

# Australia's Integrated System Plan

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Eli Pack

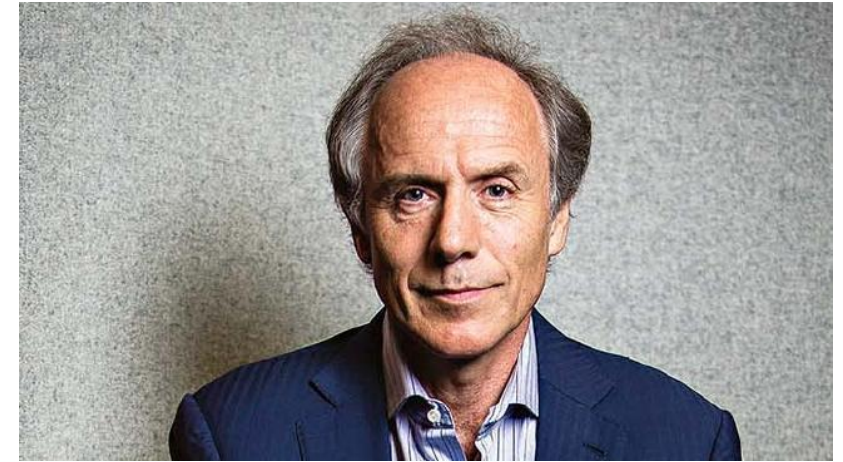
2023-06-12

# Australia is large and has low energy density



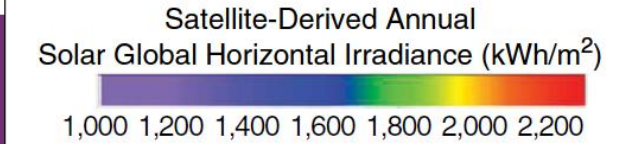
