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2 February 2023

Anna Collyer
Chair, Australian Energy Market Commission
GPO Box 2603
Sydney NSW 2000

Dear Ms Collyer,

Review of the Regulatory Framework for Metering Services (EMO0040)

SwitchDin welcomes the Australian Energy Market Commission (AEMC) Draft Report of the Review of the Regulatory Framework for Metering Services and opportunity to provide feedback. We are happy to provide some recommendations that we believe will improve customer support and social license for the smart meter rollout.

SwitchDin is an Australian energy software company that bridges the gap between energy companies, equipment manufacturers and energy end users to integrate and manage energy resources on the grid. SwitchDin's technology enables our clients to build and operate vendor-agnostic virtual power plants (VPPs) and microgrids, and to optimise performance across fleets of diverse assets. Founded in 2014, SwitchDin operates in all Australian states, including in leading-edge distributed energy projects like Simply Energy's national VPP, flexible export programs in South Australia (SA) and Victoria, Project Symphony in Western Australia (WA) and the Solar Connect VPP in the Northern Territory (NT). We work with distribution network service providers (DNSPs), electricity retailers, inverter original equipment manufacturers (OEMs) and aggregators to enable and utilise flexible export capability.

SwitchDin strongly supports the Commission's reform objective, to evolve the electricity market framework to optimise the provision of multiple CER services to maximise benefits for the broader community. The regulatory framework for metering services inhibits CER uptake and benefit sharing. The Commission has an opportunity to shift meters from being an inhibitor, to an enabler, of multiple CER services.

We welcome the proposed target of universal uptake of smart meters by 2030 in National Electricity Market (NEM) jurisdictions, where legacy accumulation and manually read interval meters are progressively retired by the DNSPs under a legacy retirement plan, and retailers are required to replace the retired meters within a set time frame.

We strongly support the proposal to enable DNSPs to access power quality data. This will lead to significant improvement in network management and will deliver long term benefits to all consumers.

We welcome and strongly support the Commission's indication that it will consider changes to enable customer access to a real-time data stream from their smart meters. As noted in the Draft Report, local access to real-time meter data would enable customers and their agents to:

- Optimise CER asset life, performance and compliance,
- Orchestrate behind-the-meter, and

- Respond to emerging network services like dynamic operating envelopes.

Real-time data from the smart meter should be available to the customer, locally and free of charge. It should be simple for customers to assign access to their data to authorised agents and service providers, such as aggregators. This data must be in a useful format which is real-time, granular and includes standards compliant measurements of frequency, power (real and reactive) and energy consumption for import and export on all phases connected through the meter.

We strongly support the proposal for the Commission to define customers' right to access local, real-time data from their smart meter and we look forward to engaging with the Commission in the design of the access framework. We urge the Commission to publish the details of the proposed data access framework in the Final Report of the review.

Thank you for the opportunity to respond to these important issues. I remain available for further discussions and inputs.

Best regards,

Andrew Mears

Andrew Mears, PhD
Chief Executive Officer

Key Recommendations for the Final Report

1. Develop a framework for local, real-time meter data access for the Final Report

We warmly welcome and strongly support the proposal outlined in the Draft Report and confirmed in the Commission's public webinar on 1 December 2022 that the Commission will engage with stakeholders to define a customer's right to local access to real-time data from the meter. We propose the following objectives for an access and pricing framework for local, real-time access to smart meter data:

- Customers should have free access to local, real-time meter data in a form that enables them to orchestrate devices behind the meter so that they can engage constructively with cost reflective (e.g. demand-based) tariffs, dynamic operating envelopes and other reforms to enable a two-way electricity network.
- For a regulated price, customers should have the option of purchasing local, real-time meter data in a form that would require a more advanced meter to enable them to engage in certain markets (e.g. high resolution data needed to engage in Frequency Control Ancillary Services (FCAS) markets).

We urge the Commission to publish the details of the proposed data access framework in the Final Report of the review.

