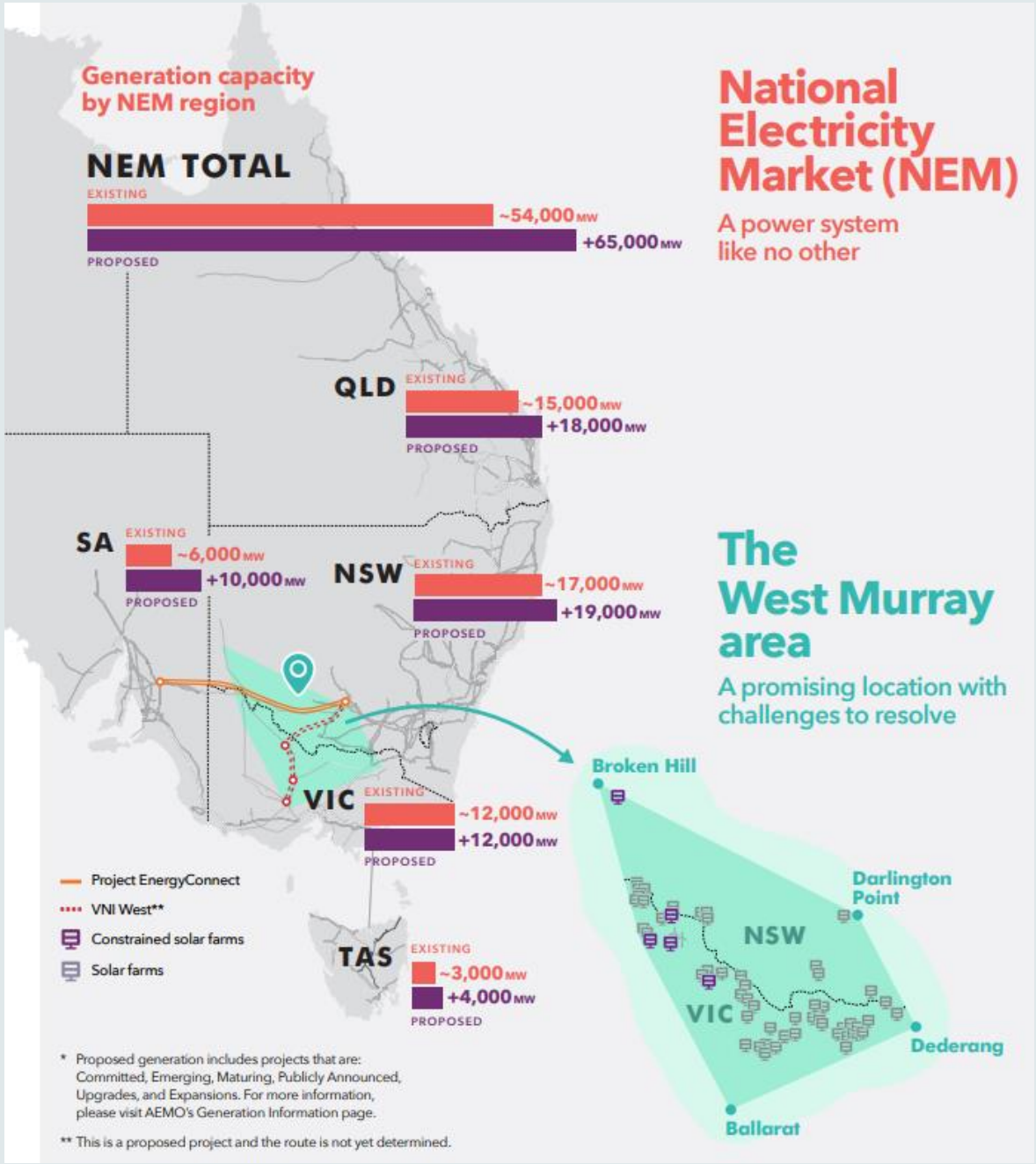
Update – West Murray Zone connections

Consumer forum 27 February 2020

The West Murray Zone



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Introduction

- An unprecedented number of asynchronous generators are seeking to connect to the network in the West Murray Zone (WMZ)
- The area is connected by a weak transmission network and is geographically distant from sources of system strength
- Five solar farms are currently constrained due to system strength issues
- Other nearby generators with connection agreements in place are waiting for the system strength to be resolved, before they can connect into the augmented system

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High level timeline

- In August 2019, AEMO modelling studies found unacceptable voltage oscillations at the connection points of five solar farms in the WMZ
- This type of oscillation is an emerging phenomenon in conditions of very low system strength, and is exacerbated by sub-optimal tuning of inverter control systems.
- By September 2019 AEMO had formed the view that the oscillatory responses did not meet NER power system security requirements with the solar farms at full output, even in system normal conditions.
- Since 13 September 2019, AEMO has applied network constraints to limit the output and online inverters of the five solar farms by 50%, to maintain power system security.
- Tests conducted in the WMZ on 30 November and 1 December 2019 were consistent with the modelling results
- While AEMO works to rectify the situation, other connection processes are on hold

Project status

- AEMO held a forum with affected generators on Monday 10 February, explaining the technical issues and inviting questions and feedback
- Interested parties have made written submissions since then, and AEMO is working on public FAQs.
- The highest priority is testing new settings for the operation of the constrained solar farms, so that they can operate to their full capacity
- Next, the committed projects will be assessed in sequence

Key issues raised

- Prior to the February workshop there was concern about transparency of information and models – AEMO is working to mitigate this and share information as it becomes available.
- Several submissions focussed on questions for AEMO. Key questions include:
  - The sequence and timing of assessing projects
  - Boundary definitions and affected projects
  - How much capacity will be unlocked by suggested infrastructure upgrades
- There is also a high level of interest in the potential for rule changes, particularly regarding the “do no harm” and “open access” regime