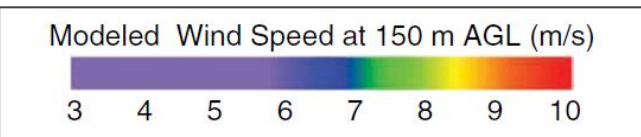
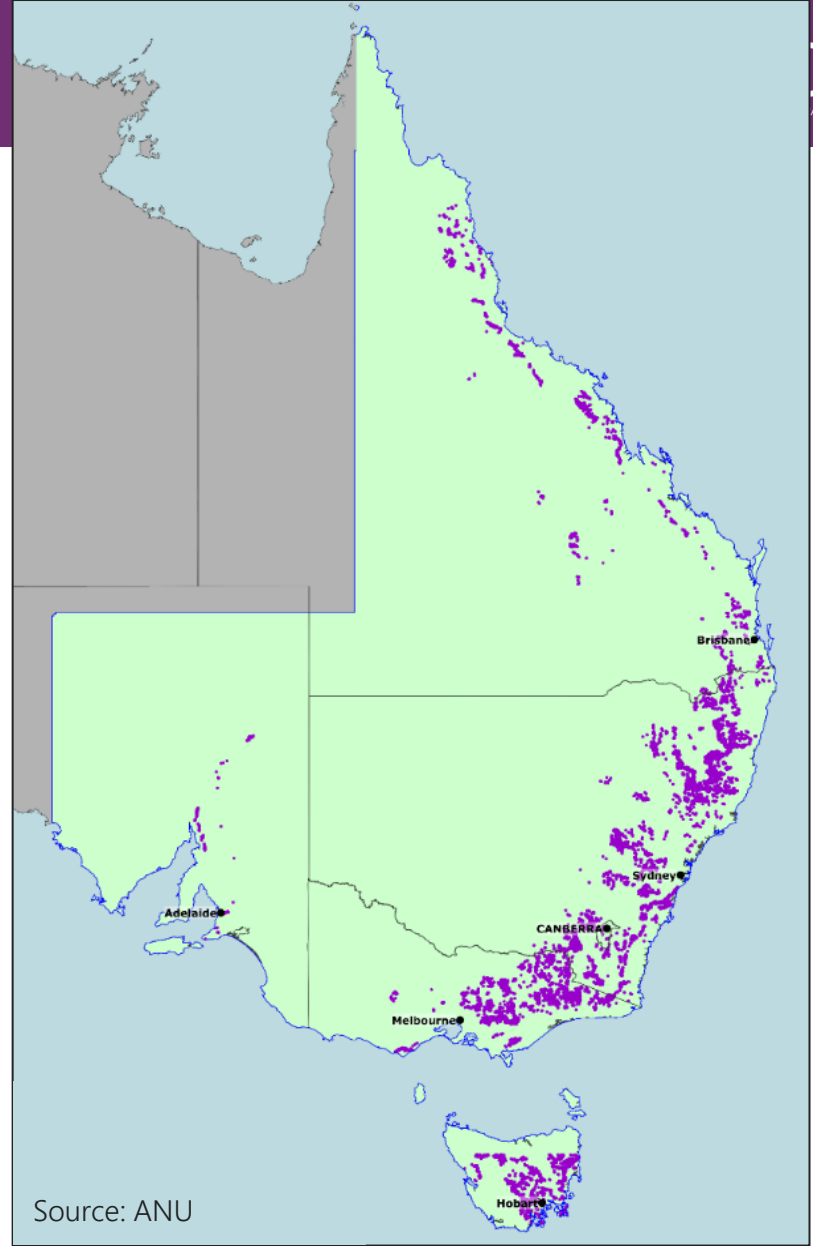
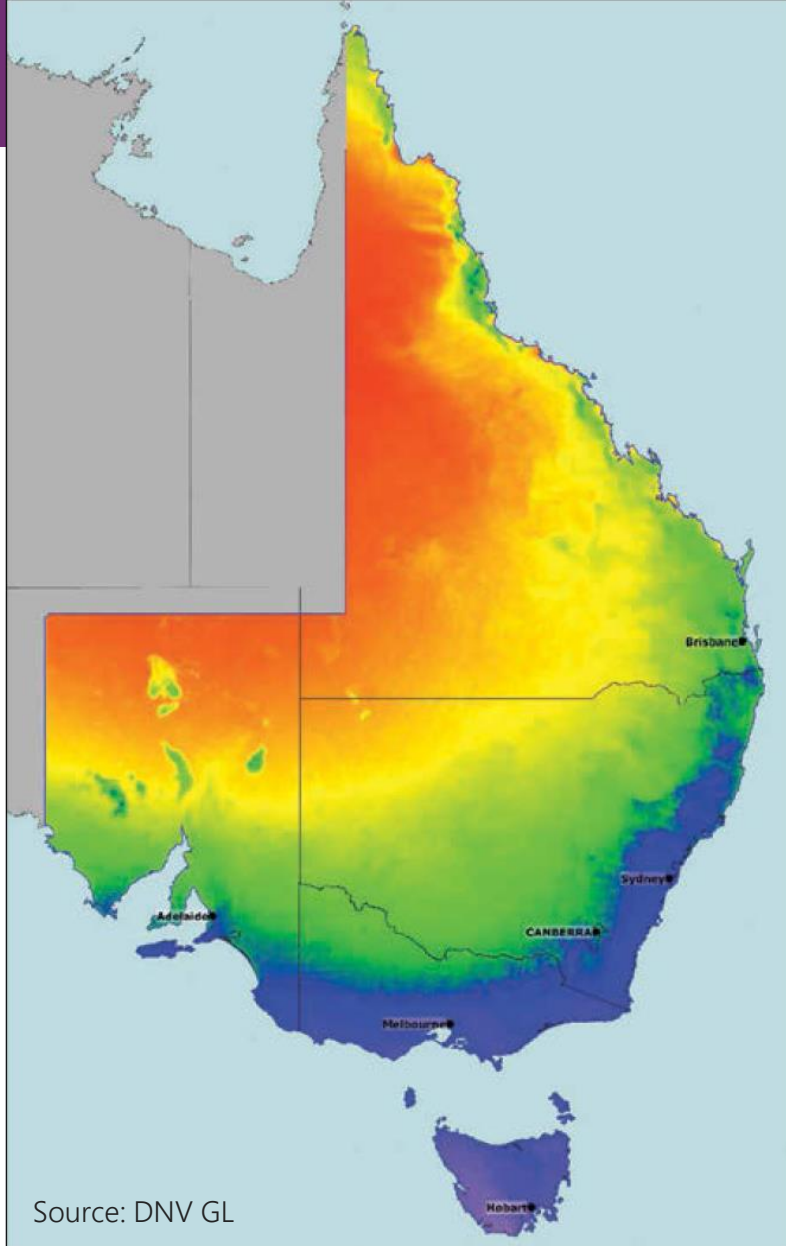
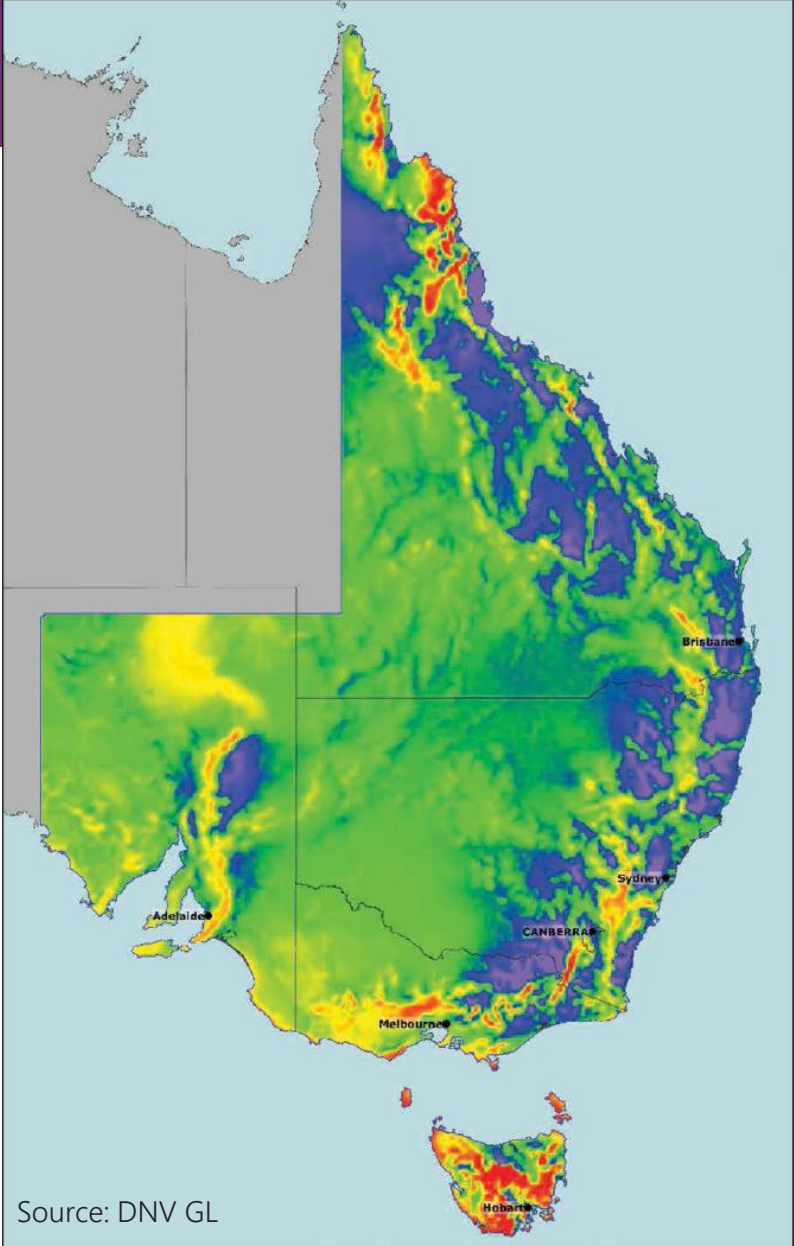
Source: Australian Government

