



TransGrid

The Energy Transition

Caroline Taylor, Head of Public Policy at TransGrid

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About us

TransGrid is the operator and manager of the NSW transmission network.

NSW is the largest region in the National Electricity Market (NEM)



32% of Australia's population



32% of energy in the NEM

Our network includes:



13,000 km of transmission lines and cables



105 substations



4,000 km of optical fibre



The other transition: Engaging with consumers

TransGrid is a proud signatory to The Energy Charter

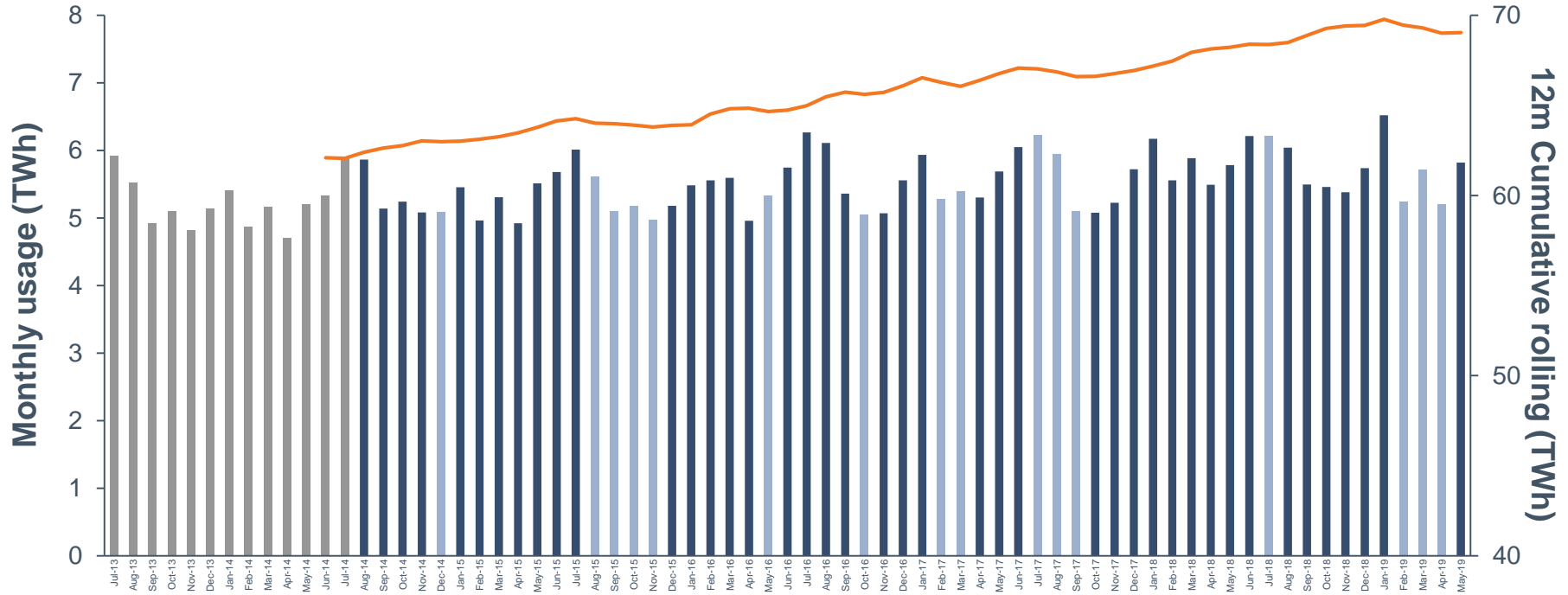
- There is a transition occurring in the way the industry engages with energy consumers
- TransGrid is committed to continually improving its engagement with consumers
- As an industry, we are committed to delivering better outcomes for energy consumers



The Energy
Charter

NSW Energy Usage

Energy usage across TransGrid's network has been rising by 1.5% p.a.



