

# WAECEF – DER update

June 23 2021

Tom Butler

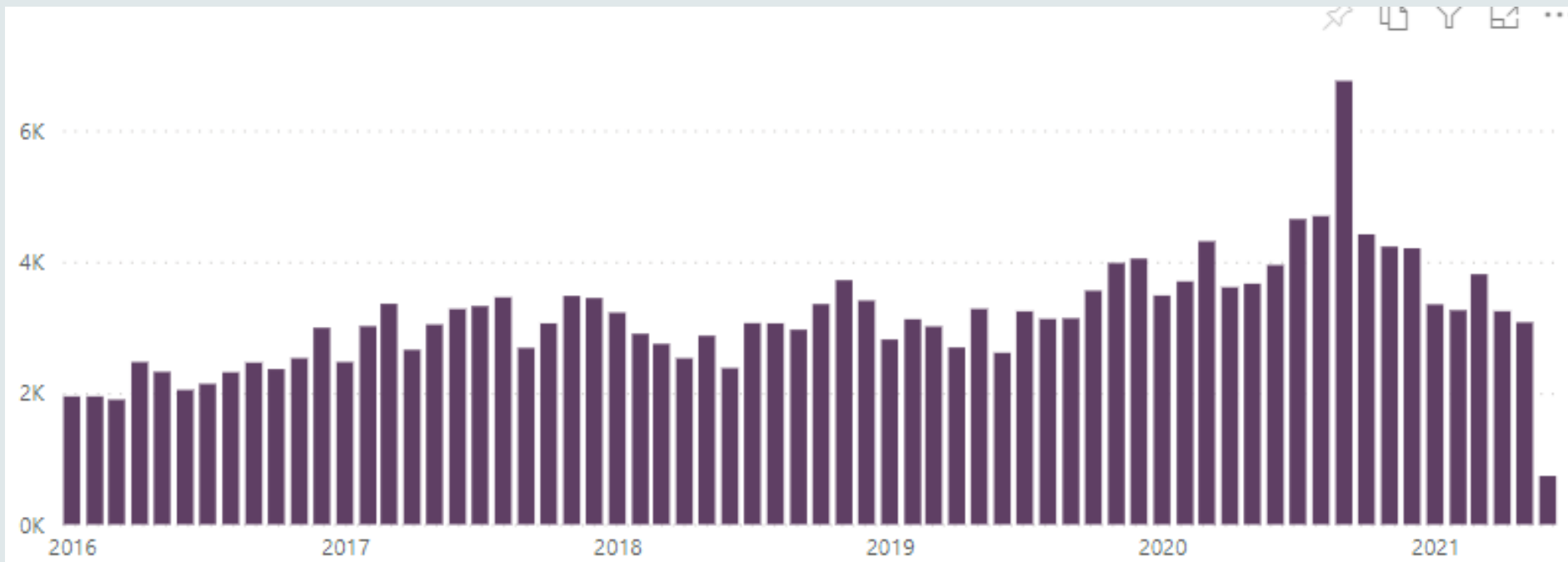
# Status Update – DER Roadmap Projects

- G Project is continuing within agreed tolerances.
- A Project is at risk. Monitor and apply corrective action as required
- R Project is not meeting requirements. Corrective action required
- C Project is New or Complete

DER Roadmap: DER Register	<span style="color: green;">G</span>	<p>The DER Register project is now closed. All AEMO systems are up and running and data has been received for most of the existing DER installations. Some data quality and completeness issues remain for existing installations, and collection of data for new installations is not providing the complete data set. AEMO is actively working with Western Power to support improvements to data. Further work is required for data collection from electrical contractors via Buildings and Energy (Energy Safety).</p> <p>AEMO is also considering enhancements to the public data dashboard as further work.</p>	<i>DER Roadmap</i>
DER Roadmap: Technology Integration	<span style="color: green;">G</span>	<p>The Technology Integration project is focusing on developing and testing dynamic models for DER and load to represent system performance during disturbances. Analysis will also be undertaken on an ongoing basis as system events occur to continue to build on our understanding of how DER and load perform. AEMO's contribution to additional DER Roadmap actions (such as UFLS) is also progressing in line with an agreed work plans with Western Power and EPWA.</p> <p>AEMO has been supporting EPWA and Western Power to consider and advance elements of the forthcoming AS4777 standard, including Voltage Disturbance Ride Through capability, which will now come into effect for all new DER installations from July. Key AEMO experts involved in this project are also working across both WA and the NEM to investigate and understand system security challenges during low load conditions.</p>	<i>DER Roadmap</i>
DER Roadmap: DER Orchestration Pilot	<span style="color: orange;">A</span>	<p>AEMO contribution has been progressing with architecture and vendor engagement, and co-design with project partners. Partners have agreed on test priorities for market services alongside network services. Partners have agreed a high level technical delivery plan that commences the trial from December as a minimum viable product. AEMO's test and research plans are under development. The project's amber status reflects delays due to partner dependencies and vendor engagement.</p> <p>The WA team has been actively working with the NEM team to align capability and project components with Project EDGE in Victoria, seeking to find efficiencies as far as possible.</p>	<i>DER Roadmap</i> <i>"...to begin building, testing and evaluating options to facilitate DER integration across the WEM and SWIS"</i>
DER Roadmap: DER Participation	<span style="color: green;">G</span>	<p>AEMO has made a significant contribution to provide considered options for market participation and progress against DER Roadmap actions is now dependent on EPWA. The project team has been focusing on considering design arrangements under WEM Reform and research questions to incorporate into Project Symphony and considering delivery of DER Roadmap Action 30 in the AR6 period.</p>	<i>DER Roadmap</i>

