

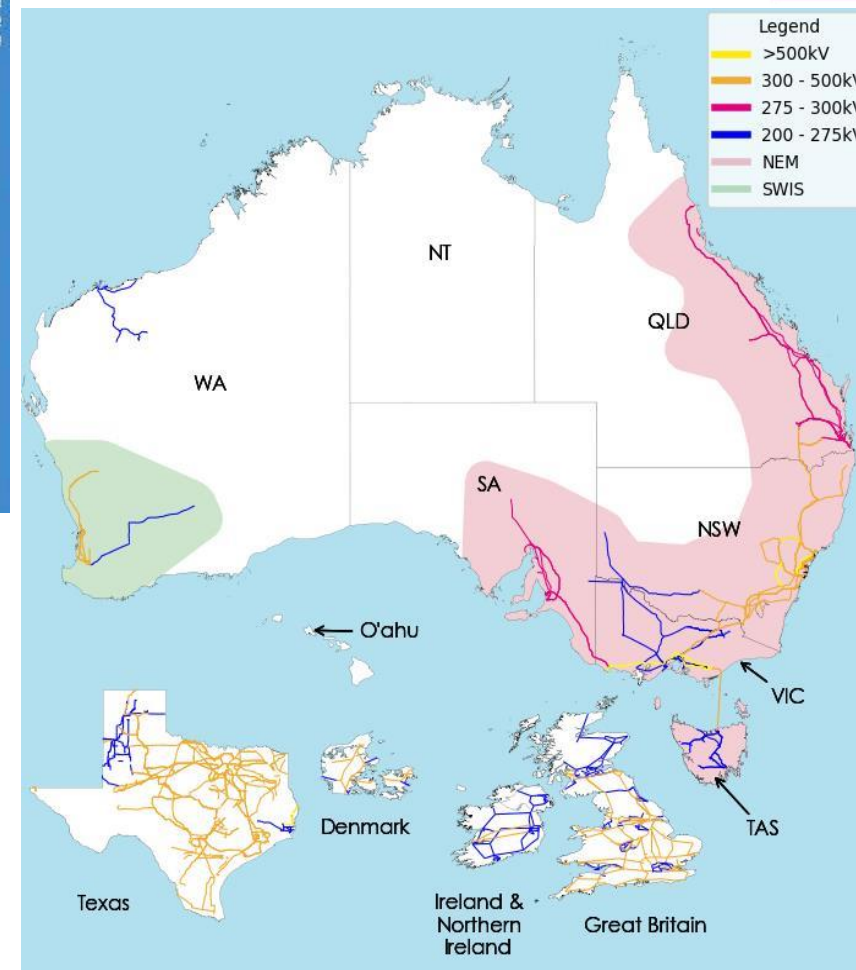
Defining target system, desired performance and system needs studies

