

The Renewable Energy Target Review

What does it mean?

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Origin's strategy of connecting resources to markets is pursued through its 3 businesses, 4 priorities and 5 measures that drive continued improvement in Origin's performance



3 BUSINESSES



A regional leader in energy markets



A regionally significant position in natural gas and LNG production



A growing position in renewable energy



4 PRIORITIES



Improving returns in energy markets businesses



Delivering growth in natural gas and LNG



Growing capabilities and increasing investment in renewables



Capital management and funding

5 MEASURES



TRIFR for our safety



Total Shareholder Return for financial performance



Net Promoter Score for our customers' advocacy



Engagement survey for people at Origin



RepTrak for community reputation

The carbon price and the RET were interdependent policy instruments established to help Australia achieve its 2020 target



Carbon Pricing Mechanism

- The carbon pricing mechanism obligated electricity generators and other large emitters to pay a certain price for every tonne of carbon dioxide equivalent emitted.
- The price was initially fixed at \$23 per tonne as part of a three year transition period to a floating Emissions Trading Scheme.
- The revenue was largely recycled into the economy through compensation payments to households and emissions intensive trade exposed industry.

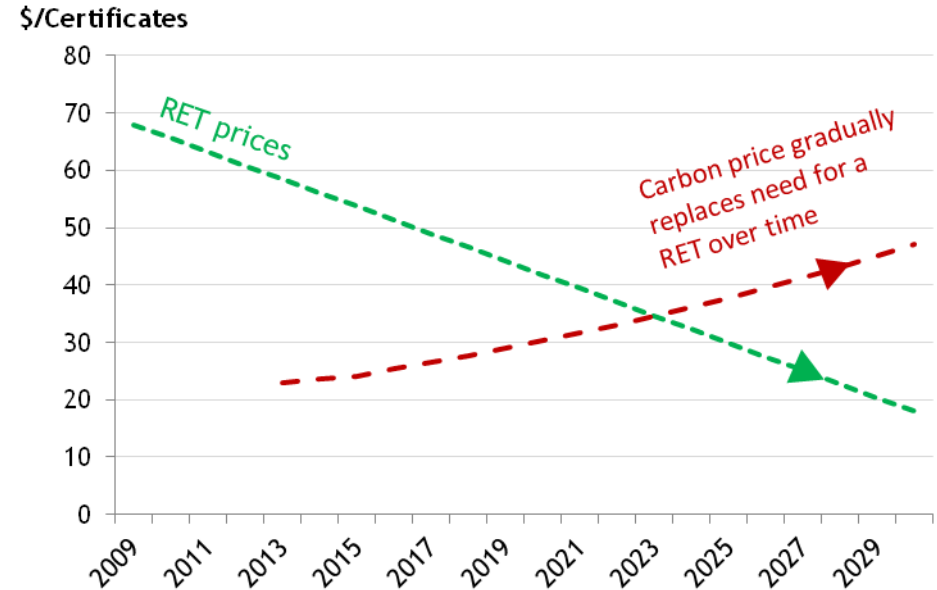
Renewable Energy Target (RET)

- The RET requires electricity retailers to acquit a certain amount of renewable electricity, on behalf of their customers.
- Retailers fulfil this obligation by building their own projects, entering into contracts that underwrite projects (PPAs) or by purchasing certificates on the market.

Interdependent policies

- Renewable energy projects are underpinned by the combined electricity price ("black") and the RET price ("green").
- The carbon price is embedded in the black price and was expected to increase over time.
- As the carbon price increased, the RET price would fall – as shown in the graph – to the point where the RET was no longer required. That is, the RET was a transitional policy.

