Review of the regulatory framework for metering services

EDMI response to AEMC Draft Report

Doc. Ref: Industry Engagement – AEMC Feb 2023

0 Introduction

0.1 Background

EDMI, a global leader in secure metering systems and solutions across electricity, gas and water, has been a long-term supporter of AEMC's leadership in providing a clear and positive strategic direction for energy supply and services in the National Energy Market.

AEMC's efforts over more than a decade have delivered a robust and successful framework that leverages market knowledge and assets to manage one of the most diverse and distributed energy markets in the world. Market-led efficiencies in energy management and delivery – securely implemented – are the most powerful way to evolve new technologies and deliver benefits across the industry.

Not surprisingly, EDMI supports the well-managed, universal uptake of smart meters by 2030 in NEM jurisdictions and commends AEMC on taking this opportunity to fine-tune existing metering arrangements. Leadership here, which must include supporting customers and market participants through the transition and opening the market for new opportunities and technologies, will result in improved services and lower costs and emissions for all consumers.

0.2 A note on real-time data

EDMI submits it is important to distinguish between time of use data taken at short intervals of five seconds or less that is provided at later time or date (granular meter data) and meter data provided in real-time at short intervals (actual real-time data). Granular meter data would allow a consumer or other energy manager to manage energy use in hindsight, while actual real-time data allows for manual and automated management of energy use in real-time.

1 Implementation of the Acceleration Target

1.1 Do stakeholders consider an acceleration target of universal uptake by 2030 to be appropriate?

EDMI supports the well-managed, universal uptake of smart meters by 2030 in NEM jurisdictions and commends AEMC on taking this opportunity to fine-tune existing metering arrangements. EDMI submits the industry-led approach AEMC has taken and AEMO has implemented over the last decade and more has been the key foundational component of the robust and successful metering framework we have today.

In EDMI's experience, both the Australian and New Zealand energy markets have experienced similar regulatory approaches in recent years – have experienced significantly more innovation and consumer benefit, and at a lower cost, than markets under tighter regulation such as the UK and EU.

Broadly, the 2030 target is certainly achievable in terms of supply and installation of meters. Based only on current industry capacity (looking at sustainable high-water-mark run-rates), it would be feasible to complete the target in 2028 or earlier. However, EDMI support and recommend a framework that allows for a carrot and stick approach. With "easy" and "difficult" installation types considered separately.

In particular, EDMI counsel that the 0.1% of cases should not be allowed to impact the costs and requirements, and ultimately the viability of the timeframe for the other 99.9% of installations.

A Universal approach works in theory, but there will be outliers. If AEMC require a literal 100%, the 0.1% of cases will weigh down and increase the costs for the other 99.9% as groups set restrictive requirements from day 1. As AEMC has long understood- the best approach to robust and flexible smart metering is a minimum services specification which allows for innovation, not a functionality specification which tends to limit functionality to the date of install.

EDMI suggest exemptions for particular metering types be allowed, but the total number of exemptions should not exceed x% of the fleet (where x is a very low number).

For example, by allowing a small number of broad but clear categories, AEMC can enable AEMO to apply more focused incentives or penalties for early or late completion. Installation categories also allow for better management of costs, payments and rebates (and fines).

1.2 Should there be an interim target(s) to reach the completion target date?

EDMI submits interim targets are a desirable and necessary method of reducing the risk of low-compliance and limiting the impact of unforeseen challenges.

Based on EDMI's experience with smart rollouts in the region, these targets cannot have a linear relationship to the long-term goal. Though much-reduced as a result of work completed across the industry over the last decade and more, there is still a material difference between today and 100%. A reasonable body of groundwork in systems and business processes must be completed to move to universal coverage and this will impact the rate of installation over the initial period.

Any interim targets therefore must consider the expected acceleration over time.

EDMI would suggest that AEMC consider constructing suggested rule changes in such a way that would allow AEMO to:

1. Set an "interim" target for 2025 or 2026.

   The hardest part is starting. An interim target will ensure that discussions are held today and not put off; and reduce the risk that an unforeseen issue will intrude late in the peace.

2. Allow for "exemptions" and work against the 0.1% driving the other 99.9%.

   A Universal approach works in theory, but there will be outliers. If AEMC require a literal 100%, the 0.1% of cases will weigh down and increase the costs for the other 99.9% as groups set restrictive requirements from day 1. As AEMC has long understood- the best approach to robust and flexible smart metering is a minimum services specification which allows for innovation, not a functionality specification which tends to limit functionality to the date of install.

   EDMI suggest exemptions for particular metering types be allowed, but the total number of exemptions should not exceed x% of the fleet (where x is a very low number).

3. Grade metering installations with a broad brush and apply incentives for more difficult work.

   By allowing a small number of broad but clear categories, AEMC can enable AEMO to apply more focused incentives or penalties for early or late completion. Installation categories also allow for better management of costs, payments and rebates (and fines).

EDMI submits that AEMC's success in delivering greater options to consumers can be mirrored here by providing clear price signals to industry and, after a kick start, allowing the industry to set its preferred path.

1.3 What acceleration and/or interim target(s) are appropriate?

In addition to our response to 1.2 above, EDMI submits market participants other than meter providers are best placed to assess the actual targets. However, we can attest that, unless a repeat of the full extent of the supply chain issues that have been felt since 2020, we and our competitors will be able to assist with almost any target that is backed by robust forecasts. Australia is not a large market on the world stage, and our production and ramp-up capacity far-exceeds the requirements of the region.

