

ECONOMICS AND INDUSTRY STANDING COMMITTEE

REPORT NO. 8 – TAKING CHARGE: WESTERN AUSTRALIA'S TRANSITION TO A DISTRIBUTED ENERGY FUTURE

GOVERNMENT RESPONSE

The Government of Western Australia notes Report No 8 *Taking Charge: Western Australia's Transition to a Distributed Energy Future* by the Economics and Industry Standing Committee (Committee) tabled in the Legislative Assembly on 20 February 2020

In accordance with Standing Order 277(1) of the Standing Orders of the Legislative Assembly, the Committee has directed that the Minister for Energy report to the Legislative Assembly as to what action, if any, is proposed to be taken by the Government with respect to the 21 recommendations of the Committee to facilitate the deployment of microgrids and associated technologies

The matters explored by the Committee are part of an ongoing reform program of the energy sector that the McGowan Government has been undertaking in response to the technological changes that are being experienced by the sector. The *Energy Transformation Strategy*, the Government's work program to ensure the delivery of secure, reliable, sustainable and affordable electricity, and a review of the electricity retail licensing arrangements are two examples that demonstrate the State Government's commitment to addressing these matters

Of particular relevance to the Committee's recommendations on microgrids and associated technologies is the Distributed Energy Resources (DER) Roadmap, forming part of the Energy Transformation Strategy, that will guide changes to policies, regulations, technical requirements and consumer protections to support the integration of DER within the State's electricity systems over the short, medium and longer-term. The Roadmap was published on 4 April 2020

The Government actions relevant to each recommendation are presented below.

Recommendation 1

The Minister for Energy introduce regulatory changes to provide system and network operators with appropriate levels of sub-transmission visibility and the authority to control microgrids and associated technologies, to support the operational stability of the South West Interconnected System (SWIS)

Response

The recommendation is supported

The DER Roadmap addresses the detail of this recommendation through actions 1-4, 14 and 22-32. These actions seek to support operational stability in the State's main electricity grid, the South West Interconnected System, through improved settings and functionality for inverters and greater visibility of the distribution network through which electricity is supplied to end-use consumers¹.

Improved inverter standards will facilitate newly installed inverters being better able to support the power system during system disturbance events. Collectively this work will also seek to enable mandatory communications capability in new inverters, which will assist in improving visibility of the performance of the DER fleet.

The Roadmap also outlines a plan to enhance the understanding of distribution network power flows and constraints, to provide the operators of the system and market greater visibility of the distribution network. Facilitating the visibility and coordination of microgrids and associated technologies on the distribution network is an essential output of these actions.

Recommendation 2

The Minister for Energy introduce a Distributed Energy Resources Register for the SWIS

Response

The recommendation is supported.

The Energy Transformation Strategy includes the introduction of a DER Register, which has been incorporated in the DER Roadmap through action 15. The DER Register is expected to go live in September 2020.

The DER Register will capture all newly installed (and previously installed) DER devices and will be largely facilitated by Western Power as the collector of data on customer DER connecting to its network.

Recommendation 3

The Minister for Energy instruct the Energy Transformation Taskforce to specifically address the role of microgrids in the Whole of System Plan

Response

The recommendation is supported.

The Energy Transformation Strategy includes the development of a Whole of System Plan that will

- identify the best options for investment in our power system, to maintain security and reliability at the lowest sustainable cost,
- assist in the transition to a lower-emissions power system by guiding the efficient integration of renewable generation and identifying opportunities for energy storage, which will play an increasing role in meeting our essential electricity needs, and

¹ Inverters function to convert the direct current (DC) power that solar panels create to alternating current (AC) power that is usable in homes and businesses, or the wider electricity grid.

- provide guidance to regulators and industry regarding efficient power system investment, and to policy makers on the future needs of the power system

The inaugural Whole of System Plan is in progress and incorporates four different demand scenarios to model the future. One of these scenarios represents a possible future that includes the increased prevalence of microgrids and stand-alone power systems throughout the SWIS.

The inaugural Whole of System Plan also involves development of a plan for generation, storage and network investment at the transmission network level. It is envisaged that subsequent Whole of System Plans may expand the focus to the distribution network to include co-optimisation of electricity supplies between the distribution network, microgrids and the larger transmission network. A requirement to include consideration of microgrids in Whole of System Plans could be included in the regulatory framework for these arrangements, which is being developed in 2020-21.

