Off the grid: The reliable transition to renewable energy

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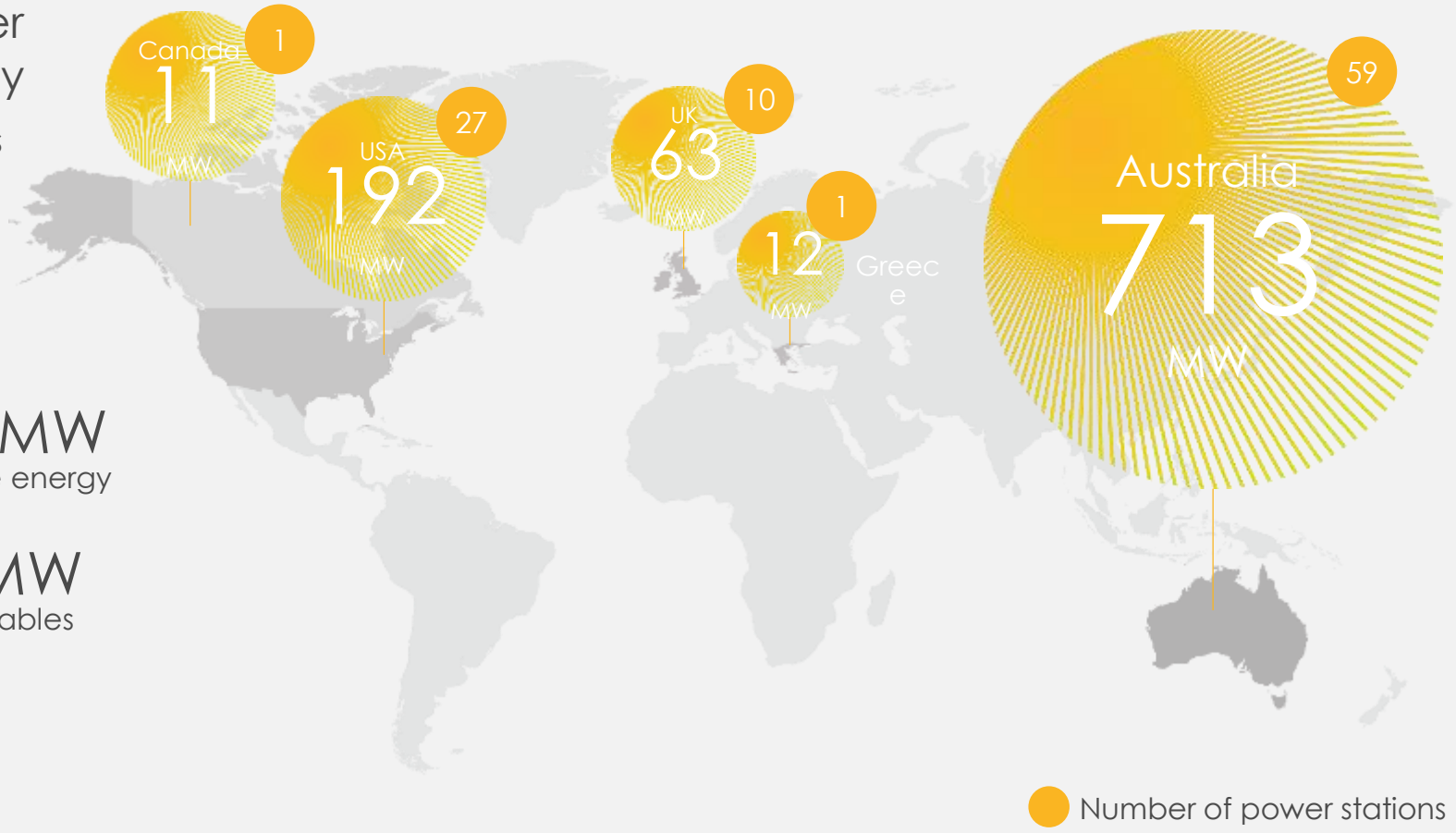
Global operations

EDL is a leading global producer of sustainable distributed energy

991MW | 98 power stations | 5 countries



Diversified asset portfolio

- 355MW landfill gas
- 299MW remote energy
- 288MW waste coal mine gas
- 49MW renewables
- 21.8 TJ/day gas delivery (LNG/CNG/LFG)

Australian operations

EDL owns and operates 59 power stations in clean and remote energy across Australia.

Our global headquarters is in Brisbane, Queensland.

