Government of **Western Australia**
Energy Policy WA

Distributed Energy Resources Roadmap

Two-year Progress Report

April 2022

Minister for Energy foreword

I released the *Distributed Energy Resources Roadmap* back in April 2020 as part of the Western Australian Government's Energy Transformation Strategy. Our ground-breaking plan to integrate small scale, low marginal cost, and zero emission technologies within the power system was an Australian first and has influenced energy policy not only nationally, but internationally. Since the original release of the Roadmap, technology has continued to evolve and DER uptake has accelerated. The *Two-Year DER Roadmap Progress Report* marks an important milestone, with key actions being amended and expanded to address our rapidly evolving power system and the needs of consumers.

Released in April 2020, the DER Roadmap laid-out 36 priority actions to fully integrate distributed energy resources (DER) into the power system and Wholesale Electricity Market (WEM). The Roadmap aims to ensure that DER can support the safe, efficient operation of a decarbonising power system.

Since the Roadmap's original release, DER uptake has accelerated beyond expectation, unaffected by the challenges posed by the global pandemic. In response to this unprecedented growth, some Roadmap actions have been brought forward and others expanded to ensure customers can continue to invest in and enjoy the benefits of DER while the power system remains safe and secure.

The most significant addition to the Roadmap over the last 12 months is the implementation of new requirements for rooftop solar. The new requirements leverage recent technological improvements to allow management of solar output in emergencies, while supporting continued rooftop solar uptake.

The last 12 months also saw the release of the State Government's *Electric Vehicle (EV) Action Plan*, outlining 26 new priority actions to integrate EVs within Western Australia's power systems. The initiatives under the EV Action Plan will increase in importance as car manufacturers gradually phase-out internal combustion engines.

Action taken to allow management of rooftop solar output during emergencies has helped take immediate system security risks off the table.

At the same time, knowledge of how the power system can be securely operated in a high-DER environment has deepened. With the deferral of new wholesale market arrangements to 1 October 2023, there is an opportunity to re-align the timelines of Roadmap actions with the priorities and needs of the power system while leveraging the lessons from the piloting of new technology in Project Symphony.

Given these major developments, and progress made across the Roadmap actions, I am proud to release this *Two-Year Progress Report*.

Major activities over the next year will include the development and implementation of new tariff and virtual power plant products for smaller customers, the transition of Project Symphony (Government's flagship virtual power plant pilot) from design to delivery, and further detail on the design of the regulatory framework for DER participation in the new energy markets.

My continued thanks go to our Roadmap project partners Energy Policy WA, the Australian Energy Market Operator, Western Power, Synergy, and Horizon Power, and all others who have contributed to this excellent progress. Without you, the implementation of the Roadmap would not be possible.

I look forward to the next year of the Roadmap's progress. Delivered in partnership with industry and customers, the Roadmap is playing a key role in the transformation of the power system.

Hon Bill Johnston MLA
Minister for Energy

Distributed Energy Resources Roadmap

Implementation summary

Following the completion of the Energy Transformation Taskforce, responsibility for oversight of the DER roadmap passed to Energy Policy WA.

The first year of the DER Roadmap focused on urgent actions related to technical standards for DER. In the second year, there has been a shift to more forward-looking aspects of DER participation, including planning for the arrival of widespread electric vehicles (EV) uptake. Highlights of the work in this progress report include:

- **Project Symphony**, the flagship DER Roadmap orchestration pilot received funding from the Australian Renewable Energy Agency (ARENA) and progressed from planning to customer recruitment and testing.
- **Launch of the WA EV Action Plan** which, supporting the over-arching DER Roadmap, provides a detailed program of actions to reduce risks and optimise the impact on the power system from the inevitable growth in electric vehicles.
- **Bringing forward implementation of the new inverter standard**, introducing improved autonomous inverter settings that help support the power system.
- **Release of the initial Network Opportunities Map** by Western Power, offering an insight into potential transmission and distribution network constraints over the next five to ten years, identifying future opportunities for storage and other technology to support the network.
- **The success of Synergy's time-of-use tariff pilot, the 'Midday Saver'**, with lessons learned from the pilot now being incorporated in the design of planned customer products suitable for a high-DER future.

