

2024 Transmission Network Forum

State of the Network

Paul Simshauser
Chief Executive
Powerlink Queensland



Powerlink acknowledges the Traditional Owners and their custodianship of the lands and waters of Queensland and in particular the lands on which we operate.

We pay our respect to their Ancestors, Elders and knowledge holders and recognise their deep history and ongoing connection to Country.



State of the Network

Stages of the energy transition

Investment outlook

Stakeholder and community insights

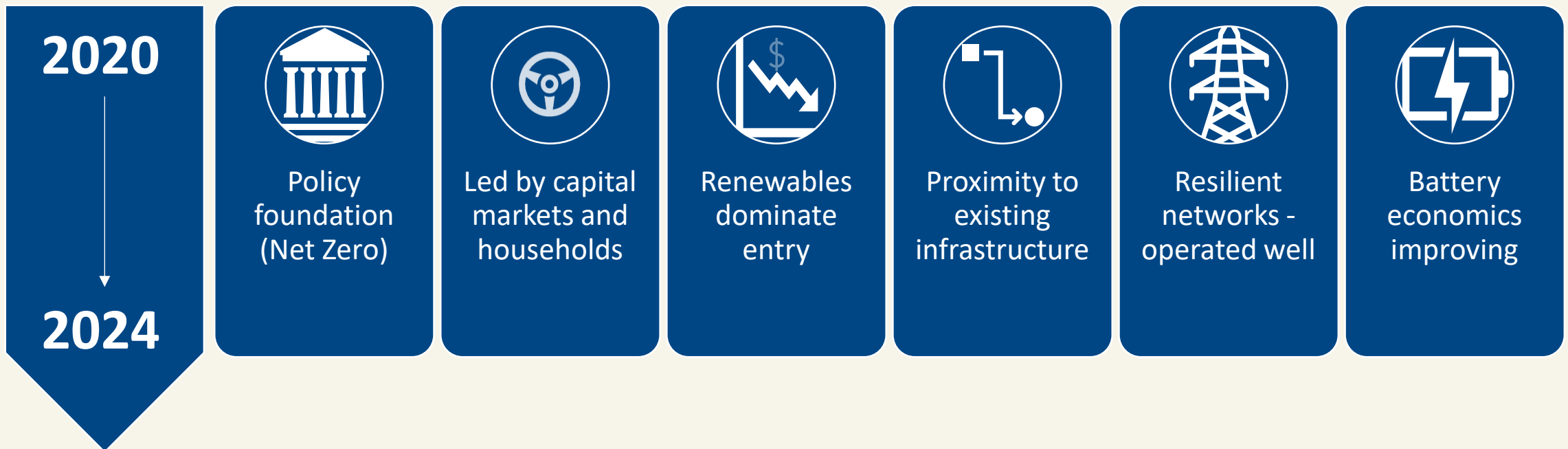
Responding to the market

Renewable Energy Zones

Minimum system load

Innovation

First stage of the energy transition



Entering the second stage of the energy transition



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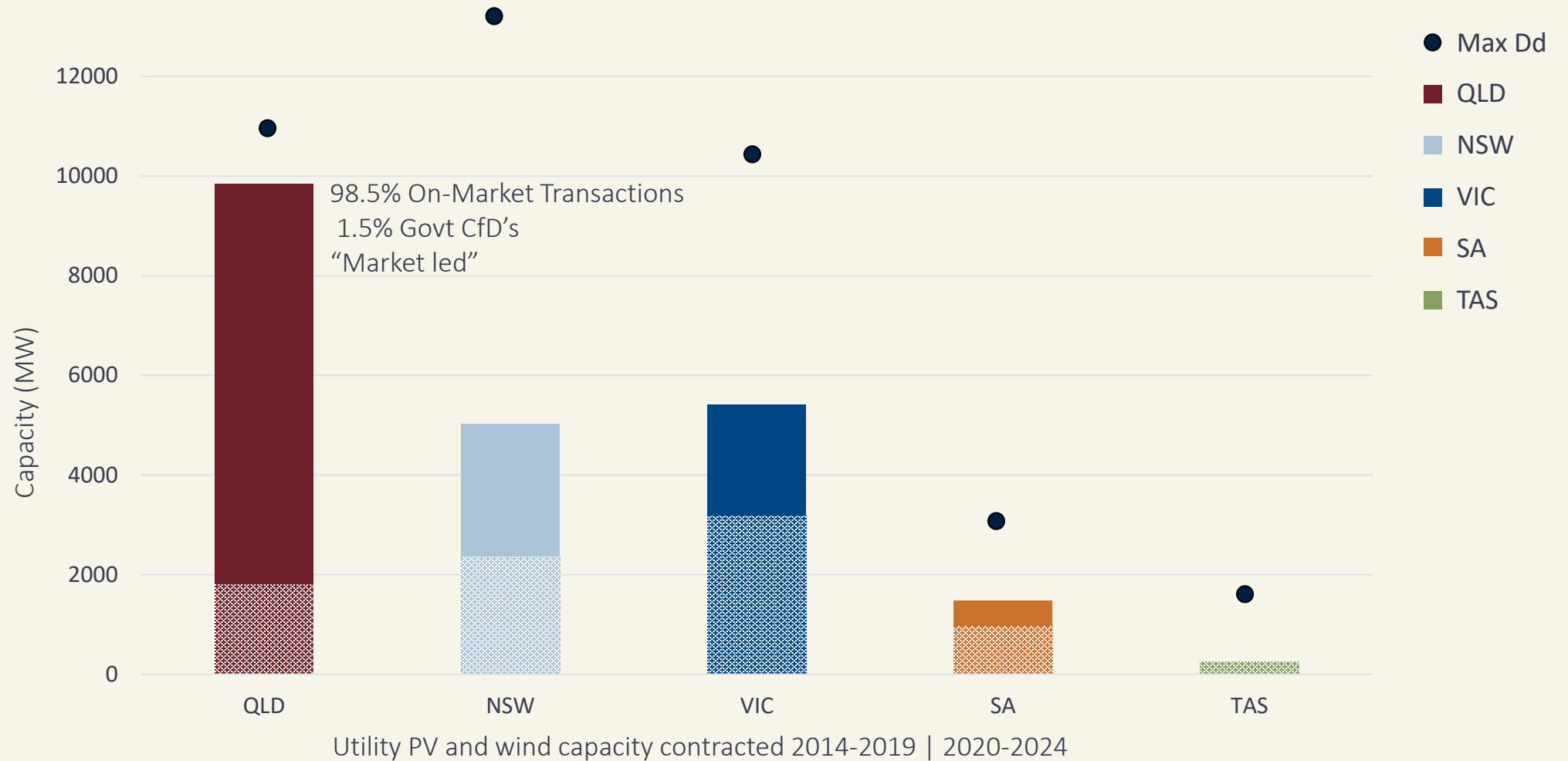
I + PS = MW*

Market led Investment + Policy Settings = MW*

*Subject to community, innovation, prices



Market led



Queensland connections

44 renewable and storage projects operational or under construction with combined maximum output of **8,950MW**

As at October 2024, **71 renewable applications** being processed representing **~29,381MW**