*"By mid-2018, the Australian Energy Market Operator, supported by transmission network service providers and relevant stakeholders, should develop an integrated grid plan to facilitate the efficient development and connection of renewable energy zones across the National Electricity Market."*



*“ Renewable Energy Zones are areas where clusters of large-scale renewable energy can be developed using economies of scale.*

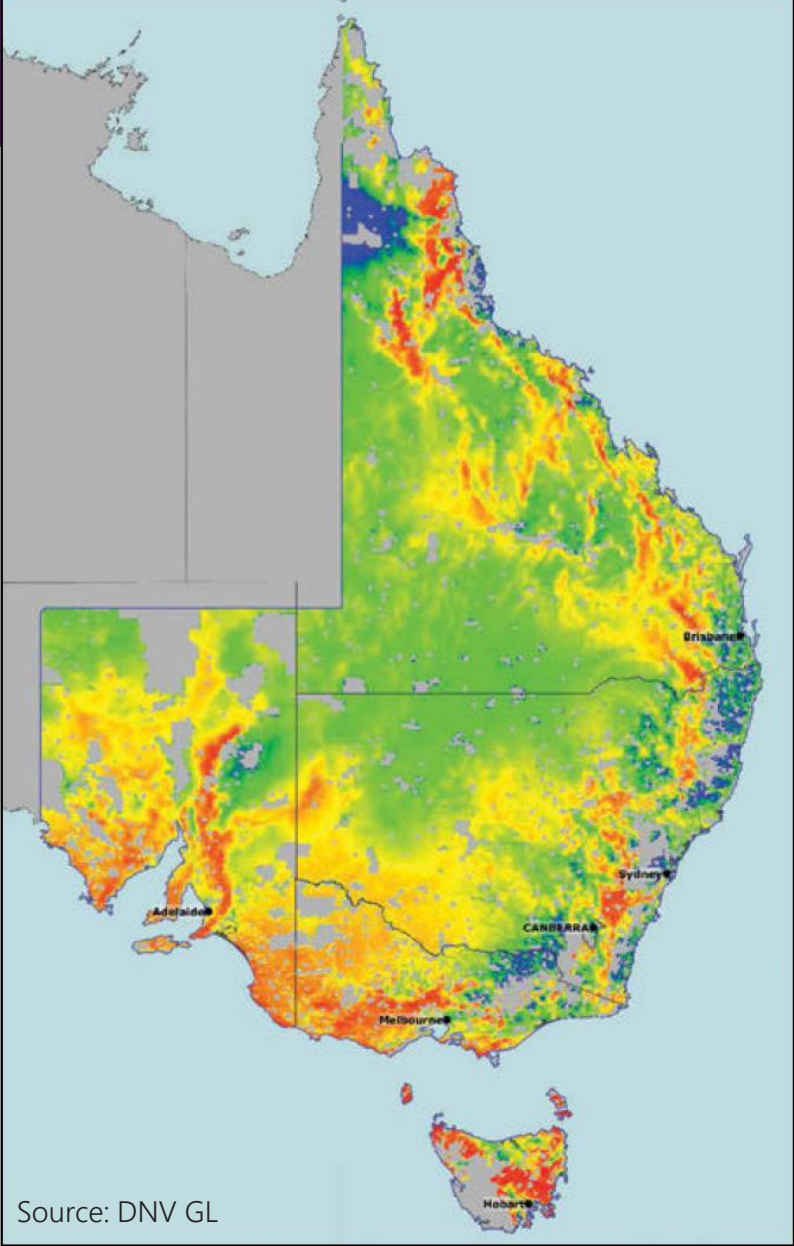




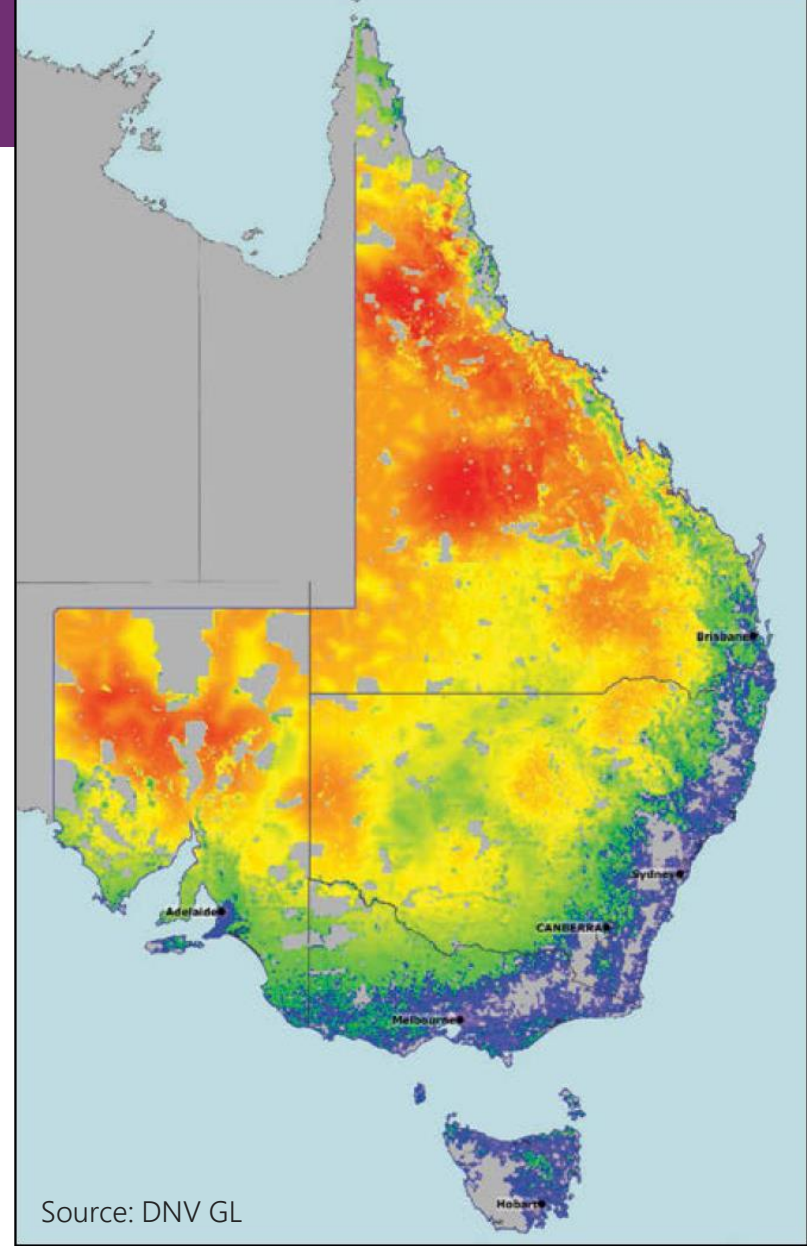
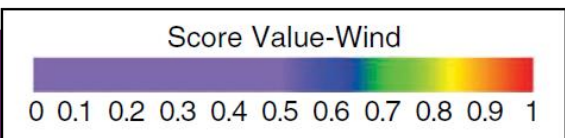
Possible pumped hydro sites

*What factors might help to identify renewable energy zone candidates?*

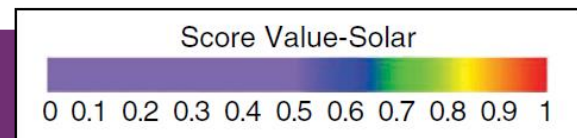
- Resource quality
- Correlation with demand
- Land parcel density
- Land cover
- Road access
- Terrain complexity
- Population density
- Protected areas
- Electricity network