In addition to the core DER Roadmap actions:

- Energy Policy WA oversaw the launch of **Emergency Solar Management** capability in February 2022, addressing short to medium-term power system risks and increasing opportunities for DER aggregation.
- The **Smart Energy for Social Housing** project saw rooftop solar and solar hot water systems installed on over 100 social housing properties, with these households receiving a discounted tariff in the middle of the day, as well as lower water heating costs.
- **Solar Schools Virtual Power Plant** projects were also expanded to 10 schools, including seven with batteries in 2021.

The Changing Landscape

Since the release of DER Roadmap by the McGowan government in April 2020, the world has not stood still. The plan remains a leading approach to the challenge of integrating DER into power systems and unlocking its benefits. Like all good plans, the Roadmap is adapting to reflect the needs of a changing environment.

Our love for rooftop solar PV continues to grow

Installation rates accelerated beyond expectations during 2021-22 as many households focused spending on home improvements, including rooftop solar. 376MW[1] of new capacity was added in 2021 by households, schools, and small businesses – bigger than the 340MW coal-fired Collie Power Station.

In-line with accelerated growth in rooftop solar, new power system challenges began to emerge ahead of original forecasts. AEMO and Western Power responded by refining our understanding of how, where, and when these power system risks may occur.

Responding to low load risks

In response to identified risks, the 'Low Load Project' was initiated in mid 2021 to look at a systemwide approach and urgent responses needed while the DER Roadmap continued to deliver on the long-term vision of integrating DER in the day-to-day operation of the power system.

Elements of inverter standards put in place under **Action 1** were brought forward, and Emergency Solar Management capability was announced in late-2021 (see below). Work already underway relating to grid response **(Actions 9-11)** and power system operations **(Actions 12-13)**, are closely related to activity resulting from the Low Load Project, and have been adjusted accordingly.

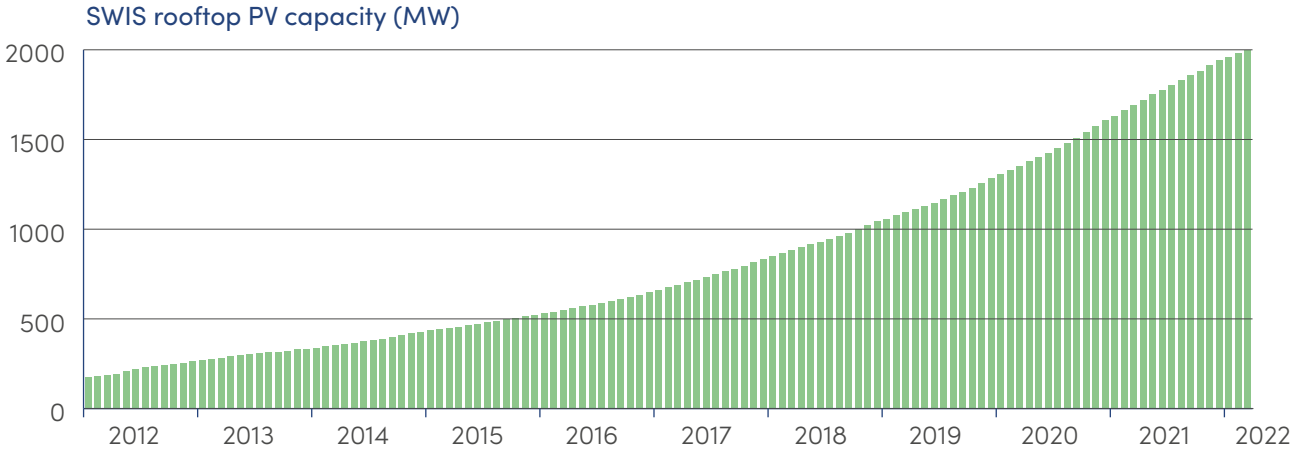
Market reform

Implementing once-in-a-generation electricity market reforms is a monumental challenge. In late-2021 AEMO notified the Government that it was extending the deadline for the commencement of the new Wholesale Energy Market arrangements from 1 October 2022 to 1 October 2023. While this extension will enable delivery risks to be managed, it has flow on implications for Roadmap work being undertaken on DER participation.

The timing of some actions has been adjusted to reflect the change in market start and additional complexity uncovered as work has progressed. Other actions have been expanded to recognise aligned initiatives being undertaken by project partners.

Project Symphony

While development of the DER orchestration project **(Actions 22 & 23)** continued, Project Symphony was not able to kick-off in earnest until early 2021. To ensure sufficient time is given for testing, the project end date was extended until Mid-2023.