2. Review the minimum service specification and physical requirements of the meter

The minimum service specification and physical requirements of the meter are not fit for the purpose of enabling customers to optimise their consumption, generation and storage for dynamic operating envelopes and cost reflective tariffs. There is a risk that speeding up the rollout of meters could result in a legacy fleet of meters that are unable to support the transformation to a dynamic connection point that leverages consumer market participation. We urge the Commission to commit to a review of the minimum service specification and physical requirements of the meter. The review should ensure that in future, smart meters:

1. Have local access ports that an accredited CER installer or licensed electrician can connect to without any need for rewiring.
2. Provide real-time data via the local access port which enables the customer to optimise their generation and consumption for flexible export limits, demand-based tariffs and other reforms to enable a two-way electricity distribution network. This data must be in a useful format which is time-stamped, real-time and includes standards compliant measurements of frequency, power (real and reactive) and energy consumption for import and export on all phases connected through the meter

Responses to concerns regarding the proposal for local, real-time data access

SwitchDin has undertaken some preliminary consultation with representatives of consumer organisations, industry and policy makers regarding our proposal that the AEMC should recognise customer's right to local, real time access to data from their meter. A summary of the concerns and criticisms expressed and SwitchDin's response is outlined below.

Q Why do customers need access to real time data from their meter?

A The problem confronting consumers is knowing in real-time how much energy they are consuming and generating so that they can decide when to run shiftable loads. The inability of customers to access local real-time data from their smart meter is a barrier to reforms such as demand-based tariffs, dynamic operating envelopes, orchestration of devices behind the meter, and other reforms to enable a two-way electricity network. Optimisation behind the meter is precisely the behaviour that reforms such as dynamic operating envelopes, and demand-based tariffs are intended to encourage.

Q Could customers make do with near real time data from the metering provider's cloud?

A No. It is important to distinguish between data access via the cloud versus real-time local access. Data from the cloud simply isn't fast enough and availability is dependent on internet connectivity. Real-time local access is needed for coordination of devices behind the meter, responding to dynamic operating envelopes and optimising the generation and consumption profile for cost reflective tariffs.

Local, real-time data is necessary for local control. Data from the cloud is too vulnerable to outages. It is not suited to use in a fast-acting control loop. There is no mandated timing for the delivery of cloud data, and it could arrive days later or not at all. This dramatically increases the amount of data communicated with the internet and this will be a significant increase in costs.

Q Will this be solved by the Consumer Data Right?

A No. The Consumer Data Right does not address local, real-time data access.

Q Would it be expensive to modify meters to enable local, real-time data access?

A No. The meters already measure the data every 200ms, some meters already have external data ports and most meter manufacturers will have a variant which includes a data port. For meters that do not already have a local port there would be a small cost in redesign and changes in manufacturing however in most cases it is likely to be a firmware update only. These small costs would be amortised over hundreds of thousands of units.

Q Could the optical signal be used for real-time data access?

A There are often two optical communications ports options available on smart meters - an optical pulse signal and an optical serial port. The optical pulse signal can only provide a low resolution signal for average real power consumed. This is not very useful because it does not show exports, and does not reconcile with meter billing data. However, the optical serial port, which is often used by the hand-held meter reading device of the metering service provider (MSP), could provide the customer with useable data. For at least one of the major metering suppliers we are aware that the optical serial port can provide real-time serial communications for all data and settings, subject to access using security codes.

Q ***If some meters already have data ports, why don't you use them?***

A The National Electricity Rules (NER) prevent customers or their authorised agent from accessing metering data. It currently states that metering data can only be accessed or received by:

- Registered Participants with a financial interest in the metering installation or the energy measured by that metering installation,
- The Metering Coordinator for the connection point for that metering installation,
- The Metering Provider,
- The Metering Data Provider,
- AEMO and its authorised agents, or
- In relation to CDR data, a person who is authorised to access or receive that data.

The technical specifications and security controls for energy data defined in the NER do not contemplate customer access and need to be amended to enable access.