Source: TransGrid data

Monthly energy usage (TWh) 12m rolling energy usage (TWh - cumulative)

Supply is Changing

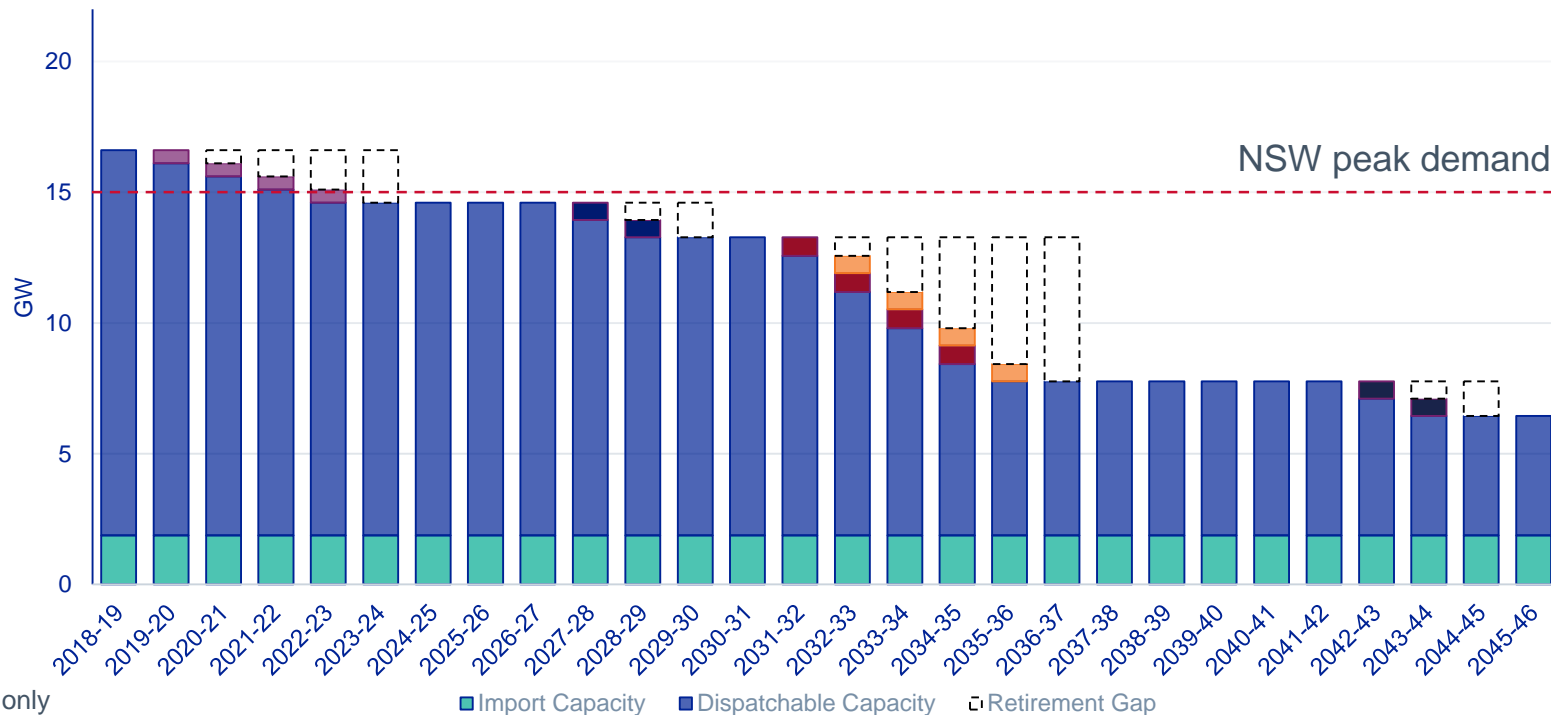
NSW dispatchable generation



Illustrative only

Supply is Changing

NSW dispatchable generation