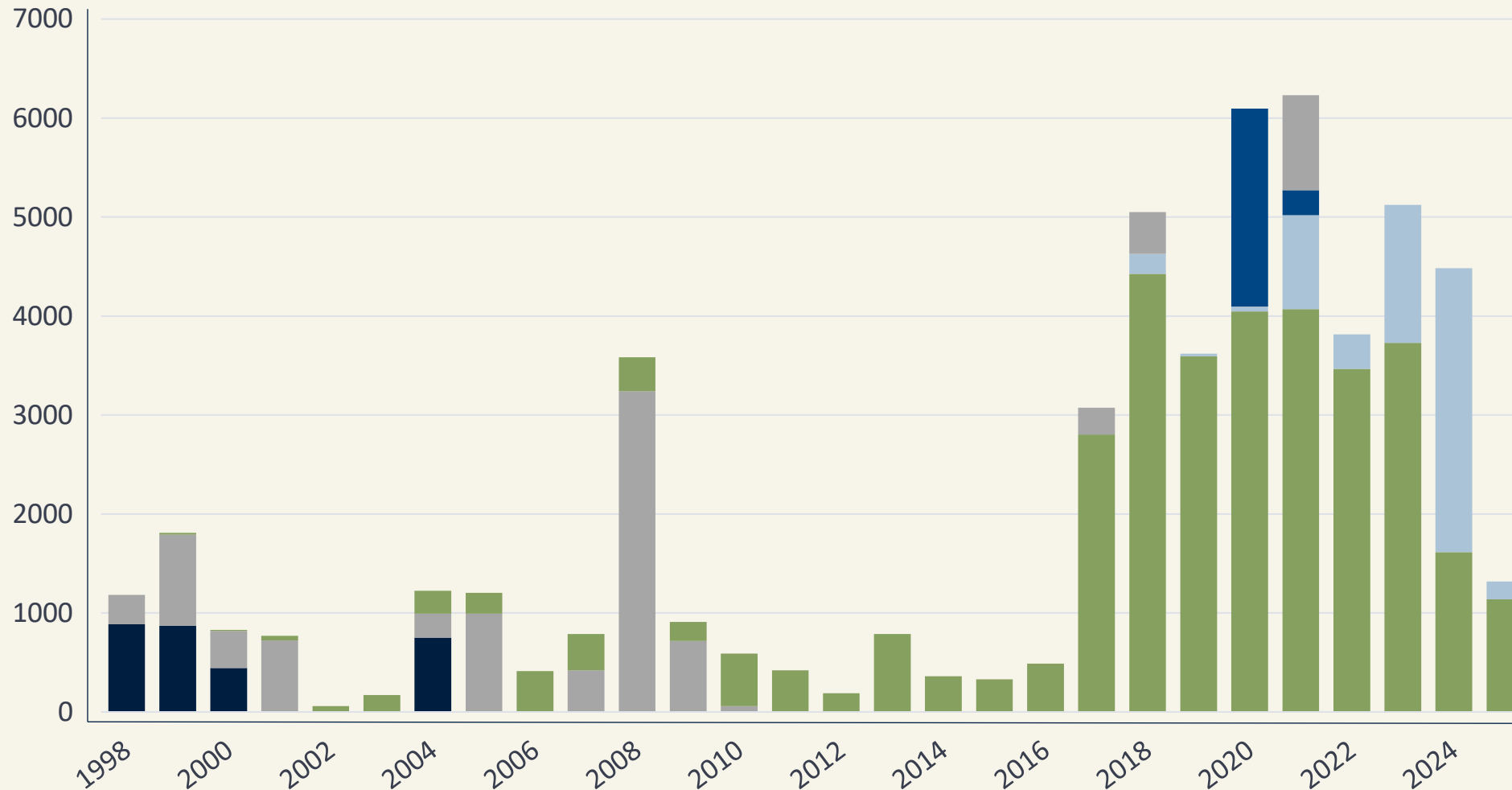
Projects at the **enquiry stage** (including early engagements) with combined max output of **~103GW**



NEM investment commitments 1998-2024

Generation Capacity (MW)

■ Coal ■ Gas ■ VRE ■ Batteries ■ Pumped Hydro



2016-2024

- 223 projects
- 35.4 GW
- \$83.1 billion

Wind

- 56 projects
- 11.3GW
- \$30 billion

Solar

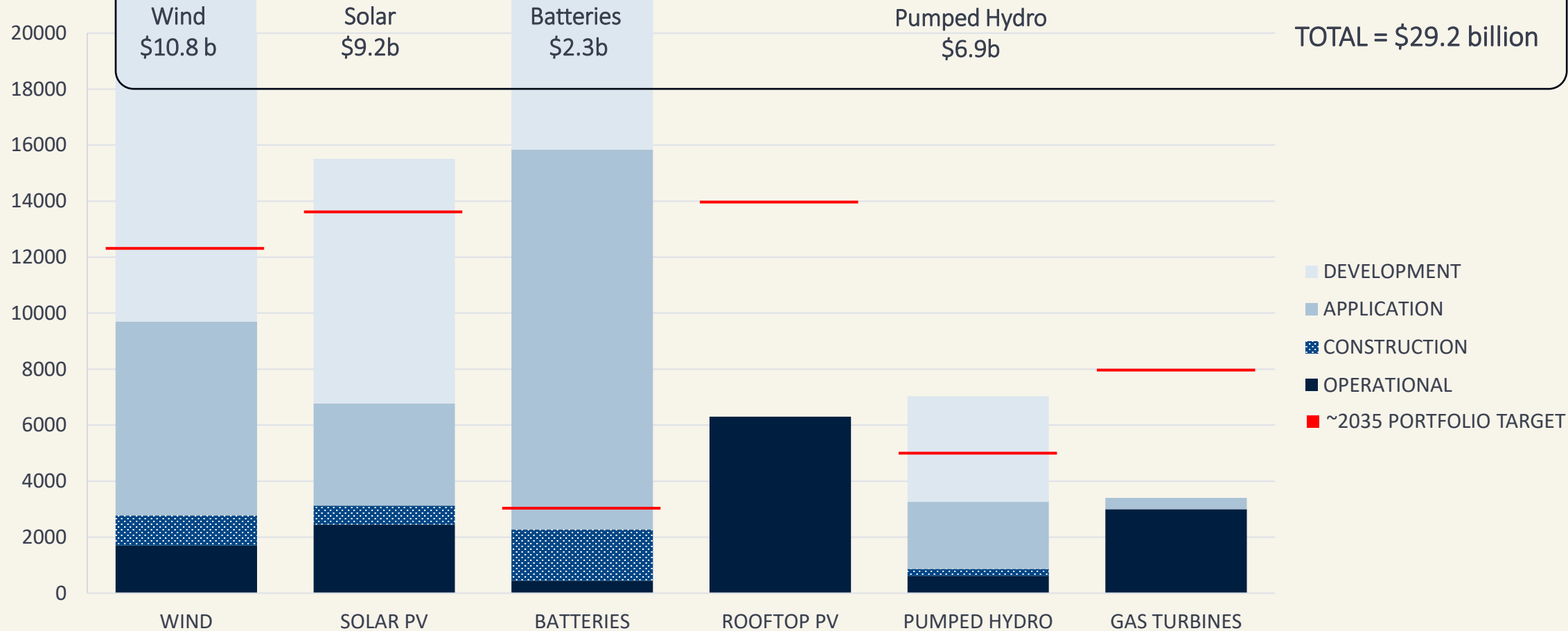
- 111 projects
- 14.1 GW
- \$24.8 bn

Batteries

- 41 projects
- 6 GW
- \$9.9 bn

Queensland forward pipeline

Sum of Capacity (MW)



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Stakeholder perception research - Key themes

Stakeholders identified many key themes in the industry that they expected Powerlink to play a role in addressing.



