11 February 2021

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Australian Energy Market Commission
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Project reference: EMO0040

Submission on the Review of the Regulatory Framework for Metering Services

Executive Summary

1. Vector Limited (Vector)[1] welcomes the Australian Energy Market Commission's (the Commission) *Review of the regulatory framework for metering services*, which aims to identify improvements to the efficiency and effectiveness of this framework which was introduced in the National Electricity Market (NEM) on 1 December 2017.

2. As the electricity sector transitions into the digital age, the need for near real-time and granular data is becoming more apparent and critical. The benefits of smart metering – a critical enabler of this transition – to electricity retailers, distribution network service providers (DNSPs), new energy service providers, and importantly consumers are widely recognised. There are almost no ongoing and impending reforms in the NEM directly targeting small consumers that are not dependent on smart metering.

3. We broadly agree with the Commission that many stakeholder expectations around smart meters, including the current pace of rollout and some of the services that smart meters enable, have not been met. Certain barriers have emerged that are likely to frustrate the delivery of benefits to consumers, particularly residential and small business consumers, in a timely manner.

4. Overall, we believe that:

    a. The take up of new and innovative smart metering services by those who can further unlock consumer benefits requires the right incentives.

    b. Addressing the 'split benefits' issue that is described in the consultation paper is required, including attributing the costs of new metering services to those who can unlock consumer benefits. As the benefits of smart meters are split, ensuring all beneficiaries contribute to, or pay for, their costs will positively affect the overall business case for the further deployment of smart meters.

[1] Vector Limited's (Vector) Australian and New Zealand advanced metering business – Vector Metering – is an accredited Metering Provider and Metering Data Provider, and a registered Metering Coordinator, in Australia's National Electricity Market and the equivalent in New Zealand. Vector Metering provides a cost-effective end-to-end suite of energy metering and control services to energy retailers, distributors and consumers.

Vector is an innovative New Zealand energy company which runs a portfolio of businesses delivering energy and communication services to more than one million homes and commercial customers across Australasia and the Pacific. Vector is leading New Zealand in creating a new energy future through its Symphony strategy which puts consumers at the heart of the energy system.

For more information on Vector Metering's services in the NEM, see vectormetering.com/au/.

c. The rollout of smart meters needs to be accelerated to meet broader policy objectives and cannot be achieved by relying solely on customer driven demand. Widespread retailer-led rollouts are more cost effective than installing meters on a piecemeal basis.

d. The delivery of the benefits of smart meters through a competitive metering framework (i.e. retailer-led rollouts) will deliver the best overall outcome for consumers, as envisaged by the Power of Choice reforms.

5. In our view, the above challenges can be addressed through this Review by implementing a package of changes to:

   a. create certainty for industry participants;

   b. provide incentives for retailers;

   c. provide incentives for DNSPs;

   d. re-assess some aspects of regulated cost recovery; and

   e. address operational issues.

6. We welcome the opportunities this submission process and the wider Review provide to address the above issues so the rollout of smart meters can be accelerated, and the expected consumer benefits delivered in a timely manner.

Introduction

7. This is Vector's submission on the Commission's consultation paper on its *Review of the regulatory framework for metering services* (the consultation paper), dated 3 December 2020. We appreciate the Commission's engagement with stakeholders through a pre-Review survey in October 2020, and the Commission's consideration of some of the issues we raised in our response to that survey in this consultation paper.

8. We support the Commission's decision to broaden the coverage of this Review, originally intended to consider the ability of small consumers to appoint their own Metering Coordinator and whether some form of access regulation to metering services is warranted. We agree with this Review's more holistic approach, which will also consider the impact of any changes to the National Electricity Rules (NER or the rules) since the commencement of competitive metering in the NEM, the expectations of stakeholders in relation to the rollout and development of metering services, and whether those expectations have been met.

9. We set out below our responses to the Commission's consultation questions, including suggestions and options the Commission can consider in this Review. We are highly interested in the development of practical and workable solutions so that the rollout of smart meters can be accelerated for the benefit of consumers in the NEM.

Responses to the Commission's questions

Question 1: CONSIDERATION OF OTHER MARKET REFORMS AND RELATED WORK

1. Are there other significant market reforms that are likely to impact the metering framework that the Commission has not identified?

2. Is there additional related work that the Commission should consider in this metering review?

10. The Commission has largely identified the significant market reforms across the NEM that are likely to have an impact on, and be impacted by, the regulatory framework for metering services. These include, among others, the Energy Security Board's (ESB) proposed Post

2025 Market Design, the ESB's proposed Data Strategy, and the introduction of the Consumer Data Right in the energy sector. The ongoing implementation of Five-Minute Settlement, which aims to incentivise the participation of more rapid response and renewable generation (e.g. solar PV and energy storage) to the wholesale market requires real-time consumption and generation data delivered by smart meters.

11. Vector broadly supports the above and other NEM-wide reforms that aim to democratise data in a digital energy future. We support initiatives that adopt forward-looking, proactive and flexible approaches that unlock and optimise the value of data for consumers' benefit. In the rapidly evolving electricity sector, arrangements need to be adaptive to new business models that are enabled by new technologies, which are dependent on and create new needs for data.

12. The use of timely smart metering data allows service providers to better target their support measures to electricity customers in hardship due to COVID-19, ensuring energy affordability and the timely delivery of support to these customers. Smart metering data also enables customers to switch from quarterly to monthly or more frequent billing and payment, helping those in hardship better manage their power bills and finances.[2] The responses from the Commission, other energy regulators, and industry participants to COVID-19 are, to various extents, aimed to ensure and improve consumer and industry resilience from the impacts of COVID-19.

13. Jurisdictional initiatives will also have an impact, and will be impacted by, the metering regulatory framework. These initiatives include the newly introduced minimum requirements for DER-related services in South Australia, remote re-energisation/de-energisation in Queensland, and other state-based programmes intended to promote higher DER uptake and DER visibility on the low-voltage network.

14. We note that the Commission does not intend to examine, as part of this Review, the regulatory framework for metering services in Victoria, where the state government has made significant derogations from the metering provisions in the NER. While such is the case, we encourage the Commission to provide strategic guidance, as part of its Review recommendations, on the metering regulatory arrangements in Victoria that are likely to be in the best interest of consumers. In our view, the introduction of competitive metering arrangements in Victoria would promote regulatory consistency and reduce transaction costs for businesses operating across jurisdictions, ensure comparable levels of minimum services for consumers across the NEM, and spur innovation by preventing the existing metering technology from being 'locked in', and newer/better technologies from being 'locked out' of, the market.

15. We welcome the Commission's intention to establish a Reference Group for this Review which we intend to actively participate in or engage with. The Commission may also consider creating working groups during the Review, as necessary, to consider specific matters such as highly technical issues that will require specialist expertise and legislative changes that may be required to enable some of the Commission's recommendations from this Review.

Question 2: ASSESSMENT FRAMEWORK

1. Do you agree with the Commission's proposed Assessment Framework for this Review? Are there any additional criteria we should consider as a part of this Framework?

[2] For example, https://contact.co.nz/residential/billing-and-payments.

16. Vector broadly agrees with the assessment framework proposed by the Commission for this Review based on the national energy objectives embodied in the NER and the *National Energy Retail Rules* (NERR). These objectives are well established in the industry.

17. We agree with the proposed assessment framework criteria which include:

    a. transparency and predictability;

    b. facilitating positive customer outcomes, including consumer choice;

    c. efficient investment and allocation of risks and costs;

    d. regulatory and administrative burden; and

    e. system integrity.

18. We suggest that the Commission also consider the following assessment criteria that highlight the delivery of better consumer outcomes in a dynamic and rapidly evolving market:

    a. allows continued innovation that benefits consumers;

    b. promotes market competition that delivers competitive prices, ensuring energy affordability and greater consumer choice;

    c. removes barriers to, and provides the right incentives for, the accelerated rollout of smart meters;

    d. promotes transparency of information that supports a competitive market and the delivery of consumer benefits in a timely manner; and

    e. ensures appropriate consumer protections.

Question 3: EXPECTATIONS OF METER ROLLOUT

Although the numbers are steadily increasing, whether the rate of the rollout meets expectations and current requirements is a key question for this Review.