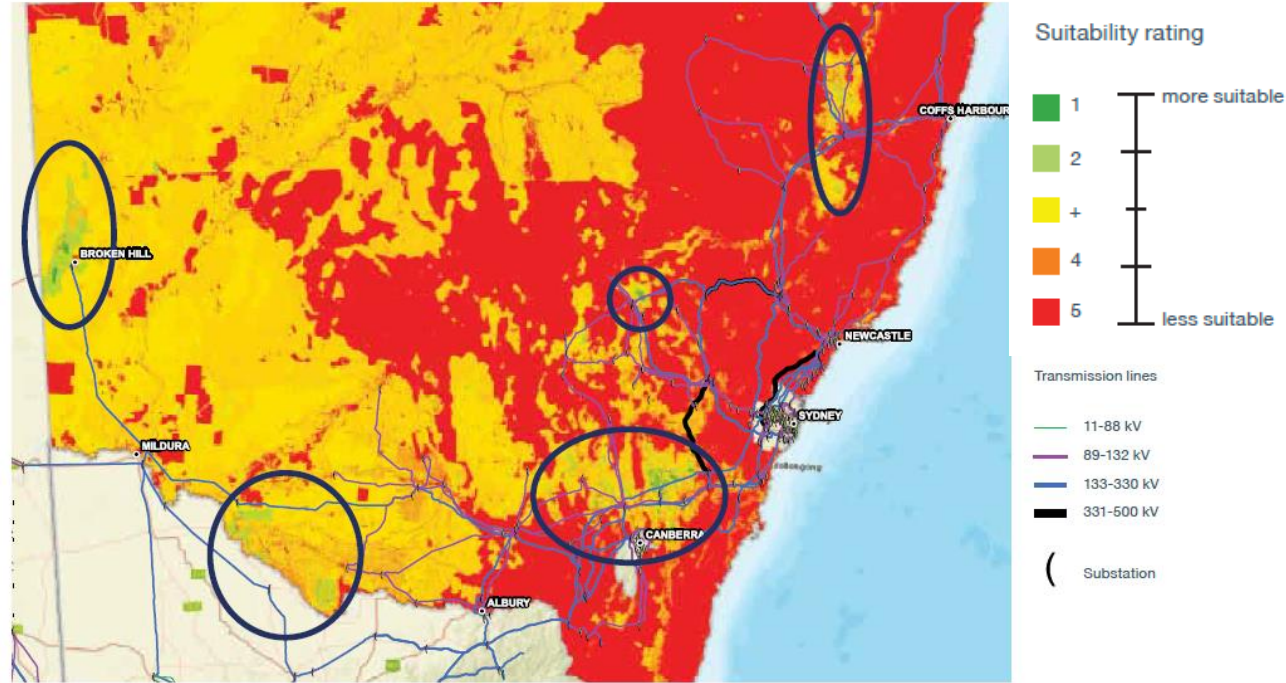


Illustrative only

NSW wind generation suitability

Analysis of potential for renewable generation development throughout NSW.

- Most favourable locations shown in green
- Considerations include:
 - Quality of renewable resource
 - Existing land use

