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Electricity Market Measures submissions
Ministry of Business, Innovation & Employment
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Submission on the Electricity Market Measures Paper

Introduction

1. Bluecurrent (formerly Vector Metering) welcomes the Ministry of Business, Innovation & Employment's (MBIE) consultation paper on *Measures for Transition to an Expanded and Highly Renewable Electricity System* (the Electricity Market Measures Paper or Consultation Paper), dated August 2023. We appreciate MBIE's engagement with stakeholders on the Consultation Paper and other papers on energy transition issues via webinars during the consultation period.
2. This submission describes the benefits of smart meters and their critical role in helping unlock and optimise the value of customer energy resources (CER) – to enable an orderly transition to a low emissions future. In our view, an orderly transition is one that provides the right incentives for continued investment and innovation, and delivers affordable energy throughout the transition period.
3. Smart meters enable digitalisation and greater flexibility in the electricity system, which support an orderly energy transition. Data generated by smart meters enables demand side participation that provides consumers greater control over their electricity cost, and facilitates the emergence of new services that enhance consumer choice. A smarter, more flexible electricity system helps consumers better navigate the energy transition and instils consumer confidence in the electricity sector.
4. This submission also responds to selected questions in Part 4 (Responsive Demand and Smarter Systems) and Part 5 (Whole-of-System Considerations) of the Consultation Paper, which potentially have significant implications for smart metering services. We believe the benefits of smart meters, including their enabling role in the energy transition, are best delivered in a competitive metering market or through industry-based approaches, rather than through prescriptive regulation. This provides an environment where commercial solutions can be developed, and where innovation that benefits consumers can flourish.
5. Over the past two years, industry participants have made significant progress in addressing issues relating to access to consumption data generated by smart meters, placing them in a better position to further address evolving data access issues. Solutions to data access issues continue to be enhanced, as new data opportunities and challenges emerge and assume greater prominence, such as the provision of power quality data to electricity distributors and flexibility service providers. In our view, the Electricity Authority's recently released indicative timeline and work programme on *Delivering key distribution sector reform* (Distribution Reform Work Programme),¹ which includes high-level proposals to facilitate access to data, should be built upon rather than identify new priorities or create new work programmes. This would help focus participants' and consumer groups' attention and resources towards resolving the priority data access issues the Authority's Work Programme intends to resolve.
6. Bluecurrent is making a separate submission on MBIE's *Gas Transition Plan Issues Paper*, which was released alongside the Consultation Paper.

¹ https://www.ea.govt.nz/documents/3929/Work_programme_Oct_231406907.13.pdf

Bluecurrent

7. Bluecurrent is a provider of cost-effective end-to-end suite of energy metering, data, and control services in New Zealand and Australia. Bluecurrent was instrumental in introducing advanced metering services in New Zealand and today partners with leading retailers and distributors in both countries.
8. Our solutions enable customers to manage energy more efficiently and support decarbonisation. We provide tools and information to retailers and network companies to allow them to operate their business effectively and help their customers manage their energy needs. We provide future-proofed advanced metering infrastructure that is flexible enough to enable customisation and meet customers' future requirements.
9. Bluecurrent continues to innovate in energy metering – once nothing more than a way to record usage – into a reliable, seamless, powerful platform that our customers count on as a foundation for their existing customer offers and to develop and deliver future-ready energy solutions. Our focus is on enabling choice for change while making it safe and easy for our customers to operate.
10. In July 2023, Bluecurrent became jointly owned by Vector Limited and Queensland Investment Corporation (QIC). Both parties share a long-term commitment in Australia and New Zealand. We are focused on developing close relationships with our customers and providing the services they want in a rapidly changing energy sector, and enabling the energy transition.

Benefits of smart meters

11. Smart meters provide a range of benefits to multiple parties across the energy sector. Their benefits to energy retailers, end consumers, distribution networks, flexibility service traders, and other parties such as policy researchers are now widely recognised.
12. Smart meters enable data to be read remotely, which reduces costs for energy retailers – to the benefit of consumers. The timely delivery of consumption data, enabled by smart meters, allow more frequent billing that enables consumers to make more informed and timely energy consumption and investment decisions. Remote reading enables retailers to avoid the costs and emissions associated with having to drive to metering sites to physically read data from (legacy) meters.
13. Smart meters enhance consumer choice. They enable services that allow consumers to choose from a wider range of market offerings (enabled by smart meters) and switch to service providers who have better offers (with the switching process also enabled by smart meters). More timely bills also mean fewer consumer complaints.
14. Smart meters help improve network resilience. Granular data generated by smart meters provide electricity distributors greater visibility of their low-voltage network, allowing them to respond to outages and emergencies more quickly, and shorten restoration times. Greater network visibility enables distributors to manage and plan their network more efficiently, avoiding costly new 'poles and wires' investments or network expansion.
15. Importantly, smart meters support energy affordability, including during pandemics or weather events. More timely and granular consumption data from smart meters allows service providers to better target their support measures to consumers in hardship, helping ensure energy affordability and the delivery of support for those consumers in a timely manner. The ability of consumers to switch to more frequent billing, enabled by smart meters, will help those in hardship better manage their power bills and finances.