1. How does the rollout of smart meters to date compare with your expectations?
2. Is the current pace of smart meter deployment appropriate? What should be the appropriate pace of rollout?
3. What benefits are smart meters providing consumers? Have the benefits changed or improved over time?
4. Have the prices of smart meters plus the costs of associated products and services changed from the introduction of *Competition in metering*? If so, how?

Expectations on the rollout of smart meters

19. Vector notes that since the Commission's *Competition in metering* rule commenced in December 2017, metering service providers have surpassed the minimum service specification set out in the rules where there are no jurisdictional regulatory barriers to the delivery of these services and where demand for these services exists. For example, Vector Metering has developed bespoke services for retailers and scheduled load control services for DNSPs that required those services.

20. We agree with the Commission that the Power of Choice reforms were expected to lead to an extensive smart meter uptake and provide consumers with better information, cost

reflective pricing, new products and services, better retail services, and better network services.[3] We also agree with the sentiment of many stakeholders, as indicated in the consultation paper, that their expectations on the pace of smart metering rollout were not met.[4]

21. The expectations of our smart metering business, Vector Metering, on meter installation volumes were higher than the volume we are currently installing. Lower than anticipated volumes are adversely impacting the economics of delivering smart metering services especially in regional and rural areas. We had anticipated that by 2021, we would have deployed approximately 60% more meters than we have deployed to date.

22. Vector Metering had anticipated that, by now, the competitive market would be installing a minimum of 500,000 meters per annum across the competitive metering regions in the NEM, including New South Wales, South Australia, and Southeast Queensland.

23. As the consultation paper illustrates, competitive Metering Coordinators are currently installing closer to 300,000 smart meters per annum across the NEM. This volume is largely driven by metering requested by customers. We believe the main area where there is a sizeable shortfall is in the category of "family failures" (where DNSPs determine that these meters have failed accuracy testing requirements). Pre-Power of Choice network pricing determinations indicated that an asset life of 20-30 years for legacy meters would logically result in a 3% to 5% replacement programme each year, on average. This volume has yet to be realised.

Pace of metering rollout

24. It is evident that the current drivers for the rollout of smart meters are insufficient to ensure it is completed in a timeframe that will meet the policy objectives of the Power of Choice and other reforms in the NEM. If the current velocity continues, replacement of the remaining 5.8 million legacy meters will not be completed until at least 2040.

25. A slower smart metering rollout is undesirable because it:

    a. delays the benefits to end consumers from new services and products expected to be developed by retailers, DNSPs, and other customer facing parties;

    b. delays the uptake of new metering services available from metering service providers that can unlock customer benefits for recipients of these services;

    c. adversely impacts the investment decisions of Metering Providers, retailers and DNSPs in providing and taking on new metering services;

    d. delays cost reductions and efficiency gains for DNSPs in managing their low-voltage (LV) networks more efficiently;

    e. removes smart metering service providers' flexibility to smooth out resourcing needs and results in higher per transaction costs in delivering installation services;

    f. delays the identification of safety issues that exist at meter installations that would otherwise go undetected;

    g. delays the realisation of key policy objectives, including policies being pursued by the Federal Government, the ESB, energy regulators, and state governments and energy agencies. For example, the slow rollout will delay the benefits from the transition to

[3] Page 2 of the consultation paper
[4] Page 20 of the consultation paper

Five-Minute Settlement, with a large fleet of legacy meters still needing to be manually read; and

h. limits consumers' understanding of their energy consumption and use, including how they can reduce their carbon footprint, for example, by investing in renewable distributed energy resources (DER).

26. To overcome the above adverse impacts, we suggest that the Commission determine appropriate market penetration benchmarks for smart meters and set goals for the industry, with the appropriate incentives. For example, the Commission, in consultation with stakeholders, could determine a smart metering penetration target of 60% of small consumers in five years (2026) and 90% by 2030.

27. Figure 5.1 in the consultation paper indicates that there are almost 2.5 million meters in operation that are 25 years or older. Requiring these meters to be replaced, when added to those already exchanged, represents approximately 60% of small customer metering installations. Providing the industry with clear targets for replacement provides businesses with certainty, allowing them to make more informed investment decisions.

Benefits of smart meters to consumers

28. Smart metering is required to enable consumers to make informed choices about how and when they use electricity, take actions such as implementing energy efficiency strategies, changing consumption patterns, or generating their own electricity using renewable DER. This provides consumers, particularly small consumers, with the ability and incentives to engage more actively in electricity markets, take greater control of their electricity use and consumption, and make informed choices on who they share their data with. This also makes smart metering critical in ensuring industry and consumer resilience to the ongoing challenges of COVID-19, including ensuring energy affordability.

29. Smart metering enables DNSPs to more efficiently integrate renewable DER into their LV network without compromising system security and reliability. This enables consumers who invest in DER to actively participate in electricity markets and contribute to long-term emissions reduction.

30. As a provider of metering services, primarily to retailers, Vector Metering is 'a step removed' from small end consumers. For us, this obscures the benefits that consumers are currently receiving from smart meters. However, each smart meter deployed is providing the basic services of 30-minute interval metering data, both consumption and generation, and is collected and distributed to retailers and distributors daily. These basic services can be used to provide consumer benefits that include:

a. Time-of-Use and other innovative tariffs – consumers who can change their consumption patterns can take advantage of lower energy prices during off peak periods. This provides consumers with greater control over the cost of their electricity bills, promoting energy affordability.

b. More frequent billing – customers can avoid bill shocks by electing to receive bills every month or more often, rather than quarterly (as in the case of manually read legacy meters). This allows consumers to better manage their finances and household budget.

c. Fewer consumer complaints due to more accurate billing from timely data delivered by smart meters – this increases consumer confidence to engage in electricity markets where and when they can gain a benefit.

d. Demand response programmes – consumers can take advantage of, and be rewarded for participating in, retailer and network demand response programmes.

e. Remote connection and disconnection services – the benefits from these services include significant reductions in truck roll costs, and better customer service through reduced timeframes to reconnect customers for relocation and vacant site management. Regulatory barriers to the implementation of these services in New South Wales have recently been removed, and these services will commence in the state in 2021.

f. Safety improvements – during the rollout of smart meters, infrastructure issues that would otherwise remain undetected are brought to the customer's and/or DNSP's attention.

g. Benefits from the Consumer Data Right (CDR) – timely data delivered by smart meters is required for the introduction of the CDR in the energy sector to deliver tangible consumer benefits. The CDR will make it easier for consumers to securely share their data with service providers and third parties that they trust, so that new and innovative services that benefit them can be developed. Timely data about their consumption also allows consumers to make more informed investment decisions on renewable generation, e.g. solar PV + battery, potentially contributing to emissions reduction.

31. Vector Metering has also developed bespoke services for retailers to meet their specific requirements. These include rich data flows providing: 1) near-real time meter installation scheduling and progress reporting via retailer portals and advanced off-market B2B interfaces, and 2) rapid metering data provision to support retailer products. Demand from retailers for these services is slowly increasing.

32. Even though the deployment of smart meters has now been under way for over three years, we have seen limited interest from DNSPs in accessing additional smart metering data. In our view, this is delaying the delivery of important consumer benefits that can be realised through network efficiency gains and delivered to the customer via lower network tariffs over time. The use of smart metering data and services enables DNSPs to better manage their networks, i.e. allowing them to optimise the use of their networks and provide better customer service and faster emergency response. Richer and more timely datasets can allow DNSPs to improve their planning and delivery of new network investment, expansion or upgrades, resulting in more prudent and efficient investment.