One item that may have been considered, but does not appear to have been covered, is the effect of an electricity meter roll-out on smart gas and smart water installations. Though the technicians are separate groups of people, the back-office and support workers are often shared. EDMI submit AEMC should consider the impact on smart gas installations in particular.

Multiple, major Australia gas networks are considering business cases for smart gas metering. When they move forward with any scale, the installation of these meters will coincide with this electricity rollout period. This could lead to challenges, but also to opportunities for efficiencies if AEMC leans into increased deployments of smart gas over this period.

1.4 Should the acceleration target be set under the national or jurisdictional frameworks?

EDMI supports a national approach to energy market and metering regulation but accepts that the current positions of non-NEM markets with respect to metering in particular may cause complications should those markets be linked entirely, or even at all. While Australia-wide regulation is, in our opinion, ultimately desirable, it is not so important that it should be allowed to delay a universal NEM rollout of smart metering.

2 Legacy Meter Retirement Plan (Option 1)

2.1 Do stakeholders consider this approach feasible and appropriate for accelerating the deployment of smart meters?

EDMI supports AEMC and its long-term strategic approach of enabling market-led change. Option 1 is consistent with this strategy.

2.2 Do stakeholders consider the Commission's initial principles guiding the development of the Plan appropriate? Are there other principles or considerations that should be included?

EDMI would suggest that AEMC consider constructing suggested rule changes in such a way that would allow AEMO or industry participants (as appropriate) to:

1. Set an "interim" target for 2025 or 2026.

   The hardest part is starting. An interim target will ensure that discussions are held today and not put off; and reduce the risk that an unforeseen issue will intrude late in the peace.

2. Allow for "exemptions" and work against the 0.1% driving the other 99.9%.

   A Universal approach works in theory, but there will be outliers. If AEMC require a literal 100%, the 0.1% of cases will weigh down and increase the costs for the other 99.9% as groups set restrictive requirements from day 1. As AEMC has long understood- the best approach to robust and flexible smart metering is a minimum services specification which allows for innovation, not a functionality specification which tends to limit functionality to the date of install.

   EDMI suggest exemptions for particular metering types be allowed, but that the total number of exemptions should not exceed x% of the fleet (where x is a very low number).

3. Grade metering installations with a broad brush and apply incentives for more difficult work.

   By allowing a small number of broad but clear categories, AEMC can enable AEMO to apply more focused incentives or penalties for early or late completion. Installation categories also allow for better management of costs, payments and rebates (and fines).

In addition, EDMI submits the principles of "Power of Choice" – that is, defining the services and outcomes required, rather than the path to get there – will result in a more robust program and better outcomes for the industry and consumers. EDMI submits that AEMC's success in delivering greater options to consumers can be mirrored here by providing clear price signals to industry and, after a kick start, allowing the industry to set its preferred path.

2.3 If this option is adopted, what level of detail should be included in the regulatory framework to guide its implementation?

Please see our response to 2.2 above.

2.4 Do stakeholders consider a 12-month time frame to replace retired meters appropriate? Should it be longer or shorter?

While EDMI defer to the knowledge of metering service providers and network and distribution managers on this point, EDMI struggles to understand why, if:

- there is a program to replace meters,
- a meter has been identified as a replacement target, and
- there exists workforce to replace that meter,

that meters would not be replaced much sooner than 12 months.

2.5 Are there aspects of this approach that need further consideration, and should any changes be made to make it more effective?

EDMI submits AEMC should consider gas metering in addition to electricity meter replacement. With the benefit of the experience of the electricity networks and more data on which to base solid smart-metering use cases, the gas networks are moving comparatively more quickly than electricity networks when it comes to moving to smart metering.

EDMI submit this should be actively encouraged – perhaps by setting in place a smaller scale plan, aligned with the plan for electricity metering.

3 Legacy Meter Retirement Through Rules or Guidelines (Option 2)

3.1 Do stakeholders consider option 2 feasible and appropriate for accelerating the deployment of smart meters? Are there aspects of option 2 that would benefit from further consideration?

EDMI submits prescription is not consistent with the long-term AEMC strategic direction and would be appropriate only in the very early plan stages. The ideals and methodology of light-touch regulation in the mould of initiatives like "Power of Choice" of has delivered far more successful outcomes in terms of consumer buy-in than more heavy-handed regulations. This difference of experience has been particularly stark when comparing the light-touch New Zealand experience with the heavily controlled SMETS and SMETS 2 rollouts in the UK.

In EDMI's opinion, the New Zealand experience, very closely matched to AEMC's plans here, has delivered a further reaching and far greater consumer and market experience far sooner.

EDMI submit there is some value in setting an initial target – possibly by requiring services to a certain % of the market by a certain date. The target should be easily achievable, but it would

provide a focus for planning and avoid the risk of multiple planning iterations pushing out the final delivery indefinitely.

3.2 Are market bodies the appropriate parties to set out the legacy meter retirement schedule?

EDMI agrees that market bodies with direct knowledge of in-situ meters and other metering assets are the appropriate parties to set out the legacy meter retirement schedule.

3.3 If option 2 is adopted, should the meter retirement schedule be located in the rules, or guidelines developed by the AER or AEMO?