Q ***Is local, real time data access only needed by customers participating in virtual power plants? If so, why should all customers cross-subsidise a benefit for the few?***

A When dynamic operating envelopes, and cost-reflective tariffs have been introduced, local, real-time data will benefit all customers with flexible load, rooftop solar, battery storage or an electric vehicle (EV) charger. By the 2030s (possibly earlier) new vehicle sales will be dominated by EVs. Without the ability to provide local, real-time data the meters we are rolling out will not be fit for purpose for most customers within a decade. This will mean increased cost as secondary meters will be installed which would otherwise not be required if the main meter provided local realtime data.

Q ***Could this problem be fixed by installing multiple revenue-grade meters?***

A Yes, but that would add an unnecessary cost of hundreds of dollars for consumers and there can be logistical barriers to installation of a second meter (eg. insufficient space in most switch boards).

Q ***Metering providers are currently able to monetise data. Would this proposal undermine that business model?***

A Yes. However, it would be untenable to tell consumers that they must install a smart meter, they will pay for it, the metering provider is allowed to monetise the customer's data and the customer is not allowed to access the data in a form that would be useful for them. The Metering providers currently sell their data to retailers via AEMO's processes and this business model will not be impacted.

Responses to questions raised in the Draft Report

QUESTION 1: IMPLEMENTATION OF THE ACCELERATION TARGET

1. *Do stakeholders consider an acceleration target of universal uptake by 2030 to be appropriate?*

Yes. We note the AEMC's observation that if the current installation rate continues, full deployment of smart meters may not occur until after 2040. We agree that this time frame is not sufficiently ambitious.

2. *Should there be an interim target(s) to reach the completion target date?*

Yes. Interim targets would assist industry with planning and would enable transparent monitoring of progress toward the 2030 target.

3. *What acceleration and/or interim target(s) are appropriate?*

The AEMC proposal for yearly interim targets is appropriate.

4. *Should the acceleration target be set under the national or jurisdictional frameworks?*

The AEMC should amend the National Electricity Rules (NER) to put in place an enforceable target of 100% smart meter rollout across the NEM by 2030. Setting a NEM-wide target would not preclude a state or territory government from acting to accelerate the rollout in its jurisdiction.

QUESTION 2: LEGACY METER RETIREMENT PLAN (OPTION 1)

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

Yes.

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?*

The initial principles are appropriate to guide the development of a Legacy Meter Retirement Plan.

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

The framework should focus on who is obliged to meet targets, and what targets they are obliged to meet. Where possible, the regulations should refrain from specifying how the targets should be achieved.

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

MCs and retailers would be best placed to advise on the most appropriate time frame.

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

It may be appropriate to prioritise some networks or jurisdictions in the Legacy Meter Retirement Plan.

SwitchDin supports the 'Legacy Meter Retirement Plan' (Option 1). We have not provided a detailed response regarding 'Legacy Meter Retirement through Rules or Guidelines' (option 2) or 'Retailer Target' (option 3).

QUESTION 5: PREFERRED MECHANISM TO ACCELERATE SMART METER DEPLOYMENT

1. *What is the preferred mechanism to accelerate smart meter deployment?*

The Legacy Meter Retirement Plan is preferred because:

- it would be developed collaboratively by key stakeholders across the industry,
- DNSPs would be involved in the planning process and this would enable targeting of areas where improved visibility of the network is most needed,
- it would allow for efficient replacement based on geography, enabling economies of scale,
- It would not require extensive regulatory changes, and
- it would likely be more flexible and could be developed more quickly than putting the retirement plans into rules or guidelines.

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

Options 1 and 2 both appear to provide a feasible mechanism to accelerate deployment. The Legacy Meter Retirement Plan appears to be the optimal choice, for the reasons outlined above.

3. *Are there other high-level approaches to accelerate the deployment that should be considered?*

The experience of the Victorian smart meter rollout showed that some customers are vulnerable to misinformation e.g. regarding the supposed health impacts of smart meters. These vulnerabilities can be exacerbated if they are exploited. It will be crucial to communicate the impacts of smart meters effectively, including some 'myth busting' in relation to persistent concerns by relatively small and highly vocal sections of the population.

