Ref: 20230216AY:AP

16 February 2023

Mr. Mitchell Grande
Australian Energy Market Commission
GPO Box 2603
Sydney NSW 2000

Submitted via email

Dear Mr. Grande,

Review of the regulatory framework for metering services – Draft report

Essential Energy welcomes the opportunity to respond to the Australian Energy Market Commission (**AEMC or the Commission)** on its Review of the regulatory framework for metering services draft report. In doing so, we also support the Energy Networks Australia (ENA) submission which expresses industry-wide views on the draft report recommendations.

Essential Energy supports the Commission's overarching objective for an accelerated smart meter rollout so that customers can benefit from the suite of products and services that will become available to them as a result. Essential Energy considers however, the proposed approach is unlikely to produce the desired results in our distribution area. This is because Essential Energy's network configuration is fundamentally different from networks with large concentrations of urban mass. Issues such as a large proportion of pole-mounted meter boxes, lower levels of communications coverage, lower socio-economic demographics, low population density over a large distribution area and higher ratio of sites requiring remediation make a retailer-led accelerated rollout difficult to achieve in practice.

To demonstrate, we present data – back to 2017 – which shows that metering coordinators are not able to meet the current National Electricity Rules (NER) requirements around timely smart meter replacement.

The primary incentive for retailers for implementation of the draft report plan is to avoid compliance and enforcement costs, while DNSPs and customers are more likely to directly benefit from better network monitoring capabilities and access to new products and services respectively. The approach of targets, monitoring and penalties for retailers which we characterise in our submission as the 'more stick for retailers' and 'less carrot for consumers' is unlikely to be effective in the Essential Energy distribution network.

The solution identified in the submission is to allow for an extended role for Essential Energy to plan the orderly retirement of the legacy metering asset base **and** to participate in the rollout as metering installer, under the direction of the relevant metering coordinator. This arrangement should not affect the market structure, require the transfer of responsibilities or necessitate significant alteration of the rules. It would, however, allow for the accelerated rollout of smart meters to occur within the Essential Energy distribution network within the timeframes anticipated in the Commission's draft report.

Essential Energy strongly advocates for zero-cost real-time access to basic power quality data from smart meters required to monitor the network's performance and for customer safety. We support the principle that the primary beneficiary of the data should be its owners. In the case of smart meter data, it is the end-customer that pays for the smart meters and generates the data, so they should be the

primary beneficiaries. Distributor access to that data directly benefits the end customer through the monitoring of failed neutrals on the network, which can be actioned before being noticed by the customer. This one action will improve customer safety and customer assets. Customers also become the direct beneficiaries of distributor access through the more efficient operation of, and investment in, the network.

Last, our submission addresses the unintended consequences of an accelerated smart meter rollout, which will need to be addressed to ensure that customers do not face bill shock due to rising meter reading costs as the legacy metering asset base shrinks. This effect would be exacerbated in Essential Energy's distribution area due to the higher average distances travelled by our meter readers. A possible solution is to change the classification of legacy metering services from alternate control to standard control at an appropriate time, which will vary by distributor circumstances.

If you have any queries regarding this submission, please contact our Regulatory Strategy Manager, Adam Young on 0414 926 406 or via adam.young@essentialenergy.com.au.

Yours sincerely

Anne Pearson
Chief Corporate Affairs Officer

Attachment: Essential Energy's Submission to AEMC's metering review

Essential Energy strongly supports an accelerated rollout of smart meters in its network. However, as detailed throughout this submission, we consider that there are a range of barriers to the rollout as contemplated in the AEMC's draft report (the Report), some of which are particular to the unique features of Essential Energy's network. As a result, we strongly recommend an extended role for Essential Energy as smart meter installer, to plan, coordinate, and implement the legacy meter retirement plan. In so doing, we are also recommending that the responsibility for smart meters be retained by retailers through the current market structure. We consider that this approach is most likely to achieve the objectives, and benefits set out in the Report.

Why an accelerated rollout of smart meters is important for Essential Energy

Essential Energy strongly supports the AEMC's objective of an accelerated smart meter rollout. Installation of a critical mass of smart meters has a range of direct benefits for customers as well as indirect benefits from better management of the network, which flow directly back to customers in the form of higher network utilisation and lower capital expenditure. These benefits can be categorised in the following ways:

> Benefits related to better safety and reliability outcomes

- Better access to safety data, resulting in early detection of faulty neutrals, will improve customer safety. Currently, Essential Energy relies on customer reports of shocks and tingles to detect the possibility of a faulty or failed neutral.
- Outcomes for our life support and vulnerable customers are improved, as we will be better able to monitor loss of supply and prioritise restoration.
- Access to more accurate load data could reduce earthing inspection costs to determine high impedance networks.
- Smart meters can also play a role in restoration efforts after natural disasters such as bushfire or flood. Collection of 'last gasp' data captured before a meter goes offline will assist in ascertaining which part of a network is damaged, without the need for manual inspection. This information would also be of value to stakeholders such as emergency response agencies.
- Manual meter reading and inspections carry their own risks[1]. Remote meter reading and access to safety data reduces exposure to risk for network employees and contractors.

> Benefits related to more accurate information on network conditions

Customer outcomes are improved when the network obtains more accurate data on power quality and outages, resulting in a reduction in capital expenditure and an improvement in our fault and emergency response. This occurs due the reduction in the manual process of fault reporting and better understanding of asset condition and the need for replacement.

> Benefits related to better outage management

- Customers benefit from increased reliability and lower cost of outage management, with real time network monitoring resulting in a reduction in the need for physical checks of the network and manual interventions, which is a large part of the current outage management process. Also, reduced National Energy Customer Framework (NECF) compliance costs result in further customer savings.
- Life support customer outcomes will improve as we are better able to manage outages.

[1] For example, on December 3 2022, Kane Minion, was mauled to death by a dog in a south east Queensland suburb, while performing a routine meter read: 'Popular' meter reader Kane Minion mourned after fatal dog attack (9news.com.au). Also, many of the locations that Essential Energy workers and contractors are required to access have no mobile phone coverage. No communications further exposes our people to risk.

However, for these benefits to be realised, as correctly identified in the Report, smart meter penetration within the network will need to obtain critical mass. The quantum of benefits decreases the lower the penetration. In many scenarios, benefits related to better network investment, network utilisation or improved safety, reduce significantly or fall to zero if penetration of smart meters falls below a certain level.