EDMI submits that, if Option 2 is adopted, in whole or in part, then the retirement schedule should be located in the rules. EDMI believes guidelines are more suited to supporting an industry-led approach such as considered in Option 1.

EDMI's position is that, if a heavier hand is required at this time, then the direction should be clear, set and unambiguous from day 1, and not option to further discussion or dilution.

4 Retailer Target (Option 3)

4.1 Do stakeholders consider option [3] is feasible and appropriate for accelerating the deployment of smart meters? Are there aspects of option [3] that need further consideration?

EDMI considers Option 3 to be a viable alternative to Option 1, with the same additional aspects to consider, however Option 3 also allows for another growth mechanisms and benefits as we shall outline in our response to 4.2 below.

4.2 If this option is adopted, what are stakeholders' suggestion on how retail market dynamics could be taken into consideration in both setting the uptake targets and monitoring performance?

Managing the universal placement of smart meters via retailers would appear difficult when individual retailer control/responsibility of or for any metering endpoint is fluid over time. However, this fluidity also allows for an additional growth mechanism.

For example, AEMC could set a target for each retailer as a % of their total market share. Under such a regime, each retailer will try to grow their market, but cannot risk missing the proportional target and will therefore they will need to maintain a buffer. This means the most successful retailer by market share will do the most changeovers, and those who are on the downward trend will not have as much pressure. In considering whether this is viable, AEMC should consider whether such an approach tends to make market positions sticky or whether the best way for a retailer to increase market share is to invest in smart metering so that future costs are lower.

For the consumer, such an approach is likely to mean an endpoint with an existing smart meter is more attractive to retailers and more will be offered to those with compliant endpoints. To address the issue where this only benefits consumers who already have smart meters installed, change the qualification required for energy consumers to be able to choose their own metering coordinator. Perhaps not having a smart meter would be a new qualification.

Option 3 has a number of additional benefits to option 1, particularly when considered in light of expanding the scope of the metering coordinator.

4.3 Should the rules or a guideline outline only a high-level target (universal uptake by 2030 taking into account practicality of replacements) or more granular targets or interim targets?

Under Option 3, EDMI submit the industry should agree a plan that includes multiple interim targets where those targets are an increasing % of the total endpoints controlled by that retailer. In addition, the implementation of the plan should allow for:

1. An early initial target for 2025 or 2026.

   The hardest part is starting. An interim target will ensure that discussions are held today and not put off; and reduce the risk that an unforeseen issue will intrude late in the peace.

2. "Exemptions" and work against the 0.1% driving the other 99.9%.

   A Universal approach works in theory, but there will be outliers. If AEMC require a literal 100%, the 0.1% of cases will weigh down and increase the costs for the other 99.9% as groups set restrictive requirements from day 1. As AEMC has long understood- the best approach to robust and flexible smart metering is a minimum services specification which allows for innovation, not a functionality specification which tends to limit functionality to the date of install.

   EDMI suggest exemptions for particular metering types be allowed, but that the total number of exemptions should not exceed x% of the fleet (where x is a very low number).

3. Grade metering installations with a broad brush and apply incentives for more difficult work.

   By allowing a small number of broad but clear categories, AEMC can enable AEMO to manage more focused incentives or penalties for early or late completion. Installation categories also allow for better management of costs, payments and rebates (and fines), and could be applied differently to retailers of different sizes.

5 Stakeholders preferred mechanism to accelerate smart meter deployment.

5.1 What is the preferred mechanism to accelerate smart meter deployment?

EDMI recommends the choice of Options 1 or 3. Both offer benefits and opportunities to improve smart-meter rollouts. Ideally some combination of both, where networks are required to achieve set rollout numbers, while retailers are required to achieve fractions of total market coverage would expand the push and pull factors and share the burden and the benefits across the market.

5.2 What are stakeholders' views on the feasibility of each of the options as a mechanism to accelerate deployment and reach the acceleration target?

Beyond EDMI's statements regarding each option above, we defer to the knowledge and experience of market participants on this item.

5.3 Are there other high-level approaches to accelerating the deployment that should considered?

There are three key areas that EDMI feel would improve customer engagement and increase the potency of existing consumer "pull" factors.

1. Allow customers to engage metering coordinators directly.

   Short of buying and installing a meter after the utility meter, consumers today have very little capacity to ensure their property is fitted with a smart meter. Where they do, they often end up with inaccurate, non-pattern approved meters that provide incorrect information, which in turn results in headaches for networks and retailers and distress for the consumer. Such meters if adopted in large numbers, could present a security risk.

   EDMI submits if a consumer is interested in metering their use, then they should be empowered to do so via safe and secure channels.

2. Require access to apps, etc.

   EDMI (and we imagine our competitors too) receive weekly requests for access to apps and data that are available as enterprise products, but which are not made available by market participants. We should note these are not requests for access to a separate "in home device", but rather mobile phone and tablet applications that are available for integration and use where the consumer is.

   International experience has shown time and time again that dedicated devices have only a tiny fraction of the uptake of mobile devices where both are used. This is the case even when the consumer is not given an option about getting (or not) an in-home device versus cases where consumers must pay a small fee for an app.

3. Include some initial incentives for gas to acknowledge effort by gas DNSPs.

   With a number of gas DNSPs promoting the uptake of digital services, it would make sense to support this by including (probably lower) 2030 smart gas metering targets as part of a larger industry energy metering plan. AEMC could consider larger public statements of support of smart gas initiatives by DNSP, and a reconsideration of development in the hydrogen distribution space with an eye for the cross-industry energy storage benefits it could deliver.