QUESTION 6: FEEDBACK ON NO EXPLICIT OPT-OUT PROVISION

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

Removing the opt-out provision will improve the efficiency and cost effectiveness of the meter replacement program. Allowing customers to opt out would be particularly costly if it were to affect meter replacements at multi-occupancy sites. However, it is important to acknowledge that a small but very vocal section of the community will be aggravated by the perception of a lack of choice. Removing the opt out provision will make it even more important to ensure an effective communication program accompanies the rollout.

2. *Are there any unintended consequences that may arise from such an approach?*

Yes. For example, the smart meter rollout became an election issue in the 2010 Victorian state election. Care will need to be taken to ensure this experience is not repeated elsewhere. Bipartisan political support for the smart meter replacement plan will be necessary for its success.

QUESTION 7: REMOVAL OF THE OPTION TO DISABLE REMOTE ACCESS

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

Yes.

QUESTION 8: PROCESS TO ENCOURAGE CUSTOMERS TO REMEDIATE SITE DEFECTS

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

The proposed arrangements would likely improve administration and record keeping. However, as noted in the Draft Report, financial barriers are the key reason for site remediation issues. The financial barriers to site remediation remain unresolved.

QUESTION 9: IMPLEMENTATION OF THE 'ONE-IN-ALL-IN' APPROACH

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

Yes.

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

We will leave it to the relevant parties to comment on how the proposed time frames would affect them and whether they are manageable.

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

None that we are aware of.

4. *How should DNSPs recover costs of temporary isolation of group supply from all retailers?*

Cost recovery on a pro-rata basis seems fair.

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?*

We will leave it to the DNSPs and other affected parties to comment on this matter.

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

We will leave it to the DNSPs and other affected parties to comment on this matter.

QUESTION 10: STRENGTHENING INFORMATION PROVISION TO CUSTOMERS

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

Yes. In addition to the information the AEMC proposes should be provided to customers, we recommend that customers should be advised about the meter's basic functionality i.e. what will it do that is not possible without a smart meter? They should also be advised about what additional functionality is available, beyond the basic benefits that all customers can expect from their smart meter.

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

None that we are aware of.

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

Basic information contained in information notices to the customer prior to a metering upgrade should be provided by the customer's retailer. This should include information specific to the customer, such as up-front fees and timeframes for the meter replacement, tariff changes and remediation work that might be required. However, the credibility of electricity retailers is low and it would be a mistake to rely solely on information provision by retailers, especially for information related to the potential benefits of smart meters.

Energy Consumers Australia (ECA) or an independent ECA-funded organisation could be resourced to develop and maintain a website with general information about the potential benefits of smart meters, customers' rights and dispute resolution options. Information provided by retailers to their customers should include a link to this website.

QUESTION 11: SUPPORTING METERING UPGRADES ON CUSTOMER REQUEST

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

Yes.

QUESTION 12: TARIFF ASSIGNMENT POLICY UNDER AN ACCELERATED SMART METER DEPLOYMENT

1. *Which of the following options best promotes the NEO:*
    a. *Option 1: Strengthen the customer impact principles to explicitly identify this risk to customers*
    b. *Option 2: Prescribe a transitional arrangement so customers have more time before they are assigned to a cost-reflective network tariff.*
    c. *No change: Maintain the current framework and allow the AER to apply its discretion based on the circumstances at the time.*

Mandatory tariff reassignment is likely to be more unpopular than mandatory meter upgrades. Allowing mandatory tariff reassignment as soon as a smart meter is installed could potentially undermine social license for smart meters.

The impact of cost-reflective tariffs, including time-of-use and demand-based tariffs, can be mitigated by investment in CER. At least 12 months of energy consumption data is needed to design a CER system that best suits the needs of the customer. We recommend no mandatory reassignment until about 18 months after the installation of a smart meter, to allow customers the time to understand how their energy usage patterns will interact with the new tariff, what it will mean for them and how they can change their pattern of demand and generation to reduce the financial impact of new tariffs. In addition, the AER should continue to apply its discretion under the customer impact principles to address implementation risks.