The energy transition requires a new approach to smart meters

The energy market transition has changed the paradigm for the need for smart meters. Through Power of Choice, which included the Competition in metering rule,[2] the focus was on providing consumers with choice as to how they use and manage their electricity consumption. The driver was to support market conditions that facilitate efficient demand side participation.[3] Since making the rule, smart meters are considered enablers of technology that unlock a host of benefits including innovative products and services, but also technologies that accelerate the transition to the efficient use of clean energy. Adding to that, smart meters allow the unlocking of effective management of networks to ensure efficiency and place downward pressure on prices.

This means that the drivers of the rollout have pivoted from encouraging commercial investment in smart meters when it is economically efficient to do so, through the customer take-up of innovative products and services[4], to an accelerated, target-based, coordinated approach. The Report recognises that the consumer-led process did not result in the expected commercial investment and rollout of smart meters anticipated.[5] As a result, the latest approach has less carrot for consumers and more stick, in terms of planning, monitoring and compliance for DNSPs and retailers.

The draft report recommendations are likely to continue to fail consumers in Essential Energy's network

Despite the potential benefits available, if the smart meter rollout proceeds as recommended in the Report, it is unlikely to deliver the expected results in Essential Energy's network. This is because Essential Energy's network is fundamentally different from those that have large concentrations of urban mass due to:

- Large and geographically diverse area
- Relatively few connections
- Lack of retail competition
- Unique network configurations and site remediation

This is expanded on below.

Essential Energy's network covers around 95 per cent of the total land area in NSW, and also extends into southern Queensland. While it has the largest network coverage of the three NSW electricity distributors, it only services around 24 per cent of NSW electricity customers. Our sparsely populated, diverse customer base also includes a variety of geographical settings, ranging from subtropical conditions in northern NSW to the alpine environment in the Snowy Mountains and arid climates of western NSW. Each setting has its own special requirements.

This means that our network consists of long radial feeders, with many "single points of failure", rather than an integrated grid connection, with multiple redundancies, as is found in urban networks.

[2] AEMC, National Electricity Amendment (Expanding competition in metering and related services) Rule 2015 – Rule determination, November 2015.

[3] AEMC, Power of Choice review – giving consumers options in the way they use electricity – Final Report, November 2012, p. i.

[4] AEMC, Power of Choice review – giving consumers options in the way they use electricity – Final Report, November 2012, p. iii.

[5] AEMC, Review of the regulatory Framework for Metering Services – Draft Report, 3 November 2022, p. iv.

There is also limited access to retail competition in many of these communities, which makes the pool of meter providers/coordinators smaller than in metropolitan locales. For example, the residential market share of the largest retailer in Essential Energy's network, Origin Energy, is over half of the residential customer base in our most populated centres and holds market share of around two thirds of customers in the least populated regions. This compares to the average of 27.1 per cent coverage for the whole of the NEM (excluding NT).[6]

Other issues include a housing stock that is on average older than in urban areas, and a large number of pole-mounted meter boxes, which will require higher levels of site remediation (discussed in greater detail below). Our geography also features lower levels of communications coverage, which is problematic for smart meters which require communications infrastructure to allow for transmission of signals and data. All this points to a network that is more costly to service and maintain than urban networks. How these network features impact the accelerated smart meter rollout is discussed in detail below.

Finally, the role of the distributor in the recommendations arising from the Report are somewhat vague and uncertain. The Report seems to place a lot of responsibility on DNSPs for the legacy meter retirement plan without any responsibility or role for its implementation. It is not clear how the implementation of a DNSP-led legacy meter retirement plan would deliver better results for customers than would a rollout target for retailers accompanied by a monitoring, compliance and enforcement plan. Under the existing Report recommendation, DNSPs wear the costs and responsibilities for development, monitoring and reporting of the plan in consultation with stakeholders, but have little input into implementation. This transfers the incentive of an accelerated rollout from the parties that are likely to benefit the most over the long term (DNSPs), to those who benefit least (retailers). To be clear, the primary incentive for retailers for implementation of the AEMC's plan is to avoid compliance and enforcement costs, while DNSPs are more likely to directly benefit from better network monitoring capabilities.

Lack of effective retail competition in remote and regional locations

The Report considers that the current industry structure, which retains responsibility for smart meter installation with retailers "remains the appropriate arrangement to achieve accelerated deployment of smart meters".[7] The report cites "industry cooperation" as a significant reason for the slower than expected pace of the smart meter rollout, with misaligned incentives of market participants, and the complexity of the framework, factors contributing to the lack of cooperation.[8]

Essential Energy agrees in principle with this assessment. We have found that locations with a lack of retail competition, particularly in regional and remote locations – where retailers are not able to achieve economies of scale – result in lower incentives to replace failed meters. Evidence of this in our distribution area is a lack of retail marketing to customers regarding the benefits of smart meters.

To assess the claim made in the Report that "*stakeholder feedback generally suggests that the metering industry is positioned well to scale up to deliver the additional deployments required under a 2030 target"*[9] we present the following case studies. The first, in Figure 1, is for replacement of failed meters due to the flooding that affected Lismore in early 2022, and the second, in Figure 2, is an analysis of the time taken to replace meters in Essential Energy's distribution area since 2017.

[6] AER, Annual retail markets report 2021-22, p.10.

[7] AEMC, Review of the regulatory Framework for Metering Services – Draft Report, 3 November 2022, p. v.

[8] AEMC, Review of the regulatory Framework for Metering Services – Draft Report, 3 November 2022, p. 13.

[9] AEMC, Review of the regulatory Framework for Metering Services – Draft Report, 3 November 2022, p. ii, pp 35-36...

Figure 1: Case study - Lismore floods

Case study 1: meter replacement due to flooding in Lismore – 2022

On 28 February 2022, Lismore and surrounds was inundated by what the Sydney Morning Herald called "the biggest flood in modern Australian history". As a result of the emergency, local Essential Energy field crews were dispatched to make sites safe and where possible bypass meters to ensure ongoing connection. After confirmation, Meter Failure Notices were sent to relevant retailers, notifying of the need for the installation of replacement meters for 4,047 NMIs.