Prices of smart meters

33. Over the last three years, prices for smart metering services have come under intense competitive pressure, but costs to deliver these services have increased. This can be partly, if not largely, attributed to: 1) changes in regulations since the commencement of competitive metering, 2) differences in jurisdictional regulations, and 3) the poor state of infrastructure found at metering installations that is driving higher-than-anticipated remedial work and revisit rates.

a. Changes to regulations, including more prescriptive metering installation timeframes, Five-Minute and Global Settlements for the wholesale market, Metering Coordinator planned interruptions, and South Australia's *Smarter Homes Programme*, have contributed to the increase in Metering Providers' costs. Some of the increased costs have been passed on to retailers; however, most have not. Upcoming regulatory changes, including the Wholesale Demand Response Mechanism, customer switching, and the Market Settlement and Transfer Solutions (MSATS) standing data review are expected to continue to drive smart metering costs upwards.

b. Different or inconsistent regulations across jurisdictions are also driving cost increases in smart metering.

c. There is now a requirement in South Australia for the deployment of 2 element meters that meet new minimum technical requirements. These meters are more expensive than smart meter configurations deployed in other jurisdictions.

d. The New South Wales Department of Fair Trading has defined specific requirements for remote energisation/re-energisation that are not required in other jurisdictions (Victoria or South Australia). Cost to serve for these services in New South Wales is higher than in other states. These jurisdictional requirements could create barriers to the development of new products and services and undermine ongoing and impending reforms in the NEM.

e. There are restrictions in New South Wales on the operation of isolation devices by metering technicians that are permitted in other jurisdictions. In New South Wales, only Accredited Service Providers can perform these tasks, leading to higher costs of installing smart meters in the state.

f. The rate of unsuccessful meter installation is higher than forecasted. Since the commencement of the Power of Choice reforms in 2017, metering businesses are experiencing higher-than-expected rates of unsuccessful meter installation attempts. This has largely been driven by factors that are outside the control of the Metering Provider and reflects the poor state of infrastructure at premises in New South Wales and South Australia. Customer side defects, which are the customer's responsibility and need to be resolved before a meter installation can proceed, make up a large portion of these failures. Defects include the presence of friable asbestos (which cannot be worked around and must be removed), meter panels and meter enclosures that are dangerous or in a state of disrepair, panels that represent a fire risk, the lack of an operable fuse, or lack of space on the meter panel to allow for the installation of a smart meter. These issues result in meter installations being 'abandoned', requiring a second visit after the customer has resolved the issue, driving up the cost of deploying smart meters.

Question 4: ARE INCENTIVES IN THE RIGHT PLACE?

As well as understanding more about stakeholder expectations around the rollout of smart meters, and whether those expectations have been met, the Commission is additionally interested in stakeholder views on whether incentives are in the right place.

1. Are the incentives to smart meter rollout correct? Please provide details on why/why not.
2. Is the current market structure financially viable? If not, for whom is it not financially viable?

34. We generally do not consider that the right incentives are in place to support the rollout of smart meters at a rate that will support the objectives of the Power of Choice and other reforms in the NEM. This is evidenced by:

    a. low rates of retailer-led deployments;

    b. low take up of services that support DNSPs' operations;

    c. slow rollout velocity; and

    d. deployment of new infrastructure by some DNSPs to sit alongside smart meters to perform a similar task as the smart meter.

Retailer-led deployments

35. To date, we have seen almost no retailer-led deployment of smart meters (*new meter deployment* as defined in the NERR). Because retailers alone carry the costs of smart

meters, we believe they are unable to develop a positive business case to support further or increased deployment. We urge the Commission to recognise this, and provide incentives to other parties who can unlock or further unlock the benefits of smart meter services, e.g. DNSPs and third-party data access seekers that can take up these services and contribute to the cost, improving the business case for retailers to deploy (also see our response to Question 8).

Low take up of services

36. To date, we have only seen demand for what could be considered the most basic of services from smart meters, namely 30-minute interval reading, daily collection, and some scheduled load control service (requested by some DNSPs as a means of replacing aging time switches and relays). Clearly, DNSPs that could be taking advantage of this basic data have chosen not to do so. The lack of incentives for DNSPs to request or avail themselves of smart metering data services is delaying the delivery of customer benefits that DNSPs can unlock. This is placing the financial burden of metering deployment solely on retailers, further eroding the retailer business case and negatively impacting the rate of smart meter rollout. We support the introduction of incentives for DNSPs to take advantage of services that are available from smart meters. See *Cost recovery and split benefits* below and further discussion under Question 12.

Slow rollout velocity

37. Apart from customer-initiated metering work and retailer-led deployments, meter family failures are the other key driver in the replacement of legacy meters. DNSPs run sample testing programmes and release families of meters that have failed these tests to retailers for replacement. To date, the volume of meters released from testing programmes has been low. DNSPs may not have the required incentives or controls to continue investing in their testing and maintenance programmes, resulting in lower volumes being declared as part of a failed family of meters. Replacement programmes undertaken by DNSPs in the past, which resulted in higher replacement volumes, may have considered factors other than accuracy failures, e.g. likely component failure based on asset age and desire to ensure an overall efficient replacement programme by adding older assets that were still considered to be reporting accurately (i.e. adding scale or using new/available technology to help with network management).

38. Relying on malfunctioning meters (ad hoc and family failures) to drive the replacement of the ageing legacy metering fleet with smart meters will clearly not deliver volumes at reasonable levels.

Deployment of new infrastructure by DNSPs

39. We have seen DNSPs pursuing and receiving funding to deploy their own infrastructure or systems to perform tasks that can be provided by a smart meter. For example, the Ergon Energy Network and Energex LV Network Devices Pilot Project deploys remotely connected devices to capture power quality data. The device is essentially a smart meter. We believe that placing a smart meter where such devices are installed will have similar costs to a bespoke network device but provides larger benefits to the customer. Having multiple devices capable of doing the same task cannot be more efficient.

Cost recovery and split benefits

40. A key issue related to smart metering is one of cost recovery and split benefits. Currently, the only party that pays for the provision of smart metering services is the retailer. This naturally creates an environment where only the retailer's requirements are driving the

development of metering services, and in general, these requirements are being met by metering service providers.

41. We note that the current Default Market Offer (DMO), which retailers are required to apply to standing offer customers in non-price regulated jurisdictions, does not reflect the higher metering costs incurred by retailers for smart meters. The DMO is intended to protect disengaged energy customers while enabling retailers to recover their costs and maintain competition. We make suggestions relating to the DMO in our response to Question 12.

42. We are seeing low demand for smart metering services that primarily benefit DNSPs. DNSPs are currently receiving data from smart meters at no cost to support market settlement, as provided for by the rules. DNSPs do not need to request this data or establish commercial arrangements with metering service providers to access it. Services such as the provision of power quality data are less valuable to retailers and end consumers but are highly valuable to DNSPs that can use this data to better manage their network. Yet DNSPs appear to be reticent in requesting these services (so far). In our view, this indicates a lack of incentives DNSPs can respond to.

43. To encourage DNSPs to take up new metering services, we support the introduction of a framework where DNSPs contribute an amount that recognises the potential benefits a DNSP can realise from smart metering data and services.

Question 5: DRIVERS OF SMART METER ROLLOUTS

1. What were your expectations regarding the drivers of smart meter rollouts?
2. Have there been any changes in the overall reasons for installing smart meters since the *Competition in metering* rule commenced?
3. Which parties should be responsible for driving the rollout of smart meters?
4. Do consumers have clear information on the benefits of smart meters and their rights relating to requesting a smart meter?

44. Vector generally agrees with the current drivers of smart meter rollouts identified by the Commission, which are predominantly customer-initiated connections (meter upgrades and new connections). We share the view expressed by some stakeholders that the number of smart meters rolled out due to aged meters and family failures is smaller than they anticipated.[5] As indicated in our response to Question 4, Vector Metering has seen almost no retailer-led *new meter deployments.*

45. We support the continuation of the competitive market approach to deliver the benefits of smart meters, which has been demonstrated to be more cost-effective compared to a mandated DNSP-led rollout. We estimate that the competitive metering industry is deploying meters at approximately 60% of the cost of the mandated DNSP-led rollout in Victoria, i.e. despite it not being a network-wide mandated rollout.

46. However, while the policy intent of the Power of Choice reforms was to let the market determine the rate at which smart meters are deployed, it is clear that continuing to let individual customers alone drive the deployment will put broader policy objectives at risk. We agree with the Commission that “smart meters are key to enabling emerging technologies and future services and innovation” and that many of the objectives of the ESB’s Post 2025 Market Design and other reforms in the NEM are dependent on smart meters being widely deployed.

[5] Page 23 of the consultation paper

47. We support the Commission introducing further incentives into the market to drive an increased rate of smart meter rollout. We make suggestions on how this can be achieved in our response to Question 12.