Forcing customers into too much change too quickly could undermine the long term goal of 100% rollout by 2030.

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?*

We recommend an 18 month grace period between the mandatory installation of a smart meter and the mandatory reassignment to a cost reflective tariff, regardless of whether the mandatory installation of a smart meter was triggered by installation of CER or if it is part of the mandatory rollout. The grace period should apply to network and retail tariffs. The delay in the application of cost reflective tariffs is, we believe, a price that should be paid to ensure the smoother rollout of smart meters. Forcing customers into too much change too quickly could undermine the long term goal of 100% rollout by 2030.

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

Consumers should have access to a free, online tool developed and maintained by a trusted provider with government oversight. The online tool should make it easy for customers to obtain at least 12 months of their energy consumption data (with electricity consumption in five-minute intervals) and to use that data to obtain advice on the potential to minimise future electricity bills through a combination of cost reflective tariffs, investment in CER, fuel switching and retailer switching.

QUESTION 13: MINIMUM CONTENTS REQUIREMENT FOR THE 'BASIC' PQD SERVICE

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

This seems reasonable and adequate. The DNSPs are likely to be the main users of the 'basic' PQD service and, as such, their opinions on this question should be considered carefully.

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

Standardisation should be encouraged. The more that the agreements can be standardised, the lower the transaction costs of negotiating will be.

3. *Should the Commission pursue a data convention to raise the veracity of 'basic' PQD?*

It is unclear to what extent the veracity of the PQD data is problematic. However, a review of the minimum technical specifications for meters is warranted and this is one of many issues that could be considered in such a review.

QUESTION 14: UTILISING THE RIGHT EXCHANGE ARCHITECTURE FOR THE 'BASIC' PQD SERVICE

1. *Should the industry use the shared market protocol? If not, why?*

Yes.

2. *Should stakeholders exchange PQD directly, using NER clause 7.17.1(f)?*

Yes.

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

Standardising requirements in the rules is likely to reduce transaction costs. If parties are left to negotiate, networks could face a 'take it or leave it' offer when negotiating with monopoly providers of metering data.

QUESTION 15: PRICES FOR POWER QUALITY DATA SERVICES

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?*

No. The AEMC's Draft Report has failed to address a major failing of the current framework for metering services, which is the lack of a pricing framework to enable DNSPs to acquire power quality data. The current access framework, which requires DNSPs to enter into commercial contracts with Metering Coordinators (MCs) and pay for access to the data, does not work. The MC has an effective monopoly over the customer's data, and as a result there is no basis for negotiation of a commercial arrangement. The DNSP is a price taker in this transaction and has little alternative other than to pay the price quoted or source data elsewhere.

The DNSP does not appoint the MC. The competitive tension, and therefore the ability to negotiate price and service levels, is between the electricity retailer and the MC.

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?*

Yes. Basic power quality data should be a standard part of the metering service provided by the MC and included in the annual metering charge paid by the electricity retailer. The PQ data should be provided by the MC to the DNSP either free of charge or at a regulated price.

Ultimately, the consumer will bear the cost of data procured by the DNSP from the MC. Requiring DNSPs to negotiate for access to PQ data when they have very little negotiating power will be inefficient and is likely to lead to higher profits for MCs and higher prices for consumers.

QUESTION 16: REGULATORY MEASURES TO ENABLE INNOVATION IN REMOTE ACCESS TO NEAR-REAL-TIME DATA SOONER

1. *Do stakeholders support the Commission pursuing enabling regulatory measures for remote access to real-time data? If so, would it be suitable to:*
    a. *Option 1: Require retailers to provide near real-time data accessible by the consumer in specific use cases (while allowing them to opt-out)?*
    b. *Option 2: Allow customers to opt-in to a near real-time service via their retailer for any reason.*
    c. *Option 3: Promote cooperation and partnerships between retailers and new entrants for near real-time data services, e.g., in a regulatory sandbox.*

SwitchDin strongly supports the Commission pursuing regulatory measures to enable customers to access real-time data from their meter. Consumers pay for their meter. It is their data and their right to access it should be recognised. It would be unreasonable to make customers install a smart meter, make them pay for it, make the data available to their retailer, their DNSP and other market participants, while not giving customers access to the data that they need to manage their own electricity generation and demand.