Of these, 3,410 were replaced at an average of 69.73 days from issue of notice to replacement and activation. Some of these customers waited up to 305 days before their meters were replaced.

A further 637 NMIs, around 15.7 per cent, remain unreplaced, with customers still receiving estimated bills based on pre-flood estimates. Complaints regarding estimated bills have been received by the media and NSW ombudsman – see link below.

https://www.abc.net.au/news/2023-01-18/power-bills-flood-damaged-properties-spark-complaints-ombudsman/101864040?utm_campaign=abc_news_web&utm_content=link&utm_medium=content_shared&utm_source=abc_news_web

Figure 2: Case study - Failed meter replacement

Case study 2: Average duration taken to replace failed meters in Essential Energy's network

Essential Energy has issued 259,985 Meter Failure Notices (MFNs) since the commencement of metering contestability, and the transfer of responsibility to retailers, in December 2017. Under the NER, subject to an exemption, retailers have 15 business days to replace failed meters in the case of a single installation and 30 business days in the case when a supply interruption is required for another customer (NER 7.8.10(a)(2)(i),(ii)).

Of these, retailers have completed 67.8 per cent of the required meter replacements to date, with an average duration of 544.5 days (1 year and 6 months) to completion. Of the completed replacements only 10.7 per cent were completed within the maximum NER timeframe of 30 business days, and a NER timeframe completion rate of only 6.8 per cent when measured over Essential Energy's entire MFN case load.

As a result, there are currently 94,143 NMIs with outstanding MFNs against them, waiting for replacement. This means that 36.2 per cent of failed meters are still waiting replacement, with an average waiting duration of 1,317.49 days – or 3 years and 7 months since first reported. Of these, there are only 751 NMIs with any chance of being replaced within the maximum NER replacement period of 30 days.

Exemptions

At the end of April 2022, of the 236,558 NMIs that were either still waiting replacement, or were not replaced within the maximum NER replacement period of 30 days, exemptions were only granted in 44,885 cases. This means that 81.0 per cent of all late or nil replacements did not have approval to be replaced outside of the timelines outlined with the NER framework.

The case studies presented above demonstrate that retailers cannot necessarily cope with the existing meter replacement workload within the Essential Energy network. We therefore remain concerned that retailers alone are not well placed to scale up to meet an accelerated deployment schedule under a 2030 target in our network. Further, before retailers can scale up for an accelerated deployment, they

will need to catchup on the existing backlog of Essential Energy metering customers who have been waiting an average of 1317 days so far. Conversely, the case studies above demonstrate either a lack of capacity or capability to perform the works within a set timeframe. It is difficult to interpret these 'real-world' results in any other way. It is also difficult to envision that a regime of targets, reporting and civil penalties is a magic panacea for lack of capacity and capability demonstrated since the introduction of metering contestability.

Further, Essential Energy modelling suggests that at the current replacement rate, it would take around 40 years to replace the existing legacy metering asset base. An accelerated target would only add additional pressure to the capability and capacity issues faced by retailers

Essential Energy supports the recommendation to remove the existing exemptions framework in the Rules. As demonstrated above, compliance is low and the framework has proved ineffective in improving outcomes for customers.

As a result of the 'real world' experience cited in the above case studies, we consider that the development of a plan to retire meters geographically, in a systematic manner, is likely to be insufficient to yield the desired results in Essential Energy's distribution network. The addition of monitoring, enforcement and penalties is likely to improve performance at the margin, however, even after taking these into consideration impediments to a successful accelerated rollout remain. These impediments include the exceptions framework, such as site remediation issues, and the capacity and capability of retailers and MCs to scale up activities to meet the expected targets.

Essential Energy also supports the tightening of the exceptions available, such as the need for site remediation, as a reason for not being able to complete meter replacements. It is Essential Energy's view that where exceptions are allowed, that a high evidentiary bar be set to ensure that sufficient effort has been applied before the exception is accepted. We also support a framework for dealing with difficult sites in the planning process to ensure they are identified at an early stage, not left till the end of the process.

Site remediation issues

Essential Energy considers that site remediation in Essential Energy's distribution area is likely to present a significant barrier to achieving the 100 per cent smart meter penetration target within the timeframes set out in the Report. The need for site remediation in our area, before the installation of a smart meter, are varied and include:

- Wrong size meter box
- Asbestos switchboards, and meters which contain asbestos (many switchboards installed before the early 1980's are likely to include asbestos, the ratio of pre-1980s built premises are higher in regional and remote communities)
- Site access issues including physical access, remoteness, dangerous dogs, private property etc.

In regional and remote communities, the cost of an individual installation rises exponentially when the retailer is required to attend the site multiple times to complete the installation. In many cases the meter installer will simply file a report citing site remediation issues and never return. It would be more efficient, and less costly for the customer – particularly in rural and remote areas – if site remediation and smart meter replacement could be conducted in a single visit.

In Essential Energy's experience, where a failed meter requires remediation before replacement, the retailer transfers it back to Essential Energy. Transferring the sites back to the DNSP when they need remediation completely removes any incentive for the retailer. It also becomes a "get out of jail free" card for retailers to avoid penalties as a result of non-compliance. There is also a likelihood that metering providers through their contractual arrangements with the retailer will not be incentivised to tackle sites that require anything more than a meter changeover which will lead to more remediation sites, particularly in remote areas. In addition, the particular configuration of Essential Energy's network entails a number of unique elements such as meter boxes mounted on network assets which requires considerable preparatory work before meter replacement in a material number of sites. The case study, in Figure 3 below, highlights just one of the unique issues faced within our distribution area.

Figure 3: Case study - site remediation

Case Study 3: Site remediation – meter boxes on poles

Essential Energy's network footprint contains around 60,000 meter boxes mounted on poles, representing around 7 per cent of the customer base. Unlike premises-mounted meter boxes, these are considered in front of the meter as they are mounted on Essential Energy assets, therefore the network has responsibility for remediation. These installations are primarily located in regional and remote rural locations. Of these, around 15,000 (25 per cent) are already scheduled for remediation work as they are non-compliant. These works will be conducted through an internal remediation works program, with the average remediation cost being approximately $3,000 per site. The condition of the remaining 45,000 is unknown and will require a manual inspection program at a cost of approximately $500 per site. Where remediation is required, costs are expected to be in line with existing non-compliant sites.