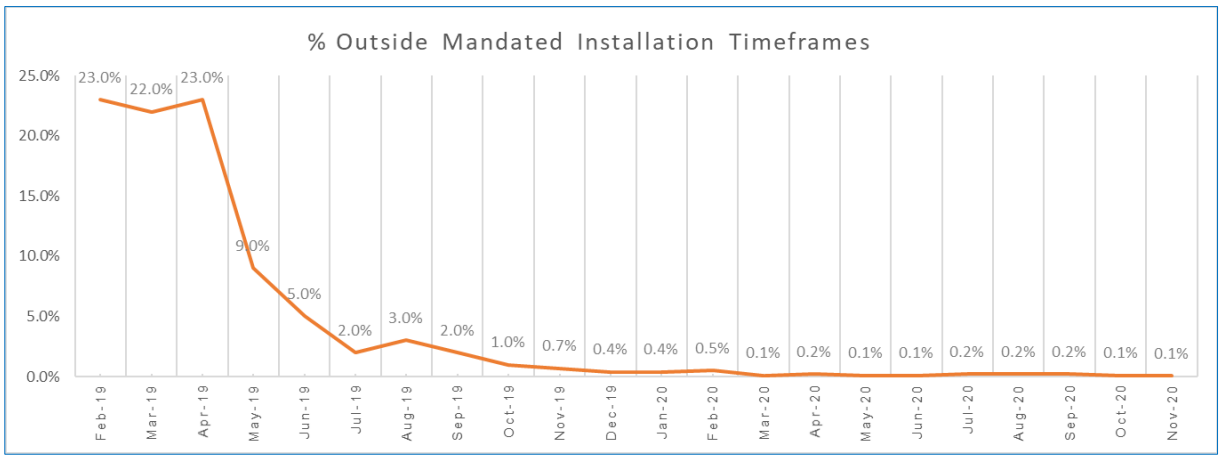
Question 6: CONSUMER EXPERIENCE

1. What are your views on the customer experience in relation to smart meter rollout and installation?

48. Vector welcomes the declining trend in the overall number of metering-related complaints, as indicated by the Ombudsman of each jurisdiction to the Commission and the Australian Energy Regulator (AER) since the introduction of rule changes relating to consumers' metering experience.[6]

Installation delays

49. It is true that when mandated metering installation timeframes commenced in early 2019, it took a few months for both retailers and Metering Providers to bed in their process and system changes. However, we are of the view that this issue is now largely resolved. Our internal monitoring of installation timeframes shows a marked improvement since 2019, as illustrated by the graph below.

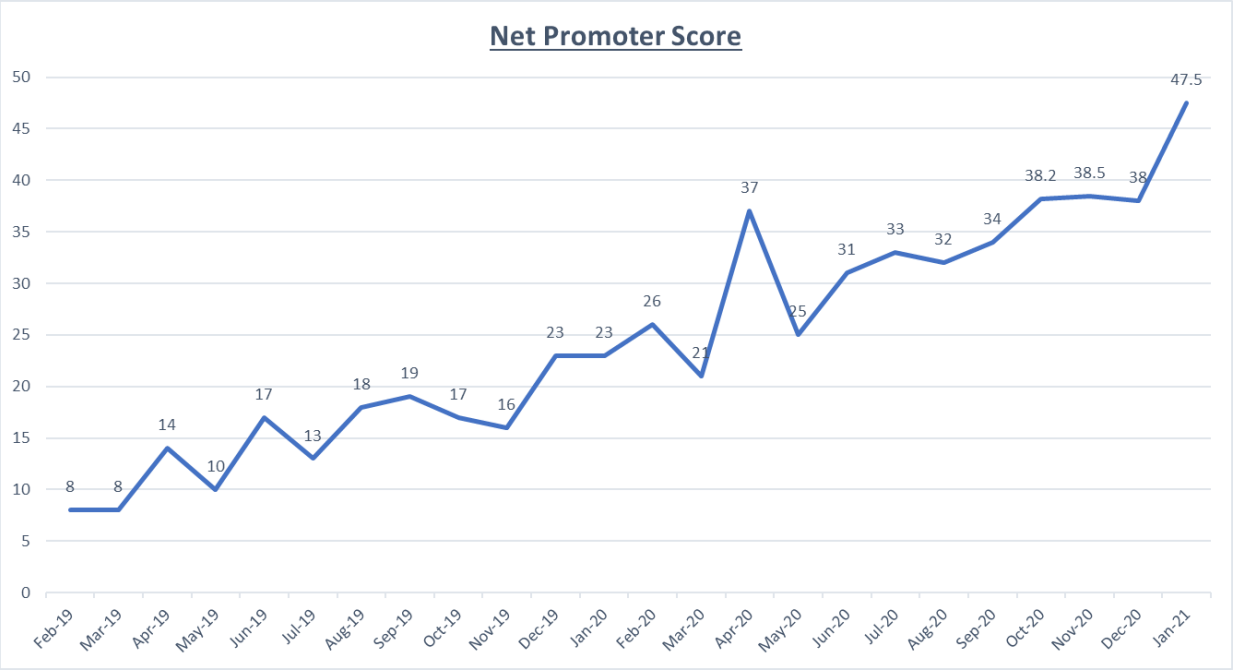


End consumer experience

50. Some retailers (who are our customers) undertake regular surveys on the metering experience of their end customers who have smart meters installed by Vector Metering. The graph below shows the results from one of our major customer's net promoter surveys, showing continuing improvement of customer experience since the commencement of competitive metering. This trend fairly represents the trends from all our other retailers. The survey responses are reviewed and used to identify areas for improvement to both the retailer's and Vector Metering's processes and procedures. The results have led to Vector Metering communicating better: 1) with the end customer through our updates in the 'leave-behind' material after we have completed an installation, and 2) with solar installers on lead times and paperwork requirements. These initiatives are influencing customer expectations and minimising dissatisfaction and poor experience.

[6] Page 27 of the consultation paper

51. Overall, we believe these survey results demonstrate that end customer experience from the installation of smart meters by Vector Metering is meeting expectations.



Note: Net promoter score above zero is considered good and above 50 is considered excellent.

Question 7: INDUSTRY COOPERATION

1. Do you have any suggestions on how industry cooperation can be improved?
2. Are changes to the market structure or roles and responsibilities needed to improve the consumer experience?

52. Our overall experience with cooperation between industry participants varies from participant to participant, i.e. some relationships are more constructive than others.

Transparency

53. As indicated in our responses to Questions 3 and 4, the smart meter rollout is not progressing at a rate expected at the commencement of the Power of Choice reforms. One of the areas where volumes are much lower than expected is where there are family failures in the legacy metering fleet. This is where DNSPs release to retailers (types 5 and 6) legacy meters that have failed an accuracy testing programme. Retailers are required to assign a contestable Metering Coordinator to replace 'failed meters' within a mandated timeframe. However, volumes that have been released by DNSPs are lower than that anticipated by competitive metering businesses at the start of the reforms. Assumptions were made by Metering Coordinators based on publicly available information from DNSP pricing submissions at that time, which was generally high-level at best and did not expose any details about testing programmes. These assumptions have since been proven to be inaccurate.

54. At present, Metering Coordinators do not have visibility of DNSPs' testing programmes. Having this visibility would allow metering service providers to plan for changes in demand and allocate resources appropriately. Because the replacement of 'failed' meters is subject to more flexible timeframe obligations than 'customer initiated' meter installations, Metering Coordinators use family failures to level demand and schedule metering work efficiently. This

is especially important for rural and regional areas where the volumes of 'customer initiated' metering work are low and spasmodic.

55. It is our view that DNSPs should have an obligation to publish their meter testing programmes and update this information at least annually so that Metering Providers can take it into account in their forecasting and planning.

Access to keys

56. A reasonable number of metering installations are secured in locked cabinets or in a room requiring a key to access. While access to building construction sites are commonly not an issue, access to metering assets in the building may only be possible using an industry key once the building is completed. Should Metering Providers have to re-attend the site to address issues such as non-communicating meters (not uncommon for new installations), we would be unable to access the metering installation. DNSPs have keys to these locks as part of their connection agreements in some jurisdictions.

57. To date, the metering industry has only been successful in gaining access to keys for installations in Queensland. DNSPs in other jurisdictions hold the view that Metering Providers should get the key from the customer, which causes delays in scheduling work and may require the customer to be in attendance which would otherwise be unnecessary. In many cases, the customer does not have a key and is often frustrated at the industry when they know that the DNSP has a key but will not provide it.