1. AEMO, Quarterly Energy Dynamics, Q4 2021,https://aemo.com.au/-/media/files/major-publications/qed/2021/q4-report.pdf?la=en

Emergency Solar Management

On 14 February 2022, Emergency Solar Management (ESM) requirements were introduced for new rooftop solar installations and upgrades. These changes would enable management of system output to maintain power system security during periods of very low operational demand.

In order to avoid potentially needing to limit rooftop solar installations altogether to maintain power system security, ESM supports the continued uptake of rooftop solar in the SWIS and helps us to increase our level of renewables overall.

ESM requirements were made following AEMO's *Renewable Energy Integration – SWIS Update* report, released 28 September 2021. This identified that the accelerated rooftop solar uptake presents a risk to the SWIS and recommended that ESM capability be introduced as a priority to assist in managing power system security and reliability.

It is expected ESM will only be required infrequently and for short periods, with implementation of DER Roadmap initiatives aimed to reduce the need for ESM in the long term.

DER Roadmap

Actions

The DER Roadmap outlines 36 urgent actions under four themes and 14 work packages:

Technology integration

- Inverter Standards
- Distribution Battery Storage
- Grid Response
- Power System Operations
- Distribution Network Visibility
- Planning for EV Integration

Tariffs and investment signals

- Tariff Pilots
- DER for Tenants

DER participation

- Network Investment Process
- DER Orchestration Pilot
- DSO/DMO Function Set

Customer protection and engagement

- Data
- New Business Models
- Customer Engagement

Detail on the progress against each DER Roadmap action is provided on the following pages.

Progress report

No	DER Roadmap Action	Status
Technology integration		
1	By October 2020, deliver improved inverter functions through the Standards Australia national review process for AS/NZS 4777.	Complete
1b	**New Action:** By December 2022, AEMO to undertake an assessment of the roll out of AS/NZS 4777.2:2020 compliant inverters on DPV tripping incidence and identify additional updates required to improve inverter performance.	Underway
2	**Updated:** By December 2022, assess the opportunity to deliver a program to incentivise the updating of latent capabilities in the existing inverter fleet.	Underway
3	**Updated:** By July 2023, evaluate appropriate mandatory standards, communications functionality, and protocols for remote management of DER, including electric vehicle equipment, and establish a plan to implement.	Ongoing
4	By September 2022, develop a process to ensure inverters remain compliant with connection requirements and are upgraded to the latest settings over time.	Underway
5a	By December 2020, deploy community PowerBanks to address network constraints in Canning Vale, Dunsborough, Ellenbrook, Kalgoorlie, Leda, Parmelia, Port Kennedy, Singleton, Two Rocks, and Wanneroo.	Complete
5b	By October 2020, develop a plan covering 2021-24 for Western Power to obtain additional distribution storage services (and installations where services do not emerge) across the SWIS to meet emerging network needs.	Complete
6	By December 2020, implement appropriate metering and settlement arrangements for distribution storage.	Complete
7	By December 2020, ensure the Electricity Networks Access Code 2004 allows Western Power to recover appropriate costs associated with efficient use of distribution storage under its regulated revenue.	Complete
8	**Updated:** By June 2023, update the Technical Rules as necessary to clarify the requirements for distribution battery storage beyond the current treatment as both a generator and a load.	Underway
9	By April 2020, install 25 MVAr (five x 5 MVAr units) of reactive power compensation, and continue the assessment and delivery of network technology solutions to provide grid support and maintain system stability on low-demand days.	Complete
10	**Updated:** By June 2020, complete a review Under Frequency Load Shedding arrangements, and assess implications for AA5 investment program.	Complete
10b	**New Action:** From July 2021, incorporate enhanced DER and Load Model information into UFLS arrangements.	Commenced

Commenced: DER Roadmap requirement met, with work ongoing
Underway: Work in progress to meet DER Roadmap requirement