Energy
affordability



Policy
settings



Community
engagement



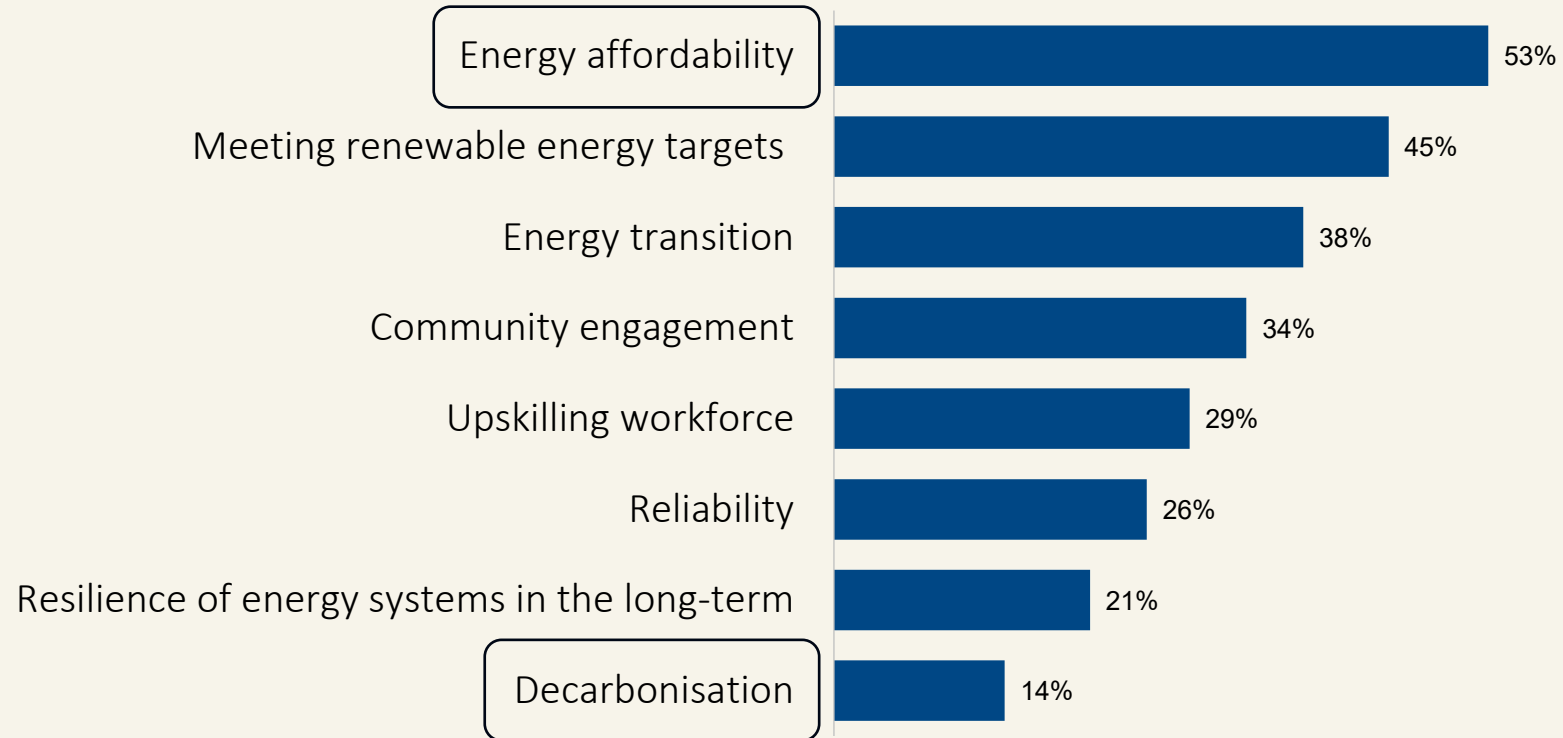
Talent /
workforce
issues



Supply
chain
issues

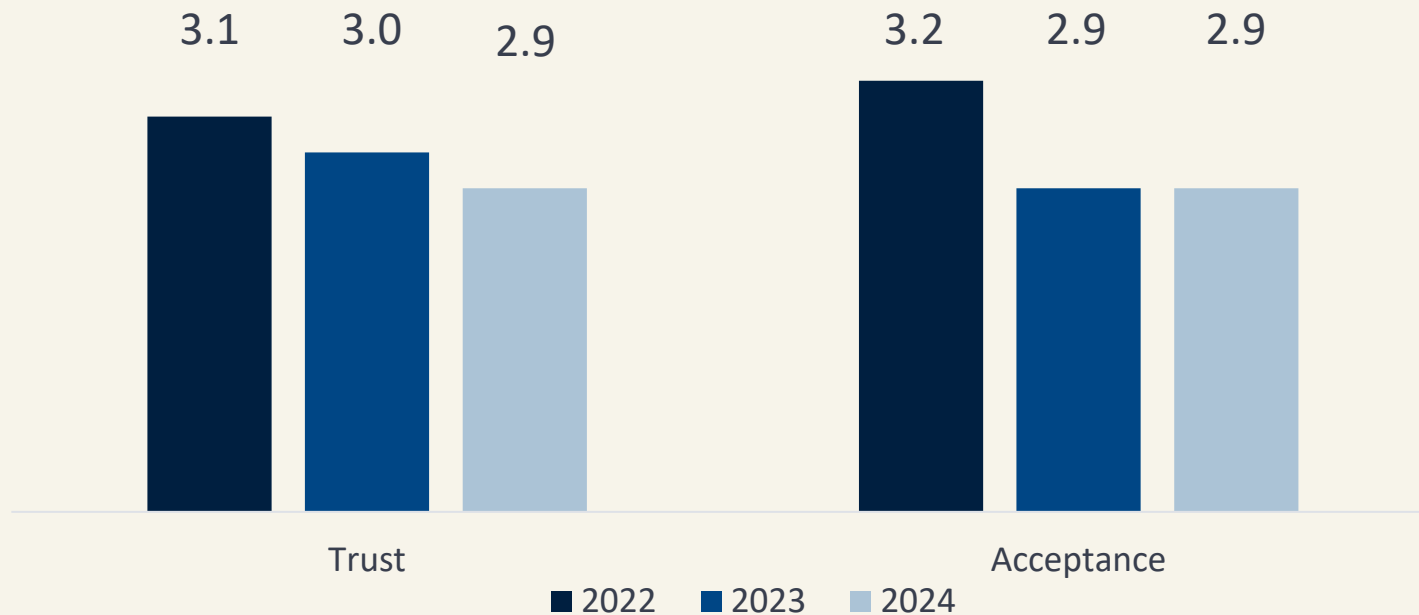
Stakeholder perception research - Key themes

Thinking about the next 5 years, which of the following issues do you think will present the biggest challenge to the energy industry?