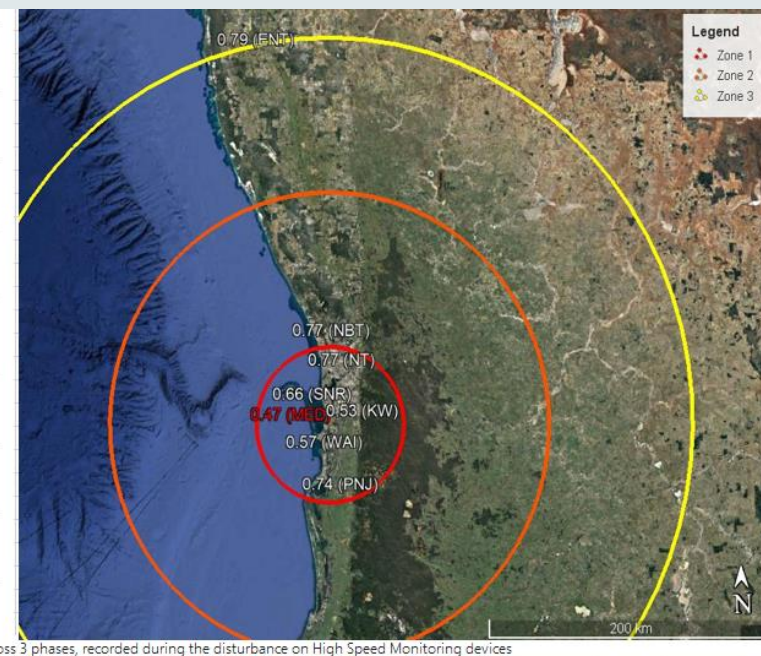
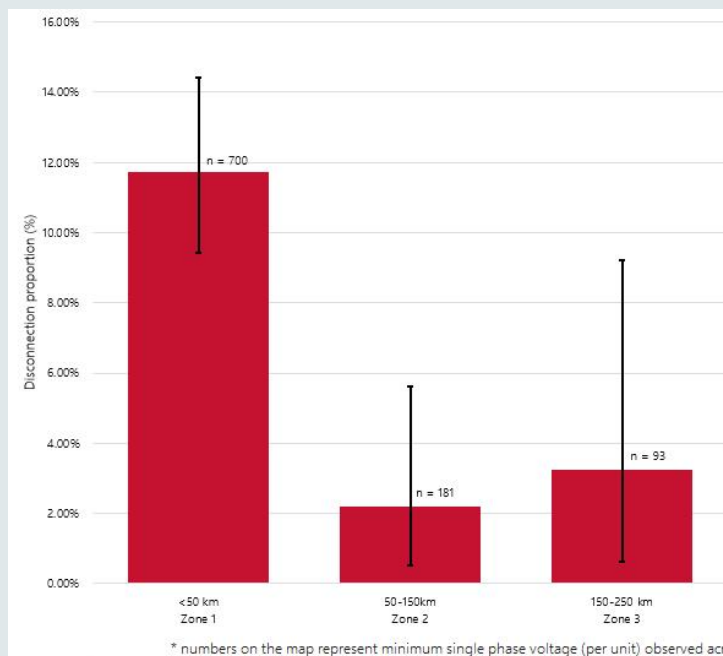
# DER Register – Status and Challenges

- Status: Project closure, with operational team access to DER data
- Key challenge: Data quality
  - Ongoing data collection from electrical contractors (e-notice portal upgrade to come)
  - Public presentation of information limited with expansion / enhancement being considered