No	DER Roadmap Action	Status
11	**Updated: Completion dependent on Government legislative priorities:** By December 2022, draft updates to the Electricity Act 1945 to reflect a voltage standard that is more suitable for a high-DER environment.	Underway
12	Beginning in June 2020, revise system restart arrangements to consider DER.	Complete
12b	**New Action:** From September 2021, incorporate enhanced DER and Load Model information (achieved under Action 13) into System Restart arrangements.	Commenced
13	By March 2021, ensure the system operator's dynamic system modelling adequately incorporates DER, and arrangements adequately address power flows during system events.	Complete
14	**Updated:** By June 2023, undertake an assessment of distribution network visibility capability and develop an investment plan for deploying technology to improve that visibility, both static and dynamic, to support DSO and system/market operator requirements.	Underway
15	By September 2020, deliver a register of static DER data for the SWIS, with processes to support data collection and future DSO functionality.	Complete
16	By June 2020, commence work on planning to integrate electric vehicles in the grid, including for the deployment of charging points (household and fast charge) and trials to better understand the capabilities of vehicle to grid technology.	Commenced
Tariffs and investment signals		
17	By March 2020, develop tariff pilot programs to explore tariff structures that encourage system-efficient use of and investment in DER and help to share the benefits of DER with all customers. The scope of the pilots should include measures to assist and protect vulnerable customers.	Complete
18	Beginning in July 2020, commence implementation of the tariff pilots.	Complete
19	**Updated:** By June-2022, complete reviewing the progress of and insights from the tariff pilots.	Underway
20	**Updated:** By December 2022, deliver a program that reduces barriers to the installation of DER at commercial and residential rental properties.	Underway

Commenced: DER Roadmap requirement met, with work ongoing
Underway: Work in progress to meet DER Roadmap requirement

No	DER Roadmap Action	Status
DER participation		
21	By July 2020, deliver a range of updates to the Electricity Networks Access Code 2004 to facilitate better procurement of non-network solutions (using DER where appropriate) to address network issues by Western Power.	Complete
22	By July 2020, commence a comprehensive VPP technology pilot to demonstrate the end-to-end technical capability of DER in the SWIS, and its ability to respond in a coordinated manner under central dispatch instruction. The pilot would commence with a focus on technical performance of DER and transition to market participation testing (see action 23)	Complete
23	**Updated:** By July 2023, complete a comprehensive VPP market participation pilot that tests the incorporation of aggregated DER into energy markets, including market dispatch and settlement arrangements from the market operator to individual customer.	Commenced
24	By May 2022, develop a plan for the establishment of a DSO and DMO in the SWIS, including the identification of roles, functions, costs, and practical operations. This plan should include an assessment of to the system for the establishment of these functions.	Complete
25	**Updated:** By May 2022, identify legislation and regulatory framework requirements including timeframes for development and implementation to establish DSO and DMO functions.	Complete
26	**Updated:** By December 2023, finalise communications protocols, data, and technology requirements to accurately predict and publish operating constraints on the distribution network under a DSO, and requirements for coordination with the system operator.	Underway
27a	**New Action:** By October 2023, implement initial changes to WEM Rules to enable development of DMO functionality and DER Aggregator participation in the WEM.	Planning commenced
27b	**Updated:** By July 2025, commence implementation of changes to wholesale market arrangements necessary to enable the participation of DER in the wholesale market via a DER aggregator.	Underway
28	**Emergency Solar Management now delivers the emergency capability that this action was intended to support:** By June 2022, introduce adapted network connection agreements that enable the DSO, once established, to interact with devices on the distribution network.	Complete
29	**Updated:** By July 2024, deliver a DSO / DMO legislative and regulatory framework, for transition to commencement by October 2025.	Planning commenced

Commenced: DER Roadmap requirement met, with work ongoing
Underway: Work in progress to meet DER Roadmap requirement

No	DER Roadmap Action	Status
30	**Updated:** On 1 October 2025, DSO and DMO commencement with DER coordinated to provide services to the network and wholesale market and compensated appropriately.	Planning commenced
31	**Suspended – see DER Participation (page 15):** By July 2023, develop the initial design of the framework for a distribution services market with fit for purpose arrangements for dispatch and settlement. Include an assessment of the cost and benefits of market creation.	Suspended – see DER Participation
32	**Suspended – see DER Participation (page 15):** By July 2024, commence the development of trials for a distribution services market for network support.	Suspended – see DER Participation
Customer protection and engagement		
33	By September 2020, assess the applicability of the Consumer Data Right to Western Australian energy customers and commence assessment of an applicable customer data regulatory framework.	Complete
34	By June 2020, commence a process to ensure that new business models in the electricity sector, at a minimum, provide appropriate protections for consumers.	Complete
35	**Updated to align with proposed concurrent legislative changes to be Oct 2023:** By October 2023, establish a regulatory framework in the SWIS for new energy service business models to ensure access to the Energy Ombudsman, and that hardship schemes and exemptions are appropriately applied.	Underway
36	By July 2020 engage with energy customers and commence an 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 Roadmap recommendations.	Ongoing

Commenced: DER Roadmap requirement met, with work ongoing
Underway: Work in progress to meet DER Roadmap requirement

DER Roadmap action status update

Technology integration

Inverter Standards (Actions 1-4)

Inverter capability, through which DER devices interact with the power system, is critical to managing high levels of DER.