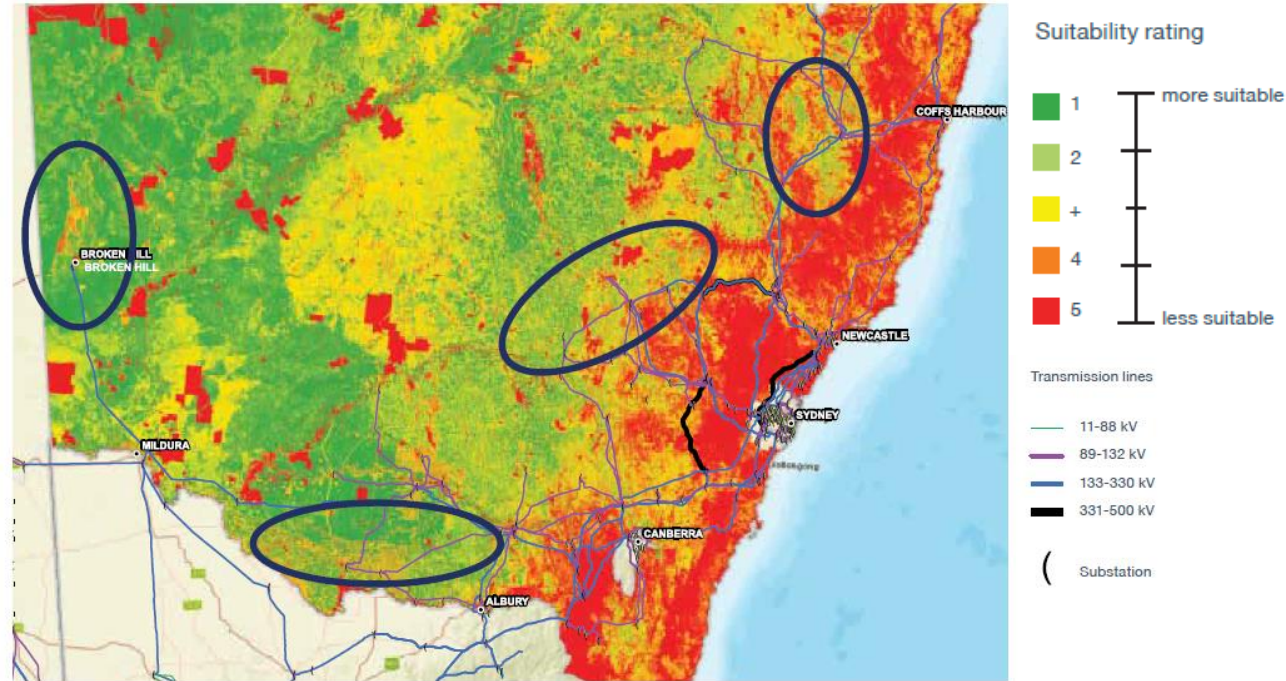


Source: TransGrid, *Transmission Annual Planning Report*, 2018

NSW solar generation suitability

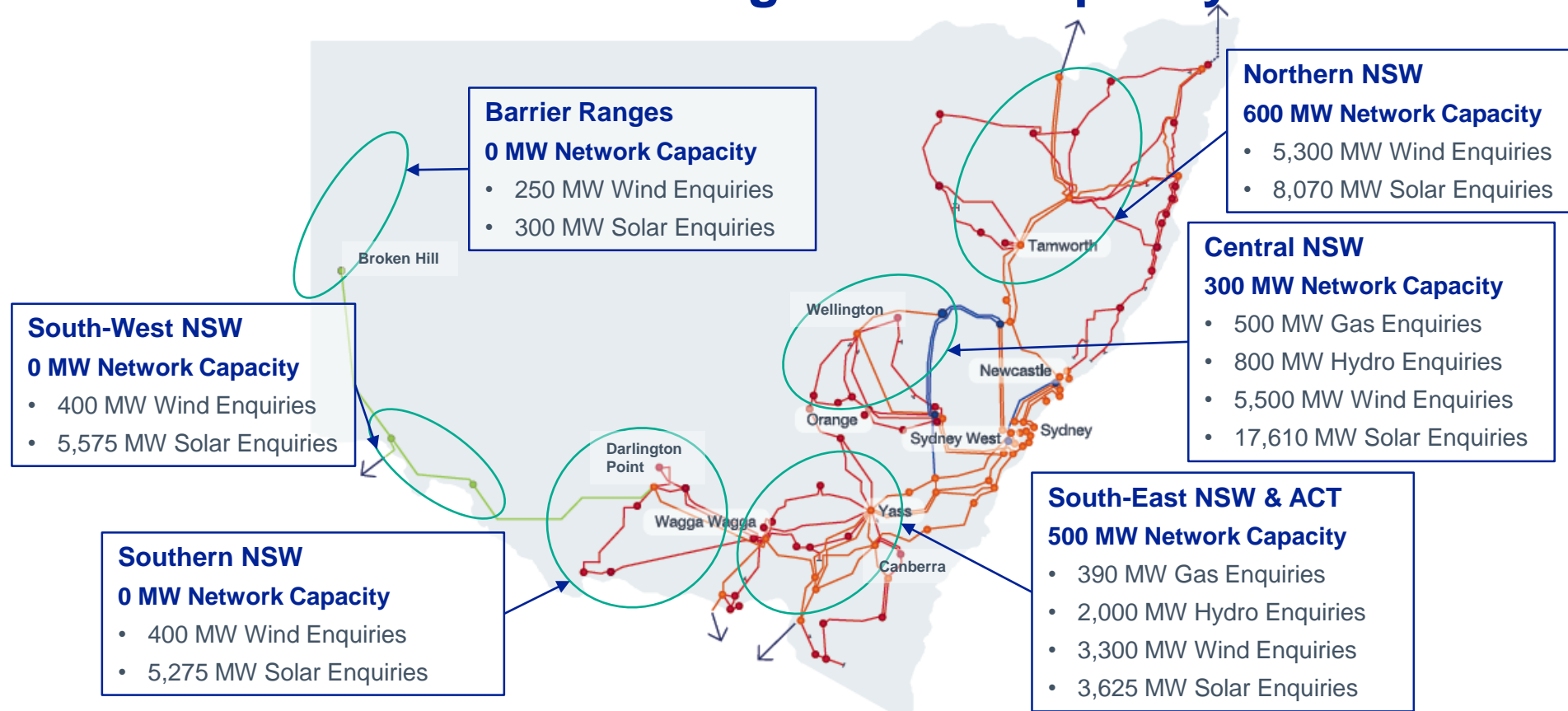
Analysis of potential for renewable generation development throughout NSW.