We also have an estimated 500 sites with Low Voltage Current Transformers (LVCTs) located on cross arms of the aforementioned poles, which will require remediation before smart meter installation. These sites are more costly to remediate than other sites.

A previous inspection program of some meter box installations found approximately 10 per cent to be deemed unserviceable. Meter boxes identified as unserviceable due to height (above 2 meters from ground), or other issues listed above, will be remain the responsibility of Essential Energy for remediation works to ensure compliance before smart meter installation.

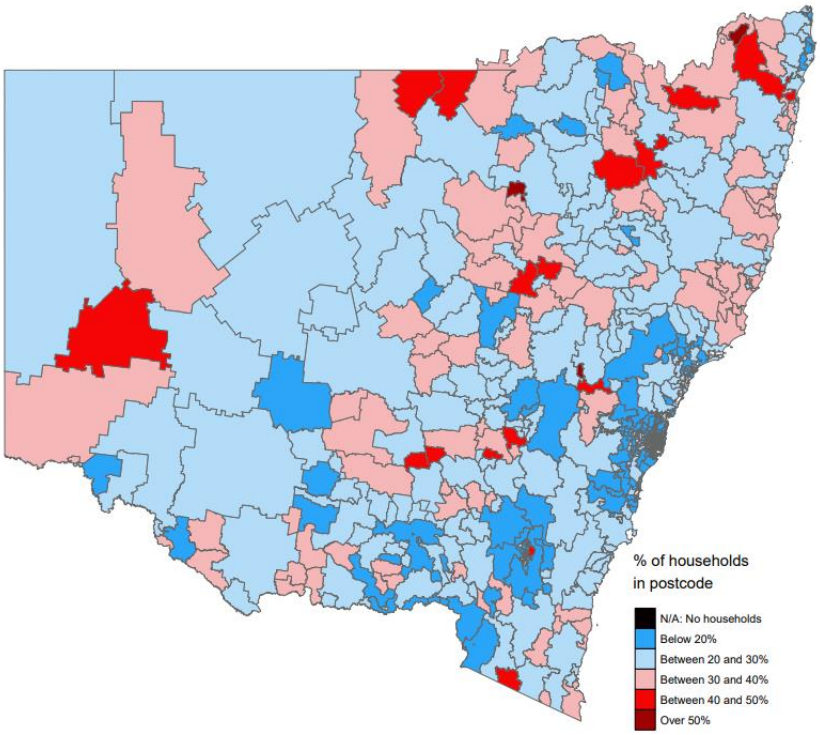
This process is likely to be both costly and time consuming. The financial impact of accelerating these works is likely to be material, with the additional costs of the inspection program and the resultant works was not accounted for in our 2024-29 regulatory proposal, submitted to the AER on 31 January 2023. Pending the outcome of the AEMC's final report, we may need to include the additional costs in our revised proposal.

As noted in the draft report, customers currently bear the costs of site remediation to bring their switchboards and meter boxes up to a standard compliant with a smart meter installation. Notwithstanding the removal of provisions which enable the customer to opt-out of a retailer-led deployment, where customers are reluctant to – or cannot afford to install a smart meter – there is currently no compliance mechanism to enforce an upgrade to a meter box or customer switchboard. If the customer refuses to cover the costs of the upgrade, the installation is stalled.

In any case, forcing customers to pay for costly upgrades may put pressure on vulnerable customers and put those at risk of vulnerability closer to vulnerable customer category. We expect these issues to be magnified in our distribution area due to our diverse demographics, typical of regional and remote communities, which are more likely to be closer to the vulnerability threshold on average than their metropolitan counterparts.[10] To illustrate, ABS census data indicates that all of the postcodes which have the highest percentage (more than 30 per cent) of low-income households in NSW, are in Essential Energy's distribution network. See Figure 4 below:

[10] For example, see Australian Senate report, Bridging our growing divide: inequality in Australia, Community Affairs References Committee, December 2014, p. 67. Which found that "those on lower incomes are likely to be living in outer metropolitan, regional, rural and remote areas".

Figure 4 proportion of low-income households by postcode



Source: ABS Census 2021

In a geographically planned rollout, site remediation issues introduce inefficiencies which prevent the benefits of a smart meter rollout from being captured. For example, manual meter reading and maintenance activities become inefficient, increasing the marginal cost for each remaining legacy meter as distributors service a patchwork of meter assets for which they retain responsibility. We expect that the proportion of sites that do not get upgraded due to customer refusal, for site remediation or other reasons, will be larger in Essential Energy's distribution area than in urban networks, and larger than anticipated in the draft report.[11]

As noted in the draft report, this raises the issue of who should cover the costs of site remediation for vulnerable customers and what is the threshold where this may take effect? Further, how to address site remediation in the case of customer refusal for reasons other than financial vulnerability? Essential Energy supports the AEMC's proposed arrangements for notifying customers and record keeping of site defects.[12] However, given our past experience, we are sceptical that the notices process will deliver increased rates of compliance with site remediation and reduce levels of inefficiencies (that arise due to the patchwork effect mentioned above).

As a result, while the issues have been relatively well-canvassed in the draft report, we would like to see the involvement of jurisdictional regulators and governments to limit friction and improve incentives for installation of difficult sites. The issues involved are too complex to be solved through the metering coordination role alone.

[11] AEMC, Review of the regulatory Framework for Metering Services – Draft Report, 3 November 2022, p. 60.

[12] AEMC, Review of the regulatory Framework for Metering Services – Draft Report, 3 November 2022, pp. 64-66.

We do not support the collection of levies through network charges for a sinking fund for site remediation issues, particularly where DNSPs have no responsibility for remediation. Essential Energy considers site remediation an important issue which threatens the achievement of a critical mass, sufficient for the benefits of a smart meter rollout to be captured.

> Recommendation 1:
>
> That the review consider the issue of site remediation, including a role for jurisdictions to address financing for vulnerable customers.

Lack of universal communications coverage

Smart meters require communications to send the necessary data and information to metering coordinators. The type of communications used is decided by the metering provider but is generally either linked to the CAT M1 or 3G, 4G or 5G networks, of which Telstra has the greatest coverage. Figure 5 and Figure 6 shows the coverage maps for these networks.