Diversified asset portfolio

713MW

59
assets

77MW
landfill gas

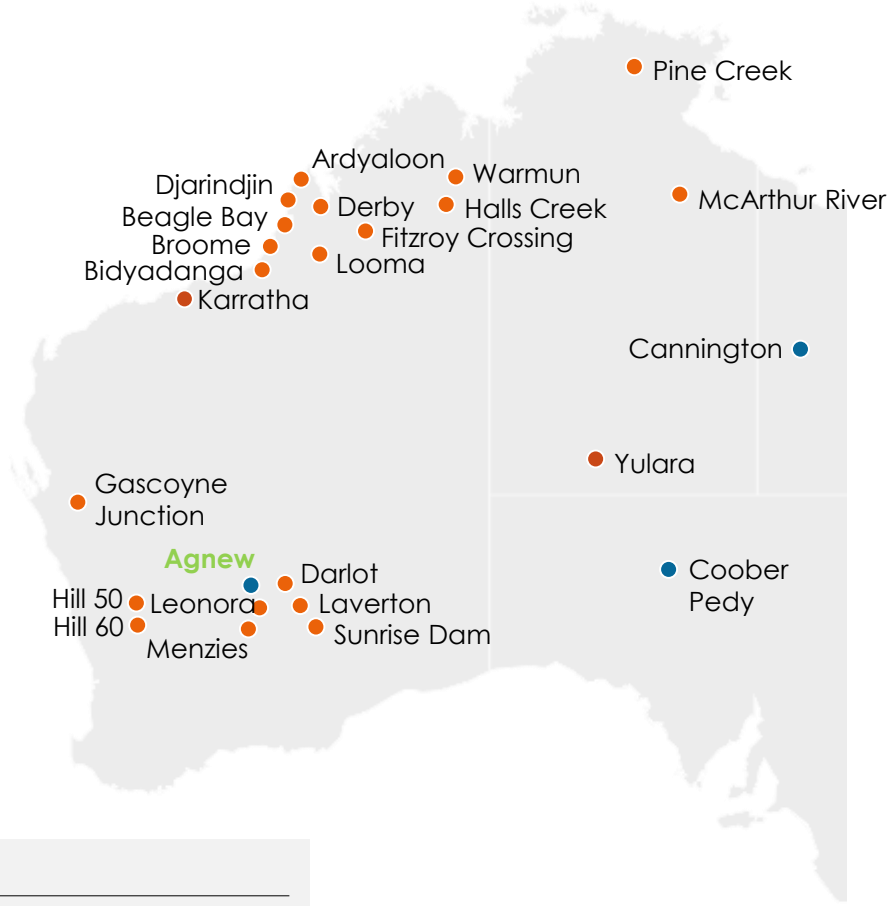
288MW
waste coal mine gas

49MW
renewables

299MW
remote energy

EDL's remote energy assets

- Powering off-grid remote communities and industries for 30 years
- Fuelled with natural gas and/or diesel
- Since 2017, grown to include three hybrid renewable assets:
  - Coober Pedy Renewable Hybrid Project
  - Cannington Power Station
  - renewable hybrid power station under construction.

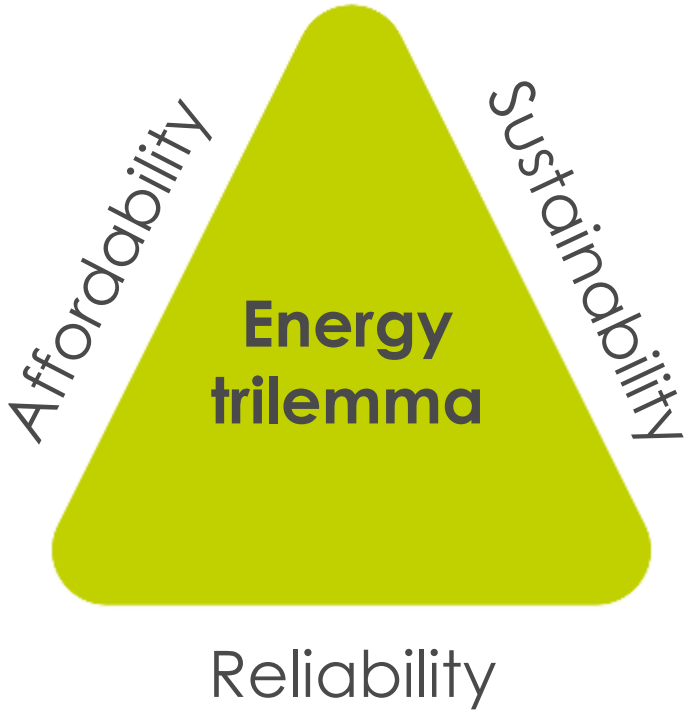


Drivers of the transition to renewable energy

Decreasing costs of renewable energy technologies

Price **volatility of traditional fuel** sources

Potential cost savings for operation/project



Social sustainability imperatives to reduce emissions

Execution of **Paris Agreement** in 2016

Coober Pedy Renewable Hybrid Project

1MW AC solar

4MW wind generation

Coober Pedy Renewable Hybrid Project

Period	Year	Unplanned outages	
		Number	Duration
Pre-hybridisation	FY15	4	3.5 hours
	FY16	5	1.1 hours
	FY17	4	4.2 hours
	Ave.	4.3	2.9 hours
Post-hybridisation	**FY18**	**4**	**0.47 hours**

Project outcomes

99.995%
reliability in FY18

99.999%
reliability in FY19 to date
(31 mins/345 days unplanned outage)

73%
ave renewable energy contribution

>2,100,000 litres
p.a. reduction in diesel consumption

8GWh
p.a. of renewable electricity

81 hours
longest uninterrupted period at 100% renewable supply (Dec 2018)

Cannington Power Station

Initially commissioned as a diesel power station for South32's Cannington mine, the facility was upgraded to a primarily gas-fired power station in 1999.