58. The metering industry has considered introducing its own secure key system. However, this comes at a considerable cost to the customer (approximately $90 per key) and explaining the need to replace a key with another to customers is problematic. DNSPs should be required to supply keys to Metering Providers.

Coordinated site attendance

59. There are instances where Metering Providers and DNSPs are required to be on site at the same time. Appointments are determined ahead of time and work is scheduled to meet those appointments. Situations arise after the job is scheduled where one party cannot show up at the agreed time (on the day of the appointment). However, DNSPs will only contact the retailer who requested the work. This leads to delays in advising the Metering Provider who may already be on route or already at the site. Having the retailer in the middle of this communication loop is cumbersome and unnecessary and is driving the cost of metering up. Parties attending an appointment should be obliged to contact each other directly if they are unable to meet the agreed schedule.

Return of legacy metering assets

60. Under the current metrology procedures, Metering Providers are required to return removed meters within 10 business days unless previously agreed with the DNSP. This arrangement is causing a number of issues.

61. Some DNSPs have instructed Metering Providers not to return legacy meters and dispose of these assets at their own cost. More recently, DNSPs have advised Metering Providers that some of their legacy meters contain hazardous material (asbestos) and must be disposed in accordance with the relevant regulations. The cost of disposal under hazardous material regulations is materially higher than the cost of standard disposal. This is placing an unexpected and unreasonable financial burden on Metering Providers and retailers. We propose a solution to this issue in our response to Question 12.

62. Electronic interval (type 5) meters must be returned to the DNSP so that a final read can be taken, and the customer can be billed on 'actual' data. The return of these meters has become a source of continued frustration for Metering Providers. DNSPs will only accept the return of meters in a small number of locations. Metering Providers are expected to transport these assets, sometimes over large distances and at considerable cost, to specific DNSP depots. At these depots, however, DNSPs do not have a process for acknowledging receipt of these devices, which has resulted in DNSPs disputing the return of some meters. This usually occurs when the final bill is produced using estimated reads and there is a complaint about the final amount from the retailer or customer.

63. We note that the rules currently allow the Metering Coordinator to recover reasonable costs related to the removal of *Network Devices*. We recommend that the relevant clauses be extended to apply to the removal and disposal of legacy metering assets.

Question 8: EXPECTATIONS OF METERING SERVICES

1. What expectations did you have around the services that smart meters would provide? Were your expectations met?
2. What services are being provided by smart meters currently? Are these services widely available?
3. What services did you expect from smart meters which have not eventuated?
4. Are there any services being provided by smart meters which were not anticipated at the time of the *Competition in metering* rule change?

Expectations around the services that smart meters would provide

64. As a Metering Provider, we had expected that the following core services would have been quickly demanded by the market.

    a. interval reading at trading intervals – currently at 30-minute intervals and will soon become 5-minute intervals;

    b. daily collection – data read after midnight and delivered to participants by 6:00am;

    c. remote re-energisation/de-energisation – remote services to support customer churn, revenue protection, and billing products;

    d. power quality data feeds – delivered to DNSPs to support outbound customer issue notification (safety), asset load and performance analysis, load scheduling, design standards, maintenance standards, feeder ratings, rebuild and replacement planning;

    e. control services – for scheduled and direct load control to replace network switching devices, and curtailment services to support emergency response and ongoing network management; and

    f. fast data (intraday) and meter enquiry service to support supply restoration, demand side management, and end-customer related services (usage portals etc).

65. To date, we have only seen demand for what could be considered the 'basic' services of interval reading, daily collection, and some scheduled load control service (requested by some DNSPs).

66. Regulatory barriers to offering remote re-energisation/de-energisation services have recently been lifted in New South Wales, where these services are expected to commence from

Q1 2021 (also in South Australia). These services are still prohibited by regulation in Queensland.

67. In our view, incentives for retailers to develop feasible business cases to deploy smart meters, which would improve the delivery of consumer benefits, are warranted. Retailers are subject to increasing mandated regulatory requirements (metering related or not), which means they have little remaining financial or business change capacity to build new services unless there is a compelling business case. As discussed under Question 4, retailers currently bear the entire costs of smart metering. To improve the viability of retailers' business case for deployment, it is important that the split benefits issue is addressed. We suggest the development of a framework that allows DNSPs to contribute to the costs of smart meters under Question 12.

Expected smart metering services which have not eventuated

68. Expected smart metering services that have not eventuated primarily support benefits that can be realised by DNSPs, which are well known. Although we are seeing little demand from DNSPs for metering services that can deliver these unrealised benefits, we are optimistic that this Review will ensure that the right incentives are established for demand for these services to eventuate. Smart metering services that can benefit DNSPs include:

    a. stream of power quality data that provides useful information about the distribution network's performance to allow for better management and network fault finding;

    b. enquiry service to allow for outage detection and faster confirmation of power restoration;

    c. near real-time data for performance monitoring, including alerts about potential safety issues such as potentially faulty neutrals; and

    d. dynamic control of load on dedicated circuits such as hot water systems, slab heating, pool pumps, etc to allow for better network management during security of system events.

69. We believe that the take up of these types of services are limited by the following factors:

    a. delayed investment by DNSPs in their own systems and processes to take advantage of these additional/new metering services;

    b. DNSPs' lack of control/visibility on where meters are deployed on their network. Deployment is currently driven by customer-initiated requests, meter malfunctions, or meter accuracy test failures. If DNSPs were allowed to determine that a legacy meter can be replaced by a smart meter for reasons other than a malfunction (ad hoc or family failure), smart meters can be deployed strategically to monitor network performance or constraints, and benefits from more efficient network management can begin to be realised; and

    c. DNSPs' cost recovery mechanism that may favour the deployment of their own equipment over taking a service from a service provider. DNSPs' revenue potential is largely based on their capital expenditure programmes which naturally results in a focus on deploying and owning their own devices over utilising services from a device managed by another party.

70. In addition to the services needed to support DNSPs, Vector Metering notes that retailers in New Zealand have developed services to customers utilising the functions of the smart meter that have yet to be introduced in Australia. A product that is popular in New Zealand is a 'pay-as-you-go' service for the budget conscious. This is built on the remote reconnection and

disconnection service available in the meter. In Australia, outside of Tasmania, these capabilities are perceived in a negative light and appear to be subject to regulatory barriers, limiting retailers' ability to provide these services, regardless of the demand from customers who want these useful budgeting tools. We suggest that the Commission review the barriers to these innovative services being offered in the NEM so retailers can elect to develop similar services.

Unanticipated services

71. Vector Metering has developed bespoke services that retailers can take advantage of. These include: 1) rich data flows regarding meter installation scheduling and progress via retailer portals and advanced off-market B2B interfaces, and 2) rapid metering data provision. Vector Metering is also providing enhanced services to retailers such as issuing *retailer planned interruption* notices to customers on retailers' behalf as well as call centre services to schedule installation dates and arrange appointments. While not strictly unanticipated, these services are typically performed by retailers, but the management of these services are slowly being migrated to Metering Providers.

72. Services related to DER integration to the grid are rapidly emerging. Recently, Vector Metering participated in a trial conducted by the Australian Energy Market Operator (AEMO) to gain insights into utilising metering as a backstop mechanism to curtail solar generation during times of system instability. While this was only a trial, the issues tackled are unfolding and growing in significance. Should functionality to quickly control local generation in bulk and at speed be required by the industry, then work is required for Metering Coordinators to provide services that enable this functionality. Regulatory changes and an appropriate cost recovery mechanism are likely to be required to support these services, which were not anticipated by Vector Metering at the start of the Power of Choice reforms.

Question 9: COLLECTION AND USE OF METERING DATA

1. In relation to metering data, what data should be captured by smart meters and why?
2. In relation to metering data, who should be able to access metering data, and how? What protections should be in place?
3. What impact do you think the Consumer Data Right may have on the access to, and use of, metering data?