Source: DNV GL

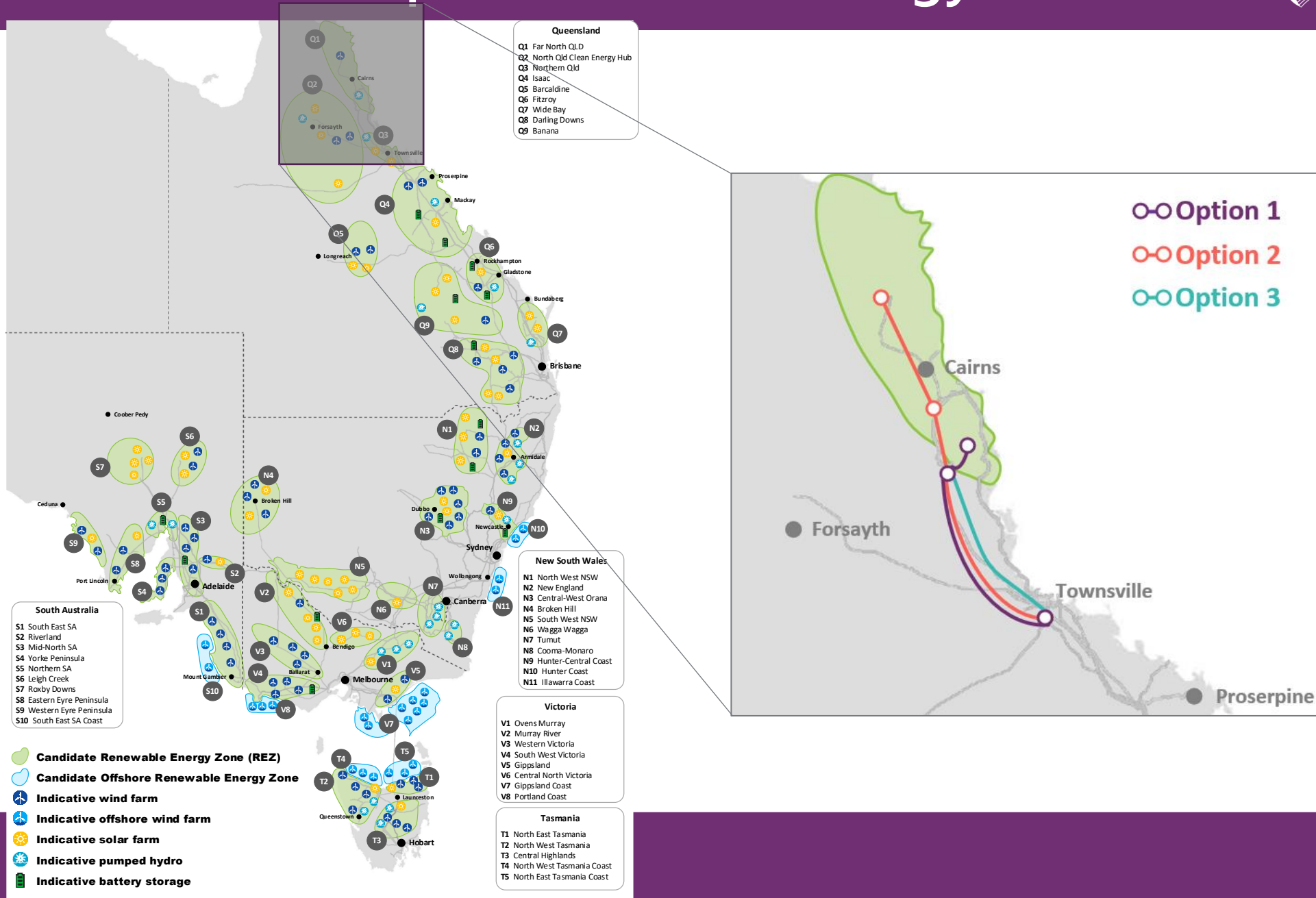


Source: DNV GL

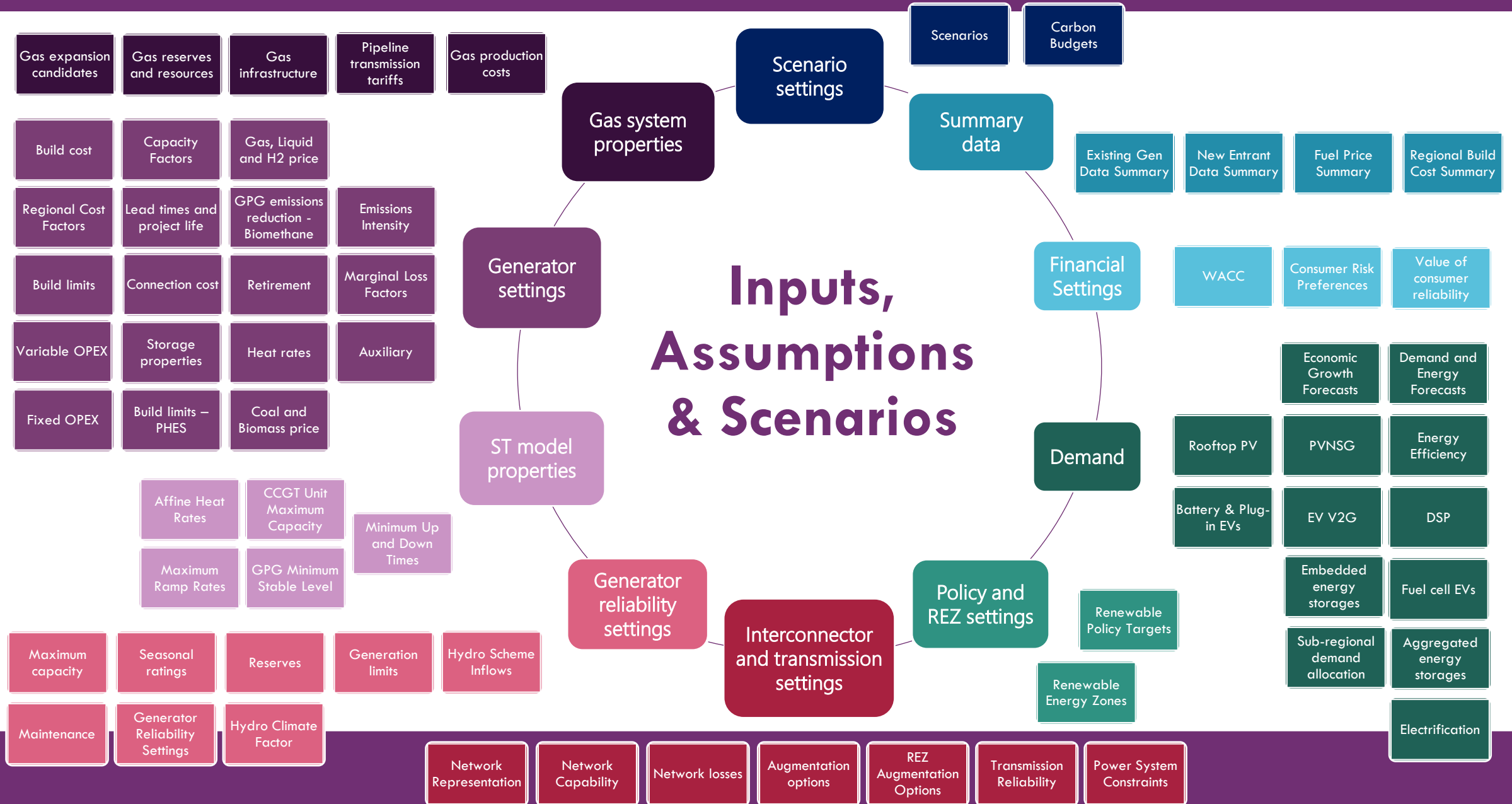




# How could we develop a renewable energy zone?

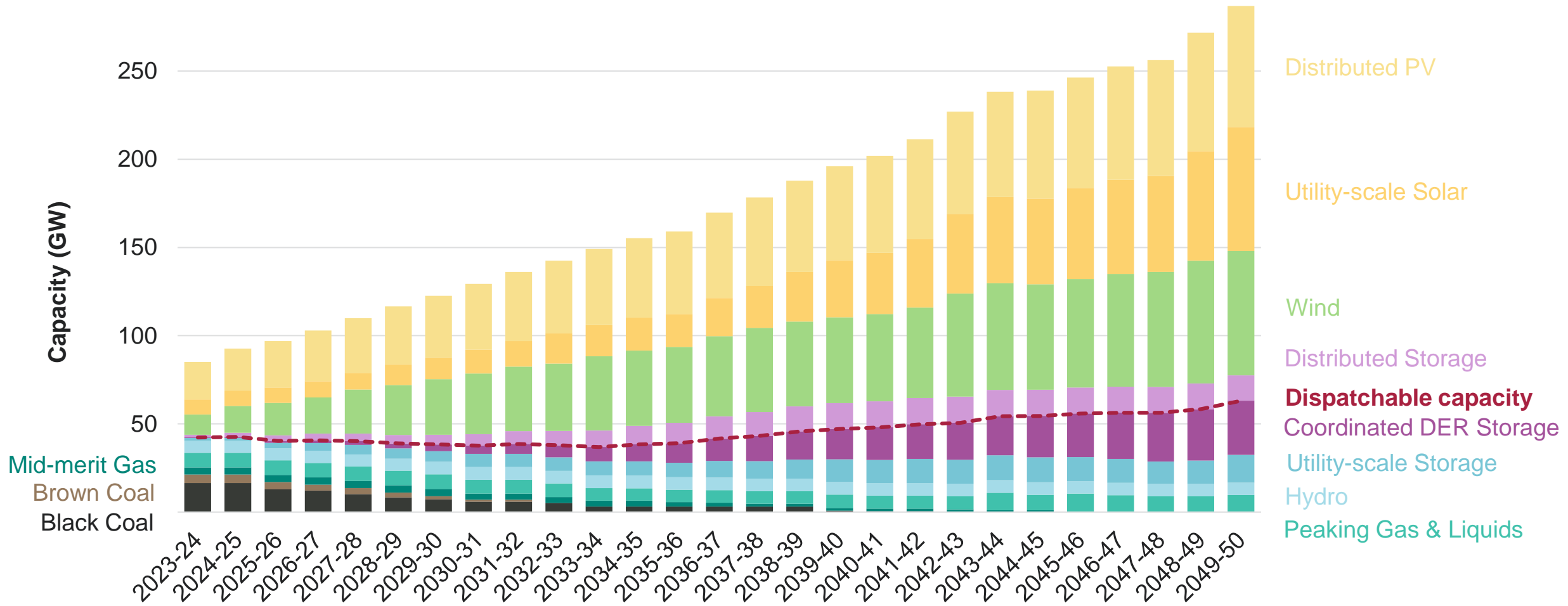


# We've been on a mission for transparency





# Renewable