Carbon and RET certificate prices



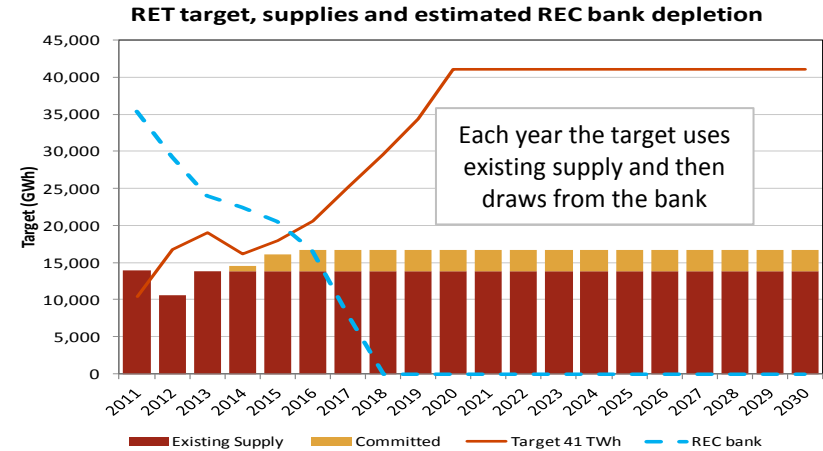
Source: MMA 2009 and Origin analysis

These instruments have been dismantled or are failing with a new architecture set to get us to 2020

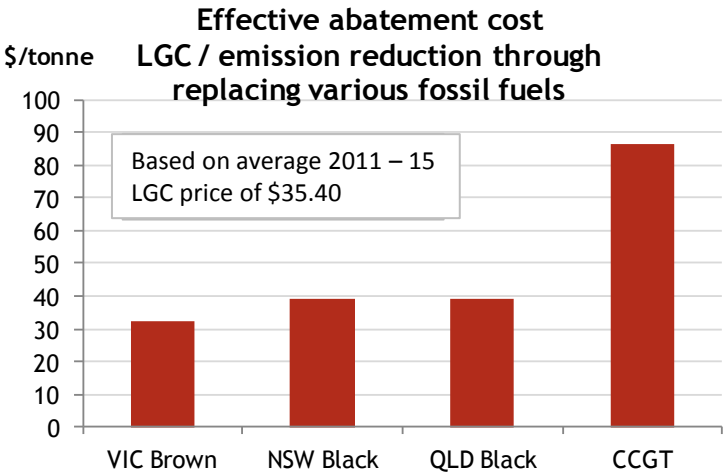
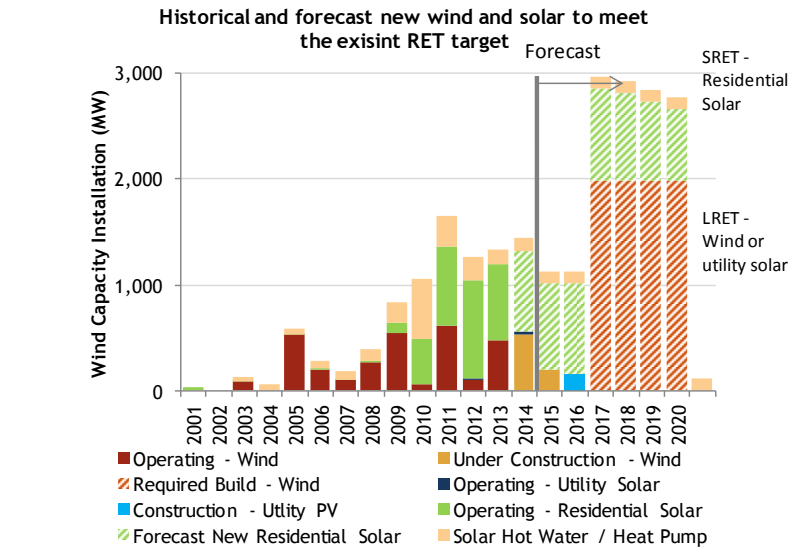
Because of constant fiddling with the scheme since 2009 the RET is failing to meet its objectives of supporting new renewable technology and driving down the cost of carbon abatement



Source: CER, ACIL, AEMO, Origin analysis



TWh (unless otherwise stated)	2007 Policy Intent	2014 Projected in 2020	2014 Actual
Estimate of demand in 2020	300	230	-
Actual demand	-	-	210
RET Target	45	-	-
LRET	-	41	15
SRES	-	13	7
Hydro/Pre-Existing	15	15	15
Total Renewables	60	69	37
Renewable/Demand	20%	30%	18%



