater flexibility for industry participants to install smart meters in high value areas, for instance a DNSP could install smart meters in areas that incur frequent outages to obtain better low voltage network visibility, potentially leading to better outage restoration times and improved consumer outcomes.

The coordination required between industry participants to establish smart meter trials would be materially reduced, for instance to provide proof of concept to an innovative use of smart meters. Trials that are successful would be capable of smoothly scaling up as market participants could install more smart meters with much lower levels of coordination with other parties.

The AEMC has identified that there may be complexities with this option, including that some form of access arrangement would be required to ensure the party responsible for metering services does not prevent other participants from accessing the services that smart meters could provide.

ENA notes that if this option were implemented, it should be implemented alongside other solutions for accelerating the meter roll out, such as an installation quota or an age-based meter replacement trigger. Implementing this approach along with an installation quota would incentivise the installation of high value smart meters, whereas an installation quota alone may preference the installation of low cost smart meters relative to high value smart meters. This dual approach would also provide clarity to industry on the timeframes that higher metering penetrations would be realised, whereas only implementing multiple party responsibility would not provide clarity on smart meter roll out timeframes.

ENA supports the implementation of this option alongside other potential options to accelerate the roll out of smart meters if the complexities of having multiple parties responsible for metering can be managed.

3.2 Other options

ENA does not believe that additional revenue streams or splitting the cost of installation are preferable to other approaches to accelerate the smart meter roll out. The impacts of the incentives on different parties are unclear and these approaches do not provide clarity on the timeframe for meter roll out.

3.2.1 Additional revenue streams

The implementation of additional revenue streams into the metering services framework would be designed to allocate a portion of the ongoing cost of smart meters to parties who derive benefits from higher penetration. The AEMC notes that this would likely include data access and payment revenue streams, presumably from DNSPs to MCs or retailers.

ENA believes that it is unclear whether retailer incentives to roll out smart meters would be improved with the implementation of revenue streams from DNSPs to either MCs or retailers. DNSPs will recuperate these revenue streams via network charges that are paid by retailers. Implementing additional revenue streams would also introduce extra transactions and costs between DNSPs, retailers and MCs.

As previously mentioned, ENA believes that more efficient customer outcomes would likely arise from including the costs of providing basic data access in the fee for metering services agreed between the retailer and the MC. This is primarily because retailers are best placed to manage their contracts with MCs and have the ability to appoint a new MC if they are unsatisfied with the costs or services provided by the MC. This in turn incentivises MCs to provide efficient service delivery. DNSPs are not able to appoint a MC and have no recourse if they are dissatisfied with MC costs or services.

3.2.2 Spreading the cost of installation

Spreading the costs of installation would involve the implementation of some form of regulated pricing or cost sharing to ensure that parties who derive benefits from higher smart meter penetration contribute to part of the ongoing cost of the meter.

If DNSPs are the party financially contributing to meter installation, DNSPs will recuperate these revenue streams via network charges that are paid by retailers. This approach also raises cost recovery issues in allocating how costs and payments are allocated between the retailer and the MC.

ENA believes that there are more preferable options to accelerate the smart meter roll out that provide more certainty of the timeframes for the smart meter roll out than spreading the cost of installation, such as ENA's supported approaches of an installation quota or an age-based replacement trigger.

4 Operational issues

4.1 Multi-occupancy premises

The AEMC is seeking stakeholder input on potential approaches to address issues related to smart meter installation in multi-occupancy premises. Multi-occupancy premises are often supplied by a 'shared fuse' that is either on or off for all customers supplied by the fuse.

The two primary issues with installing meters in multi-occupancy premises are:

1. that all customers on the same shared fuse are often required to incur a supply interruption in order to install a single smart meter, meaning that when each customer sequentially installs a smart meter, all customers incur numerous sequential supply interruptions over time, and
2. that multiple parties are required to coordinate and ensure that they are on site at the same time.

In its submission to the AEMC's Consultation Paper, ENA raised the potential for all co-located customers on a shared fuse to have smart meters installed at the same time as a potential workable solution to these issues. This option has been defined by the AEMC as a 'one in all in' approach.

ENA supports the implementation of a 'one in all in' approach to replace meters in multi-occupancy premises. This option could feasibly result in only a single supply interruption for all customers supplied by the same shared fuse. Under this approach, all customers supplied by the same shared fuse would incur fewer overall supply interruptions for smart meter installations than under a scenario where numerous sequential supply interruptions occur.