capacity to at least double every decade from now to 2050

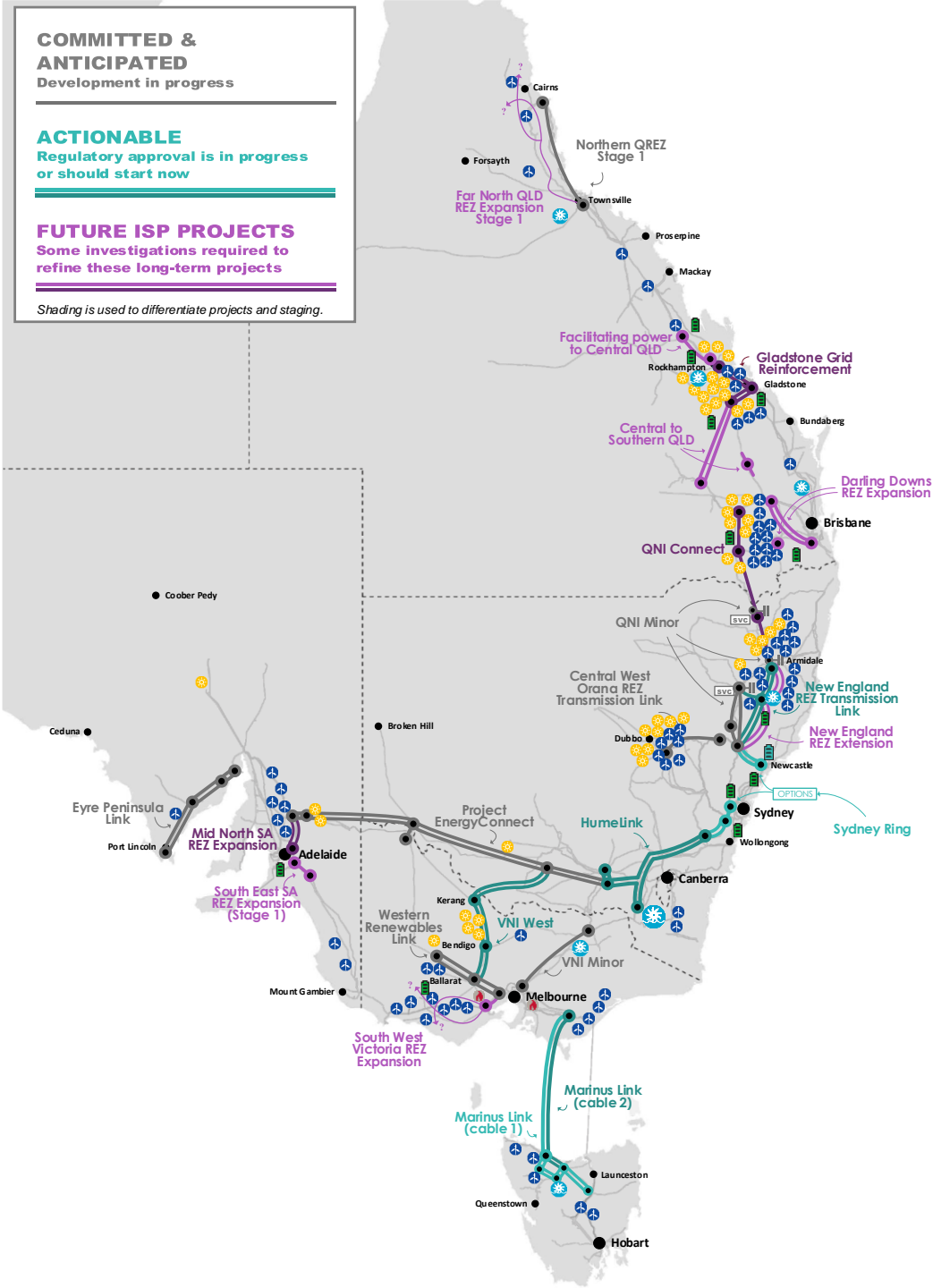


**COMMITTED & ANTICIPATED**  
Development in progress

**ACTIONABLE**  
Regulatory approval is in progress or should start now