Recommendation 4

The Minister for Energy instruct the Energy Transformation Taskforce to specifically address any issues associated with the development of microgrids, as part of the DER Roadmap

Response

The recommendation is noted.

The DER Roadmap was published on 4 April 2020 and references microgrids at section 1.2.5.

The Roadmap considers DER technologies and how they interact with the electricity system (and local networks) irrespective of whether they are within an embedded microgrid or able to disconnect from the network at certain times.

Western Power's review of Technical Rules referenced in DER Roadmap through action 8 will include scope for the consideration of technical requirements for embedded networks, microgrids and covered stand-alone power systems. The review will include scope for clarification of the requirements for connecting distribution battery storage.

Recommendation 5

The Minister for Energy should provide clear and unequivocal direction to Synergy and Western Power regarding their roles and accountabilities and ensure that there is not overlap or duplication of effort between them with respect to the development of microgrids and associated technologies. This is consistent with Western Power's role as a network asset operator and Synergy's retail function.

Response

The recommendation is supported in-principle.

While the Minister will not issue a formal direction, the DER Roadmap, through actions associated with the deployment of community powerbanks, virtual power plants, non-network energy solutions and DER participation in the wholesale electricity market (actions 5a, 21, 22 and 27-32), identifies opportunities to ensure that the roles and responsibilities of both Synergy and Western Power are further clarified.

Recommendation 6

The Minister for Energy consider formalising a mechanism for knowledge transfer and collaboration between Western Power, Synergy and Horizon Power for the development of microgrids and associated technologies

Response

The recommendation is supported in-principle

The Government is investigating the most effective and efficient means through which the Government Trading Enterprises will be involved in collaboration to further the development of new technologies, including microgrids

Recommendation 7

The Minister for Energy ensure that the Energy Transformation Strategy clarifies the roles and accountabilities of the Australian Energy Market Operator and Western Power and delivers a structure for long term accountability for Whole of System Planning in the SWIS

Response

The recommendation is supported

The DER Roadmap, through actions 29 and 31, covers the design and development of the legislative and regulatory frameworks under which the distribution system operator and distribution market operator will operate.

A distribution system operator enables access to the electricity network, securely operates and develops an active distribution system comprising networks, demand and other flexible DER. The term distribution market operator is used to distinguish these responsibilities from that of the wholesale market operator

The inaugural Whole of System Plan, as outlined in the response to Recommendation 3, is being developed in collaboration with Western Power and the Australian Energy Market Operator. The ongoing roles and responsibilities for preparation of subsequent Whole of System Plans are under consideration through the Energy Transformation Strategy

Recommendation 8

The Minister for Energy ensure that reforms to the Electricity Networks Access Code 2004 expand the role of incentive-based mechanisms to ensure that assets are developed and operated on a technologically neutral basis, driven by overall cost efficiency.

Response

The recommendation is supported

The DER Roadmap highlights these reforms through action 21, which includes the delivery, by July 2020, of a range of updates to the Electricity Networks Access Code to facilitate better procurement of non-network solutions, using DER where appropriate, to address network power quality variations

In addition, Western Power will be required to develop and publish a Network Opportunity Map and develop a non-network solution vendor register and an alternative options strategy on its approach for the deployment of non-network energy solutions.

Recommendation 9

The Minister for Energy ensure that a revised Electricity Networks Access Code 2004 will require the Economic Regulation Authority to consider the need to facilitate innovation, research, and development of new technologies when approving Access Arrangements for covered networks

Response

The recommendation is supported

The DER Roadmap, action 21, includes the delivery, by July 2020, of updates to the Access Code to introduce a Demand Management Innovation Allowance mechanism. This mechanism will require the Economic Regulation Authority to consider allowing Western Power to recover revenue for approved research and development activities

Recommendation 10

The Minister for Energy ensure that a revised Electricity Networks Access Code 2004 provides mechanisms that would promote a more collaborative approach to developing Access Arrangements, aimed at ongoing issues identification and resolution

Response

The recommendation is supported

The Government is progressing amendments to the Access Code that will facilitate greater collaboration between the Economic Regulation Authority and Western Power when developing and approving an access arrangement. For example, the introduction of a 'framework and approach step' will set out upfront the services that will be regulated and the broad nature of the regulatory arrangements that will apply to Western Power over its next access arrangement period. This step is intended to facilitate early public consultation and to establish stakeholder agreement on the reference services that will apply in the next access arrangement period.