AS/NZS 4777.2:2020 was introduced in December 2020, bringing with it improved voltage ride through capabilities for new inverters, but it was not due to be implemented until December 2021. However, the accelerated rate of rooftop solar uptake in Western Australia meant that benefits could be realised by bringing this capability forward. As a result, from 1 July 2021, new inverters were required to have the improved voltage ride-through capability, improving grid security.

Recognising new risks identified since the launch of the DER Roadmap, **Action 1b** has been added to review ongoing risks associated with inverter ride-through performance and provide recommendations for future improvements

Action 3 has been amended to reflect the removal of communications requirements from the last round of AS/NZ4777 updates and an increased focus on cyber security. In addition, the introduction of Emergency Solar Management reduced the short-term need to implement a local requirement. This work will now focus on aligning DER standards via a nationally harmonised approach.

In the last 12 months, DER Roadmap **Actions 3 and 4** (inverter communications and compliance) have been expanded to also apply to EV-related equipment, including inverters. This decision has been driven by ongoing modelling conducted by Western Power and AEMO demonstrating that, in the absence of consistent standards enabling remote management and coordination of EV-related charging behaviour, the need for costly network augmentation over the medium-term is likely to be substantial (around $650 million by 2030 under potential scenarios).

This modelling was completed as part of the delivery of the EV Action Plan and was not available at the time the DER Roadmap was originally developed.

Energy Policy WA will leverage standards development work being undertaken in other Australian and international jurisdictions to ensure alignment and interoperability of equipment.

Distribution Storage (Actions 5a-8)

Storage on the distribution network can provide cost effective solutions for network and power system risks, while offering opportunities for customers to access storage products.

Evaluation of Community PowerBanks continued over 2021, with several consumer products being trialled.

Following-on from its December 2020 Distribution Storage Opportunities Information Plan (**Action 5b**), Western Power issued a related Registration of Interest for specific network support services.

Western Power is currently reviewing storage provisions in its Technical Rules for implementation by December 2022 (**Action 8**), pending approval by the Economic Regulation Authority.

Grid Response (Actions 9-11)

As DER levels increase, the Western Power distribution network faces localised challenges, particularly due to fluctuations in voltage and increased two way power flows.

The review of Western Power's Under Frequency Load Shedding (UFLS) arrangements to ensure their ongoing suitability for a high-DER environment has been extended, due to the complexity of DER behaviour under a range of plausible scenarios. **Action 10b** reflects the split between the review and the implementation of required changes. Importantly, the extension of this work enables alignment with the timing and outcomes of the Low Load Project.

Changes to voltage standards (**Action 11**) for better suitability for a high DER environment are being progressed in concert with wider Energy Legislation and Governance reforms and are intended to be implemented alongside the Government's broader legislative program.

Power System Operations (Actions 12-13)

The increasing complexity of a distributed power system, with nearly 400,000 individual generators, presents new operational challenges to the system operator, including during contingency events and managing increasingly volatile power flows.

Building on work to revise system restart arrangements (**Action 12**) completed in 2021, new activity (**Action 12b**) will incorporate the results operationally. AEMO also completed updates to dynamic system modelling that includes DER and is moving this to approach normal operations. (**Action 13**).

Distribution Network Visibility (Actions 14-15)

The DER Roadmap recognised the need for Western Power to have greater visibility of the distribution network, including mechanisms for recovering network visibility investments.

Western Power has completed its review of its Technical Rules, including some initial proposed changes to support network visibility requirements. This is now with the ERA for assessment and will assist build future capability (**Action 14**).

The DER Register (**Action 15**) commenced in 2021 to capture PV systems and battery storage, completing the action as set out in the DER Roadmap. However, additional benefits to system operations and forecasting may be gained from visibility of other DER such as EV charging equipment and work is now underway to evaluate how these can be included.