6 Feedback on No Explicit Opt-out Provision.

6.1 Do stakeholders have any feedback on the proposal to remove the opt-out provision for both a programmed deployment and retailer-led deployment?

EDMI broadly agree with the principle of removing the opt-out provision for both a programmed deployment and a retailer-led deployment, though do acknowledge that we lack the expertise in terms of consumer engagement that consumer groups, retailers and DNSPs enjoy and would defer to them on items of difference.

The experience of mandatory rollouts in the region have been mixed. However, the slightly more recent New Zealand rollout has managed the challenges relating to this approach quite well, and, in fairness was able to rely on information from the first movers in Victoria. Significant learnings appear largely to be related to consumer communications and communications management.

In either case, the mandatory rollouts locally have been delivered more efficiently (and many years faster) than the opt-out regime has been able to deliver in the UK.

6.2 Are there any unintended consequences that may arise from such an approach?

EDMI assumes that AEMC is aware of, though does not intend, some challenges with respect to consumer relations, “hard to read” sites and remote areas.

7 Removal of the Option to Disable Remote Access

7.1 Do stakeholders consider it appropriate to remove the option to disable remote meter access under acceleration?

EDMI broadly agree with the principle of removing the option to disable remote meter access for both a programmed deployment and a retailer-led deployment, though do acknowledge that we lack the expertise in terms of consumer engagement that consumer groups, retailers and DNSPs enjoy and would defer to them on items of difference.

8 Process to Encourage Customers to Remediate Site Defects and Track Sites that Need Remediation

8.1 Do you consider the proposed arrangements for notifying customers and record keeping of site defects would enable better management of site defects?

EDMI broadly support the proposed arrangements for notifying customers and record keeping of site defects, but acknowledge that, as a supplier, we are not in a position to be completely impartial. However, we do recommend the industry consider a slightly different approach for "digital" meters that are not smart as these meters could provide useful life-time information for smart meters manufactured by the same company.

9 Implementation of the "One-in-All-in" Approach

9.1 Would the proposed 'one-in-all-in' approach improve coordination among market participants and the installation process in multi-occupancy sites?

EDMI defer to the specialist expertise of retailers, DNSPs and metering coordinators on this item.

9.2 Are the time frames placed on each market participant appropriate for a successful installation process of smart meters?

EDMI submit that shorter timeframes would be better if possible. While there is work to do in the "back office" to support more meters, there is also lot of scope for unnecessary delay and development of opposition to the final target. The industry has run the trial. It was a success. There are some changes we can and should make but let us make those changes and move forward as quickly as possible.

9.3 Are there any unforeseen circumstances or issues in the proposed installation process flow and time frames?

EDMI defer to the specialist expertise of retailers, DNSPs and metering coordinators on this item.

9.4 How should DNSPs recover costs of temporary isolation of group supply from all retailers?

EDMI defer to the specialist expertise of retailers, DNSPs and metering coordinators on this item.

9.5 Can the proposed role of the DNSP in the one-in-all-in approach be accommodated by the existing temporary isolation network ancillary services?

EDMI defer to the specialist expertise of retailers, DNSPs and metering coordinators on this item.

9.6 Which party should be responsible for sending the PIN in the context of the one-in-all-in approach?

EDMI defer to the specialist expertise of retailers, DNSPs and metering coordinators on this item. Modern smart meters systems can support a range of options here.

10 Strengthening Information Provision to Customers

Do you have any feedback on the minimum content requirements of the information notices that are to be provided by Retailers prior to customers prior to a meter deployment?

EDMI broadly defer to the specialist expertise of retailers, DNSPs and metering coordinators on this item.

EDMI submit there is room to extend the scope of how meter systems address the requirements of the Australian Privacy Act. EDMI submit that, at a minimum, there should be information about the country of ownership, development, support and data storage locations of the meters and systems that collect customer metering data, and at what point that data becomes identifiable.

Are there any unintended consequences which may arise from such an approach?

No unintended consequences. EDMI submit the industry should support products and applications that are developed and supported in Australia and give consumers the opportunity to do the same.

Which party is best positioned to develop and maintain the smart energy website?

AEMO.

11 Supporting Metering Upgrades on Customer Request

11.1 Do stakeholders support the proposed approach to enabling customers to receive smart meter upgrades on request?

EDMI strongly support this initiative and suggest that it be extended in two ways.

1. Allow customers to engage metering coordinators directly.

   Short of buying and installing a meter after the utility meter, consumers today have very little capacity to ensure that their property is fitted with a smart meter. Where they do, they often end up with inaccurate, non-pattern approved meters that provide incorrect information, which in turn results in headaches for networks and retailers and distress for the consumer. Worse, such meters if adopted in large numbers, could present a security risk.

EDMI submits that, if a consumer is interested in metering their use, then they should be empowered to do so via safe and secure channels. More consumers should be empowered to engage metering coordinators directly.

2. Require access to apps, etc.

   EDMI (and we imagine our competitors too) receive weekly requests for access to apps and data that are available as enterprise products, but which are not made available by market participants. We should note that these are not requests for access to a separate "in home device", but rather mobile phone and tablet applications that are available for integration and use where the consumer is.