- Most favourable locations shown in green
- Considerations include:
 - Quality of renewable resource
 - Existing land use



Source: TransGrid, *Transmission Annual Planning Report*, 2018

Connection interest is higher than capacity



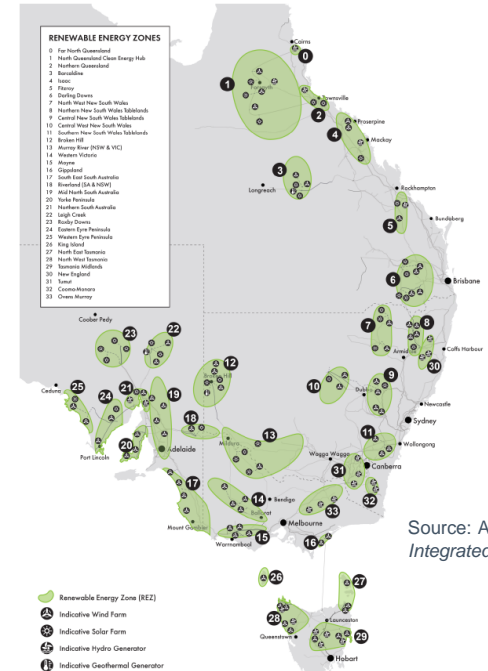
Source: TransGrid data

Change is needed to deliver renewable energy zones

The current regulatory framework will not deliver renewable energy zones;
It was never designed to.

- A rapidly changing environment
- Significant difference in delivery time for transmission compared with generation
- Past experience demonstrates that it is unlikely to work under current NEM design
 - New England Renewable Energy Hub in NSW
 - Scale Efficient Network Extensions (SENEs)
- International experience shows that it is possible

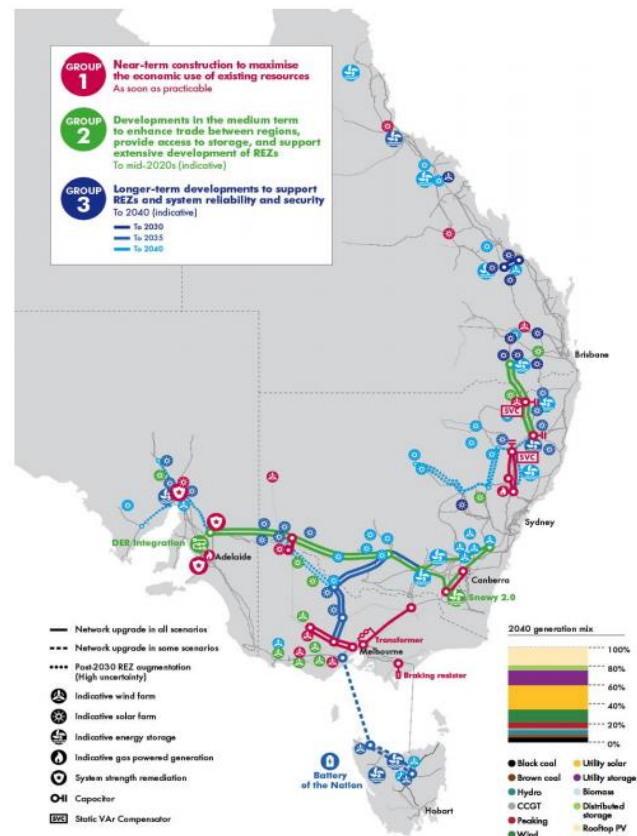
Figure 24 Renewable Energy Zone candidates



Source: AEMO, 2018
Integrated System Plan

Direction and guidance will assist the energy transition

- **Transmission can play a key role in the energy transition**
 - Provide a platform for increasing wholesale competition in the market
 - Efficient transition towards a high penetration of renewable generation
- **AEMO's Integrated System Plan**
 - New transmission investment provides a low cost and reliable electricity supply to consumers



Source: AEMO, 2018 Integrated System Plan

A whole-of-industry approach is needed to deliver the transition efficiently for consumers

- **The current system was not designed for today's challenges**
- **Policy predictability will give industry the confidence to take leadership in delivering strategic investments including renewable energy zones**
- **Implementation mechanism for the Integrated System Plan**
- **Flexibility required to reflect uniqueness of investments – not a 'one size fits all' solution**



TransGrid

Thank you.

Caroline Taylor, Head of Public Policy
TransGrid