Recognition of the customer's right to remote access to real-time data would be an improvement on the current situation, however access to local, real-time data is strongly preferred to remote access from the MC's or retailer's cloud. A framework that only addresses remote access would cement the role of the retailer as the gatekeeper of the customer's data. There is a strong *disincentive* for retailers to provide customers with data that enables them to optimise generation and consumption behind the meter, unless the retailer also plays the service provider role.

It is not the retailer's data. It is the customer's data. The customer paid for their meter and the data is about their electricity consumption.

2. *If so, could the Commission adapt the current metering data provision procedures?*

As noted in the Draft report, some smart meters are already technically capable of providing real-time data. Retailers and MCs do not turn on the service and backend by default. The Draft Report suggests that allowing all customers to opt into a real-time retail service would "require a conversation between the customer and their retailer, then the retailer and their MC to turn on the service". However, retailers and MCs should be compelled to provide access on request by the customer. The retailer and the MC should not be the ones who determine whether a customer should be allowed access to their own data.

3. *Are there any standards the Commission would need to consider for remote access? e.g., IEEE 2030.5, CSIP-Aus, SunSpec Modbus, or other standards that enable 'bring your own device' access.*

Minimum interoperability standards that apply to CER devices should also apply to smart meters. They should support communication protocols such as SunSpec Modbus or IEEE 2030.5.

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

The costs of enabling real-time access to data from the revenue meter would be very small compared with the anticipated savings to consumers. Currently, there are significant amounts of redundant hardware in the form of meters needed for solar and battery inverters. real-time data access arrangements would remove the need for redundant meters and would allow manufacturers to reduce the cost of their products. Cost would not be the main issue with a remote access framework for real-time data. The more important issue is whether it would be fit for purpose and whether retailers and MCs would cooperate unless they are compelled by regulation to make real-time data available.

QUESTION 17: REGULATORY MEASURES TO ENABLE INNOVATION IN LOCAL ACCESS TO NEAR-REAL-TIME DATA SOONER

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 to access the smart meter locally for specific purposes?*
   b. *Outline a minimum local access specification, including read-only formatting and uni-directional communications? Are there existing standards that MCs can utilise, for example, IEEE 2030.5, 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?*

SwitchDin warmly welcomes and strongly supports the proposal outlined in the Draft Report and confirmed in the Commission's public webinar on 1 December 2022 that the Commission will engage with stakeholders to define a customer's right to local access to real-time data from the meter.

<u>Why access must be directly from the meter</u>

It is important to distinguish between data access via the cloud versus real-time local access. Real-time local access is needed for coordination of devices behind the meter, responding to dynamic operating envelopes and optimising the generation and consumption profile for cost reflective tariffs.

As noted in the Draft Report, the current rules do not contemplate a real-time stream or how the customer's agent could carry out this work. Access is currently limited to data from the MC cloud. There is no mandated timing for the delivery of cloud data, and it could arrive days later. There is no option of accessing the data in real-time by interfacing with the meter itself.

The Consumer Data Right (CDR) does not address local, real-time data access.

Rationale and objectives for an access and pricing framework

The problem confronting consumers is knowing in real-time how much energy they are consuming and generating so that they can decide when to run shiftable loads. The inability of customers to access local real-time data from their smart meter is a barrier to reforms such as demand-based tariffs, dynamic operating envelopes, orchestration of devices behind the meter, and other reforms to enable a two-way electricity network.

We propose the following objectives for an access and pricing framework for local, real-time access to smart meter data:

- Customers should have free access to local, real-time meter data in a form that enables them to orchestrate devices behind the meter so that they can engage constructively with cost reflective (e.g. demand-based) tariffs, dynamic operating envelopes and other reforms to enable a two-way electricity network.
- For a regulated price, customers should have the option of purchasing local, real-time meter data in a form that would require a more advanced meter to enable them to engage in certain markets (e.g. high resolution data needed to engage in FCAS markets).