Planning for Electric Vehicle Integration (Action 16)

The uptake of electric vehicles (EVs) remains at its early stages in Western Australia. However, experience with other types of DER has shown that the risk from uncoordinated, widespread adoption of EVs will still present significant challenges for the power system. At the same time, the prevalence of large, mobile storage offers an opportunity to provide broader network and system benefits.

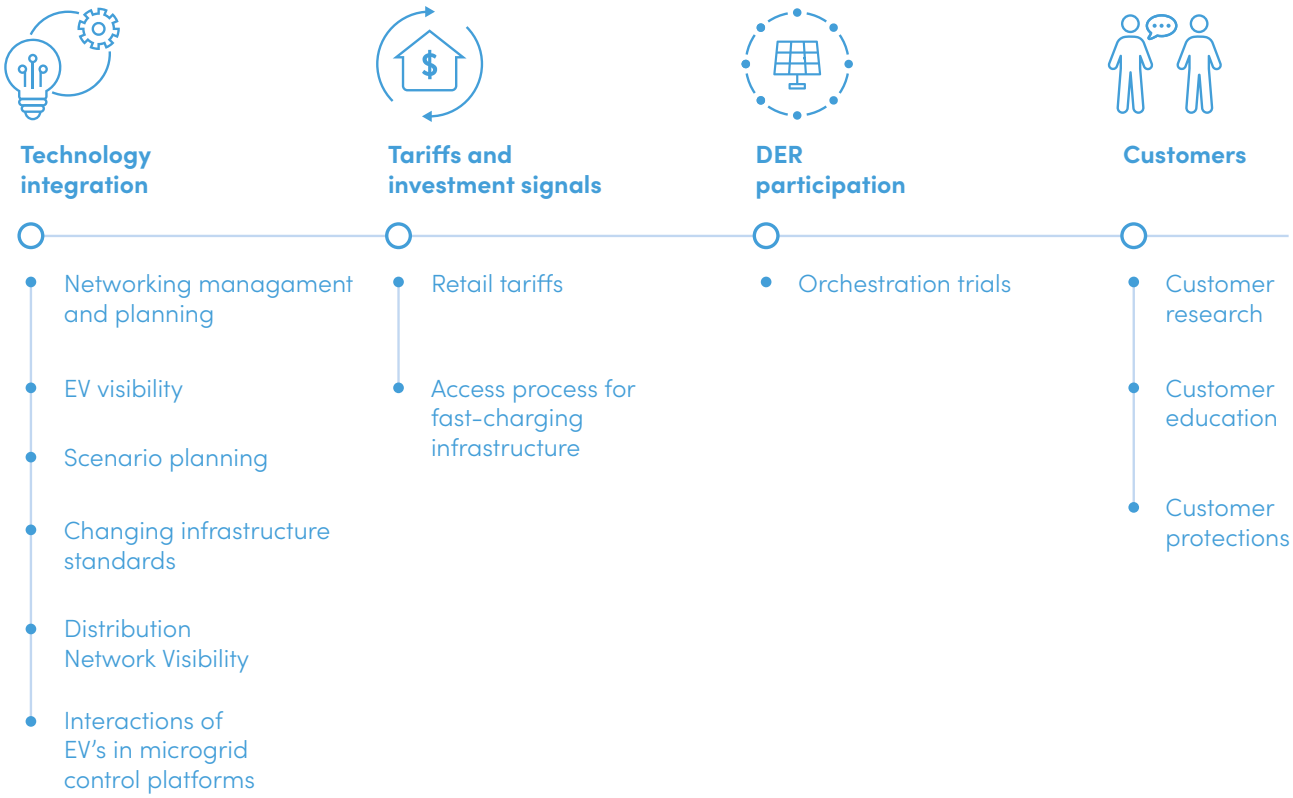
In response, *The Electric Vehicle (EV) Action Plan: Preparing Western Australia's Electricity System for Electric Vehicles* (the EV Action Plan) was released on 17 August 2021 by the Minister for Energy, Hon. Bill Johnston MLA. The EV Action Plan is an integrated set of 26 actions designed to deliver a future where EVs contribute to a safe, reliable and efficient electricity system while accelerating our transition to a low-carbon future.

The EV Action Plan recognises that EVs are a distinctive type of DER that warrants its own implementation roadmap. The EV Action Plan was developed in consultation with key stakeholders, including; EV advocacy groups; local government authorities, government trading authorities; AEMO; and relevant State Government departments.