   International experience has shown time and time again that dedicated devices have only a tiny fraction of the uptake of mobile devices where both are used. This is the case even when the consumer is not given an option about getting or not an in-home device versus cases where consumers must pay a small amount for an app.

If these are not available, EDMI submits that, as a minimum, customers be enabled to make requests for meters or support on the smart energy website and have their details available to MCs and retailers to compete for the provision of those services.

12 Tariff Assignment Policy Under an Accelerated Smart Meter Deployment

EDMI note current tariffs and tariff assignment do not take full advantage of smart metering capabilities. While there is some limited splitting of tariffs across phases or terminals that is enabled for networks or retailers, EDMI submits that consumers should also be enabled to take advantage of these features.

By allowing a customer to choose a different supplier at each terminal or phase (or even for each data stream), the consumer could choose separate suppliers for their EV, their solar and their hot water load. Demand management becomes a much easier pill for a customer to swallow if they can choose to power their devices as a controlled load (cheaper) or a non-controlled load (more expensive). If smart metering is to deliver more choices to consumer, EDMI submits that allowing customers to choose a different supplier for different loads (or groups of loads) is the ultimate expression of customer choice.

12.1 Which of the following options best promotes the NEO

Option 1: Strengthen the customer impact principles to explicitly identify this risk to customers.

Option 2: Prescribe a transitional arrangement so customers have more time before they are assigned to a cost-reflective network tariff.

No change: Maintain the current framework and allow the AER to apply its discretion based on the circumstances at the time.

EDMI broadly defer to the specialist expertise of relevant market participants and consumer advocates on this item.

12.2 Under options 1 or 2, should the tariff assignment policy apply to:

a. all meter exchanges – for example, should the policy distinguish between customers with and without CER?

b. the network and/or the retail tariffs?

EDMI broadly defer to the specialist expertise of relevant market participants and consumer advocates on this item.

12.3 What other complementary measures (in addition to those discussed above) could be applied to strengthen the current framework?

EDMI broadly defer to the specialist expertise of relevant market participants and consumer advocates on this item.

13 Minimum Contents Requirement for the 'Basic' Power Quality Data (PQD) Service

13.1 Should the 'basic' PQD service deliver any other variables besides voltage, current, and phase angle?

Smart metering services are always developing. The services delivered by a smart meter today should not be the same as those being delivered by a smart meter in the future. In defining services, EDMI submit that AEMC should be careful to continue the approach of "service" rather than "function" and ensure definitions put in place today do not restrict future service provision unnecessarily.

Among other future services, AEMC should seek to ensure are enabled include:

- Intuitive monitoring and control
- Automation services in response to direct and emergent data
- Distributed intelligence
- Many more.

For example, EDMI meters could be used to assess whether an inverter is configured correctly – and then to take appropriate action if it is not.

EDMI recommends AEMC provide for the capability to automate the services and responses from the service; allow for the protection of PQD (and DER and other sources of data) behind a relay or separately from other meter services; and above all, continue to be descriptive and not proscriptive.

13.2 Does the 'basic' PQD service require any further standardisation, e.g., service level agreements? If so, where should these service levels sit?

Other than as noted at 13.1, EDMI broadly defer to the specialist expertise of relevant market participants on this item.

EDMI would like to repeat our broad recommendation that AEMC continue to be descriptive and not proscriptive. Locking in a basic set of data, without capacity for efficient change in the future will restrict the viability of new services into the market, and reduce innovation and competition.

EDMI submit the standardisation should be about how the data is constructed (in terms and data and meter data allowing for data transfer), not what it is.

13.3 Should the Commission pursue a data convention to raise the veracity of 'basic' PQD?

EDMI broadly defer to the specialist expertise of relevant market participants on this item.

We also refer to our comments at 13.1 and 13.2 above.

14 Utilising the Right Exchange Architecture for the 'Basic' PQD Service

14.1 Should the industry use the shared market protocol? If not, why?

EDMI is a strong supporter of the shared market protocol. The focus on describing how data should be presented, rather than restricting what data can and cannot be provided, is an excellent solution to the challenge of changing data requirements.

EDMI believe the shared market protocol would be a good foundation for the right exchange architecture. EDMI also submit there should be a technical review of the shared market protocol to ensure that this new major data format is not accidentally restricted by the current protocol, with changes to be implemented where necessary to address this.

14.2 Should stakeholders exchange PQD directly, using NER clause 7.17.1(f)?

EDMI agrees stakeholders should be able to exchange PQD directly, and that these stakeholders should include consumers. EDMI submits consumers should have access to actual real-time data (including PQD), directly from the meter, via services such as blue-tooth and that metering coordinators or even metering suppliers should be able to assist in the provision of that services in return for a fee.

In EDMI's experience, Power of Choice reforms have vastly improved the quality and amount of data available, there still exist barriers to extracting the full value of the available data. By enabling more groups to provide services in against the data, AEMC enables greater competition in the data space.

NER clause 7.17.1(f), is likely to be part of enabling such services, but is unlikely to be the extend of the guidelines or rules required.

14.3 If so, should the Commission prescribe this in the rules, or could this be by agreement between parties?

EDMI submits the expansion of data use and, ultimately, consumer choice will require the intervention by AEMC to prescribe data sharing in the rules.

EDMI recommends there be a significant review of meter data with respect of consumer rights and the Privacy Act.