Source: REC Registry, AEMO and Origin Analysis

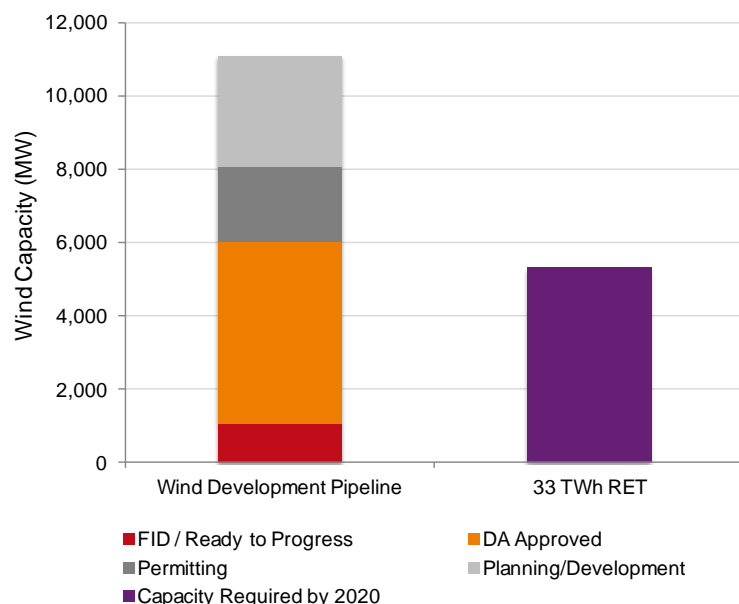
Absent any material carbon price the true cost of reducing carbon through the RET scheme is excessive

Enough wind has received DA approval to meet the 5 GW of new wind equivalent required under a 33 TWh target

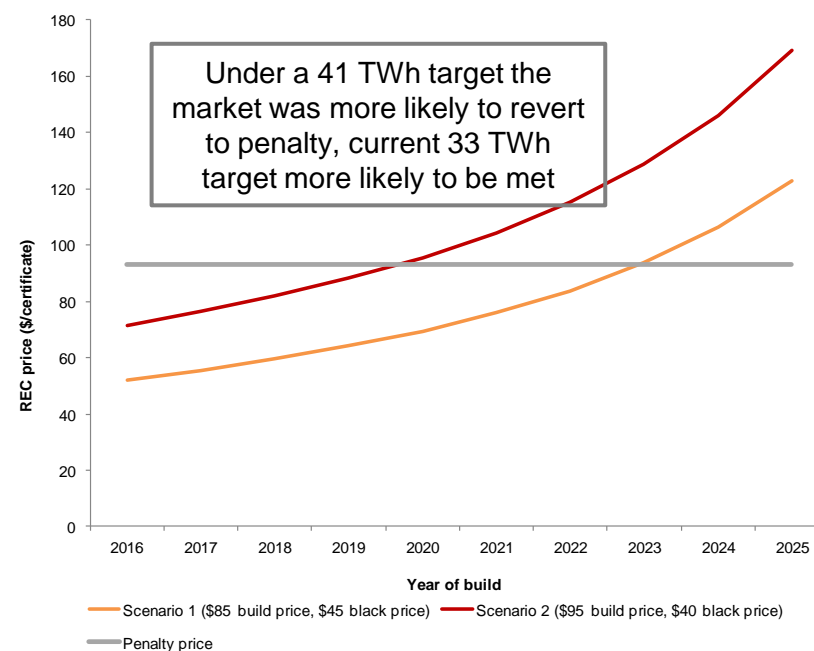
5GW of wind required to be built, with 6GW already having required approvals in place