EDL recently commissioned a 3MW solar farm to integrate with existing power station.

At a glance

2018
upgraded to hybrid renewable

35MW
gas capacity

3MW
solar generation

5MW
diesel capacity

Agnew

- Greenfields energy solution for a remote mining operation
- 10 year PPA
- Current supply:
  - neighbouring mine's transmission line – 12MW
  - diesel hire sets – 6MW.

This project will provide the mine with **greater than 50% renewable energy** over the long term, **without compromising power quality or reliability**.

Agnew

In an Australian first, the project will utilise wind generation as part of a large hybrid microgrid in the mining sector.

Stage 1

23MW
power station inc 16MW gas and 3MW diesel gen. and 4MW PV solar

4MW
PV solar

Stage 2

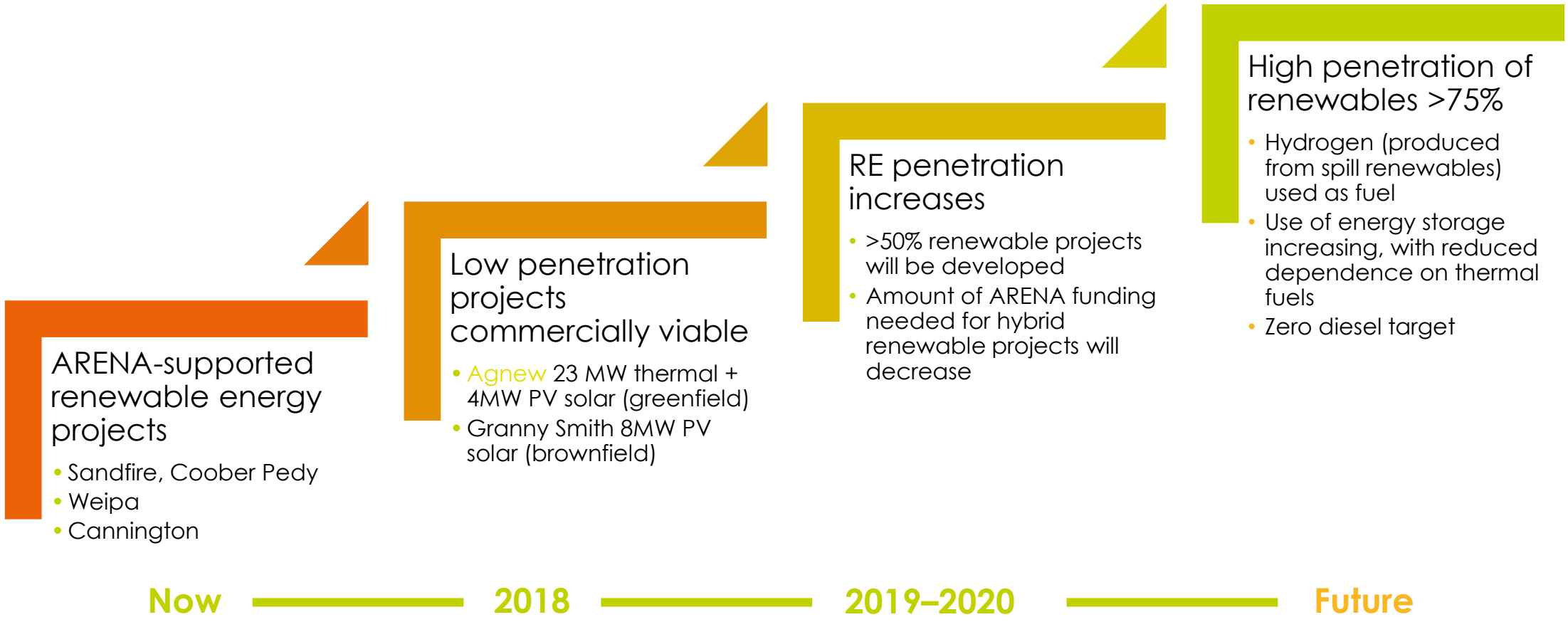
5
wind turbines

18MW
wind generation

13MW
battery

The transition to renewables

Hybrid technologies **manage reliability risk** and **facilitate higher penetration of renewable energy**



The path ahead

- Moving forward, we see high penetration renewables playing an increasing role.
- Remote hybrid renewables market around 1GW, $2 billion capital.
- EDL can play a leading role addressing the energy transition in off-grid and edge of grid applications:
  - transition fossil fuel-powered remote communities and mines to high penetration renewable generation
  - partner with networks to develop and run microgrids.
- Take-up influenced by scale of mechanisms that encourage fossil fuel displacement.

Thank you

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