Today, the rules and restrictions on what data can and cannot be shared; who owns the data and what is and what is not covered by consumer privacy; and the mechanisms of storing and securing that data are unclear. This is not due to any fault on the part of the Privacy Commission or the Energy Market regulator, but rather because there has been a lack of collaboration on guidelines for how the relevant Acts and Regulations of the bodies interact.

Without that collaboration, energy market participants and privacy regulators alike default to the safest option (as they should), but this has the effect of erecting unnecessary barriers to non-private information sharing and use.

A clear guideline on how the Privacy Act relates to metering data, written with a view to enable the sharing of data where it is safe, lawful and reasonable would be an asset to the industry.

15 Prices for PQD Services

15.1 Is it sufficient for the prices for PQD services to be determined under a beneficiary pays model, especially with a critical mass of smart meters?

EDMI broadly defer to the specialist expertise of relevant market participants on this item regarding the actual prices and the mechanism for determining them.

EDMI recommend that AEMC also further enable the consumer to choose the services they require and the mechanism by which they acquire those services. This could be achieved by allowing other market players to offer and provide services to the end consumer via the meter.

15.2 Are alternative pricing models, e.g., principles-based or prescribing zero-cost access, more likely to contribute to the long term interest of consumers?

EDMI broadly defer to the specialist expertise of relevant market participants on this item regarding the actual prices and the mechanism for determining them.

EDMI recommend AEMC further enable the consumer to choose the services they require and the mechanism by which they acquire those services. This could be achieved by allowing other market players to offer and provide services to the end consumer via the meter.

Modern smart meters can deliver data via multiple streams and control per phase and terminal, allowing one customer with one meter to obtain different services from different suppliers. By effectively enabling multiple endpoints on the same meter (or similar regulatory mechanism), AEMC provides the consumer with significantly more market power to choose how they consume energy – and more importantly, how they pay for it.

16 Regulatory Measures to Enable Innovation in Remote Access to Near-Real-Time Data Sooner

16.1 Do stakeholders support the Commission pursuing enabling regulatory measures for 1. remote access to near real-time data? If so, would it be suitable to:

Option 1: require retailers to provide near real-time data accessible by the consumer a. in specific use cases (while allowing them to opt-out).

Option 2: allow customers to opt-in to a near real-time service via their retailer for b. any reason.

Option 3: promote cooperation and partnerships between Retailers and new entrants c. for near real-time data services, e.g., in a regulatory sandbox.

Please see 0.2 A note on real-time data above.

EDMI supports requiring relevant parties to provide consumers access granular and actual real-time data remotely not only for their own direct use, but also to enable third party services

providers to deliver further services to that consumer. There should, of course, be a mechanism for the primary meter owner to be compensated for the use of their asset.

EDMI recognises this position is in excess of the three options offered above, though it most closely relates to a combination of all three.

EDMI solutions already allow for such delivery of granular data via secure API calls on the meter head-end. Actual real-time data has previously been available and would require very little development to re-deploy. Where EDMI meters are installed and commissioned on EDMI head-ends, it is only the current regulatory environment and industry practice that stops consumers at those end-points from taking a more active role in managing their own energy use.

16.2 If so, could the Commission adapt the current metering data provision procedures?

EMDI suggests the current meter data provision procedures represent a good foundation for new services. EDMI submits additions should be made to increase the scope of access consumers will have to that data. In keeping with the theme of this submission, EDMI also suggests that codified processes should describe the required outcome, rather than the path for getting there.

16.3 Are there any standards the Commission would need to consider for remote access? E.g., 3. IEEE2030.5, CSIP-AUS, SunSpec Modbus, or other standards that enable 'bring your own device' access.

EDMI suggest AEMC take the approach of "describe the required services provided by", rather than "prescribe the protocol method for local access, data formatting and other communications".

Each of those listed protocols deliver benefits, and EDMI submit that not only should each of those options be enabled, but the market should not intentionally disable other options that deliver similar services now and should work to avoid accidentally disabling other such options in the future.

16.4 What are the new and specific costs that would arise from these options and are they likely to be material?

Remote access to granular data is already available and, when considering the additional costs to serve, only some small data charges in the order of cents per month per meter are likely. However, the larger point of providing additional services is to further defray the underlying costs of providing (along the entire supply chain, including development) the and managing the metering assets.

As a result, the additional fee would be in the order of between cents and a few dollars per month, depending on the value of that data to the end user. Since the key is to further defray

end-to-end costs, it would be reasonable to expect that those costs would be defrayed at a greater rate for higher value services.

To reduce the costs associated with new services, EDMI recommend consumers be provided with more access to their meter data and enabled to utilise that meter data not only directly, but with the assistance of third party services – even to the point of expanding the capacity of at least some consumers to choose a new metering coordinator. This will tend to result in a more competitive market, driving all fees lower.

Remote access to actual real-time data (in real time) has, until recently, been a standard component of EDMI solutions. A small amount of development work would be required to re-deploy what was a very robust solution. In addition to the costs to serve for granular data, there would also be costs associated with an "always up" data connection. At this time, the cost is equivalent to an additional mobile phone connection, but this is largely due to the lack of products that leverage this capability and EDMI are confident that actual costs would be, at most, twice the current data plans for electricity 4G data connections.