Figure 5 Telstra Cat M1 coverage

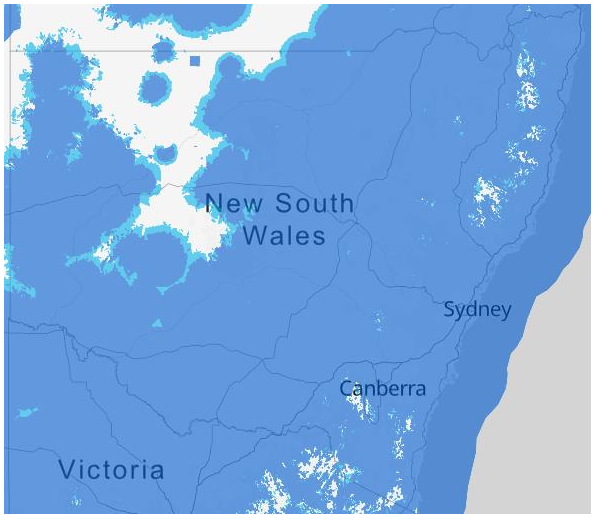
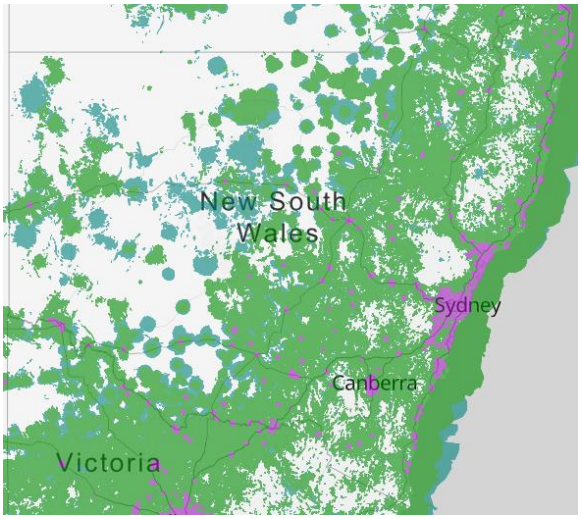


Figure 6 Telstra 3G, 4G and 5G coverage



Source: Telstra

As is readily discernible, reliable communications coverage is not universal in NSW, with up to 20 per cent of Essential Energy's distribution area having no coverage at all. The quality of coverage also varies significantly within the coverage map, with the assumption being that the modem has 'direct line of sight' to the local signalling towers with no obstructions such as hills, buildings or other constructions.

These gaps will mean that some of the benefits from smart meters will not be able to be achieved without the implementation of costly bespoke communications systems. These costs would outweigh the benefits in most metering installations in non-cellular coverage areas. In NSW, this issue is most prevalent in Essential Energy's distribution area and underpins the need for a different approach.

While it is beyond the scope of the AEMC's review to deploy adequate communications infrastructure to enable smart meter technology, consideration must be given to the many thousands of Essential Energy customers who will be affected.

The draft report does not address these situations or how customers should respond to a rollout request, which they may not opt-out of, if the smart meter will not be able to communicate. The current proposal to remove the opt-out provisions would disadvantage these customers.

Recommendation 2:

That the final report provides an analysis of options for customers for whom a smart meter is not viable due to lack of communications coverage.

What is the solution?

The simplest, most efficient solution to the barriers to the rollout in our distribution area would be to permit an extended role for Essential Energy to coordinate and lead the rollout as meter installer, while the relevant retailer/metering coordinator retains responsibility. This solution would allow for the efficient rollout and installation of smart meters with local Essential Energy crews being able to conduct site remediation and meter replacement in a single visit. This would result in lower replacement costs for customers and a timelier rollout. It addresses the market structure issues raised in the Report,[13] because the retailer retains responsibility, with Essential Energy only facilitating installation through a contractual agreement with the retailer. No transfer of responsibilities would be required.

Implementation of this solution, where a clear efficiency benefit can be established, is more likely to achieve the AEMC's stated targets and timeframes at significantly lower costs and improved outcomes for customers. It also addresses the misalignment of incentives and allows for greater control of both the risks and costs of deployment that retailers have attributed to the current arrangements.[14] Having a single installer that can cover all retailers in our distribution network area[15] also solves the issues presented with multi-occupancy sites, as the Essential Energy crews can coordinate and conduct all the needed operations, from de-energisation through to site remediation, replacement of multiple meters, to re-energisation within a single visit.

Not seeking exclusive rights

In making the above recommendation, Essential Energy is not seeking exclusive rights as the meter installer in its distribution network area. We recognise that there are cases where retailers have incentives to rollout smart meters in a timely and efficient manner. Where this is the case, we would expect them to do so. Our recommendation seeks the most efficient and timely rollout of smart meters within our distribution network area, which is likely to include a mix of retailer and DNSP-led installation. We suggest that the mix be part of the legacy meter retirement plan developed in consultation with stakeholders and approved by the AER.[16]

Meter installer of last resort

Should the AEMC not adopt our preferred solution in the first instance, we recommend that the AEMC consider an extended role for Essential Energy in circumstances where the market fails to meet the timelines set out in approved plans, or other trigger events threaten the speed of the rollout or

[13] AEMC, Review of the regulatory Framework for Metering Services – Draft Report, 3 November 2022, p. v.

[14] AEMC, Review of the regulatory Framework for Metering Services – Draft Report, 3 November 2022, p. 15.

[15] Note that each retailer is likely to have its preferred installers/contractors. It is unlikely that all retailers will have installers in common.

[16] AEMC, Review of the regulatory Framework for Metering Services – Draft Report, 3 November 2022, pp. 39-43.

penetration targets. That is, in limited circumstances, DNSPs could step in as an 'smart meter installer of last resort'.

The range and scope of trigger events could be discussed in further consultation with stakeholders and industry. The premise of the concept would be similar to the role Essential Energy (NSW), and TasNetworks (Tas) undertake in the market for a limited range of contestable connection-related services.[17] That is, to provide services when the competitive market demonstrates that it is not able to service the demand for those services within an acceptable timeframe and for a competitive price. In both cases, the distributors have implemented a set of controls to ensure they are only ever acting as the provider of last resort. These arrangements have acceptance within the contestable market because they provide opportunities for contractors to deliver the services in a timely manner before the distributor steps in, to the bridge the gap.

