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## Submission on Australia's Technology Investment Roadmap - Discussion Paper

1. This is Vector Limited's (Vector) submission on the Australian Government's *Technology Investment Roadmap Discussion Paper – A framework to accelerate low emissions technologies* (the Roadmap), published by the Department of Industry, Science, Energy and Resources (the Department) in May 2020.
2. As a leading technology solutions company, Vector welcomes the Roadmap highlighting the critical role of new technologies that use renewable energy in Australia's 'road to recovery' from COVID-19, and in meeting the country's emission reduction commitments.
3. Our 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 (NEM) and the equivalent in New Zealand. We provide a cost-effective end-to-end suite of energy metering and control services to energy retailers, distributors and consumers. We are one of the largest non-network metering service providers in the NEM.
4. Vector is one of New Zealand's largest listed companies and provides energy and technology services across the country, with a vision of *creating a new energy future*. We are the largest provider of electricity and gas distribution network services in New Zealand, and the country's leading provider of advanced (smart) metering solutions. We also provide fibre network services, solar PV, energy storage, home energy management solutions, and electric vehicle recharging services.

### Advanced meters play an important role in enabling the Roadmap's priority technologies

5. The benefits from advanced meters, which we outline below, are now globally recognised. Advanced meters enable multiple new technologies and services not only in the energy sector but also in the wider economy.
6. The *Power of Choice* (POC) reforms introduced competition in metering services in December 2017 and envisaged the transition from legacy meters to advanced meters. The reforms aim to encourage more consumers to participate in the electricity market to drive efficiencies in the electricity supply chain. This is to be achieved by enabling consumers to make clear choices about how and when they use electricity through the adoption of energy efficiency, peak demand shifting, changing of consumption patterns, and generating their own electricity. The POC reforms support Roadmap objectives, particularly in enabling energy affordability and resilience, innovation, and long-term emissions reduction. We provide examples of how the adoption of advanced meters enable these outcomes in sections 10-12 below.

7. Vector Metering has been successfully deploying advanced meters and is working with other industry participants on new technology trials using renewable energy and advanced metering data. This makes us very well placed to enable and facilitate the achievement of some key Roadmap milestones.
8. However, we are now seeing a lower than anticipated velocity in the rollout of advanced meters than we are willing to supply. This is adversely impacting the realisation of the POC reform objectives, and impacts from COVID-19 will delay this even further. Vector Metering's calculation shows that if current rates of advanced metering deployment do not improve, material levels of consumer participation in demand side participation will not be realised until 2040-2050.
9. We identify emerging barriers to the acceleration of advanced metering deployment in sections 13-14. We then propose some solutions in section 15 that would help keep the deployment of advanced meters, hence the achievement of Roadmap milestones, on track.

### **Advanced meters enable energy affordability and resilience**

10. The OECD's report on post-COVID-19 lockdown recovery identifies Australia as the second-best placed member country to recover from the sharp economic downturn in the aftermath of the lockdown, <https://www.oecd.org/coronavirus/en/#data>. Advanced meters contribute to enabling energy affordability and energy system resilience, helping to ensure that recovery will not be delayed any longer than necessary. Advanced meters:
  - a. Provide greater visibility to energy networks, helping to ensure 'the lights are kept on', particularly for essential service providers (e.g. hospitals) during the crisis period and beyond;
  - b. Enable the well-targeted delivery of support measures to energy customers in hardship due to COVID-19 using more accurate and real-time advanced metering information, ensuring energy affordability for these customers;
  - c. Allowed the delivery of 'contactless services' (i.e. remote meter reads and remote disconnections and reconnections) during the crisis, protecting the health and safety of metering service providers, their customers, and the public;
  - d. Enable the switch from quarterly to monthly or more frequent billing and payment, which help those in hardship better manage their power bills and finances;
  - e. Enable meters to be read in near real-time, reducing operational costs for retailers and billing inaccuracies for consumers, and provide the opportunity for innovative pricing; and
  - f. Enhance distribution network service providers' (DNSPs) visibility and capacity to host increasing numbers of distributed energy resources (DER). This helps ensure energy system security and reliability during the crisis and as the economy recovers from it.

### **Advanced meters enable innovation that facilitates economic recovery**

11. Advanced meters enable and unlock innovation that creates new employment and economic growth opportunities post-COVID-19 in the form of the following:
  - a. New business models that deliver improved and innovative services (e.g. virtual power plants), expanding existing markets and creating new ones;

- b. Demand response mechanisms linked to electricity wholesale markets or to support network management, providing consumers and businesses greater control over their energy cost (through innovative tariffs) and how they consume and produce energy;
- c. Greater digitalisation which allows more consumers to participate in energy markets more conveniently at lower cost;
- d. Better data analytics which supports the right investments being made in a timely manner, enabling the full value of new technologies and innovative business models to be captured; and
- e. Increased ability of individuals to share their data to third party service providers and benefit from it. This will be facilitated by the impending implementation of the Consumer Data Right in the energy sector.

### Advanced meters enable long-term emissions reduction

- 12. Advanced meters facilitate the promotion of energy efficiency and the switch to renewable energy, contributing to long-term emissions reduction. These are exemplified by advanced meters being used for:
  - a. Energy efficiency monitoring, particularly in 'new builds' and smart buildings;
  - b. Home energy management solutions that could integrate solar PV, batteries, smart controls, and smart appliances with advanced metering;
  - c. Increased uptake of residential solar PV in Australia - already one of the highest in the world; and
  - d. Growing convergence of services from different sectors ('sectoral coupling'), such as the acceleration of the electrification of transports fleets and their integration to the grid (vehicle-to-grid generation).