16. The Australian Energy Market Commission's recently concluded *Review of the regulatory framework for metering services* (AEMC Metering Review) comprehensively identified the benefits of smart meters:²

Providing consumers with visibility and control of electricity consumption and costs

- Accurate bills based on actual meter reads
- More accurate flexible billing options
- Greater choice of products and services which may be more tailored to individual customers
- Improved energy literacy and understanding of energy usage patterns
- Improved control over energy cost
- Apps that can improve access to information
- Faster switching and quicker realisation of contract benefits
- Development of new services and participation in new markets such as energy storage, virtual power plants (VPPs) etc.

Improving network operation, investment, security and reliability

- Support more efficient operation of the network
- Improved data for network planning and investment
- Innovative tariffs to manage peak demand and drive behavioural change
- Improved outage management through faster detection of outages and restoration of supply
- Improved visibility and management of network assets such as transformers and fuses
- Improved visibility of the low voltage network toward dynamic voltage management
- Improved management of controlled load.

Improving safety outcomes

- Neutral fault detection
- Identification of other safety issues such as hot joints
- Improved pinpointing of outage location.

Improving DER integration

- Support dynamic operation of the network to better manage a more distributed energy system
- Better understanding of LV DER hosting capacity, dynamic export limits to help manage network peaks
- Improved management of DER
- Allowing more customers to connect DER to the grid.

Other benefits

- Introduction of new market participants via new technologies
- Safer reconnection and disconnection for those carrying out the reconnection and disconnection
- Aggregators require smart meters to provide their services
- Better data and visibility for policy makers
- Better data and visibility for researchers
- Better streetlight management for Councils
- Data use for police operations.

² <https://www.aemc.gov.au/sites/default/files/2021-09/EMO0040%20Metering%20Review%20Directions%20paper%20FINAL.pdf>, pages 11-13

Smart meters and the energy transition

17. Smart meters enable an orderly, rather than a disruptive, transition to a digital and low-carbon energy future. They enable more renewable energy to be integrated into the grid efficiently, helping to unlock the value of CER, such as solar PV or electric vehicles (EVs), and reduce emissions.
18. Smart meter data provides industry participants and consumers greater clarity on the availability and use of discretionary demand, enabling them to make the appropriate demand response decisions/actions. It allows them greater visibility of the potential opportunities for distributed flexibility, e.g. by improving distributors' visibility of the CER and other smart devices that are connected to their low-voltage network. As noted in the Consultation Paper:

As well as investing in physical lines and poles, greater demand management pressures will mean that distribution businesses will need to invest in monitoring, data procurement and system management. Distribution businesses will also need greater access to data from meters and other smart devices in homes to manage demand.³

19. Importantly, granular smart meter consumption data enables the development of innovative tariffs that allow consumers to shift load to times of the day when the network is less congested and tariffs are lower/at their lowest. This allows consumers to make more informed decisions around participating in demand response programmes and other demand side initiatives that benefit them. Cost reductions for parties across the electricity sector, enabled by smart meters, means that all consumers ultimately benefit, including those who do not own CER.
20. Furthermore, smart meters enable a speedier pricing reform. As pointed out in the Consultation Paper:

...Distribution pricing is important as it affects the timing, level and location of investments in new technology, such as DER/CER like solar panels, electric vehicles and batteries.⁴

21. Increasing flexibility in the electricity system to support the energy transition requires ongoing and new investment, and continued innovation. Regulatory and market settings that provide greater investment certainty are those that provide the right signals and incentives so that market competition and innovation can thrive into the transition. We believe the right settings do not 'lock in' old technologies or 'lock out' new ones, or result in unintended consequences, e.g. unfair allocation of costs, unreasonable increase in the regulatory burden, and unaffordable energy.

Responses to selected consultation questions

22. We set out below our responses to selected questions in Parts 4 and 5 of the Consultation Paper that are of most interest and relevance to our business, and metering service providers more generally.