This solution could reduce some of the friction to the smart meter rollout discussed in the barriers above. However, like our preferred solution, it is not a panacea to all the barriers and would require adequate funding to ensure DNSPs also face the right incentives to undertake and complete the more difficult installations.

Recommendation 3:

Consider a role for Essential Energy to act in the capacity of the meter installer, with responsibility being retained by the relevant retailer. Failing this, DNSPs could perform the role of 'smart meter installer of last resort', the range and scope of triggers the subject of further consultation.

Data

As recognised in the draft report, DNSP access to data is vital if the societal benefits of smart meters are to be captured. However, the draft recommendations are likely to ensure that the majority benefits of customer data are captured by a single party – the Metering Coordinator (MC). The "commercial procurement" of meter data, places the MC as an unregulated monopoly provider of that data. This is because each meter installation generates its own unique set of data which is collected by a single MC. In some cases, such as outage and safety data, DNSPs need access to 100 per cent coverage.

To obtain that data, DNSPs have only the single source, there is no competitive market from which price discovery can occur. MCs therefore have an incentive to extract monopoly rents, charging the highest price the "market" is willing to bear. This approach will produce poor outcomes for customers.

Further, the approach does not recognise to whom the data belongs. It is customers who pay for the smart meter installation, and it is customers who generate the data. Therefore, the customer owns the data, as they have paid for its generation. As a broad principle, the primary beneficiary of that data should be its owners. To allow a third party to extract monopoly rents from that data, is not only charging the customer twice, but reducing the range of benefits available, by potentially pricing them out of the market. For example, customers are unlikely to install In-Home Displays (IHDs) and other technology if the ongoing data costs are too high, and the value of the benefits (listed above) that DNSPs can accrue and pass on to customers, reduces as the price of data increases.

The benefits of the data to both customers and DNSPs increase with the frequency of which it is received. For example, real time access to data will improve the fault and emergency response times for outages, and customers are better able to optimise their energy consumption choices. While the customer benefits, from coverage and timeliness of data access, increases exponentially the closer to real time that data is received, the cost of delivery is marginal.

[17] See: AER, Draft decision, Essential Energy distribution determination 2019–24, Attachment 12, Classification of services, November 2018, p. 11-14 and AER, Final Framework and Approach for TasNetworks, July 2022, p.33.

We understand that MCs incur costs in collecting, storage and delivery of data services. As a result, we propose than an equitable solution might be to consider meter data under three main categories:

- Safety and customer's data (provided to customers) – Free
- Data provided at cost, or regulated price
- Other data requests – by commercial negotiation

Why should safety and customer's data be provided to customers for free?

The Report identifies the "beneficiary pays" principle as driving its approach. In the case of safety data such as neutral integrity detection, the primary beneficiaries of early detection are customers. DNSPs monitor and respond to resolve issues in the interests of customer safety. As a principle, the safety and lives of customers should not be negotiated for a market price in a commercial environment. To ensure the safety of customer lives, DNSPs will need complete coverage of this data. Missing a single failed neutral, before a customer reports a shock or tingle, places unnecessary risk on customer's lives and their livelihoods.[18] This is currently the case where Essential Energy receives the power quality data for around 30 per cent of the smart meters in our network area. The reasons for the current low levels of coverage are due to availability and costs. In one case, the retailer has placed contractual restrictions on MC's so that they cannot on-sell data from that retailer's customers, and where we are able to access data, costs vary widely between MCs. We also note that safety is a key consideration of the National Electricity Objective (NEO), whereas there are no elements of the objective directly related to the creation of competitive markets in all aspects of the National Electricity Market (NEM). Essential Energy considers that there may be a role for jurisdictional intervention where commercial considerations for data access trumps that of safety.

See Figure 7 for a case study as to the importance of 100 per cent coverage of smart meter data for safety purposes. Figure 8 provides data on the number of customer-reported shocks and tingles investigated by Essential Energy crews.

Figure 7: Case study - Sparks from meter box

Case Study 4 –Shadforth - customer reported sparks from meter box.

On 30 November 2022 Essential Energy received a customer report of a "crackling sound" and "burning smell" coming from the meter box in a relatively new switchboard located in Shadforth NSW. An Essential Energy field crew was dispatched to the site to investigate and rectify. The crew was informed that the customer had previously engaged a licenced electrician to investigate the fault who reported low voltage at the site and suggested the customer contact the distributor.

Upon investigation, the crew found that the neutrals were loose due to screws which had only been made 'finger tight' during installation. The condition of the neutrals could have led to a fire in the meter box, risking both the housing asset and lives. Upon further investigation, it was revealed that the fault was not picked up by neutral integrity testing, because the premises is not part of the data set received by Essential Energy, which is driven by cost and availability factors.

If Essential Energy had access to the data, the fault could have been detected and rectified before the incident occurred.

[18] For example, the installation of a smart meter, with the data going back to the distributor, could have avoided the tragedy that occurred to an 11 year old daughter of a public housing recipient in Perth in 2019: https://www.abc.net.au/news/2019-09-27/denishar-woods-garden-tap-electrocution-report-released/11553734#:~:text=Denishar%20Woods%20was%20shocked%20with,family%20is%20suing%20for%20compensation

Figure 8: Case study - Shocks and tingles

Case study 5 – customer reported shocks and tingles on the Essential Energy network

In the 5 years to 2023, Essential Energy recorded a total of 4,090 customer-reported shocks and tingles on its network, or an average of 677 per year. Investigations found that around one third of these, or an average of 228 per year, were due to network-related issues, including loss of neutrals.

Essential Energy's coverage of safety data obtained from smart meters is currently around 30 per cent, which has been purchased as a representative sample due to the costly nature of the data. The data has proven very useful in the early detection of faulty neutrals. In the month of December 2022 alone, we detected and were able to provide early intervention in 13 faulty neutral cases, before shocks and tingles were reported.

Customer outcomes are vastly improved where we have access to information before the customer reports it.

The draft report also recognises the market potential for "real-time" data innovation solutions for customers. These types of innovations are likely to require both hardware and software technologies, such as IHDs, which engaged consumers can purchase from the market. Essential Energy considers that the development of an open access regime for certain types of customer data may be beneficial for many reasons including research, the development of new consumer products and services, as well to optimise customer response to cost reflective tariffs.