73. Vector agrees with and can confirm that much more data can be collected via smart meters than what is currently delivered to market participants. As discussed under Question 4, only the most 'basic' data services have been requested by industry participants. Under the rules, Metering Data Providers are required to provide interval (consumption and generation) data used for retail billing and market settlement to both retailers and DNSPs. DNSPs do not need to request this data and currently receive it automatically at no cost (all costs related to meter data provision are borne by retailers).

74. Vector agrees that other datasets available from smart meters are valuable to DNSPs for the purpose of managing their networks more efficiently. Power quality information can be provided to DNSPs but, to date, we have not seen any demand from DNSPs for such a service. It is important to note that, while smart meters can easily be configured to collect this data, and Vector Metering agrees that we can do this cost effectively, there is no market infrastructure in place to support the delivery of this data from Metering Providers to a recipient.

75. DNSPs and Metering Providers will need an agreed set of standards for the efficient provision of data that is valuable to DNSPs. Work would be required for these parties to agree on the

dataset to be provided, e.g. instantaneous voltage, current, power factor etc, and the mechanism to distribute it, e.g. formal B2B market transaction or some other mechanism. Once this is determined, Metering Coordinator businesses would need to establish the necessary systems and processes to collect, package and deliver this data, and work to digest and utilise this data as required by DNSPs. While this work is required to 'liven' the service, there are no practical constraints to providing this service on the part of Metering Coordinators.

76. However, as stated above, Vector Metering has not received any request from DNSPs to access this data. Without demand for this information from a participant, Vector Metering cannot build a business case to invest in the systems and processes required to support this service.

77. In relation to the recovery of costs for the delivery of the above data via new services, the primary beneficiaries should pay for these services, in principle. We also discuss this under Question 4.

Access to smart meter data

78. Parties who can access *metering data* are clearly defined in the rules, though it is less clear what the definition of *metering data* includes. Current definitions in *Chapter 10 Glossary* of the NER (reproduced below) appear to be limited to consumption/generation data associated with a *trading interval*. This seems to exclude power quality data and other information such as event and alert logs.

> ***interval energy data***
>
> The data that results from the measurement of the flow of electricity in a power conductor where the data is prepared and recorded by the *metering installation* in intervals which correspond to a *trading interval* or are submultiples of a *trading interval*. *Interval energy data* is held in the *metering installation*.
>
> ***interval metering data***
>
> The *interval energy data*, once collected from a *metering installation*, is *interval metering data*. *Interval metering data* is held in a *metering data services database* and the *metering database*.

79. In principle, we support customers, customer representatives, and market participants having access to the above data. However, it must be recognised that, in its raw state, most of this data is in a form that is meter vendor proprietary, and technical expertise is required to interpret it. We therefore question whether it is practical to provide this data to the end customer. We also note that access to this data by authorised parties is available under the current rules and, in over three years of operation, we have never been approached to provide this data. It is our view that the existing rules on data access are sufficient for this purpose.

Impact the Consumer Data Right may have on access to, and use of, metering data

80. The proposed CDR for the energy sector requires AEMO to be the data provider for metering data which we, as a Metering Data Provider, provide to AEMO. The initial energy dataset specified by the CDR only requires 'settlement' data to be made available. If the current dataset is extended to include more than settlement data, e.g. power quality and meter events, then new protocols for this data will need to be developed as AEMO does not currently receive this data. Some level of standardisation would be required if AEMO will be designated as a repository as the structure of this data is proprietary.

81. For the customer to make informed energy decisions, any solution should be capable of including off-market data measured by smart meters, such as DER consumption and generation.

Question 10: FUTURE METERING SERVICES

1. What is your understanding of other services that smart meters can provide?
2. What future services do you expect or want metering to facilitate?
3. If additional services are to be provided by smart meters, how should the costs of providing these services be allocated?

82. Numerous studies have identified the benefits of smart meters.[7] During the Victorian Smart metering review in 2010, independent consultants identified over 70 benefits that smart meters can potentially deliver. These benefits are shared across multiple stakeholders, and most are enabled by a few key metering services. Beyond the basic services that are already available in the market (daily collection of interval data and scheduled load control switching), the remaining services yet to be requested by market participants include:

    a. power quality data feeds to support outbound customer issue notification (safety), asset load and performance analysis, load scheduling, design standards, maintenance standards, feeder ratings, rebuild and replacement planning;

    b. control services such as direct load control and curtailment service to support emergency response and ongoing network management; and

    c. fast data and meter enquiry service to support supply restoration, demand side management, and end-customer related services.

83. As discussed under Question 4, it must be recognised that the issue of cost recovery and split benefits must be resolved to further unlock and optimise the value of smart meters. Having only one party pay for the cost of metering services, as currently being experienced, results in these services being under provided relative to their total potential value.

84. The relationship between consumer benefits and metering services is a many-to-one relationship, meaning one metering service will enable multiple consumer benefits. We believe that if the lack of incentives on the part of DNSPs to access the remaining key metering services (power quality data, fast data and meter enquiry, and advanced control services) can be addressed, currently unrealised benefits will begin to flow on to consumers.

Question 11: PENETRATION OF SMART METERS REQUIRED

1. Are particular metering services only cost effective when a particular penetration is achieved? If so, what services and what penetration is required?
2. What other factors are important in determining whether the provision of particular services is efficient or effective (e.g. geographic spread)?

[7] In 2019, the Department of Environment, Land, Water and Planning in Victoria engaged KPMG to undertake extensive stakeholder engagement and consider the experience of other NEM jurisdictions in a review of AMI contestability. The consultation confirmed that the benefits from AMI have been substantial for distribution businesses, retailers and consumers. Benefits include: improved network safety, network operation efficiency, improved forecasting, reduced meter reading costs, faster connections, faster detection of outages and faults, and data availability for use in Victorian Energy Compare. See https://www.energy.vic.gov.au/electricity/smart-meters.

85. As discussed under Question 8, the industry has so far delivered what we consider to be the most basic of smart metering services. These include daily remote collection of interval meter data delivered to retailers and DNSPs for billing and settlement purposes, as well as scheduled control services (load control) for some DNSPs. Remote re-energisation/de-energisation services are about to commence in New South Wales and South Australia. These services are exclusively paid for by the retailer, apart from the scheduled control service. As competitive service providers, the charges faced by retailers are under constant competitive pressure and all service providers are providing these services at the lowest cost possible. These costs are subject to scale and the per unit cost to serve in a market that has 1 million deployed smart meters will be higher than the per unit costs in a market that has 4 or 5 times the number of deployed meters. We expect that, over time, as the number of smart meters in the market increases, these basic services will become more cost-effective for retailers to provide.

86. Potential smart metering services that are yet to be introduced to the market include: providing power quality data to networks, meter enquiry services to support supply outage and restoration, and advanced switching capability. When determining cost effectiveness, it is important to recognise that multiple benefits are enabled by a single meter service, and that the magnitude of each benefit will be driven by the number of deployed meters. For example, for DNSPs to gain insight into the performance of a particular part or piece of infrastructure on their network, they require power quality data from only a small number of smart meters. Capturing power quality data from all meters to gain that particular benefit is subject to diminishing value.

87. Equally, for a DNSP to be able to validate supply restoration to a segment of its network, a meter enquiry service to a small set of strategically located smart meters will provide a high level of confidence that supply has been restored to all customers on that network. Conversely, detecting safety issues that relate to premises on a network (neutral integrity) can only be performed by a DNSP for sites where a smart meter is installed. In this case, the magnitude of the benefits will have a linear relationship to the number of deployed.

88. As indicated in the consultation paper, the level of penetration of smart meter rollout to small consumers is approaching 20% on most distribution networks. We believe that this level of penetration is sufficient for DNSPs to introduce services that optimise the customer benefits of smart meters on their network.

89. One of the key triggers for DNSP investment in new metering services is predictability and confidence on the pace of smart meter rollout. Having this certainty over the short and medium term will allow regulated DNSPs to make prudent investment decisions. DNSPs will be able to plan and can apply for funding in their pricing submissions where investment in new metering services can trigger future smart metering deployments. Businesses will make investment decisions when they are confident of getting a return on their investment within an acceptable timeframe. If a forecast cannot be made with a degree of confidence, businesses will logically wait until thresholds have been met before they invest or re-invest. Likewise, businesses that can provide new services will not invest in areas where consumer demand is hard to anticipate or forecast.