Nilesh Modi
James Lindley
Chris Davies
Samantha Christie

June 2022



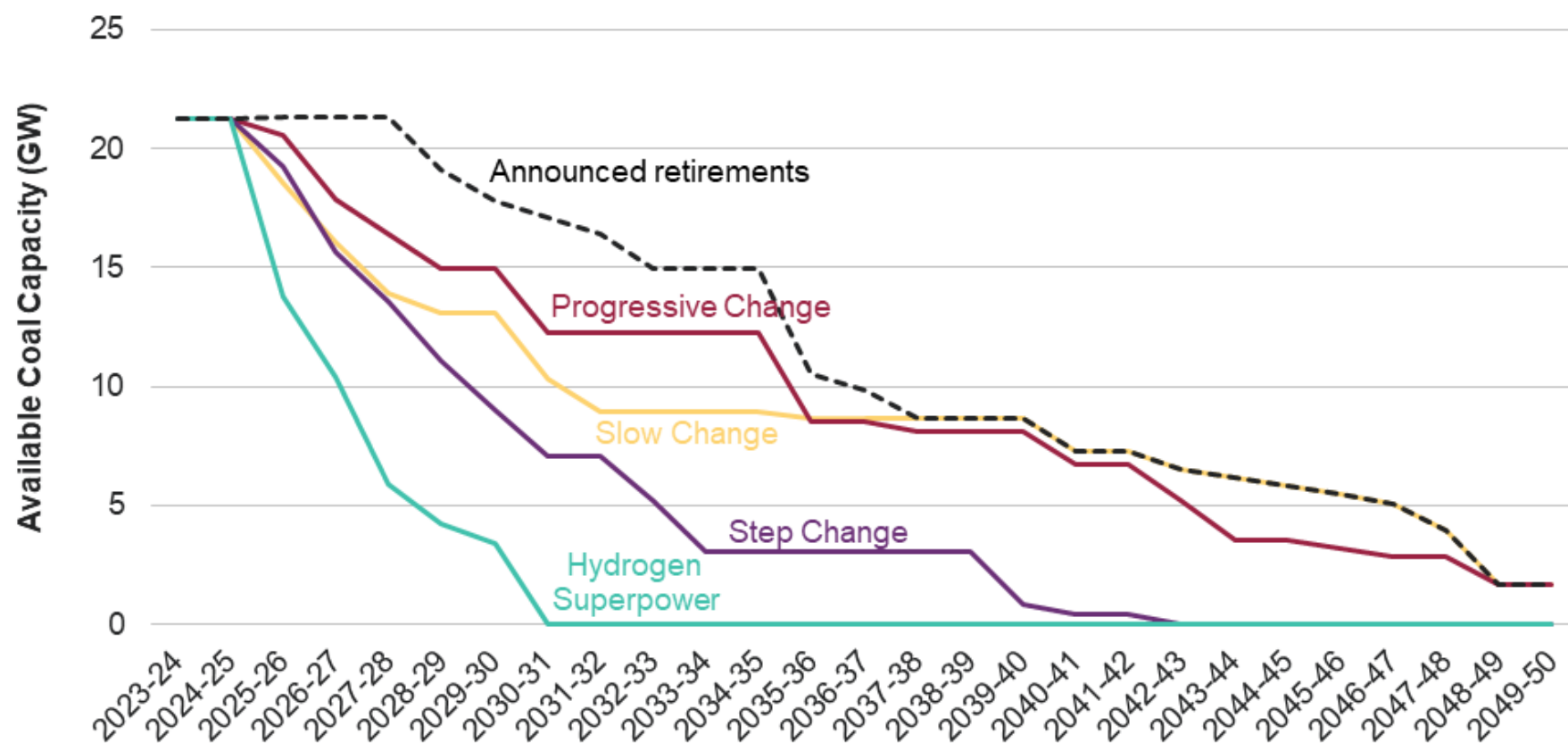
How big is Australia?



- Continent, Country and Island

What's happening in Australia?