> Note: This review has not asked for submission on the likely increase in costs for providing local access to granular or actual real-time data. A short summary of possible costs against likely technical solutions for local provision are as follows:

1. Grant local access to optical port (read access)
   Requires optical reading device to be purchased by consumer. Cost is at least AUD$200 at least to consumer for reliable, RCM certified connection with warranty, though there are cheaper options that are safe, but much less reliable.

2. Grant local access via Bluetooth
   Available as part of the suite of new features in EDMI Next-Gen meters. The total increased meter costs is about AUD$10 to AUD$20, but that covers a wide range of new features and changes, not just the Bluetooth.

3. Grant local access to serial interface (read access)
   Requires special cables or other devices, which may run from between a few dollars to hundreds of dollars, but the cost of an equivalent-length consumer HDMI cable is likely to be the upper end. Aside from consumer cable costs, there are likely to be increased meter costs from between AUD$5 to AUD$10 for a basic solution to upwards of a new modem cost for more advanced connections, such as MODBUS via RS485.

4. Grant local access via pulse detector
   This is a known technology with a known cost. And known limitations including limited data granularity and reliability.

17 Regulatory Measures to Enable Innovation in Local Access to Near-Real-Time Data Sooner

In addition to the items below, EDMI submit that security of data and meter actuation should also be considered. We understand there are a number of security concerns with, in particular, the control of DER. However, many security concerns that we encounter, though very real and of vital significance, could be addressed in multiple ways. At times, the full capability of smart meters in the market is not understood and, should security issues be raised, we hope that we can continue to rely upon AEMC to promote an open dialogue between stakeholders that includes meter suppliers.

17.1 Do stakeholders support the Commission considering regulatory measures for local access to near real-time data? If so, would it be suitable to:

a. Define a customer's right in access the smart meter locally for specific purposes?

b. Outline a minimum local access specification, including read-only formatting and unb. directional communications? Are there existing standards that MCs can utilise, for example, IEEE2030.5, CSIP-AUS, or SunSpec Modbus?

c. Codify a process for activating, deactivating, and consenting to a local real-time stream? If so, could the Commission adapt the current metering data provision procedures?

Please see 0.2 Note on real-time data above.

EDMI confirms some directional guidance would provide a sound foundation for future growth in this space. In particular, EDMI submits that AEMC should:

a. Not only define a customer's right to access the smart meter locally for specific purposes, but also a right to engage other parties to provide services utilising the meter – possibly for a fixed fee. To give effect to this, EDMI suggest a collaboration with the Privacy Regulator to provide more specific guidelines for the definition and use and sharing of personal information in a metering context.
We recommend that additional thought be given to allowing for a single meter to constitute multiple end points. This could be achieved by allowing for a split of end points according to relays, terminals or phases, or more efficiently and effectively, by allowing for a split according to data streams (load surveys, PQD, etc.)

b. Describe the required services provided by rather than prescribe the protocol method for local access, data formatting and other communications. Each of those listed protocols deliver benefits (as do others, such as Bluetooth) and EDMI submit that not only should each of those options be enabled, but that the market should not intentionally disable other options that deliver similar services now and should work to avoid accidentally disabling other such options in the future.

EDMI's "next generation" meters, due within the current regulatory period, and developed to meet a range of changing market demands will include blue-tooth connectivity.

c. Take a light and descriptive hand in codifying the process for activating, deactivating, and consenting to a local real-time stream. Current procedures could form a solid foundation for change, but in keeping with the theme of this submission, EDMI suggest that codified processes should describe the required outcome, rather than the path for getting there.

In addition, any work done to document or describe the desired processes or outcomes should consider the very different methods of delivering granular or actual real-time data.

While data from a head-end creates a small delay, it also allows for that data to be sanitised and checked. Data directly from the meter provides a great deal of bandwidth and speed, but securing the right data in the right way may require low-level access to the device which may create conflicts with other services provider from the same device. Data provision via a secondary device locally provides for something from both, but also results in a significant additional cost for the end-to-end solution. In home devices (or the evolution of them) not only add an unnecessary device cost directly, they also tend to decrease future options for new technologies, locking up the competition as between home systems of the same type. In the future that means a much larger, and likely insurmountable barrier to entry for disruptive technologies, and further points of possible security vulnerability.

17.2 Are there any other material barriers that the Commission should be aware of?

As EDMI have identified above, a significant step towards enabling a greater variety and more competition in the provision of metering services is the legal capability for a single meter to account for multiple end points, for a single consumer. Allowing a single customer to choose a separate provider for (for example) each of EV, solar and demand tariffs significantly increase the scope of competition and allows for a much more flexible approach to new technologies.

For our industry to limit the effects of climate change, let alone escape the danger and move forward, developed countries like Australia must use our privileged position to lead the way in terms of the development and spread of new technologies.

EDMI submits that limiting all possible services that could be supplied via a meter to just those who currently offer metering services is creating a barrier to the spread of the very disruptive technology that could form part of a global solution. EDMI strongly supports stripping away those regulatory barriers and submits that such an approach would be entirely consistent with the successful market-led approach to regulation championed by AER, AEMC and AEMO over the last decade and more.

These new end points could be per phase, or per terminal, but would be better considered per data stream, and would likely need to be considered separate NMIs.

In delivering this change, there would be a need to avoid a situation where multiple consumers where required to obtain services via the same meter: though potentially lower-cost for a metering coordinator, network or retailer, the customer and the industry as a whole is likely to end up paying far more when ill-will, disputes and litigation is considered. One solution to this would be to allow for sub-NMIs where each sub-NMI could (but not necessarily) be assigned to a different service provider. All of the sub-NMIs would be linked to the main NMI for a single end-point.