The single interruption for the installation of all meters on a shared fuse would likely be longer than sequential interruptions for single meter installations, but both the number of outages and the total minutes off supply would be reduced under the single interruption scenario. This approach also has the benefit of contributing to overall meter roll out timeframes by increasing the number of meters installed.

However, a standalone 'one in all in' approach would still require material coordination between several MCs, retailers and the local DNSP to guarantee that all meters can be replaced in a single outage. ENA suggested in its submission to the Consultation Paper that DNSPs are well placed to install multiple meters at the same time and should be able to be appointed as the MP by the competitive MC at their request. If a DNSP were able to be appointed as the MP either by the MC or directly through virtue of the Rules framework in reference to shared-fusing connections, this would materially reduce the coordination required between MCs, retailers and DNSPs, and increase the likelihood that only one supply interruption will be needed to replace all customer meters.

Recommendation six

» ENA recommends the implementation of a 'one in all in' approach. This approach should be implemented in a way that allows DNSPs to also install smart meters for shared fusing customers.

4.2 Meter site remediation at customer premises

There are many behind the meter issues that can potentially be encountered when attempting to install a smart meter, for instance insufficient space on customer meter panels, unsafe wiring or the presence of asbestos. These issues often only become known about during the initial attempt to install a smart meter and require remediation before a smart meter can be installed.

ENA notes that there have been suggestions that DNSPs should be responsible for facilitating remediation behind the meter at customer sites. ENA does not support the involvement of DNSPs in the rectification of issues at the customer's premise behind the meter. DNSPs do not have jurisdiction to undertake works behind the meter and are no longer responsible for the installation of smart meters. ENA does support the involvement of DNSPs in the rectification of issues in front of the meter, where DNSPs do have jurisdiction to undertake works and a responsibility to maintain safe and reliability networks.

ENA however does recognise that meter site remediation is a significant issue for customers that can cause lengthy delays to meter installation and can be expensive for customers. ENA agrees with the AEMC that there is no clear path to address these issues through the National Electricity Rules and National Energy Retail Rules, and that the most likely avenue for resolution of meter site remediation issues is with a customer subsidy from jurisdictional governments.

4.3 Provision of industry keys to metering parties.

The provision of industry keys to metering parties has been acknowledged by stakeholders as a barrier preventing the efficient installation of smart meters. The AEMC's Directions Paper notes that industry is developing a solution to resolve this issue and improve installation outcomes for customers.

ENA understands that the ability of each DNSP to provide its industry keys to metering parties varies. Some DNSPs currently do provide keys, other DNSPs encounter legal issues with the provision of industry keys to metering parties and some DNSPs share 'jurisdictional utility' keys with other essential service providers.

ENA supports a continued discussion of this issue through the AEMC's Meter Installation Subreference Group.

4.4 Retailer notice provisions

Retailers are currently required to provide two written notices to consumers before they are able to install a smart meter. The AEMC is proposing to reduce the number of written notices that a retailer is required to send to a consumer from two to one.

ENA supports this amendment on the basis that this change is likely to improve the efficiency of meter roll out by giving additional flexibility to retailers installing meters, while only having a minor or negligible impact on customers.

Recommendation seven

» ENA recommends that the AEMC reduce the number of written notices that a retailer is required to send to a consumer from two to one.

4.5 Small customer opt-out

Small customers currently have the ability to opt-out of the installation of smart meters under a retailer-led roll out. The AEMC considers that there is merit in exploring whether the small customer opt-out provisions for retailer-led roll outs should be removed.

ENA supports the removal of the small customer opt-out provisions on the basis that customers are also able to request that their smart meter communications be switched off. The removal of this provision will assist the acceleration of the meter roll out and will also improve efficiencies with retailer-led roll outs.

Recommendation eight

- ENA recommends that the AEMC remove the small customer opt-out provisions for retailer-led roll outs, acknowledging that customers will still be able to request that their smart meter communications be switched off.

