



Department of Environment, Land, Water and Planning

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Dear Mr Gulbenkogu

ASSESSING DER INTEGRATION EXPENDITURE CONSULTATION PAPER

Thank you for the opportunity to make a submission on behalf of the Victorian Government to the Australian Energy Regulator's (AER) Consultation Paper, *Assessing DER integration expenditure*.

Over the next fifteen months, the AER will consider and determine the allowed revenue for Victoria's distribution businesses over the 2021-26 regulatory period. Victorian distribution businesses will propose expenditure to enable Victorians to connect more distributed energy resources (DER) and export more solar energy into the electricity grid. The Victorian Government does not consider the AER's existing expenditure assessment guidelines to be sufficient to transparently assess these proposals. A significant transformation of the energy system is underway and new approaches are required to respond to emerging challenges. Therefore, the Victorian Government supports the AER's efforts to develop additional guidance.

The Victorian Government is committed to help Victorians take control of their energy bills, create jobs and take strong and lasting action on climate change. DER, including rooftop solar, battery systems and 'smart appliances', are an important driver in this transition. The Victorian Government has introduced the \$1.3 billion Solar Homes program and supported DER business models through the New Energy Jobs Fund, Microgrid Demonstration Initiative and other investments.

Solar Homes will support the installation of more than 650,000 solar systems for owner occupiers, 50,000 systems for rental properties, 10,000 battery storage systems and 60,000 solar hot water systems across the state over the coming decade. The program will save Victorian households more than \$500 million a year once the program is fully rolled out. Furthermore, installations under the program include features, for example smart inverters, that exceed the minimum standards currently seen in the industry. These features will be built on progressively to improve the safety, performance and consumer benefits of the program.

The Solar Homes program will bring the number of Victorian households with solar to one million by 2028. To effectively facilitate the integration of high levels of DER into the grid and get the full value from these resources, new types of investments by distribution businesses are required.

Electricity export constraints can prevent the full economic and environmental benefits of DER investments from being realised, including their value in lowering wholesale energy costs (and customer bills) and reducing emissions. Static export constraints may also inhibit the emergence of new mechanisms and markets to reward customers for providing services to support the energy system. The CSIRO estimates the value of DER in Australia could be about \$1 billion by 2030, based on reduced generation and network costs¹. On the other hand, providing unrestricted access to the grid could have significant costs to other consumers, including those unable to access or afford DER.

¹ CSIRO (2019), *Review of cost-benefit analysis frameworks and results for DER integration*.

This letter outlines important policy issues the Victorian Government considers should be taken into account when drafting a DER integration guideline.

Prudent DER integration expenditure

We consider that prudent investment in DER integration expenditure is required to capture its benefits for all consumers. However, it is imperative to maintain energy affordability in Victoria and to acknowledge the current uncertainties in technological change. Therefore, the Victorian Government supports investments in DER integration that deliver a net benefit for all consumers, are cost-effective based on current evidence, do not result in material bill impacts, and that allow for flexibility to avoid 'locking out' future opportunities.

Flexibility in assessing expenditure

The technology landscape is rapidly changing, and the energy industry is yet to find the best solutions to integrate DER effectively into the grid. Furthermore, distribution network service providers (DNSPs) will face different challenges, driven by varying local network characteristics and levels of DER penetration. There is no 'one size fits all' approach to DER integration and a suite of solutions will be required. The Victorian Government considers a principles-based approach to assessing expenditure, rather a prescriptive guideline, would better support the consultation paper's objectives. Flexibility in assessing expenditure will be required due to the rapidly changing technological landscape. A prescriptive approach could limit network businesses from innovating and implementing the most efficient solutions.

Shared learnings and rail gauge outcomes

The solutions implemented by DNSPs should build on the findings from trials and projects across the National Electricity Market (NEM), and not only projects implemented by each individual business. They should also take into consideration existing Australian and international standards, where these are considered suitable for the NEM. However, these requirements should not come at the expense of flexibility. The guidelines should encourage consistency where this delivers industry-wide benefits but remain flexible to support bespoke solutions where these are cost-effective. An example of where consistency may be preferable is in the implementation of common communications standards and protocols. Interoperability across Victorian distribution networks can help support customer choice and facilitate the implementation of third-party solutions across the state.

Network visibility and investment

Increased low voltage network visibility is required to determine the appropriate levels of investment to improve network management and solar hosting capacity. Until this visibility is improved, DNSPs will need to make certain investment decisions based on assumptions about the operation of the low voltage network under different conditions. In Victoria, smart meter data is able to support an increased level of visibility that is not available in other jurisdictions. However, this capability is not fully developed and additional investment in information technology infrastructure, network sensors and data analytics could be required². The Victorian Government supports investments that build on the existing smart metering capabilities to better understand where and when network constraints are occurring and realise additional benefits from this investment.

DNSPs have generally made decisions about solar connections and their export allowance on a 'first come, first served' approach. Network investments should also support a transition towards more equitable allocation of solar hosting capacity, so this is not only available to first movers. In particular, investments to dynamically manage DER exports and loads could allow current and new solar connections to export solar energy most of the time with restrictions imposed only when the network exceeds its operational limits. DNSPs should also consider procuring services by third parties,

²Australian Energy Market Commission (2019), *Electricity network economic regulatory framework review*.

including demand response, particularly where these services are cost-effective compared to building in-house solutions.

The value and customer benefits of DER

DER can provide services across the electricity system, but quantifying these benefits accurately is complicated. Certain benefits, such as network value, will be location specific and it is not possible to assign a single 'network value of distributed generation'³ (or load). Other benefits, such as those related to future market services, do not have an existing value but may be attainable in the future.

There could be merit in a common approach to valuing rooftop solar and battery systems electricity exports, particularly if this value will be used to support cost-benefit analyses to invest in DER integration. In Victoria, cost-benefit analyses can be supported by smart meter data. This data would allow for a higher level of confidence in the costs and benefits related to an investment. However, it is important that the AER's proposed valuation method considers the current information limitations and be flexible enough to be adapted as the energy landscape evolves.

In Victoria, the minimum feed-in tariff is calculated based on the forecast wholesale price of electricity, avoided network losses and the avoided social cost of carbon. The avoided human health costs attributed to a reduction in air pollution are not included in this tariff, but a methodology could be determined at a later date in accordance with the Electricity Industry Act⁴. The Victorian Government considers the AER's method should consider both electricity system benefits and social benefits, as they both support the long-term interests of consumers of electricity. The methodology for the avoided social cost of carbon in the feed-in tariff is a robust estimate for Victoria⁵.

I trust this input is of assistance. If you have any questions about this submission, please contact Katie Brown, Director, Distributed Energy Resources Strategy at [REDACTED] or [REDACTED].

Yours sincerely

[REDACTED]

Alex Badham

Acting Executive Director, Energy Strategy
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³ Essential Services Commission (2017), *The Network Value of Distributed Generation: Distributed Generation Inquiry Stage 2 Final Report*.

⁴ *Electricity Industry Act 2000* (Vic) s 40FBB.

⁵ Victoria, *Electricity Industry Act 2000 Order in Council*, Order specifying a methodology and factors for the determination of the avoided social cost of carbon., No S 36, 21 February 2017.