**FUTURE ISP PROJECTS**  
Some investigations required to refine these long-term projects

*Shading is used to differentiate projects and staging.*



**Coal generation to be withdrawn**

Capacity to be retired by:



**Storage capacity to increase by a factor of 30**

(Batteries, virtual power plants, pumped hydro.)



**Grid-scale wind and solar to increase 9-fold**



**Electricity usage from the grid to nearly double**



**Gas-fired peaking plants to increase**

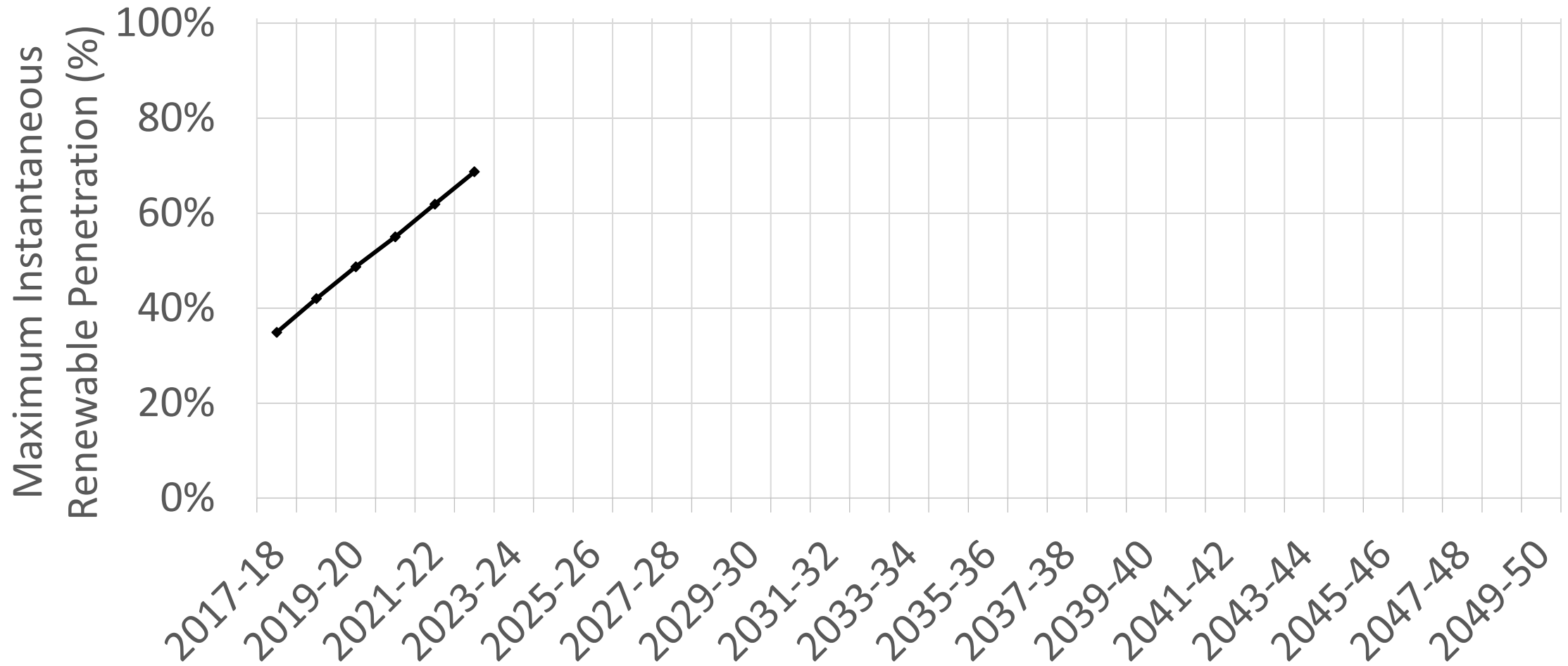
While current mid-merit plants will all retire within that period.