2. *Are there any other material barriers that the Commission should be aware of?*

The key barriers preventing customers from accessing local, real-time data from their meter are:

- It appears to be expressly prohibited in the NER,
- Some meter do not have local access ports,
- The local data from some meters is not in a form that makes it useable for basic functions,
- Even where it is possible, there are costs and difficulties associated with wiring connections to the meter.

Local access is prohibited

Section 7.10.1(a)(8) of the NER should be reviewed and amended. It currently states, "Metering Data Providers must provide metering data services in accordance with the Rules and procedures authorised under the Rules, including: ensuring the metering data and other data associated with the metering installation is protected from local access while being collected…"

Sections 7.15.3(a), 7.15.4(c) and 7.15.4(e) should be amended to allow retail customers access to local, real-time data.

Section 7.15.5(c) should be amended to make it clear that the customer or their authorised agent can access metering data. It currently states that metering data can only be accessed or received by:

- Registered Participants with a financial interest in the metering installation or the energy measured by that metering installation,
- The MC for the connection point for that metering installation,
- The Metering Provider,
- The Metering Data Provider,
- AEMO and its authorised agents, or
- In relation to CDR data, a person who is authorised to access or receive that data.

The technical specifications and security controls for energy data defined in the NER do not contemplate customer access and would need to be amended to enable access while maintaining data security.

Some meters do not have local access ports

As noted in the Draft Report, not all meters have local access ports. This highlights the need for a review of the minimum technical specification and physical requirements for smart meters to ensure that in future they are fit for purpose.

The local data from the optical pulse signal is not in a form that makes it useable for basic functions

The format of the real-time data is very important. Currently, most meters have a pulse signal either with an optical or electrical transducer. The optical pu;lse signal can only provide a low resolution signal for average real power consumed. It is basically a pulse which quickens as consumption increases. This is not very useful because it does not show exports, and does not reconcile with meter billing data. As a minimum, customers need time-stamped digital data which is synchronised with the 5 minute data used by retailers. That way, it will reconcile with the customer's bills. Customers who want to optimise assets behind the meter will also need other power quality data which is not available from pulse data.

The local data from the optical serial port would very likely be useable for basic function

There are two possible optical communications ports on most smart meters. As noted above, the pulse signal does not provide data in a format that is useable for basic functions. However, there is also an optical serial port which is used by the hand-held meter reading device of the metering service provider (MSP). Based on discussions with MSPs, SwitchDin understands that access to the optical serial port could provide the customer with useable data. For at least one of the major metering suppliers, the optical serial port can provide real-time serial communications for all data and settings, subject to access using security codes.

The suitability of real-time data available from the optical serial port should be one of the areas considered in a review of minimum technical metering specifications. The data available from the optical serial port is very likely already useable, and if it is not then it could easily be made good enough. An additional benefit of using the optical serial port is that it presents no cyber risk and, since it is an optical port, it does not present an electrical safety risk.

Costs and difficulties with wiring connections to the meter

The procedure for connecting to the meter to obtain local, real-time data should be simple and secure enough that it can be undertaken by a suitably qualified and accredited electrician. If an employee of the MC must be onsite during installation for this to occur, this would place an unnecessary cost on consumers.

QUESTION 18: ADDRESSING SHORT TERM COST IMPACTS AND ENSURING PASS THROUGH OF BENEFITS

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?*

The costs of the smart meter rollout would be relatively small (on a per customer basis) and long term benefits will exceed short term costs. Nevertheless, it is important to understand the likely impact on electricity bills. Retailers are best placed to provide feedback on how they propose to socialise costs across the customer base and what impact they would expect for the average customer. Having this information from retailers would help to put the expected bill impacts in context. Other external impacts on electricity bills (e.g. increased gas and coal prices) are likely to dwarf the impacts of metering.

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

Governments could provide direct financial assistance to vulnerable customers to assist with the financial impacts of the rollout.

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?*

The affected DNSPs are best placed to provide advice on this.