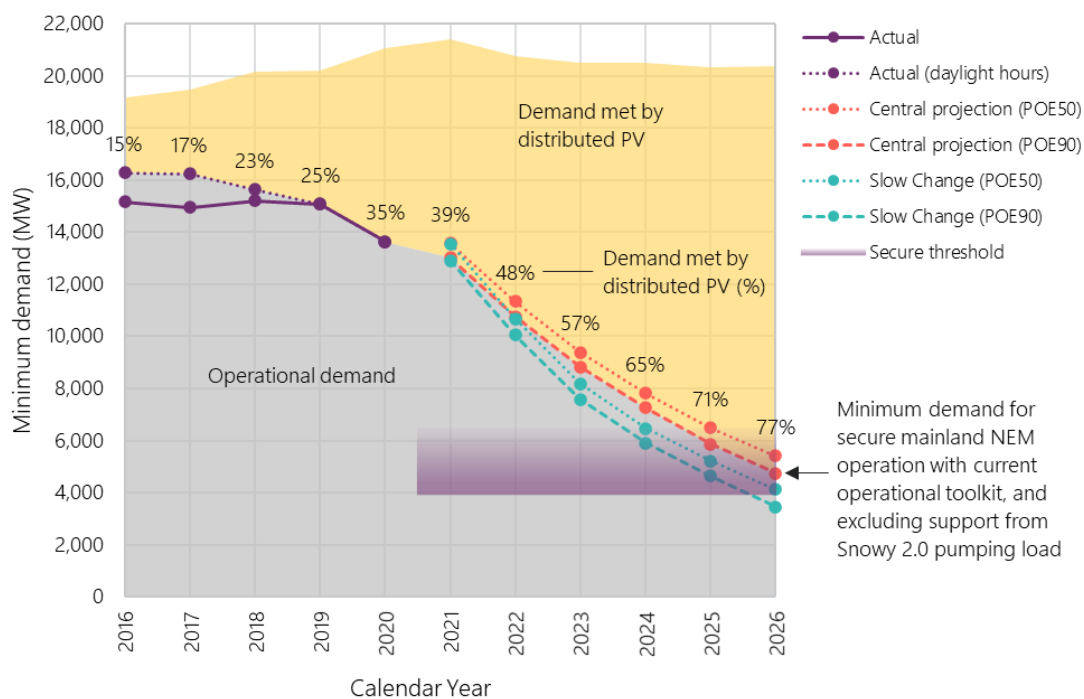
Traditional generation fleet is retiring at a faster rate than expected



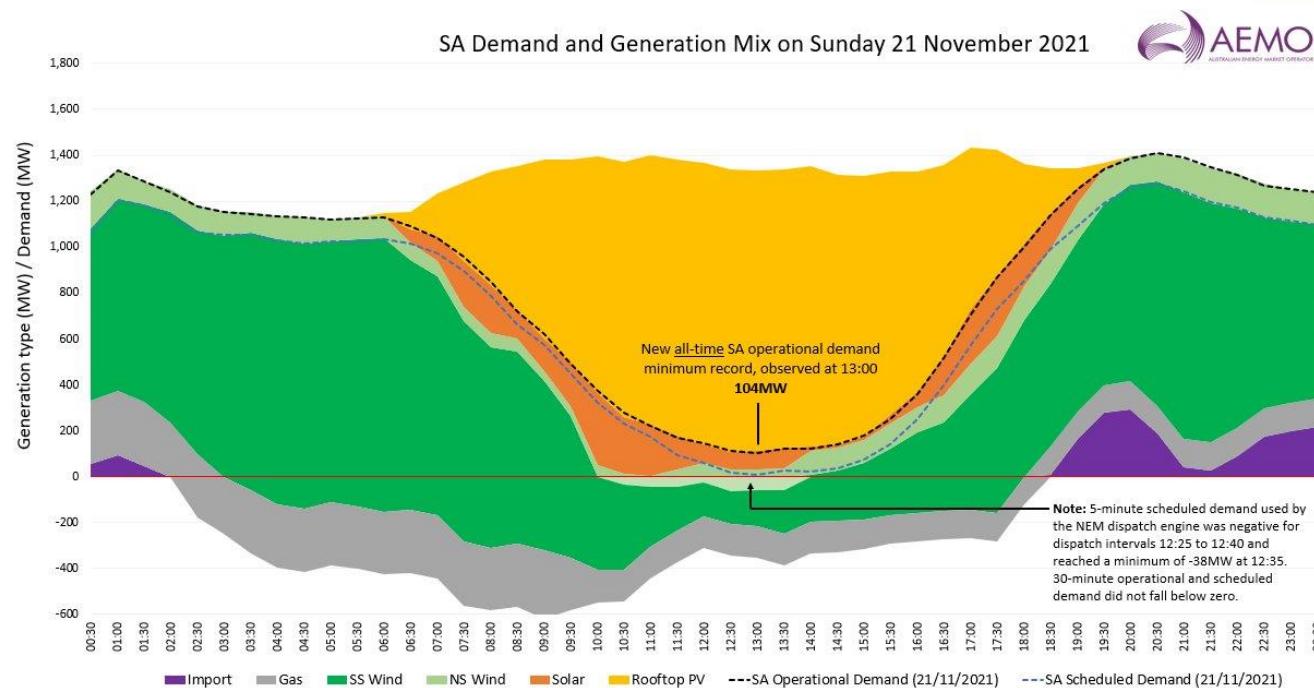
Source: Draft 2022 Integrated System Plan