Part 4

Question 45: *Would government setting out the future structure of a common digital energy infrastructure (to allow trading of distributed flexibility) support co-ordinated action to increase use of distributed flexibility.*

Question 46: *Should central government see how demonstrations and innovation to help inform how trade of flexibility evolves in the New Zealand context, before providing direction to support trade of distributed flexibility? If yes, how else could government support the sector to collaborate and invest in digitalisation now?*

Question 47: *Aside from work already underway, are there other areas where government should support collaboration to help grow and develop flexibility markets and improve outcomes? If yes, what areas and actions are a priority?*

³ Consultation Paper, page 74

⁴ *Ibid.*, page 100

Common digital energy infrastructure – not a priority

23. In our view, any consideration of the government setting out a common digital energy infrastructure is not warranted. The emergent nature of many flexibility services, the length of time it takes to build a common digital infrastructure, and the small size of the New Zealand energy market relative to those in many overseas jurisdictions do not lend themselves well to this approach.
24. There are risks, limitations, and potential unintended consequences associated with a common and therefore more centralised digital energy infrastructure. Compared to more distributed systems or approaches, a centralised digital infrastructure could:
- Cost more to build and maintain, and take more time to implement – It is likely to require the involvement of a wide range of market participants and bigger infrastructure, which could delay the delivery of flexibility and other innovative energy services;
 - Limit innovation and customisation – The delivery of digital platform services to end consumers is more than just about enhancing access to data. It is also about ensuring that services being developed address the unique needs of market participants and their customers. Furthermore, innovation is likely to occur at the ‘edges of the market’, which may not be prevalent in a more centralised digital infrastructure;
 - Lead to ‘gold plating’ of services, resulting in some consumers potentially ending up paying for common services or features they do not need or desire;
 - Reduce the redundancies needed to ensure resilience, i.e. the pitfalls of relying on a single infrastructure;
 - Increase the regulatory/compliance burden for the infrastructure operator and market participants – This could lead to participants diverting scarce resources for regulatory compliance rather than focusing on continued innovation to meet rising consumer expectations; and
 - Result in metering service providers becoming mere data collectors rather than innovators that continue to strive to deliver better offerings to retain and attract customers in a competitive metering market.
25. We note that the Electricity Authority’s Distribution Reform Work Programme has considered some form of a centralised platform as an option to address the issue of data dispersion across all metering equipment providers (MEPs) and retailers, with “differing access requirements, availability, and pricing”.⁵ The Authority, however, states:
- We are proposing to prioritise targeted projects to improve data access that it considers are relatively easily implementable in a reasonable timeframe. Addressing the dispersed nature of data, for example through a form of centralised data platform, would be a very complex long-term project.*⁶
26. We agree with the above assessment and prioritisation, in principle. We consider that focusing on the priority issues identified in the Authority’s Distribution Reform Work Programme is an appropriate and practical approach that avoids complexities that could delay the delivery and adoption of flexibility services and other new/innovative services in the market.
27. We also have no issues with the adoption of industry-based approaches where the resolution of issues can be facilitated by, and benefit from, a more coordinated approach. Bluecurrent is a member of

⁵ https://www.ea.govt.nz/documents/3929/Work_programme_Oct_231406907.13.pdf, pages 21 and 26

⁶ *Ibid.*, page 21

industry groups, such as FlexForum, that are currently considering the development of flexibility services.

Demonstrations and trials

28. Bluecurrent is generally supportive of ‘learning-by-doing’ trials that would help inform how new services and business models, including flexibility trading, could evolve in the New Zealand context.
29. We suggest that any publicly funded flexibility-related trials be open to all potentially affected parties through a contestable process. We further suggest that learnings and insights from such trials be published for the benefit of industry participants and consumers.
30. We support the development of a ‘regulatory sandbox’ framework for energy services in New Zealand. This would allow market participants and trial partners to test new and innovative business models and technologies (with a defined/agreed scope and conducted in a time-limited manner) that would otherwise breach existing regulations and provisions in the *Electricity Industry Participation Code* (the Code).
31. We note that the Electricity Authority’s Distribution Reform priorities include releasing guidelines on the exemption process in the Code, and regulatory sandboxes, in early 2024. We look forward to engaging with the Authority and other stakeholders in the development of these guidelines.