Appendix A – Summary of services

Table 1 – Indicative summary of services DNSPs can provide, customer benefits, and required data[11]

Service	Customer benefits	Data/service required	Recording frequency	Provided in what timeframe	Minimum data penetration required for DNSPs to deliver customer benefits	Data penetration required for DNSPs to deliver optimal customer outcomes	Benefits profile	Benefits profile explanation	Service level
Cost reflective network tariffs	• Lower overall customer cost in the long-term via lower network costs • Rewards for reducing demand during peak demand periods.	Interval energy data	30 minute, or 5 minutes with 5-minute settlement	Monthly	~10%	80%+	Linear	More meters leads to more customers on cost reflective tariffs, resulting in more efficient network use and more equitable distribution of network costs.	Already included in remote scheduled meter read service
Remote connection/disconnection	• Faster connection and disconnection process • Avoided cost of manual meter read and site visit	Switching? (not sure of correct technical term)	N/A	N/A	>0%	N/A	Linear	The benefits improve one for one with each installed meter	Already included in min spec
Management of controlled load (including DER)	• Lower overall wholesale prices, • Customers rewarded for their services	Controlled load switching	N/A	N/A	>0%	N/A	Linear	The benefits improve one for one with each installed meter	Already included in min spec
Energy and meter theft detection	• Reduced cost	Settlements data, power quality data assists	5-minute	24 hours	~10%	20%+	Slightly exponential benefit, levels off at higher penetrations	Relatively more benefit at higher penetrations until most theft can be detected, then the marginal value of additional meters is minimal	Already included in min spec , but power quality data would assist
Neutral fault detection	• Improved safety	Power quality data	5-minute	24 hours	>0%	N/A	Linear	The benefits improve one for one with each installed meter	Basic - add to remote scheduled meter read service and remote on-demand meter read service

[11] Version 2, incorporating amendments provided to AEMC staff on the 12th of August 2021.

Improved ability to connect DER via greater understanding of local hosting capacity	• Additional DER connected and available for use (export, batteries etc)	Voltage data	5-minute	24 hours	~10%	40%+	Slightly exponential benefit, levels off at higher penetrations	Relatively more benefit at higher penetrations until sufficient coverage provides a thorough understanding of local hosting capacity, then the marginal value of additional meters is minimal	Basic - add to remote scheduled meter read service and remote on-demand meter read service
Improved visibility, DER hosting capacity and investment planning	• Ability to provide customers information on local network capacity and expected DER performance • Improved forecasting inputs, resulting in more efficient network investment and lower network costs	Voltage data	5-minute	24 hours	~10%	40%+	Slightly exponential benefit, levels off at higher penetrations	Relatively more benefit at higher penetrations until sufficient coverage provides a thorough understanding of local hosting capacity, then the marginal value of additional meters is minimal	Basic - add to remote scheduled meter read service and remote on-demand meter read service
Dynamic export limits (dynamic operating envelopes)	• Increased DER connections • Increased ability to export more electricity more often •Enhance VPP / aggregator access to markets	Voltage data	5-minute	24 hours	>0%	~20-30%	Exponential benefit, levels off at higher penetrations	Relatively more benefit at higher penetrations until sufficient coverage provides a thorough understanding of local hosting capacity, then the marginal value of additional meters is minimal	Basic - add to remote scheduled meter read service and remote on-demand meter read service
LV network optimisation – static tuning of voltage management	• Improved inverter performance and fewer voltage-related issues, reducing risk of self-curtailment or tripping	Voltage data	5-minute	24 hours	~10%	50%+	Slightly exponential benefit, levels off at higher penetrations	Relatively more benefit at higher penetrations until sufficient coverage means 'gaps' in voltage data can be estimated with high accuracy, then the marginal value of additional meters is minimal	Basic - add to remote scheduled meter read service and remote on-demand meter read service
Cross-referencing error correction	• Improved customer communication (e.g. planned outages) • More accurate service delivery	Settlements data, power quality data assists	5-minute	24 hours	~50%	80%+	Linear	The benefits improve one for one with each installed meter	Already included in min spec, but power quality data would assist
Real time low voltage network visibility	• Faster restoration of supply • More accurate voltage management, resulting in a safer network & improved DER hosting capacity	Voltage data	5-minute	5 minutes	~10%	40%+	Slightly exponential benefit, levels off at higher penetrations	Relatively more benefit at higher penetrations until sufficient coverage means 'gaps' in voltage data can be estimated with high accuracy, then the marginal value of additional meters is minimal	Advanced - require capability in min spec, negotiated access
Dynamic voltage management (real time)	• More accurate voltage management, resulting in a safer network & improved DER hosting capacity	Voltage data	5-minute	5 minutes	~20-30%	50%+	Exponential benefit, levels off at higher penetrations	Relatively more benefit at higher penetrations until sufficient coverage means 'gaps' in voltage data can be estimated with high accuracy, then the marginal value of additional meters is minimal	Advanced - require capability in min spec, negotiated access
Accurately identifying outage location	• Faster restoration of supply • Lower operating expenses to identify outage location	Power quality data	5-minute	5 minutes	~20%	50%+	Slightly exponential benefit, levels	Relatively more benefit at higher penetrations until sufficient coverage means most outages can	Advanced - require capability in min