What's happening in Australia?

- Operational demand is reducing
- Traditional generation fleet spending more time at or close to their minimum stable operation levels



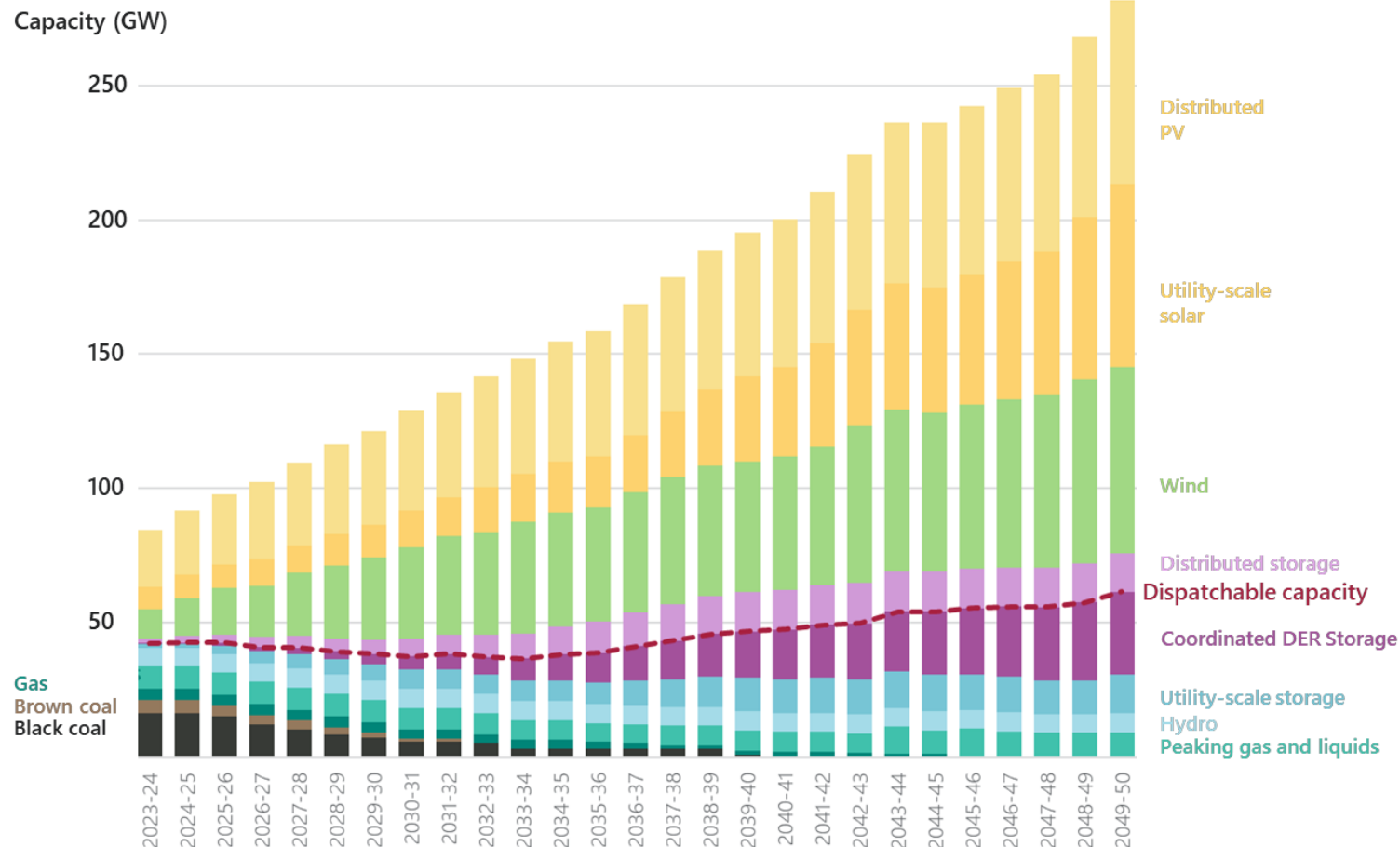
2021 NEM ESOO Summary



What's happening in Australia?

- Coal generation is expected to retire two to three times faster than anticipated
- Wind, solar (transmission and distribution) and storage dominating the outlook

Forecast NEM capacity to 2050, Step Change scenario, with transmission



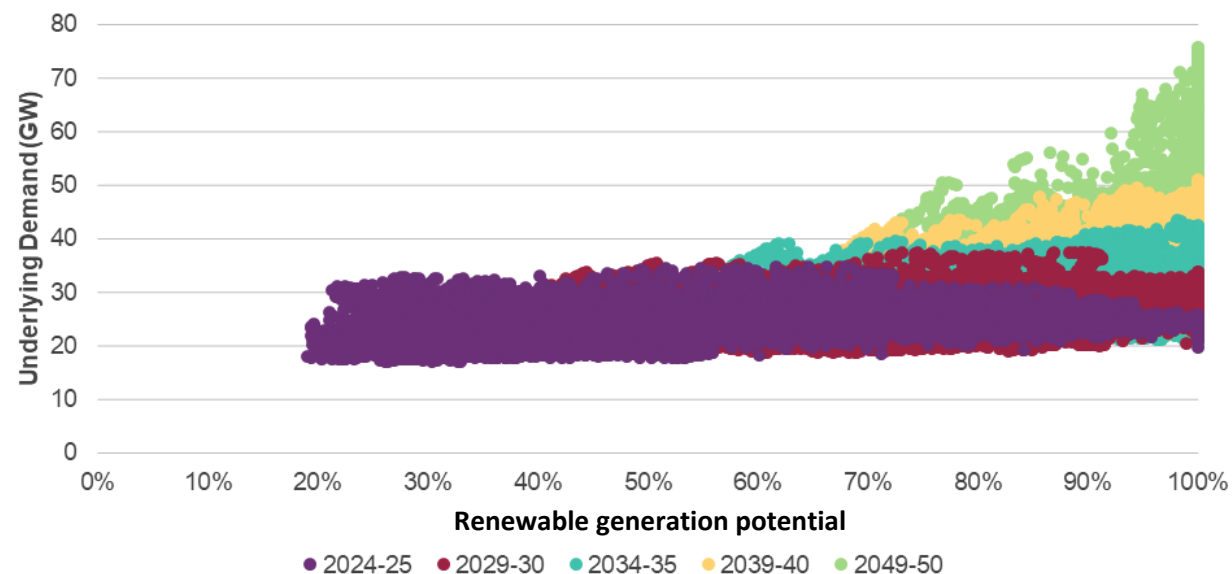
Source: Draft 2022 Integrated System Plan

What's happening in Australia?

Historically, instantaneous renewable energy is measured using renewable penetration, which is the proportion of renewable energy generation compared to total generation over a 30-minute period. Includes constraints.



ISP projections calculate renewable resource potential, which includes renewable generation not limited by system constraints or economic dispatch. As with historical penetration, it is measured as a proportion of total generation over 30-minutes.



Target system

An energy system that's capable of handling 100% instantaneous penetration of renewables by 2025





For more information visit

aemo.com.au