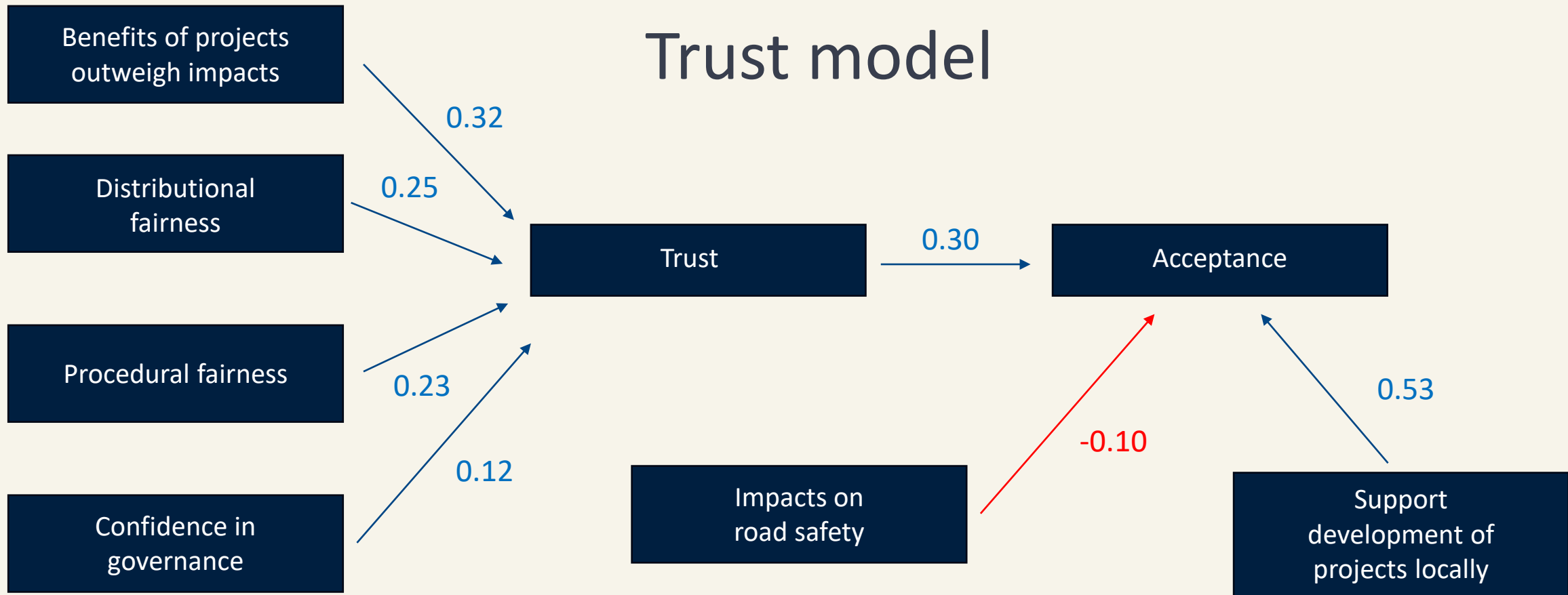


Voconiq community insights research

Community trust and acceptance has slightly reduced overall – but larger variations at individual LGA level



Trust, local community and clean energy



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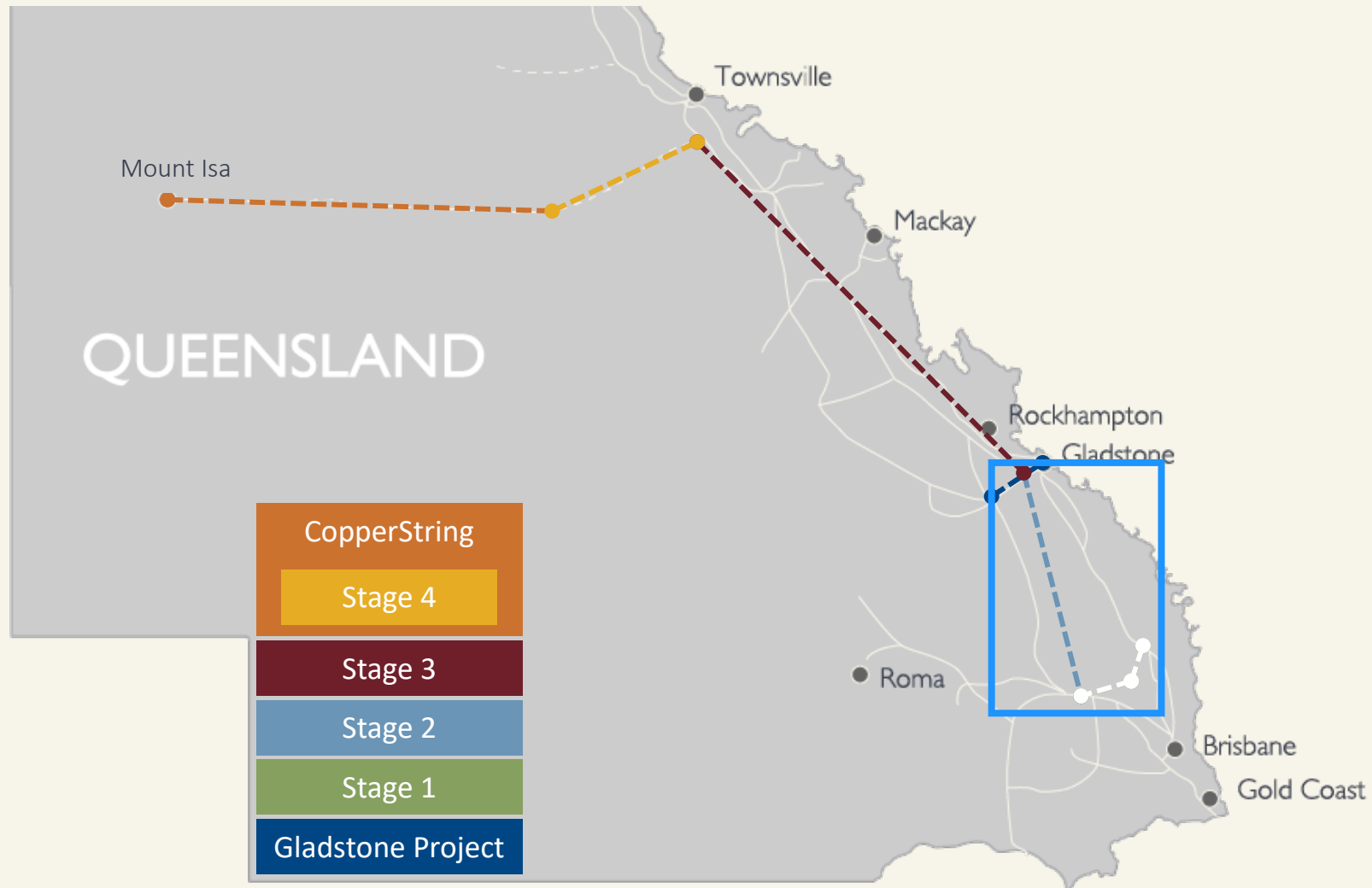
Minimum system load