Government priorities to help develop flexibility markets

32. As noted above, the Electricity Authority’s Distribution Reform Work Programme identifies priority actions to address key issues in the distribution sector, including facilitating the development of flexibility services. The identified priority issues include, among others, Code amendments to facilitate access to smart meter data and the development of guidelines for Code exemption processes and regulatory sandboxes. This provides a comprehensive foundation for industry participants to focus on to gain ‘regulatory traction’ that would facilitate the timely development of flexibility and other new services.
33. We note the multiple ongoing industry initiatives to help inform the development of flexibility services. Ongoing work by the FlexForum, the Electricity Networks Aotearoa’s Future Networks Forum, the Electricity Engineers Association of New Zealand, and collaborative and individual initiatives by industry participants and community groups are some of these initiatives.
34. To enhance distributors’ access to smart meter data to facilitate greater network flexibility, e.g. implementing dynamic/shaped operating envelopes, Bluecurrent would support incentives for distributors to procure data for network management and related purposes, for example, by providing them with allowances under the Commerce Act Part 4 regime.
35. Given the above ongoing and future initiatives, we do not consider the creation of new major government programmes to develop flexibility markets to be necessary. New programmes could potentially duplicate many ongoing and planned initiatives and unnecessarily increase the regulatory burden.

Part 5

Question 56: *Is a regulatory review of critical data availability needed? If so, what issues should be looked at in the review?*

36. Bluecurrent does not believe a regulatory review of critical data availability is warranted at this stage of market development. In our view, the major hurdles and obstacles to data access have now been largely overcome, and multiple initiatives to facilitate access to smart meter data are underway. These include, among others: 1) the Electricity Authority’s ongoing Distribution Reform Work Programme, which includes proposed Code amendments to facilitate smart meter data access, 2) ongoing

commercial negotiations for smart meter data access, 3) the Default Distributor Agreement, 4) industry collaborations, and 5) the emergence of new services enabled by smart meters.

- The Electricity Authority's ongoing Distribution Reform Work Programme, including proposed Code amendments to facilitate smart meter data access⁷

The above reform programme includes, among others, a priority project to improve access to data and information. The Authority intends to introduce a Code amendment to enable meter equipment providers (MEPs) "to contract directly with distributors and flexibility traders to provide standardised connection point-level consumption and power quality data" which "would facilitate more equal data access".⁸ The Authority anticipates to commence consultation on this proposed Code amendment in April 2024, with the amendment gazetted in late 2024.⁹

In relation to any proposed Code changes to facilitate data access, we suggest that the changes be in the form of a high-level direction rather than prescriptive requirements (i.e. mandated provisions) on the relevant industry participants. The direction could clarify: 1) that metering service providers can provide data directly to distributors and flexibility service providers, 2) the minimum dataset that metering installations should be capable of recording, and 3) the purposes for which such datasets can be used.

Keeping Code changes at a high level would set clear expectations on the relevant industry participants, while allowing them to negotiate agreements for the delivery of data services beyond the minimum that could be stipulated. This would enable the sector to achieve a 'cut through' in facilitating access to data, particularly power quality data, while not stifling innovation. It should be noted that Bluecurrent has signed agreements with distributors for the delivery of smart meter data which needed no regulatory interventions or Code exemptions.

In addition, we suggest that the Code amendment approach should not prohibit other pathways, i.e. voluntary commercial arrangements, from being pursued by industry participants and other interested parties to enable the timely provision of smart meter data.

Any regulatory work that duplicates or overlaps with the above priority project would only increase the regulatory burden without apparent new benefits and would therefore be unwarranted.

- Ongoing commercial negotiations for smart meter data access

Industry participants have made significant progress in addressing data access issues over the past two years. Bluecurrent's discussions with distributors have progressed to the extent that distributors now have access to information about what data is available and the prices of data services.

Bluecurrent is already delivering a significant amount of data outside of the Default Distributor Agreement framework. Our ongoing commercial discussions with distributors have posed no barriers to what has been agreed by parties, so far, or what could be agreed in future negotiations. We provide distributors the option to elect the content of the data service they need. 'Pseudo industry norms' have been emerging in both New Zealand and Australia based on the software applications that distributors are choosing to purchase or build.

⁷ <https://www.ea.govt.nz/news/general-news/delivering-key-distribution-sector-regulatory-reform-work-programme-published/>

⁸ https://www.ea.govt.nz/documents/3929/Work_programme_Oct_231406907.13.pdf, pages 8 and 14

⁹ *Ibid.*, page 8

Bluecurrent has developed a standardised data provision agreement and offered this to retailers and distributors in New Zealand. They can select the appropriate commercial arrangements for the data services they need to deliver, or purchase, from each other. The agreement and data services have been taken up by several distributors and have been agreed with several retailers. We expect more distributors in New Zealand and Australia to request access to data services as more uses of smart meter data for network operations are observed or proven.