In addition, the proposed Access Code amendments will give Western Power the ability to respond to stakeholder submissions after the period of public consultation has finished. This initiative aims to ensure that Western Power will be able to address stakeholder concerns or requests for further information as part of the process.

Recommendation 11

The Minister for Energy direct the Energy Transformation Taskforce, in conjunction with Western Power, to include network tariff reform as part of its scope of work

Response

The recommendation is supported.

The Energy Transformation Strategy is addressing required reforms to network tariffs through changes to the Access Code

The changes to the Access Code will expand the pricing principles to provide greater clarity to Western Power in setting its reference tariffs, including the use of locational and time-of-use factors

Recommendation 12

The Minister for Energy direct Synergy to undertake tariff trials for small use customers to determine whether signals sent through retail tariff structures would change consumer behaviours and promote more secure, reliable and affordable electricity supply in the SWIS.

Response

The recommendation is noted

The DER Roadmap addresses electricity retail tariff trials through actions 17, 18 and 19

Two tariff pilots are proposed for the SWIS:

- a time-of-use pilot to commence in late 2020, targeting around 400 participants, and
- a demand-based tariff pilot to commence in 2021, targeting around 100 participants

These trials were approved in April 2020, but have been delayed due to COVID-19

The proposed tariff pilots will be designed to encourage load shifting from peak times into the middle of the day and will give important insights into how effective alternative tariffs are, in the SWIS context, in encouraging customers to shift load. There will also be learnings about the required support to customers in shifting load and bill management under alternative tariff arrangements

Recommendation 13

The Minister for Energy consult with other relevant Ministers to ensure that any electricity market reform process is accompanied by a review of the supports and concessions provided to vulnerable households with respect to electricity supply

Response

The recommendation is noted

The DER Roadmap includes measures to protect vulnerable customers in tariff pilots. It also includes an action to unlock DER opportunities for residential tenants, which can assist in spreading the benefits of DER to vulnerable households that currently cannot access these technologies

Broader concessions reform is not being considered at this time, although additional support is currently being provided to vulnerable customers to help ameliorate the financial and economic impacts of the COVID-19 pandemic.

Recommendation 14

The Minister for Housing instruct the Department of Communities, as part of its general property condition assessment and management processes, to proactively identify and undertake energy efficiency improvements on public housing stock constructed prior to 2003, where it is practical and cost-effective to do so.

Response

The recommendation is supported in-principle.

The Department of Communities owns over 26,000 public housing properties constructed before 2003. While funding for the assessment of all these properties is not available, there is value in investigating energy efficiency measures that may be undertaken to improve outcomes for public housing tenants. The Department of Communities is investigating opportunities to determine what energy efficiency measures may be undertaken during routine maintenance and when a house becomes vacant. The Department of Communities is in discussions with Energy Policy WA to investigate alternative power sources for public housing.

In addition, the Social Housing Economic Recovery Package (SHERP), developed as part of the Government's COVID-19 economic stimulus measures, will see the refurbishment of 1,500 existing public and supported residential houses and Community Housing Organisation houses. The refurbishments will include energy and water efficiency improvements to improve liveability, sustainability and appropriateness for residents. There will also be targeted maintenance on 3,800 regional social housing properties that will include upgrades to lighting and appliances to provide improved energy efficiency.

Recommendation 15

The Minister for Energy ensure that appropriate Supplier of Last Resort provisions extend to relevant customers in new microgrid-based business models in the SWIS.

Response

The recommendation is supported.

The DER Roadmap highlights the need for appropriate consumer protection arrangements for new business models through actions 34 and 35. The measure is being addressed as part of the Retail Electricity Licensing and Exemption Review (the Licensing Review).

The primary outcome of the Licensing Review being conducted by Energy Policy WA is to introduce, under the *Electricity Industry Act 2004*, a registration framework for new and innovative alternative electricity services to ensure that customers of those services are provided appropriate and enforceable consumer protections. Alternative electricity services could include microgrid business models.

Along with provisions for compliance, enforcement and dispute resolution, the proposed framework will allow a customised approach to the regulation of prescribed categories of alternative electricity service in the form of an enforceable code of practice. Provision to incorporate supplier of last resort arrangements into the regulatory arrangements for

alternative electricity services will be included in the draft legislative package to accompany the Final Recommendations Report for the Licensing Review.