More economic to build wind rather than pay penalty

Status of Wind Development Options¹



Required Breakeven REC Price²

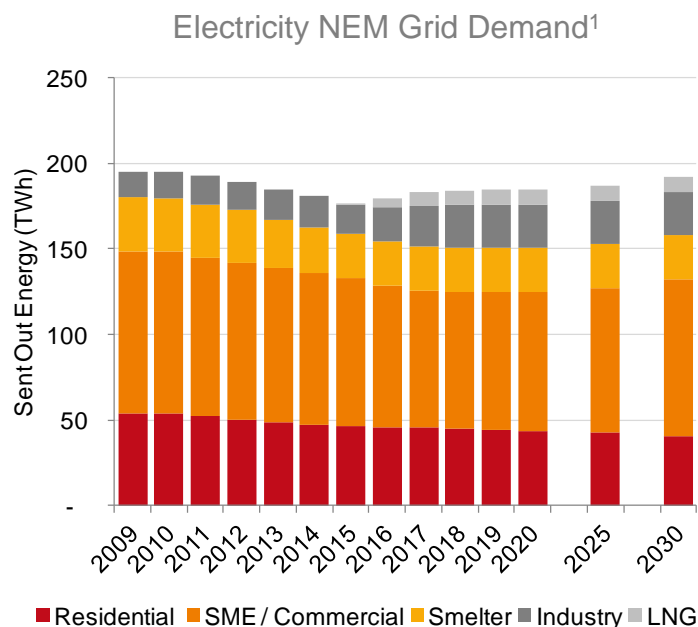


There is a window of opportunity to build over the next five years which will be more economic than paying the penalty on the scheme

While some demand growth will come from LNG, increased solar penetration and energy efficiency is expected to continue

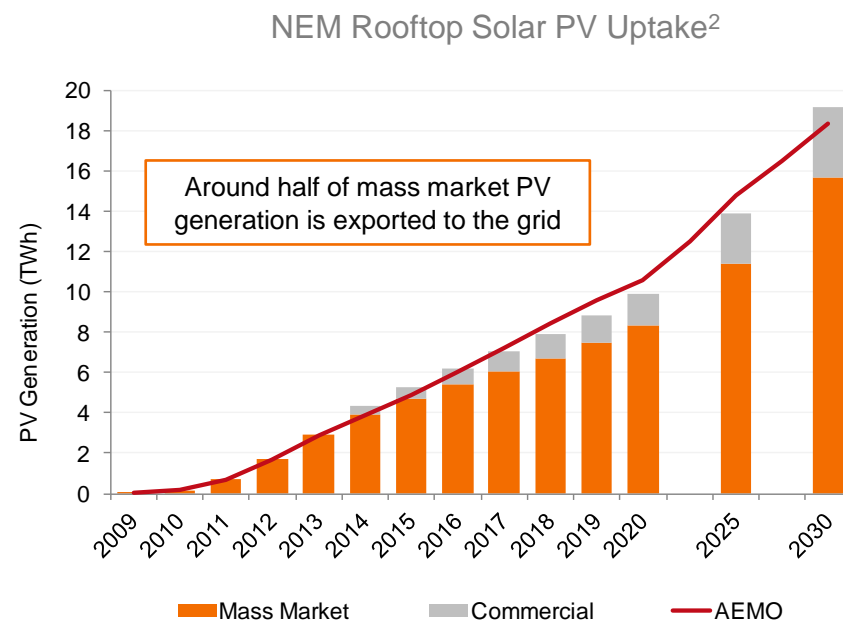


Demand growth primarily in Queensland



- Residential growth offset by efficiency
- Downside risk from solar penetration

Rooftop solar penetration continuing, with batteries on the horizon



- Falling systems costs makes solar PV competitive with or without subsidies
- Increasingly more viable for SME and industrial customers