Data access seekers should be given the flexibility and opportunity to request the data services they need and to define/specify the frequency and mechanism for the delivery of their requested data – via commercial negotiations. This flexibility would help ensure that market competition, which underpins the delivery of metering services in New Zealand, and innovation, are not stifled.

We pointed out in our February 2023 submission on the Electricity Authority's workstream on *Updating the regulatory settings for distribution networks*:

Assuming that commercial arrangements are made directly between the MEP and the distributor, we are confident that this will result in prices that are limited to reflecting the marginal cost of providing the service, including a reasonable level of return for the MEP.¹⁰

We note the Vector electricity distribution network's success in acquiring consumption data for virtually 100% of the ICPs on its network via data agreements (i.e. commercial arrangements).¹¹ This shows that data can effectively be obtained from retailers, or directly from metering service providers, via commercial arrangements.

- Default Distributor Agreement (DDA) – The DDA has paved the way for distributors to access consumption data from retailers. We note that the Electricity Authority is currently consulting on proposed improvements to the DDA, including allowing more permissive use by distributors around combining consumption data with other data or datasets.¹²

Retailers, distributors, and flexibility traders have access to data via the consumption data access rules and method. We support making existing rules more efficient, rather than duplicating them with additional management processes.

As commercial negotiations between distributors and metering service providers progress, it is reasonable to expect the role of the DDA to be diminished over time. It could merely become a form for data request.

- Industry collaborations

As mentioned in paragraph 33, multiple industry forums and initiatives are already considering how the development of flexibility services can be facilitated.

- Emergence of new services enabled by smart meters

Services that rely on smart meter data are rapidly emerging, including innovative tariffs offered or being trialled by retailers.

¹⁰ https://blob-static.vector.co.nz/blob/vector/media/vector-2023/vector-metering-submission-on-updating-the-regulatory-settings-for-distribution-networks-issues-paper_1.pdf, slide 9

¹¹ https://blob-static.vector.co.nz/blob/vector/media/vector-2023/vector-submission-issues-paper-updating-the-regulatory-settings-for-distribution-networks_1.pdf, page 11

¹² https://www.ea.govt.nz/documents/3851/Part_12A_Code_amendment_proposal_consultation_paper.pdf, page ii

Other parties that could seek smart meter data to provide flexibility and other energy services include solar and battery service providers, EV charging service providers, government price plan comparison providers, energy brokers, and energy management service providers.

The uncertainty of demand for data services for third parties, or the nature of that demand, is one reason we believe that no action in the regulatory framework is warranted at this stage of market development. We have shown that we are able to resolve data access issues via commercial arrangements, should any third parties seek access to smart meter data from us. We look forward to hearing from flexibility service providers and aggregators as emerging roles become more defined in the market.

Access to data is but one component of digitalisation and increasing flexibility. New intended data recipients such as flexibility service providers would need to make the necessary changes to their systems and processes to ensure the appropriate security and privacy settings are in place so that data can be transmitted seamlessly from MEPs to their system.

37. In general, we believe the multiple benefits of smart meters are best delivered in a competitive metering market. In the rapidly evolving electricity sector, it is our preference that data access issues be addressed via commercial arrangements or industry-based approaches. There is clear evidence in the market that significant progress is being made by industry participants in facilitating data access via commercial arrangements and this should be encouraged so that market competition, and innovation that ultimately benefits consumers, are not stifled. As more new and innovative services are enabled by smart meter data, regulation (or more prescriptive regulation) should not be required.
38. In addition, a more prescriptive regulatory framework, or a highly centralised common digital infrastructure, is likely to result in industry participants being required to divert resources (money and staff) to ensuring compliance with new regulatory requirements, rather than focusing on the delivery of better services to their customers. For MEPs, it could result in them becoming mere data collectors, rather than innovators that strive to continuously deliver better services and market offerings to retain and attract customers.
39. We note that the AEMC Metering Review has found that competitive metering arrangements are appropriate for Australia's National Electricity Market (NEM). Competitive arrangements will apply to the accelerated deployment of smart meters which will commence in 2025, with the goal of achieving universal smart meter coverage in the NEM by 2030.

Concluding comments

40. We are happy to further discuss with MBIE officials the benefits of smart meters and their role in the energy transition.

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

Yours sincerely