90. Another network benefit from smart meters is in the area of supply restoration to multiple customers on the network. Having the ability to confirm restoration time via a smart meter enquiry service, even at a small number of sites, gives the DNSP a high level of confidence that all customers on the affected part of the network have successfully been reconnected. This helps increase consumer confidence in the electricity industry, which is expected to increase with the number of deployed meters.

91. The Commission has noted that the current smart meter deployment to small consumers is approaching a 20% penetration rate in most regions. At this rate, we believe that the

threshold for DNSPs to start implementing initiatives that deliver significant consumer benefits, enabled by smart metering services, has been reached. We support the development of appropriate incentives to encourage DNSP uptake of smart metering data so that the realisation of consumer benefits from smart meters will not be delayed.

Question 12: ENCOURAGING THE ADOPTION OF SMART METERS AND FUTURE SERVICES

1. Is the current regulatory framework appropriate for the current needs of metering and the market? Is if flexible enough to provide encouragement for the development of future services in metering?
2. To encourage higher adoption of smart meters:
   a. What changes, if any, need to be made to the current regulatory framework for future services?
   b. What changes, if any, need to be made to other instruments (e.g. regulatory instruments, guidelines, codes)?
3. Are there other avenues of encouragement that are available that the Commission has not considered in this paper?

92. Vector believes that the Power of Choice reforms in metering have largely delivered what was possible within the constraints of the current regulatory framework:

    a. efficient delivery of meter installation services;

    b. daily reading and delivery to market participants;

    c. remote reconfiguration of meters;

    d. basic control services where required by DNSPs;

    e. remote reconnection/disconnection (soon);

    f. competition between service providers to keep prices down;

    g. choice for retailers to select service providers; and

    h. choice for retailers to develop new products and request new services from service providers.

93. Contestable metering has helped deliver efficient pricing to consumers. However, the current pace of smart metering rollout will not meet policy objectives unless changes are made to make the rollout more attractive to retailers. With the implementation of these changes, we are confident of seeing a faster rollout, higher take up of metering services, and the unlocking of unrealised consumer benefits. This will result in lower prices for end consumers.

94. This section identifies the issues we believe the Commission should address in this Review.

More deployment to meet broader policy objectives

95. To encourage faster rollout of smart meters, we support the introduction of an age-based replacement programme. It is clear that reliance on *family failures* alone will not be sufficient to maintain the rollout at a level that would meet broader policy objectives. We suggest that the Commission, as part of this Review, request asset inventories from DNSPs to determine an appropriate age for legacy meters to be released to retailers for replacement with smart meters. Figure 5.1 in the consultation paper indicates that there are material numbers of

legacy meters older than 25 years. These legacy meters are likely candidates for replacement with smart meters.

96. We also recommend that DNSPs be allowed to declare 'end-of-life' legacy meters that require replacement. This would allow DNSPs to have some control over the geographic placement of smart meters on their network and incentivise digital data uptake by DNSPs to support better network management. However, we believe that this mechanism can only be effective within the context of the split benefits issue being addressed, as retailers would have no incentive to agree to fund deployments in accordance with the geographic preferences of a DNSP if the retailer does not see any benefit from it.

Creating certainty for industry

97. To create certainty for the industry and to allow for prudent investment decisions to be made by all parties, we suggest that the Commission determine appropriate smart meter penetration benchmarks. The aim should be to set goals for the industry, with the appropriate incentives, that support broader policy objectives. For example, the Commission, in consultation with stakeholders, could determine a goal of 60% penetration of small consumers in five years (2026) and 90% by 2030.

98. DNSPs should be required to disclose key information regarding their testing programmes, such as meter family criteria, population size, mean age, geographical spread (e.g. by postcode), and meters most recently tested. This will provide visibility of upcoming trials and help predict potential resourcing and financial commitments to service a replacement programme should families of meters fail testing.

Incentives for DNSPs

99. We believe the current penetration of smart meters has reached the threshold where DNSPs can commence providing services, enabled by new metering services, that can truly deliver significant benefits to consumers. To further incentivise DNSPs to take up new metering services, we support the introduction of a framework that: 1) recognises the potential value that DNSPs should be gaining from integrating smart meter data and new metering services into their network operations, and 2) requires DNSPs to contribute an amount to meet the cost of smart meters. This scheme should apply equally to all deployed smart meters.

100. The determination of an appropriate amount for the DNSP to contribute should focus on the benefits that are enabled by new metering services, the specifics of which would need industry agreement. Broadly speaking, these new metering services would be related to the provision of power quality data, advanced switching such as solar curtailment and load control, meter enquiry services for outage and restoration purposes, and 'fast' data delivery for strategic infrastructure monitoring purposes. The cost of these services could be routed through the retailer, removing the need for DNSPs to negotiate a service provision from each metering service provider, which DNSPs identified as a barrier to their uptake of new metering services.

101. We suggest that the Commission review the regulated cost recovery mechanism of DNSPs that may currently favour CAPEX investment over OPEX. This may be influencing DNSPs' reluctance to request new metering services from a Metering Provider over deploying their own network devices. Unfavourable treatment of OPEX will naturally result in DNSPs preferring to deploy their own network devices rather than utilise a smart meter. We understand that approaches to OPEX for other programmes, such as for renewable DER integration, recognise this issue. We support the Commission making a recommendation for the adoption of a similar approach for smart metering services. The Commission could consider recommending, for example, an uplift in DNSPs' OPEX for a 'network allowance'

that allows DNSPs to purchase new metering data services that help them further unlock significant network and consumer benefits.

Incentives for retailers

102. Some retailers currently struggle to build positive business cases for deploying smart meters due to the relatively large annual cost difference between a legacy meter and a smart meter. It is our view that this is driving retailers' reluctance to deploy smart meters in place of legacy meters. Our experience is that smart meters only get deployed where and when required by regulation. The key to overcoming this 'stasis' is to address the split benefits issue. If DNSPs are incentivised to take up metering services and the cost is shared between the beneficiaries, a positive business case for retailers can be made more easily, and retailers will face stronger incentives to proactively deploy smart meters.

103. This Review could also consider recommending adjustments to the DMO to reflect higher metering costs incurred by retailers for smart meters. This supports the DMO objective of not disincentivising competition, innovation and investment by retailers, and retaining incentives for consumers to engage in the market. We suggest changes to the DMO regulations that would allow the AER to make a separate annual price or model for customers with smart meters, including one-off fees for services provided upon request. We note that the *Competition in metering* rule mandates the installation of a smart meter for new connections, customer-initiated upgrades, and family failures regardless of whether a TOU tariff is applied. Not supporting cost recovery from TOU customers discourages the development of cost reflective TOU tariffs, a key aspect of demand management, and ultimately security of supply.

104. We further suggest a separate DMO price for solar customers, who are no longer a trivial proportion of electricity consumers, with market penetration rates exceeding 20% in some areas.

105. Recently the AER approved a 'Final Read' tariff chargeable by DNSPs for a type 5 meter. We consider this charge to be disproportionate to the annual cost a retailer pays for the same meter when it is in the field and read multiple times, e.g. $70 *v* $30. We believe this charge does not incentivise retailers to replace manually read interval meters and contributes to undermining retailers' business case to change meters and should be considered in this Review.

106. We consider that incentives for retailers should be provided as part of a package of measures that also includes incentives for DNSPs.

Incentives for customers

107. Some state government programmes promoting the uptake of renewable DER could consider supporting the resolution of side defects (which are the responsibility of customers) to facilitate the installation of smart meters, for example, through jurisdictional regulations.

Addressing operational barriers

108. While deployment of smart meters is proceeding in an orderly (albeit slow) fashion, there are a number of operational issues that result in a meter installation not being performed as scheduled due to customer side defects. These cases require a subsequent visit once the issue at the site is addressed. The rate of failure varies by jurisdiction but since the start of competitive metering up until 30 June 2020, this ranges from 21% in New South Wales to 6.9% in Queensland.