Recommendation 16

The Minister for Energy avoid an approach to electricity licensing based on exemptions for new business models and instead introduce a new class of licence, aimed at facilitating new business models, whilst achieving appropriate consumer protections, social and economic policy outcomes. As a minimum, licensing arrangements for new business models should ensure that consumers in relevant classes retain access to:

- *the Energy and Water Ombudsman,*
- *supply based on Economic Regulation Authority approved contracts;*
- *supply provided under regulated tariffs, fees and charges,*
- *access concessions,*
- *coverage afforded under the Code of Conduct for the Supply of Electricity to Small Use Customers 2018,*
- *guaranteed access for life support customers, and*
- *the obligation for the retailer to supply electricity.*

Response

The recommendation is supported.

The DER Roadmap highlights the need for appropriate consumer protection arrangements for new business models through actions 34 and 35. The measure is being addressed as part of the Government's Licensing Review (refer to discussion under Recommendation 15).

The proposed framework for regulating alternative electricity service providers will provide customers with access to the Western Australian Energy and Water Ombudsman, model contracts, obligations to maintain supply and customer protection provisions that are similar to those afforded under the Code of Conduct for the Supply of Electricity to Small Use Customers 2018. The framework will be suitably agile to tailor the customer protections to the service being provided.

Regulated tariffs, fees and charges and the manner in which customers receive concessions are not being addressed through the Licensing Review.

Recommendation 17

The Minister for Energy review the operation and funding of the energy safety inspection function to ensure.

- *that consumers supplied through microgrids enjoy the same level of protection as traditionally supplied customers; and*
- *the costs of any alterations to inspection or safety regimes are appropriately recovered from causers and not inappropriately cross-subsidised*

Response

The recommendation is supported in-principle.

The DER Roadmap highlights the need for appropriate consumer protection arrangements for new business models through actions 34 and 35. The application of the energy safety inspection function is being evaluated as part of the Government's Licensing Review.

Recommendation 18

The Minister for Energy undertake a community engagement campaign, as part of the Energy Transformation Strategy and the market reform process, to explain the changes underway in the energy industry and the need for reform, outline the benefits offered and seek consumer's views on proposed changes.

Response

The recommendation is supported.

The DER Roadmap, through action 36, outlines a program of work to deliver a consumer education program to ensure that industry, government and the public are sufficiently informed about the need for changes being undertaken as a result of the DER Roadmap and other Energy Transformation Strategy reforms.

Consumer education to support the DER Roadmap and other Energy Transformation Strategy initiatives is being developed with, and is expected to leverage the communications channels used by, Synergy, Western Power and Horizon Power. Other work programs referenced in the DER Roadmap include consultation with affected customers and other stakeholders in the development of projects related to the transition to a high-DER energy future.

Recommendation 19

The Minister for Energy ensure that the Government Trading Enterprises have comprehensive workforce capability plans, aimed at building existing employees' skills and capabilities and appropriately recruiting new staff to develop, operate and maintain microgrids and distributed energy resources.

Response

The recommendation is supported in-principle.

The Government Trading Enterprises are taking steps to work with partners across the local industry to ensure that a full suite of energy sector related skills and expertise is developed and available in Western Australia.

Recommendation 20

The relevant Minister develop a strategy to commercialise and maximise the value delivered to Western Australia, arising from the intellectual property and microgrid delivery capability developed in the Government Trading Enterprises.

The commercialisation strategy should identify target interstate and overseas markets, particularly in India and South East Asia, and specifically consider ways to partner with the private sector to deliver scale and generate additional growth opportunities.

Response

The recommendation is supported in-principle.

See responses to recommendations 6 and 19 The Government Trading Enterprises are examining the best mechanism to collaborate with local industry to enable commercialisation of this opportunity, within Western Australia, as well as interstate and overseas

Recommendation 21

The relevant Minister investigate the establishment of a Centre of Excellence for Advanced Microgrids in Western Australia, to coordinate research and development, intellectual property commercialisation, and new skills development

Response

The recommendation is supported in-principle

The establishment of a Centre of Excellence should be investigated following further development of capabilities within existing institutions, clarification of the roles and responsibilities of the State-owned electricity businesses on these matters and following the establishment of strong partnerships with local businesses