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Queensland transmission backbone – September 2022



Queensland transmission backbone – November 2024



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Renewable Energy Zones



Renewable Energy Zones – In-flight

- Far North Queensland (energised)
- Southern Downs (energised)
- Western Downs (energised*)



Renewable Energy Zones - Planning

- Callide REZ
- Calliope REZ
- Darling Downs REZ



Renewable Energy Zones



	FAR NORTH QUEENSLAND	SOUTHERN DOWNS	WESTERN DOWNS
Network capacity	~500MW	~ 2,000MW	~1,800MW
Contracted capacity	152MW	890MW	500MW
Application date	September 2019	December 2020	January 2021
Energisation date	October 2022	December 2023	November 2024
Cycle time	3.2 years	3.0 years	3.7 years

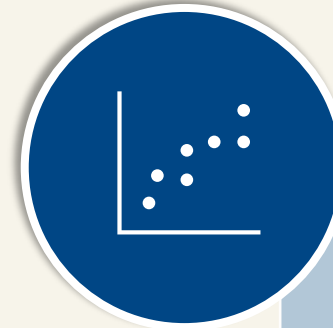
Renewable Energy Zone (REZ) developer insights



Overall positive sentiment towards Queensland REZ approach



Support for market led REZ model



Conditional support for planned curtailment



Unanimous support for early community engagement

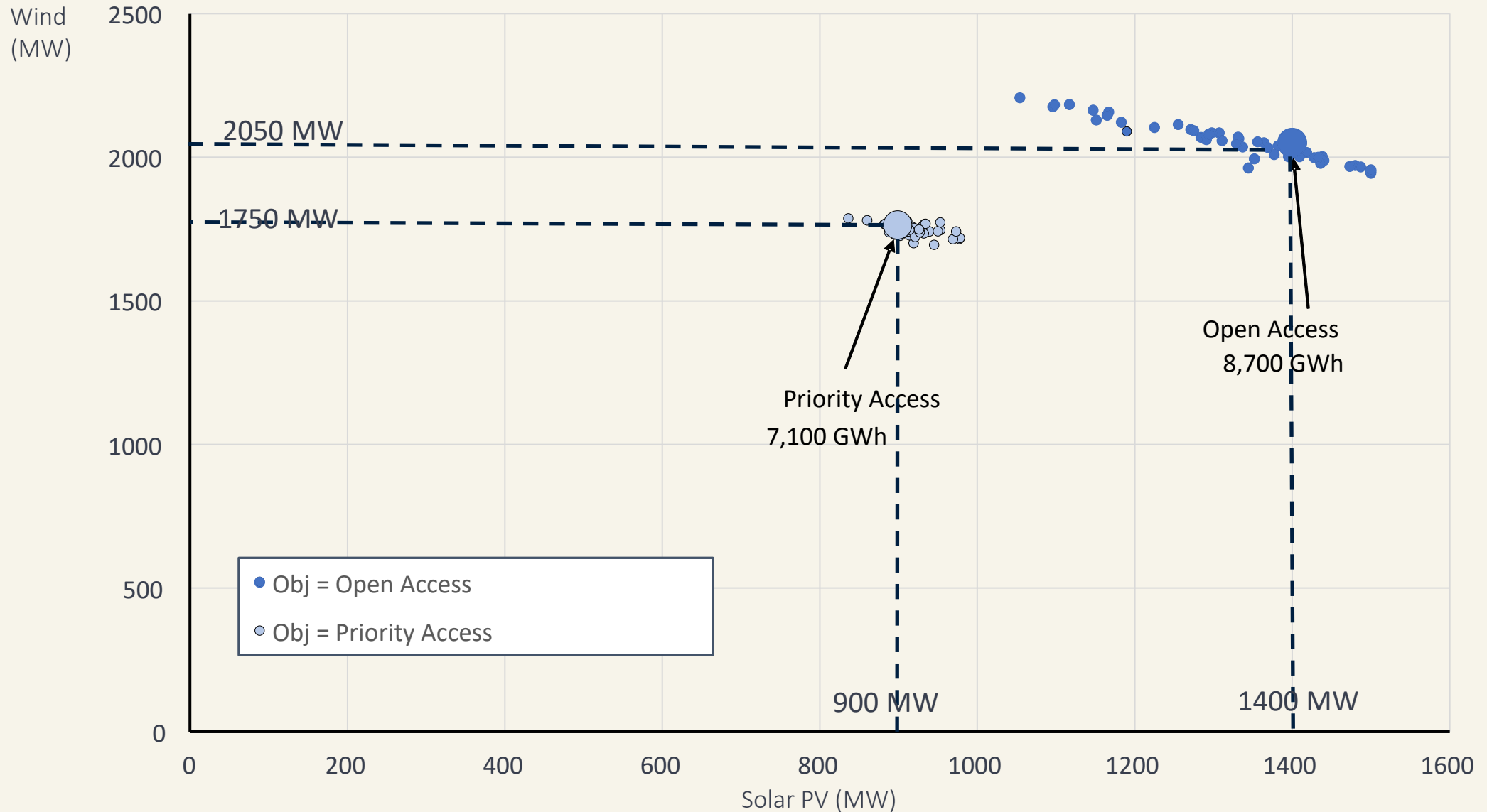


Conditional support for near-term wind bias

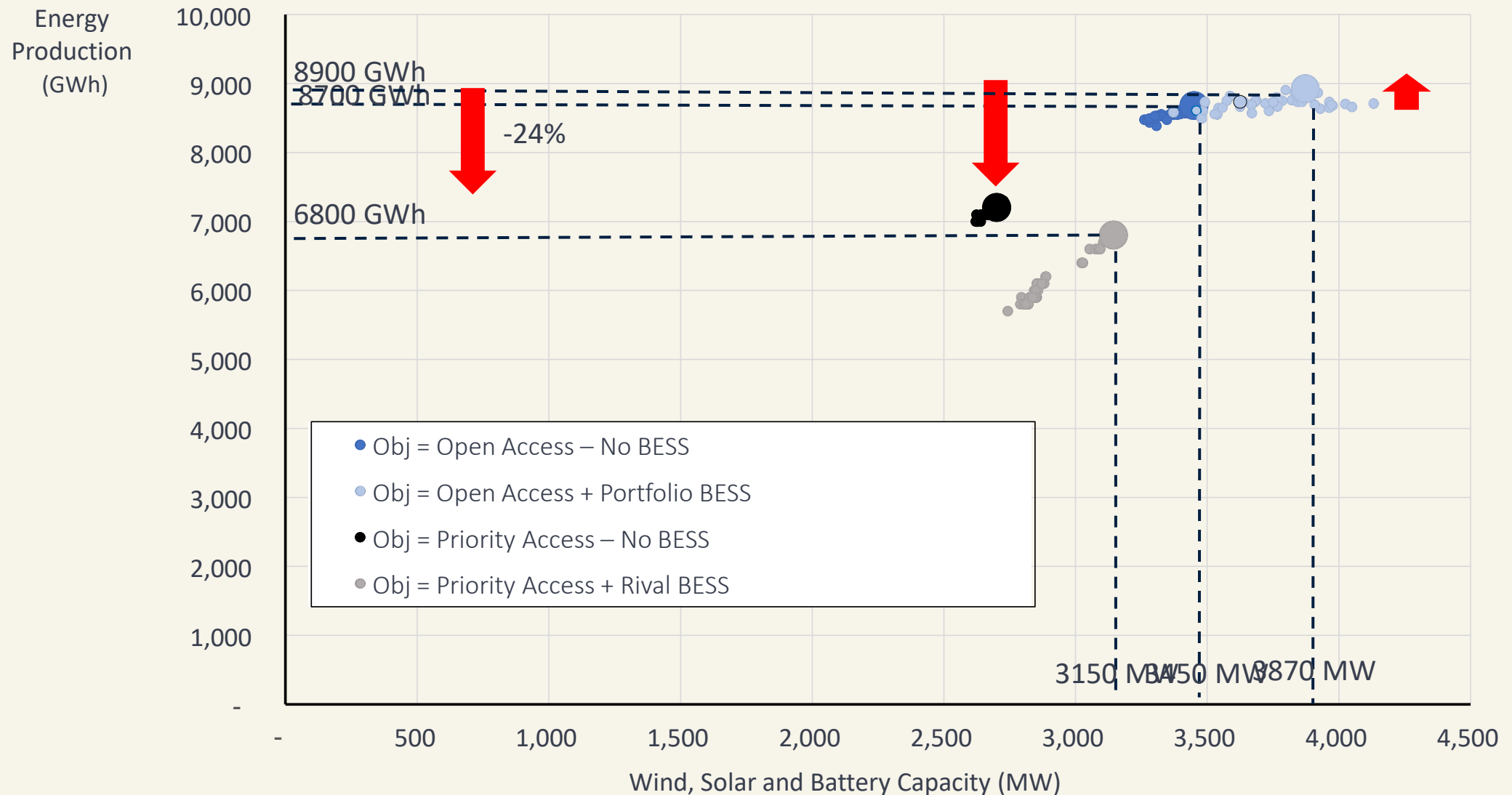


More information and clarity needed on key REZ aspects

REZ Open Access v Priority Access (275kV REZ)



REZ Access: Impact of Batteries (275kV REZ)



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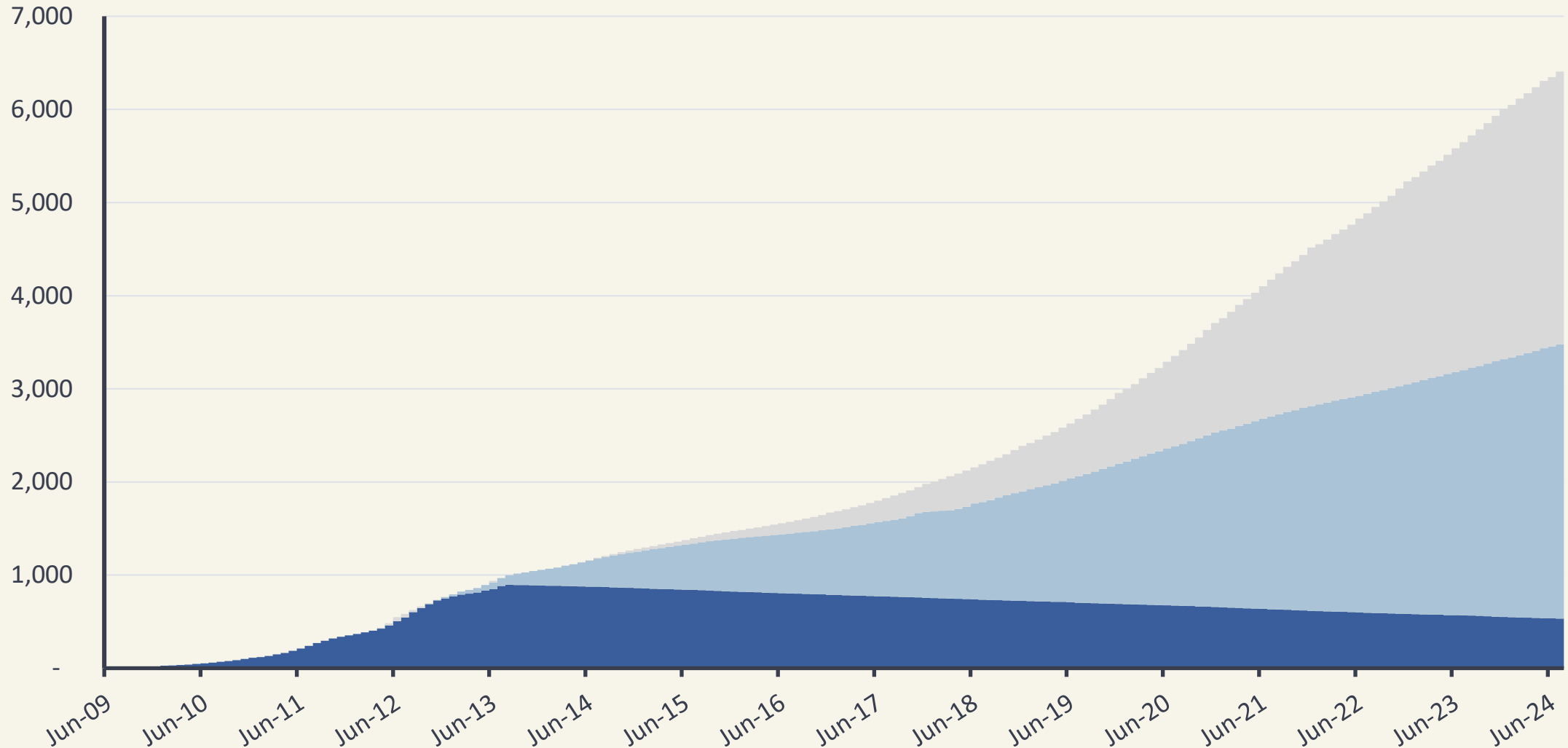
Queensland rooftop solar PV – 51.3% take-up rate

Rooftop PV Capacity (kW)