While the customer will be the primary beneficiary of these solutions, we consider it important to acknowledge through pricing arrangements that these solutions provide access to the customer's data. i.e., the customer pays for the data solution, not the data itself, which it owns.

Data provided at cost

In its argument to ensure that access to power quality data (PQD) services be determined commercially, the AEMC seems to be assuming that the ownership rights to customer data collected belong to the MC. In so doing the AEMC is at risk of creating unregulated monopolies for that data, as discussed above. While it has outlined some key criterion for success of price discovery, it is unlikely that providers with market power would abide by them willingly. The assumption that DNSPs and MCs can negotiate a price based on both parties having equal power in the negotiation is not consistent with economic theory. MC's collect the data, if a DNSP wants to access the data, it must do so by the terms outlined by the MC. The only "cap" on the price is the maximum that DNSPs are willing to pay to obtain access. It is not a transparent market. MCs do not have to reveal the prices they charge in each jurisdiction, as a result, it is not an open marketplace. DNSPs cannot seek the same data from an alternate provider and there are limited viable substitutes. As a result, DNSPs have the weaker hand in the negotiation.

As previously mentioned, the benefits of the data decrease with its costs. As a result, the long-term interests of customers are optimised where DNSPs are able to access a "basic" PQD data package, if not on a zero-cost basis, at a price that allows the MC to continue delivering the service, without generating super normal profits, at the ultimate expense of customers. Where the MC sets the price, it can capture all of the economic surplus available in the transaction.

If the AEMC is unwilling or unable to implement controls for the provision of a "basic" PQD service at cost, then that "basic" service should be provided under a zero-cost access regime, with MC's able to recoup costs through requests for other data services. This might entail the activation of data streams to allow power quality data to be accessible to the market and addressing DNSPs requirements in the minimum services specification. The open access to this data at reasonable time intervals should be provided as part of the metering service charge. We also note the intersection of this work with the ESB's interoperability standards workstream, which is vital to ensure that any data gathered is translated and used efficiently.[19]

Recommendation 4:

- That the AEMC recognise MCs are monopoly providers of customer's meter data.
- That the long-term interests of customers are better served by zero-cost access to a minimum data package that would assist in passing on benefits direct to consumers.

Other data services

Essential Energy supports MCs having the capability to offer advanced and other data services at a price negotiated between the parties. While the MC will still have some monopoly power in the transaction, the data requested as part of that transaction is considered optional, befitting a more premium service. Further, the range of substitutes for this data may be sufficient to create competitive tension in the market. Nevertheless, MCs should be governed by a set of guiding principles to ensure they are not abusing their market power, with the AER/ACCC playing the role of arbitrator if required.

The 100 per cent uptake target

Essential Energy strongly supports an accelerated smart meter rollout, but questions whether the 100 per cent smart meter uptake target, is the right number, or even viable, given the barriers discussed above. The Report throws some doubt on whether the target is attainable, where it acknowledges that a "small proportion" of sites may not be upgraded for a number of reasons.[20] We consider that it may be more appropriate to target a certain band within which the rollout could realistically target.

We also support the role for DNSPs in the industry-developed replacement plan, and advocate for an extended, though limited, role for Essential Energy to ensure targets in its distribution area are achieved.

We recognise some of the difficulties that will arise, as outlined in the report, including multi-occupancy sites, and those already discussed above. A high degree of coordination between all the relevant parties will be required to mitigate those issues, and a role for monitoring, compliance and enforcement to ensure performance, which may require a stronger role to be played by the regulator. We note that DNSPs have no powers of enforcement yet their customers bear the costs of inefficiencies created by the rollout.

Unanticipated consequences

One unanticipated consequence of the rollout which has not been canvassed in either the Directions paper or the Report are the decreasing economies of scale that DNSPs face as the legacy meter base reduces. The rollout will inevitably leave behind an increasingly costly legacy meter asset base to service, read and maintain. At some stage during the rollout it will cost more to provide those services

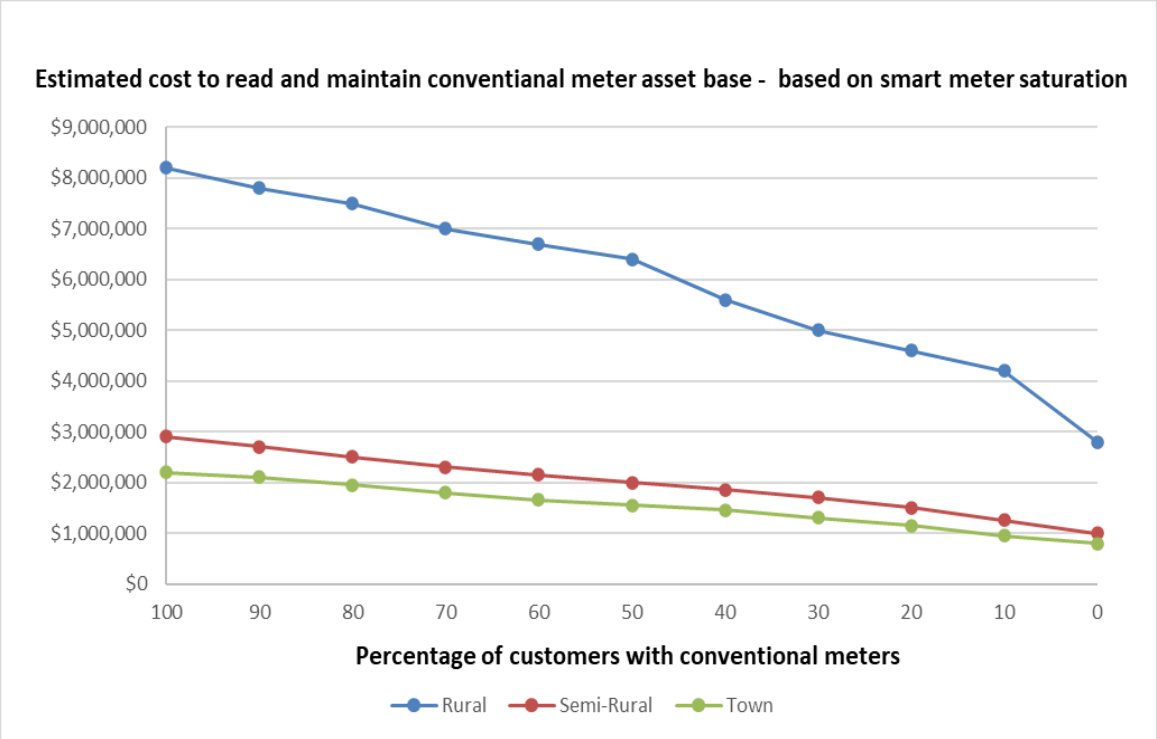
[19] See: ESB Interoperability Policy - final for consultation - December 2021.pdf (energy.gov.au)

[20] AEMC, Review of the regulatory Framework for Metering Services – Draft Report, 3 November 2022, p. 60.

than the value of the service provided i.e., the costs to read, service and maintain each marginal meter will become inefficient.