**Distributed solar PV to increase 5-fold**



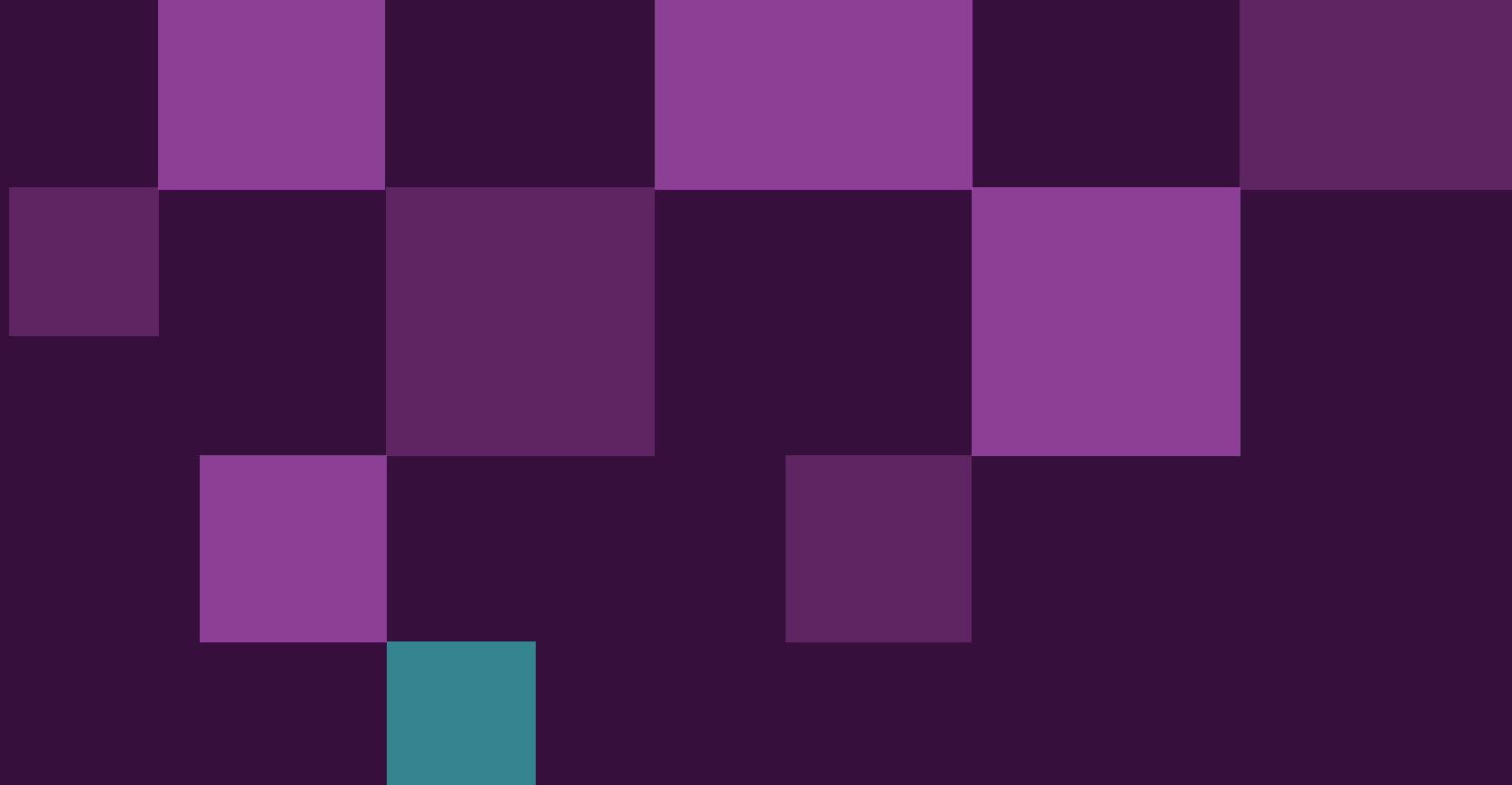
# Australia is on a journey to 100% renewable energy



Statistics for Australia's National Electricity Market







*For more information*  
please visit [www.aemo.com.au](http://www.aemo.com.au)