							off at higher penetrations	be mapped accurately, then the marginal value of additional meters is minimal	spec, negotiated access
Identifying outages when they happen	• Faster restoration of supply	Power quality data	5-minute	Shorter intervals preferable, 5 minutes optimal	~10%	~30-40%	Slightly exponential benefit, levels off at higher penetrations	Relatively more benefit at lower penetrations until sufficient coverage means most outages can be identified, then the marginal value of additional meters is minimal	Advanced - require capability in min spec, negotiated access
Rapidly responding to outages (automated)	• Faster restoration of supply	Power quality data	5-minute	Shorter intervals preferable, 5 minutes optimal	~20%	50%+,	Exponential benefit, levels off at very high penetrations	Relatively more benefit at higher penetrations until sufficient coverage means most outages can be mapped accurately, then the marginal value of additional meters is minimal	Advanced - require capability in min spec, negotiated access
Transformer load management	• More accurate voltage management, resulting in a safer network	Voltage data	5-minute	Shorter intervals preferable, 5 minutes optimal	~10%	~30-40%	Slightly exponential benefit, levels off at higher penetrations	Relatively more benefit at higher penetrations until sufficient coverage means ‘gaps’ in coverage can be estimated with high accuracy	Advanced - require capability in min spec, negotiated access
Automated transformer load management	• More accurate voltage management, resulting in a safer network	Voltage data	5-minute	Shorter intervals preferable, 5 minutes optimal	~20-30%	50%+,	Exponential benefit, levels off at very high penetrations	Relatively more benefit at higher penetrations until sufficient coverage means ‘gaps’ in coverage can be estimated with high accuracy	Advanced - require capability in min spec, negotiated access
Outage notification service for off-supply NMI’s	• Separate outage notification service for all NMIs, used with other DNSP data to resolve outages	Separate outage notification service	Meter ping cycle from MCs (cycle TBA, but likely 30 mins or less)	When pinged meter is off supply	>0%	50%+	Slightly exponential benefit, levels off at higher penetrations	Relatively more benefit at higher penetrations until sufficient coverage means most outages can be mapped accurately, then the marginal value of additional meters is minimal	Separate service
Single meter ping	• Improved ability to assist customers during customer enquiries	Meter ping service	N/A	On demand	>0%	N/A	Linear	The benefits improve one for one with each installed meter	Separate service
Bulk (or area) meter ping	• Faster restoration of supply via accurate outage location mapping and DNSP confirmation of restored supply	Meter ping service	N/A	On demand	>0%	N/A	Linear	The benefits improve one for one with each installed meter	Separate service
Temperature readings	• Detection of improperly installed meters, improving safety	Temperature data	On alarm	When alarm trips	>0%	N/A	Linear	The benefits improve one for one with each installed meter	Separate service

Notes to Table 1
'Data penetration' means the percentage of all meters providing data to DNSPs. For example, total meter penetration might be 30%, but a DNSP may only be able to access data on 50% of all smart meters, leading to a 'data penetration' of 15%.
Information provided in the table is *indicative*, and circumstances may vary for each DNSP depending on the geography of network and customers, system capability etc.
Minimum and optimal data percentages are *our best current estimate*. At this stage, we don't know with certainty what the minimum meter penetration is to warrant investment in service delivery, or the percentage of metering penetration required to deliver optimal (efficient) customer outcomes.
Services may not be rolled out despite meter penetrations being higher than the 'minimum required percentage' because there may be other barriers, and the penetrations are indicative.
The table may not have identified all of the services able to be delivered or all of the customer benefits deliverable from each service.