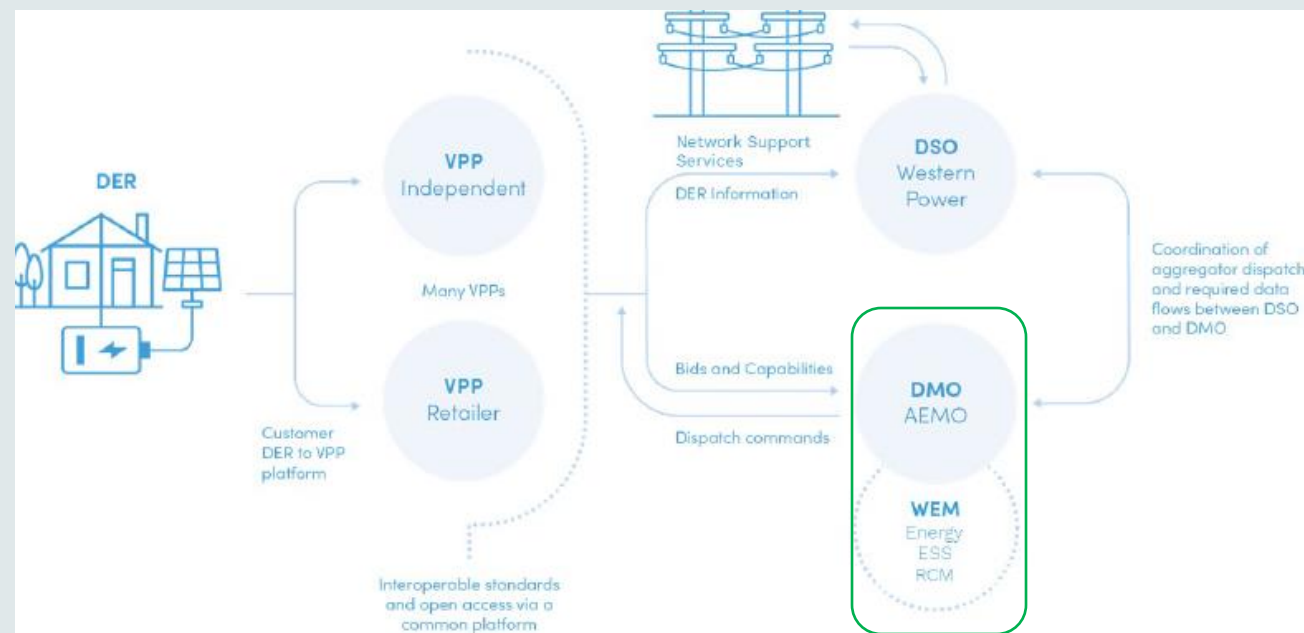
# Technology Integration – Status & Challenges

- Status: Ongoing, with teams coordinating knowledge and capability across Australia
- Key challenge: Inverter tripping
  - AS4777 standard will advance performance, expedited elements including Voltage Disturbance Ride Through will bring inverter performance enhancements forward
- Key challenge: DER and Load models
  - DER performance derived from device and system measurement across WEM and NEM
  - Model development underway to reflect measured DER performance and enable effective dynamic system performance to inform operational / planning and service level decisions
  - Ongoing use of models to assess system performance required
- Key challenge: DER behaviour
  - Ongoing assessment of DER behaviour required to continue to evolve standards and system requirements
- Key challenge: Under Frequency Load Shedding
  - Partnership underway with Western Power to assess and evolve the UFLS scheme to ensure this remains effective into the future



# DER Orchestration Pilot – Status and Challenges

- Status: Ongoing, detailed platform design, scenario planning and integration consideration underway
- Key challenge: Partnerships and co-design
  - Ongoing and focussed attention to requirements, scenario planning and integration has made progress towards and MVP model for DER Orchestration, for the trial to commence from December
  - Internal alignment kick off held this week to drive detailed planning and co-design forward
- Key challenge: Data provision and integration
  - Identify data requirements and needs to enable simulation of market conditions
  - Consider lowest cost data exchange and high visibility for pilot, and identify needs from pilot
  - Develop scalable approaches (such as user interfaces) based on identified needs
- Key challenge: Developing test plans
  - Engaging internal operational SMEs to develop test plans for services alongside research questions to be resolved by the pilot
  - Drawing on lessons learned from the NEM VPP trail and MASS review to understand the challenges to progress from pilot to scale-up
  - Coordination across partners required to refine and coordinate testing and demonstration



# Questions and Feedback

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