AEMC would need to give some thought as to how this might relate to the current metering coordinator responsibilities at an end point, but EDMI submit that these issues are not insurmountable. From entirely splitting responsibility to sub-NMI to limiting the scope of responsibility to a fundamental measurement, maintenance and minimum services set for the responsible party at the end point.

Would also empower the consumer to pick and choose providers across multiple NMIs... for example - one provider for solar, one for EV, etc.

18 Addressing Short Term Cost Impacts and Ensuring Pass Through of Benefits

Please see the introduction to our response to Question 17 above.

18.1 Are stakeholders concerned about the risk of short-term bill impacts as a result of the accelerated smart meter deployment? To what extent would the above offsetting and mitigating factors address this risk?

In general terms, EDMI agrees with the data and assessment related to short-term bill impacts in the Oakley Greenwood cost-benefit analysis and that any short-term costs can be managed to deliver significant, positive long-term results.

18.2 If stakeholders are concerned about residual cost impacts, what practical measures could be put in place to address these risks?

In considering the current cost implications, EDMI suggest that AEMC consider (among other things) two key mechanisms for reducing or avoiding costs.

Firstly, EDMI strongly supports that further opening of the market to new services by increasing the ability of the consumer to choose how and from whom they contract energy services. This may include an increase to the scope of customers that are empowered to choose their own metering coordinator, and it may include allowing for multiple services providers to deliver services via the same meter. An increase in competition for services will tend to increase the range of services provided and avenues of recovery of the cost of metering assets, while reducing barriers to new innovators and the price paid by consumers.

Secondly, EDMI submit that the focus for data delivery should be towards existing consumer devices (apps on mobile phones and tablets), rather than via additional hardware in-home devices, etc. The following report extracts and summary relate to the early Victorian roll-out and should be considered in light of the conditions at the time.

> On 2 August, 2011, Deloitte published a final report to Department of Treasury and Finance (Victoria) on "Advanced metering infrastructure cost benefit analysis". In it, they examined the uptake of RF In Home Devices (IHD) and Demand Load Control (DLC) devices.
>
> After 2 years of the mandated roll-out, Deloitte found that very few customers had made use of IHDs and/or DLC devices. No figure is named in the report, but the report goes on to predict only 1% or fewer consumers would have taken these options by 2014
>
> > "we have assumed in-home displays and direct load control will be taken up by 1% of customers in 2014" (Deloitte, 55)
>
> The report goes on to predict an uptake of 25% by 2020, basing this estimate on a summary of previous advice:
>
> - Oakley Greenwood for DPI (2010) Victorian Smart Meter Cost Benefit Analysis Report
> - Oakley Greenwood, Valuing Reliability in the National Electricity Market, March 2011; and
> - A report by Futura Consulting for DPI (updated 2010)
>
> These papers drew data from several US and other international studies.
>
> It is also worth noting that "Futura and Oakley Greenwood assumed that [only] 7.5% of customers would receive IHDs". (Deloitte, 55)
>
> However, in predicting an uptake of 25%, Deloitte argued for the implementation of government subsidies. To put this in perspective, it appears to EDMI that Deloitte were arguing that even if you gave consumers the device for free, only one quarter would make use of it.
>
> This government or retailer largesse was estimated to come at not an insignificant price. Deloitte estimated the total cost of this IHD and DLC roll-out to customers would be more than $20 million a year for the fourteen-year life of the project (Deloitte, 12).
>
> This represents a significant portion of project costs (see Total AMI Program costs by cost categories figure at Deloitte, 12)

Note: Given the lack of forecast costs over the final two years, and based on a face-reading of the report, it is not readily apparent to EDMI that there was a consideration of replacements costs, including natural attrition over a 12-year period, and certainly no consideration of technology advances over that period. Of course, the context of the report would not have required this inclusion, but it is relevant to our considerations here.

As a take-away, therefore, in-home devices represent very high and unnecessary costs where the same functionality can be delivered via other means that are more consistent with modern data consumption. A person is not going to regularly take time out of her family or social life to manage her energy use at home, but she may very likely explore options during a commute or discuss options with family and friends over or around a meal elsewhere.

EDMI does not suggest that in-home display options should not be considered, but does counsel against creating a regulatory regime where such a device is required.

18.3 What are the implications for AER revenue determinations for the upcoming New South Wales, Australian Capital Territory and Tasmania DNSP regulatory control periods? Is there a risk that network cost savings as a result of the accelerated smart meter deployment will not be fully passed through to consumers under the regulatory framework?

EDMI defer to the more specific knowledge of the relevant market participants from these jurisdictions, but note that AEMC may wish to reconsider or recommend a reconsideration of recent Gas Access Arrangements and related rulings, etc.

Gas networks and services suppliers have indicated in public statements that they wish to further explore options with respect to digital gas solutions, and some degree of support of this, albeit at a lower % of the networks is likely to provide greater alignment between energy streams. In particular, consideration of hydrogen not only as a fuel, but also as an energy storage and demand smoothing mechanism would appear to have multiple long-term and cross-energy benefits. While EDMI agree there is some uncertainty in the political landscape with respect to the long-term future of gas, hydrogen also must be considered in terms of its utility for demand management and storage capacity.