Unsuccessful meter installation	NSW	QLD	SA
Customer side defect total	**9.7%**	**3.6%**	**8.0%**
Asbestos[1]	1.9%	0.2%	1.3%
other defect	7.7%	3.4%	6.7%
Isolation issue total	**11.4%**	**3.2%**	**10.6%**
ASP required[2]	1.1%	0.0%	0.0%
No access to isolation/locked	1.1%	0.8%	2.1%
No operable fuse	3.9%	0.6%	1.5%
No room	1.7%	0.3%	0.7%
Shared fuse	3.6%	1.5%	6.3%
Total unsuccessful	**21.1%**	**6.9%**	**18.6%**

Figures are a percentage of attempted installations

1 - includes isolation fuses that contain friable asbestos.
2 - ASP required refers to when the metering technician is unable to isolate the site because rules require high level of qualification (ASP accredited) to operate isolation device.

Issues a customer must resolve

109. As the above table illustrates, Vector Metering visited a material number of sites to perform a meter exchange where customer side defects (those that require resolution by the customer) are encountered. These include the following categories: 'Asbestos', 'other defects', 'No operable fuse', and 'No Room'. To resolve these issues, the customer is required to either engage the appropriate expert to remove the asbestos, repair or enhance the existing metering panel, or replace the metering panel entirely. While these issues are routinely resolved by the customer when the works is 'customer initiated', it is more problematic when the reason for the meter installation is one of legacy meter malfunction or family failure. In such case, the customer is facing unexpected costs to resolve the side defect the customer was not aware of prior to the Metering Provider's visit and would be less motivated to resolve it.

110. In many cases, the customer either does not have the funds to do the repairs or disengages with the process entirely. This leads to many malfunctions or family failure replacements going unresolved and causes a potential compliance issue for Metering Coordinators as the site cannot be made compliant in a timely manner. The number of outstanding malfunctions and family failure meter replacements are growing and, if they remain unaddressed, have the potential over time to impact market settlement and Unaccounted for Energy (UFE) calculations. Since the commencement of competitive metering, Vector Metering has attended over 135,000 premises to perform meter malfunctions or family failures meter replacements, with high numbers of failures on the first attempt due to customer side defects. Many of these remain unresolved today.

Category	NSW	QLD	SA
Ad-hoc Fault Exchange	**40.0%**	**84.6%**	**61.1%**
Successful	59.1%	74.4%	59.9%
Unsuccessful	40.9%	25.6%	40.1%
Family Failure Fault Exchange	**60.0%**	**15.4%**	**38.9%**
Successful	46.4%	60.8%	39.9%
Unsuccessful	53.6%	39.2%	60.1%

111. We support the Commission conducting a review of existing arrangements to see if a government-supported fund can be established to assist eligible customers to make the necessary repairs to allow a smart meter to be installed, as required under the rules. We also support a review of the rule obligations on the Metering Coordinator, who has no relationship with the customer and therefore cannot enforce any outcome but is held accountable for the resolution of such issues. We support this obligation being placed with the retailer/DNSP who has a relationship with the customer and can therefore negotiate the resolution of side defects with the customer.

Onerous customer notification obligations

112. Retailer-led deployment of smart meters (*new meter deployments*) have not occurred as envisaged by the Power of Choice reforms. One barrier faced by retailers is the customer notification obligations (NERR Cl. 59A) that require two notices to a customer: 1) a notice in writing no earlier than 60 business days and no later than 25 business days, and 2) a second notice in writing no earlier than 10 business days after the first notice and no later than 15 business days before the retailer proposes to replace the customer's meter. These requirements are onerous for retailers, and they are very reluctant to trigger meter exchanges subject to these requirements. Operationally, retailers will not send through the request for work until after the customer has been engaged. Receipt of this request will trigger the work to be scheduled. The requirement to provide an exact exchange date in the initial notice is not practical. We support the effectiveness of these rules being reviewed by the Commission, including, at the very least, the removal of the requirement to provide the exact date of the meter exchange in the initial customer notification.

Access to keys

113. As the table above (paragraph 108) indicates, and as discussed under Question 7, keys to locked meter installations should be made available to Metering Providers. There is no sensible reason why this should not be the case.

Return of legacy metering assets

114. As discussed under Question 7, operational issues exist in relation to the return of legacy metering assets. We recommend that rules be put in place allowing Metering Providers to return metering assets to the closest available DNSP depot and requiring a formal receipting process in those depots, rather than requiring the transport of these assets to specified locations. We also recommend that Metering Coordinators be allowed to recover reasonable costs incurred for the return or disposal of legacy meters.

Question 13: BARRIERS TO REALISING THE BENEFITS OF SMART METERS

1. Are there other barriers that were not identified by the Commission that you have found to prevent the realisation of the benefits of smart meters and/or slowed the rollout of smart meters in the NEM?
2. What changes, if any, need to be made to the current regulatory framework for current arrangements to improve deployment?
3. Are there other tools outside of the regulatory framework that may address some of the current barriers to realising the benefits of smart meters and/or the slower rollout of smart meters in the NEM?

Jurisdictional differences

115. As discussed under Question 3, differences in jurisdictional regulations are driving higher metering costs and are potentially creating barriers to the development of new services by retailers. Harmonisation of safety related requirements across the NEM would remove such barriers and reduce overall costs for consumers. We have already discussed the case in Queensland where remote connection services are effectively prohibited as current state regulations require the DNSP to perform a physical inspection of the site prior to re-energisation. In New South Wales, we see state regulations introducing unique requirements that are increasing metering costs for retailers, Metering Providers and customers, with no apparent or proven benefits.

116. Recently, Vector Metering was involved in a retailer sponsored trial to investigate a potential DER related product in New South Wales. The trial had to be shifted to South Australia due to the New South Wales installation rules requiring additional isolation equipment that is not required elsewhere. This additional cost creates a financial barrier, putting in doubt the future development of the product in New South Wales. These sorts of issues could be solved with the recognition of a single set of Meter Installation Rules across the NEM. The Contestable Metering Industry Group (CMIG) has drafted such a document, however, jurisdictional regulations are not giving this document any head of power.

Emerging risks

117. We are concerned about emerging initiatives that can potentially result in negative consumer sentiment about smart meters. Recent changes in South Australia (*Smarter Homes* initiative), as well as the smart meter 'back stop' functionality (being trialled by AEMO), allow the regulator/market operator to control customers' solar PV systems. It is envisaged that this will be used during times of system emergency where there is too much generation being fed into the network and not enough demand. This functionality has the potential to disconnect customers with solar PV while leaving other customers connected to supply. We are concerned that without a clear communication strategy to customers around the necessity for this functionality, consumer sentiment for smart meters may become unfavourable.

Market systems

118. Some features of the current AEMO market systems hinder market development. MSATS is a system that was designed in the late 1990s and uses batch processing where information is updated once a day (overnight). Critical information such as commissioning status and connection status is now available from Metering Providers in near real-time and could be provided to the market; however, the design of MSATS does not allow this. Changes of state reflected in meter standing data cannot be notified until the next day, at the earliest. Recent issues related to the commencement of remote re-energisation/de-energisation functions have highlighted these deficiencies in the core market systems. Industry participants have to deal with these deficiencies with workarounds that would be unnecessary under more modern core market systems.

119. We therefore recommend a review of the retail market systems with the aim of developing a roadmap for the modernisation of these systems that would drive down the costs of market operations. This will allow information from smart meters to be made available to the market in a timelier manner. For example, the MSATs systems and the B2B system should be linked. This would increase transparency of information regarding a customer's premise, i.e. role related data, meter standing data, connections status, as well as work requests, both inflight and historic.

Concluding comments

120. Vector looks forward to further engaging with the Commission, other regulators, and industry participants during this Review, and importantly, with consumers for whom the benefits of smart metering are ultimately intended. Consistent with its holistic approach to this Review, we encourage the Commission to consider any options and proposed changes as a package so that their inter-relationships can be robustly assessed.

121. We intend to join the Reference Group the Commission is establishing for this Review. We nominate Paul Greenwood (Industry Development Australia, Vector Metering) as our representative. We suggest that the Commission consider establishing working groups on specific topics during the Review, as may be necessary, and after the Review to pursue further work arising from the Commission's final determination.

122. We welcome the opportunity, as indicated in the consultation paper, to discuss with the Commission any aspects of the provision of smart metering services to small consumers. Please contact Paul Greenwood at 0404 046 613 or Paul.Greenwood@vectormetering.com in the first instance.

123. No part of this submission is confidential, and we are happy for the Commission to publish it in its entirety.

Yours sincerely

Mitch Webster
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