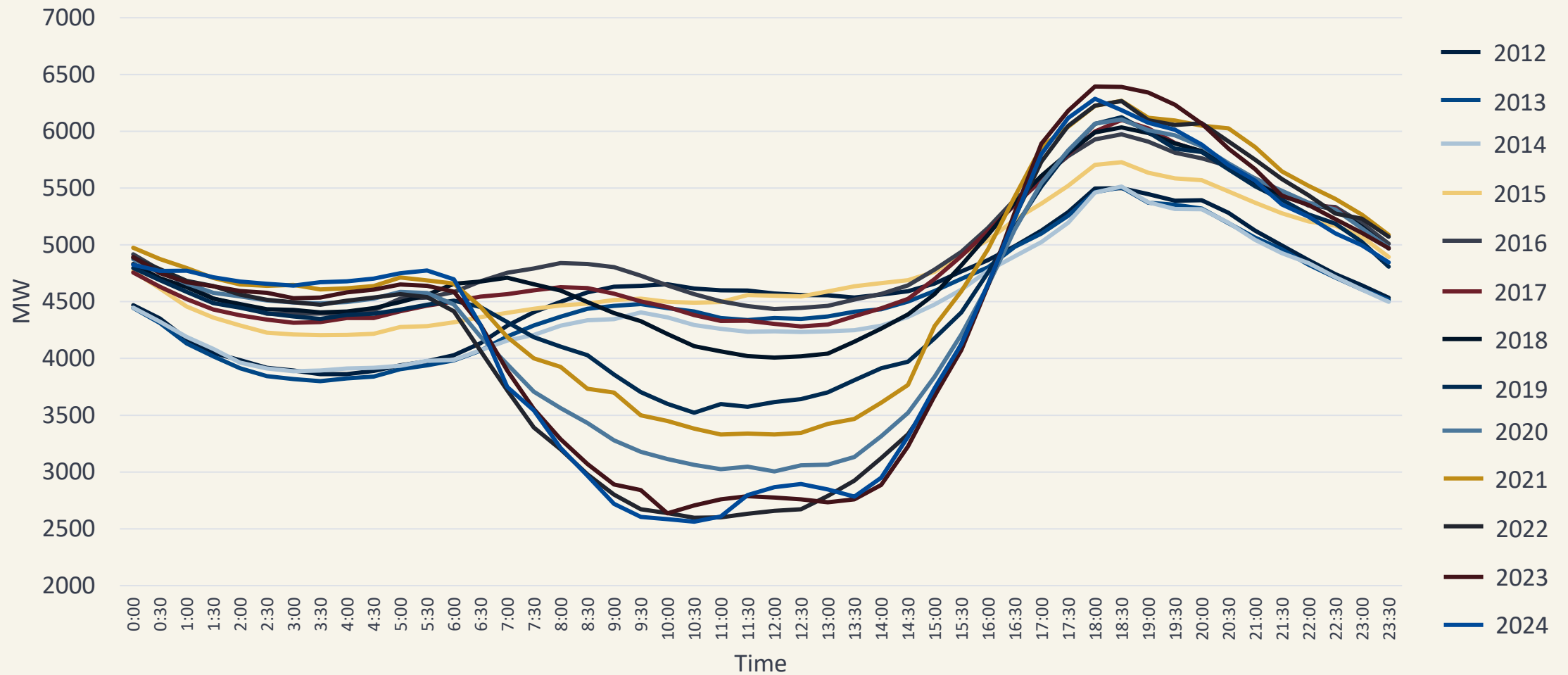
■ Households with 44c FiT

■ Households Market Rate

■ Small business



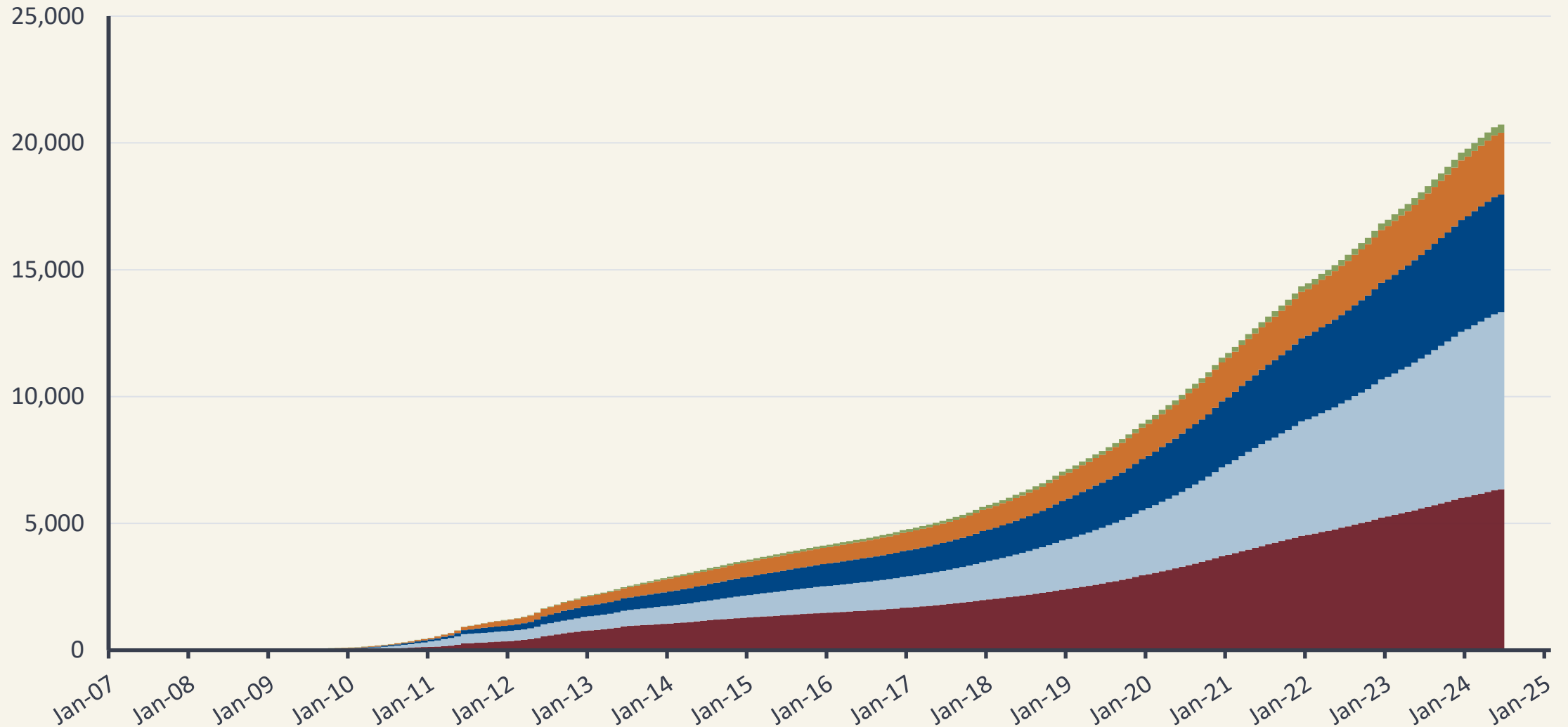
September minimum demand profile



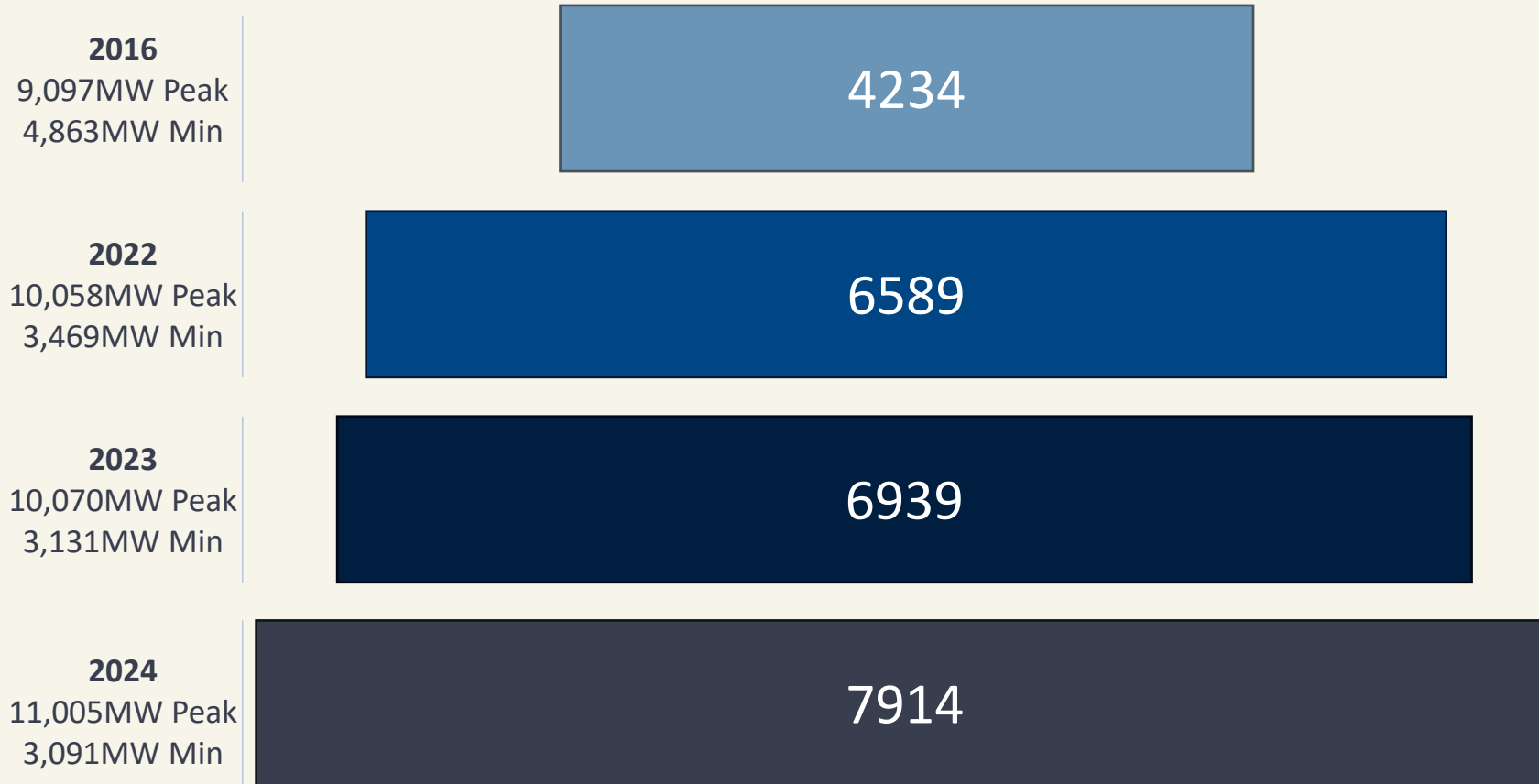
Qld can't export its way out of this... NEM Rooftop PV

Rooftop PV Capacity (MW)

■ QLD ■ NSW ■ VIC ■ SA ■ Tas



Increasing operational envelope of network



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Powerlink's innovation journey