Essential Energy has undertaken some modelling on the manual meter reading program cost impact of smart meter penetration on its legacy meter asset base, see Figure 9 below. This modelling demonstrates that the reduction in costs to the meter reading contract for the legacy metering asset base is not symmetrical with a decline in the number of assets within that base. For example, Figure 9 shows that a smart meter penetration of 90 per cent, would only reduce the legacy meter reading costs by a little over half of the total program costs.

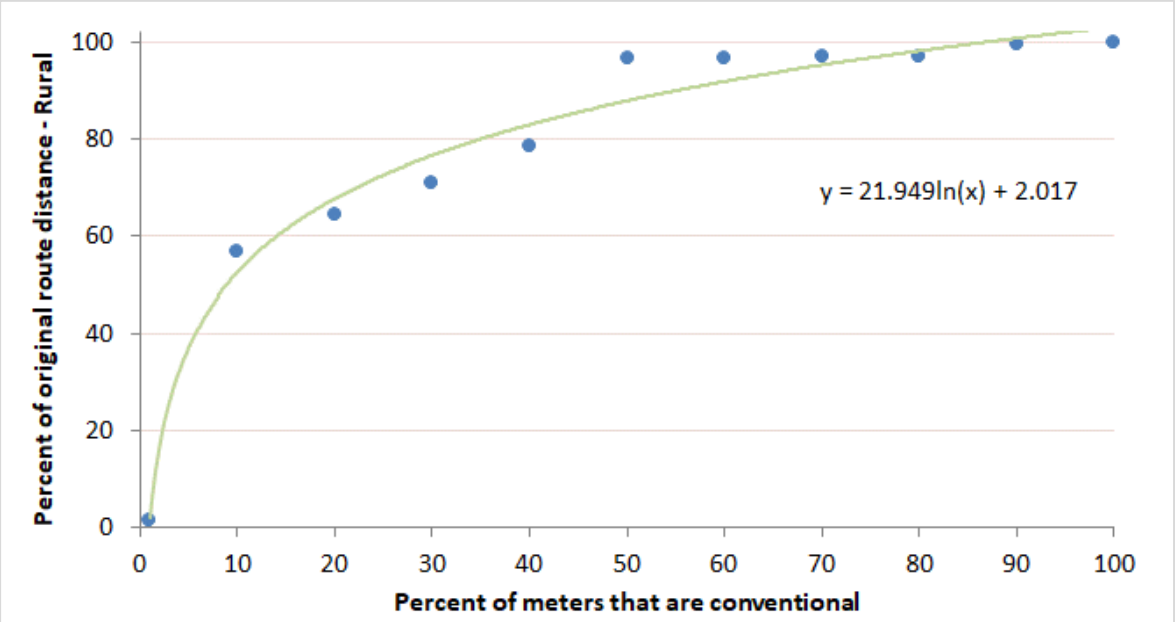
Figure 9 Meter reading cost



Source: Essential Energy

This is largely due to the distance our meter data readers are required to travel to cover the legacy meter data base, which does not decline symmetrically as that asset base declines. Figure 10 shows that in our rural regions, the travelling distance needed to read the legacy metering asset base at 90 per cent smart meter penetration in those areas is almost 60 percent of the distance needed to travel with zero smart meter penetration.

Figure 10 Meter reading route distance



Source: Essential Energy

In simple terms, these estimates show that on a legacy meter asset base of 10 per cent that it would cost around $72 to read each meter annually, compared to $15 per meter at 100 per cent. These increased costs would be passed on directly to the remaining legacy meter customers. Note that these estimates do not include service and maintenance costs.

To explain further, in most jurisdictions, legacy meter costs are classified as Alternative control. This means that the customer pays the efficient costs of providing that service. As the number of meters in the metering asset base declines, the cost of services on a per unit basis will increase. These costs will be passed on to customers at each annual pricing review. While this may introduce incentives for some customers to request replacement meters, it may also exacerbate hardship for those who are vulnerable, or subject to vulnerability, or those who cannot move to smart meters due to telecommunication issues.

At some stage, during the rollout, it may become more efficient, and equitable to the remnant customer base, to change the classification of services provided for legacy meters to standard control and apportion the costs across the entire customer base. However, there is currently no provision for a DNSP to change classification within a regulatory period. These changes are to be considered during the Framework and Approach or through the regulatory determination process. For NSW, TAS, ACT and NT the next opportunity to change classification will occur in 2029. This may be too late to support affected customers.

We recommend that the AEMC consider the impact that decreasing economies of scale are likely to have on the legacy metering asset base as it declines and the effects that this will have on customers. Under the current settings DNSPs have no other option than to pass increased unit costs on directly to remaining legacy meter customers

Recommendation 5:

That the final report considers the unit price effects of a declining legacy meter asset base and options for mitigating those effects through service classification.

Mid-term review

The recommendations in the draft report seem to rely on the AER's existing powers of monitoring, compliance and enforcement to ensure the timely implementation of the retirement plan. While this may be a workable solution, we consider that the AEMC should implement a review midway through the period to ensure that expectations are being met and to readjust the settings if necessary. Allowing for plans to be "revised, amended and resubmitted to the AER on an annual basis" to account for changes in circumstances is unlikely to meet the rollout objectives if barriers to the rollout are structural rather than circumstantial.

Recommendation 6:

That the AEMC set a mid-term Post Implementation Review to ensure that expectations for the accelerated rollout are being met and adjust for structural issues where necessary.