Time-of-use tariffs have been trialled by Synergy, successfully demonstrating the ability of customers to shift EV charging away from the evening peak. Customers with EVs stand to benefit from reduced cost charging offered by time-of-use tariffs. Lessons learned from tariff pilots underway (**Action 18**) will inform new product offerings that can be offered to EV customers.

EV Actions

The EV action plan outlines 26 actions under the four roadmap themes to support EV uptake



Tariffs and investment signals

Tariff Pilots (Actions 17-19)

The DER Roadmap recognised that existing tariff structures are increasingly unsuitable as DER penetration increases, and tariff structures should be explored that encourage system-efficient behaviour by electricity users and alleviate equity issues between customers with – and without – DER. To understand the impact of alternative tariff structures, Synergy, Western Power, and Energy Policy WA have collaborated on the design of the 'Midday Saver' time-of-use tariff pilot (**Action 17**), commencing in November 2020 for more than 400 residential customers (**Action 18**). The Midday Saver features an 8 cents per kilowatt hour (c/kWh) for electricity consumed between 9am-3pm to encourage the use of plentiful solar energy, and a 20 c/kWh rate between 9pm and 9am to encourage electric vehicle charging outside peak times. Participant focus groups and surveys have been combined with Synergy's load data analysis to evaluate the pilots (**Action 19**) and will be used to inform Synergy's future tariff product offerings

DER for Tenants (Action 20)

Residential and commercial tenants are often unable to enjoy the benefits of DER, as there are limited incentives for landlords to install such devices. Synergy is currently implementing the Government's Smart Energy for Social Housing project, with over 100 social housing customers accessing lower bills from rooftop solar and electric heat pump water heaters being installed on their properties. Another 4,000 properties have been identified to be potentially suitable for the project.

In addition, using learnings from Synergy's tariff pilot (**Actions 17, 18 and 19**), Synergy is looking to launch tariff products later in 2022 that share the benefit of abundant solar on the grid with those households unable to install solar themselves. The Alternative Energy Services framework and new Codes of Practice (covered under **Actions 3-35**) will also enable new products to become available to both residential and commercial renters.

Project Symphony, the flagship DER Roadmap orchestration pilot, achieved multiple significant milestones over 2021.

DER participation

Network Investment Process (Action 21)

Western Power is provided guidance through the Access Code on how it procures and makes network investments. The DER Roadmap recognised that as network challenges resulting from DER intensify, and as innovative DER solutions emerge, the Access Code and network investment process must evolve to leverage new opportunities.

On 18 September 2020, Energy Policy WA implemented a range of changes to the Access Code (meeting the requirement of **Action 21**), facilitating better procurement of non-network solutions to address network issues.

Project Symphony (Actions 22-23)

The coordination of large quantities of individually owned and operated DER devices is critical to realising the benefits of DER for the power system and by extension, consumers. Orchestrated DER, acting as a virtual power plant, will be able to participate in providing network and system services, and facilitate payment to customers for providing those services.

Project Symphony, the flagship DER Roadmap orchestration pilot, achieved multiple significant milestones over 2021.

Project partners (Western Power, Synergy and AEMO, assisted by Energy Policy WA) progressed through detailed planning and procurement phases, recruited initial customers, and have now commenced integrated testing of the virtual power plant, located in the Southern River area.

A funding agreement with the Commonwealth Government, through ARENA was signed in early 2021. Knowledge and learning from the project will be shared with others through the ARENA web portal, with several reports already available.

Distribution System Operator (DSO) and Distribution Market Operator (DMO) Functions (Actions 24-32)

The DSO and DMO actions are interrelated with progress on other DER Roadmap actions, including those relating to inverter standards and Project Symphony.

Changes to the new WEM commencement date will not affect progress on these actions but will have consequences for delivery and implementation. Work will continue on these initiatives but incremental changes to market rules and provision of services will not be enabled until after new market operations have commenced.

Energy Policy WA will release an information paper DER Orchestration Roles and responsibilities (**Action 24**) in the first half of 2022. AEMO has also been working to progress understanding of legislative and market changes needed for full DER participation in the WEM (**Actions 25 & 27**). However, capturing insights from Project Symphony is important in delivery of these actions, so timing has been adjusted.