Over the years there has been some extraordinary pieces of work that have now become business as usual for the benefit of our network, our connected customers and Queenslanders.

Innovation



Live lines and live substations



Wide Area Monitoring Protection and Control



Line phase lifter



Line stringing



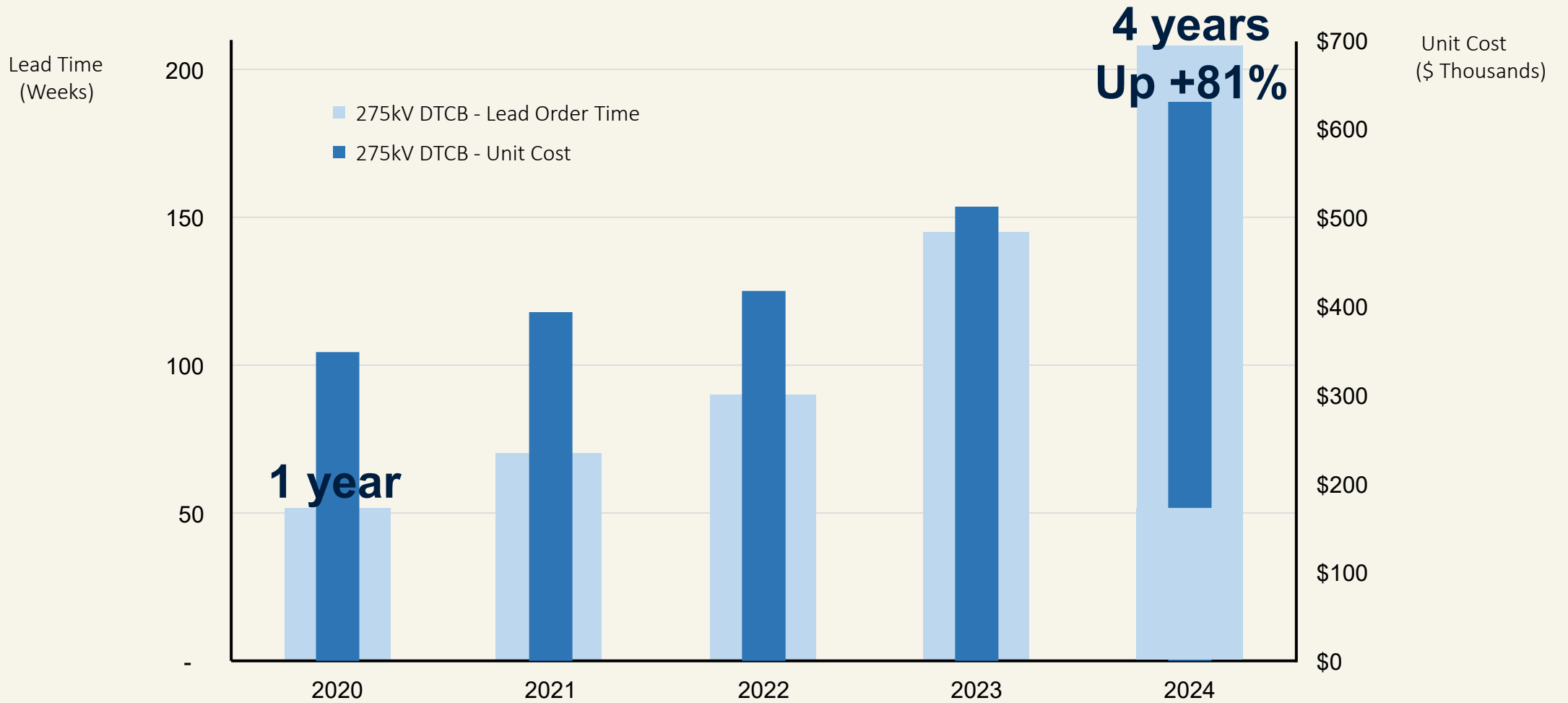
Robotic space installer



Concrete sensor strength maturity



275kV DT circuit breakers





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