### Barriers to the timely deployment of advanced meters are emerging

- 13. The benefits from advanced meters as an enabling, 'general purpose technology' are optimised when advanced meters are installed through large-scale retailer-led deployments in a timely manner. This approach ensures a more customer-focused delivery, as retailers have the face-to-face relationship with residential and small business consumers.
- 14. However, barriers are emerging which could frustrate the accelerated deployment of advanced meters, hence, the achievement of some key Roadmap milestones. These barriers include the following:
  - a. [Lower forecast meter installations driven by lower releases of failed meter families by DNSPs](#). This is driving up costs and putting the timely installation of advanced meters, hence some of the Roadmap's timelines, at risk.
  - b. [The sharp economic downturn in the aftermath of COVID-19](#), which is expected to result in significant reductions in the volumes of metering installations, increasing per unit operating cost. We anticipate our installations to drop by as much as 40%, with a corresponding increase of 10-20% in per unit operating cost. This anticipated reduction in scale/efficiency is expected to increase the risk of mandated metering installation timeframes not being met, particularly in regional and rural areas. If the adoption of advanced meters is not accelerated, the consumer benefits from ongoing reforms (including greater choice, ability to switch, convenience, and lower cost) will be lost.

- c. [The setting of retailer Default Market Offers \(DMOs\) failing to consider changes to market mechanisms since the introduction of competitive metering in the NEM.](#) This has resulted in artificially lower DMO prices that do not reflect the true cost of advanced metering. Consequently, it has heightened cost recovery uncertainty for retailers, dampening incentives for investment to accelerate the deployment of advanced meters.
- d. [The distortionary effect of loading the residual cost of legacy meters on retailers.](#) Currently, advanced metering customers in general no longer contribute up front to the cost of metering via up-front charges; rather, these costs are recovered via annual charges.
- e. [The competitive metering framework in the NEM not being applied to some jurisdictions, e.g. Victoria and Western Australia \(WA\).](#) In our view, the value of advanced meters is best delivered in a competitive market where multiple participants provide greater choice for consumers, and investment and technology risks reside with investors (not with consumers or taxpayers).
- f. [Uncertainty around regulatory timeframes that are proposed to be revised due to COVID-19,](#) e.g. the proposed delay of the start date of 5-minute settlement in the electricity spot market. The sooner regulatory timeframes are decided, the sooner the benefits from reforms that incentivise the uptake of newer/more efficient technologies can be realised.

### **Emerging barriers need to be addressed to ensure advanced meters continue to enable the Roadmap's priority technologies**

- 15. Addressing some of the above barriers could require major regulatory changes and industry-wide solutions. Nevertheless, it is imperative that these are addressed to ensure the benefits from advanced meters are optimised and key Roadmap timelines are met. We propose some solutions below for the Government's consideration. We believe the first three proposals would particularly deliver real and more immediate benefits.
  - a. [Improving the transparency of information on meter testing programmes.](#) The publication of information on metering 'family failures' by DNSPs, including their methodology for replacing meters, would enable metering service providers to adequately or better match supply with demand.
  - b. [Using more realistic metering charges in the setting of energy retailers' DMOs.](#) This would help address cost recovery uncertainty for retailers and ensure sufficient incentives for the accelerated deployment of advanced meters.
  - c. [Developing a comprehensive model that generates key indicators of consumer participation in energy markets.](#) Such a model could capture shifts in peak demand, solar PV uptake, adoption of innovative tariffs, and deployment of advanced meters. These metrics should be reviewed on a regular basis, and policy and market rules should be fine-tuned to encourage demand side participation.
  - d. [The further development of the Roadmap taking into account the outcome of the upcoming Metering Market Review by the AEMC.](#) The re-prioritised regulatory work programme jointly issued by the AEMC, AER and AEMO (due to COVID-19) indicates that the terms of reference for this review will be released in Q3 2020 and the review proper will commence in Q4 2020. Some of the barriers identified in this submission are likely to be raised during this Review.
  - e. [Assessing whether opening the metering markets in Victoria and WA to competition will result in net benefits,](#) as suggested by the AER's Consumer Challenge Panel. We believe that the adoption of the NEM metering framework in these jurisdictions would

reduce compliance costs and confusion for service providers operating nationally. This would also provide Victorian and WA consumers access to similar levels of service that consumers in the rest of the NEM using (newer) advanced meters enjoy.

- f. [Inclusion of data analytics experts in the Technical Expert Review](#). We suggest that this review engage data analytics experts who have in-depth appreciation of the value and challenges, including regulatory challenges, of the application of data to rapidly evolving energy markets.

### Concluding comments

16. It is our desire to see the ongoing and potential contributions of advanced meters to Australia's recovery from COVID-19 and long-term emissions reduction duly recognised in the Roadmap.
17. We are happy to discuss this submission with Department officials. Please contact Paul Greenwood at [Paul.Greenwood@vectorams.com.au](mailto:Paul.Greenwood@vectorams.com.au) or 0404 046 613 in the first instance.

Yours sincerely



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