To provide direction and guidance to the sector, Energy Policy WA undertook work over 2021 to identify areas where policy direction is clear, and areas where additional work is needed. These were outlined in the recent DER Orchestration Roles and Responsibilities Information Paper.

Heads of power for DSO and DMO functions (**Action 29**) are expected to form part of legislative and regulatory reforms being progressed to implement the framework for Power System Security and Reliability standards proposed by the Energy Transformation Taskforce in April 2021.

Following consideration of how DER will participate in the near- to medium-term, and the progress made to better enable network support services in the electricity market under the Essential System Services framework, the cost and complexity of establishing separate markets for distribution services (**Actions 31-32**) in the SWIS are likely to outweigh the benefits for the period considered by the Roadmap. In response to this assessment, work in this area is suspended pending future review.

Customer protection and engagement

Customer Data (Action 33)

Customer data and information flows will play an increasingly important role as DER and energy services markets evolve. Arrangements relating to the ownership, availability and protection of this data require consideration, including the application of the Consumer Data Right (CDR) being implemented elsewhere in Australia.

Energy Policy WA has undertaken a review of the CDR for energy consumers in the SWIS, and on 6 November 2020, released a paper on the applicability of the CDR to the Western Australian energy sector (completing **Action 33**). This paper found that customers already have rights to their data, but a long-term data governance framework should be assessed following the completion of the reforms implemented under the Energy Transformation Strategy.

New Business Models (Actions 34-35)

The proliferation and development of DER is creating opportunities to new business models providing energy services for customers. As these services emerge, it is essential that customer protections are retained, and the regulatory framework is kept up-to-date.

Energy Policy WA has undertaken a Retail Electricity Licensing and Exemptions Review of the existing regulatory framework. The review has led to development of a new alternative electricity services framework including Codes of Practice to ensure consistent customer protections (**Action 34**). This framework will also lead to obligations for new business models in relation to these protections (**Action 35**).

Customer Engagement (Action 36)

The DER Roadmap recognises that DER should provide benefits and value to all customers. Therefore customer engagement is central to achieving DER integration.

Synergy's consumer engagement campaign "Tomorrow Can't Wait" provided information to help customers navigate the energy transformation. Energy Policy WA also continued engagement with energy customers (**Action 36**) through public forums, publications, website content, and public consultation. Throughout 2021-22, Energy Policy WA held five public forums, and in 2022 commenced quarterly DER Stakeholder Forums providing information and engaging with stakeholders on the activities being undertaken to implement the DER Roadmap.

The proliferation and development of DER is creating opportunities to new business models providing energy services for customers. As these services emerge, it is essential that customer protections are retained, and the regulatory framework is kept up-to-date.

What's next?

The second year of the DER Roadmap has seen significant progress on areas required to implement longer term participation goals. Over 2022 we will see:

- Project Symphony will ramp up customer numbers and run through testing of focused scenarios to demonstrate virtual power plant capability in various services. Publication of several reports via ARENA will share the lessons learned from the project with others
- Work on the EV Action Plan will focus on building the foundations for facilitating EV uptake and integration in the power system in Western Australia; establishing EV uptake forecasts and modelling the impact on network costs under different policy settings.
- Western Power, Horizon Power, and Energy Policy WA will review technical standards under the lens of reducing the longer-term costs of EV integration. This includes developing standards that will give greater visibility of where EVs are on the network and give EV charging equipment the capability to participate in VPPs via an aggregator.
- The adoption of technical standards for EVs will be progressed consistent with Actions 3 and 4 of the DER Roadmap, broadened to specifically address EV related standards in addition to other DER related standards.
- Future participation of DER. Building on the policy settings outlined in the DER Orchestration Roles and Responsibilities Information Paper, work will continue to prepare for incremental participation of DER in various markets, following commencement of new WEM arrangement on 1 October 2023.
- The Alternative Energy Services framework will be progressed through amendments to primary legislation, with the intention for these to be introduced into Parliament in late-2022. Initially targeting behind the meter financial arrangements and embedded networks, this framework is expected to include other DER related services in the future.
- Customer engagement continues across actions. Energy Policy WA has initiated regular DER Stakeholder Forums to provide a place to share information and for stakeholders to ask questions and provide feedback.
- Conclusion of the Midday Saver tariff pilot, followed by new opt-in tariff offerings being offered from mid-2022.

Our implementation partners

Working together for a brighter energy future

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We're working for Western Australia.

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