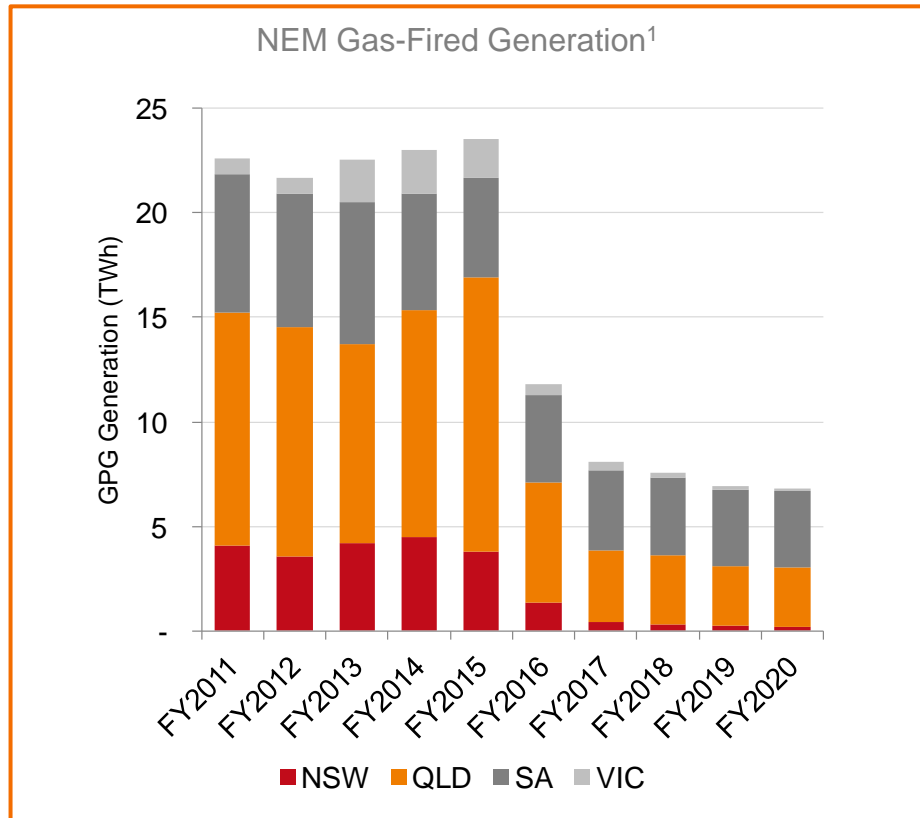
Battery storage uptake and further industrial closures represents further risks

(1) AEMO data, Origin assumptions on type of demand splits
 (2) Origin modelling and AEMO data. Assumes 16% capacity factor.

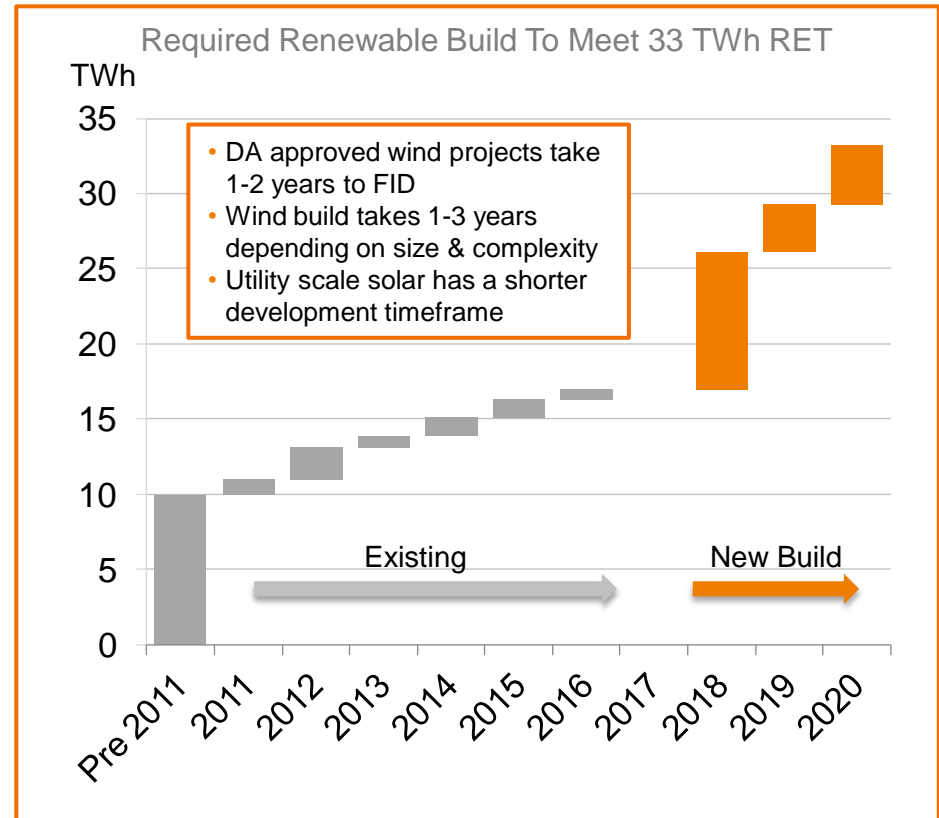
Gas-fired generation will decrease as gas prices rise, however with more certainty on the 33 TWh RET, energy supply will increase as wind and/or utility scale solar are built



Gas fired generation reduces in Queensland and NSW as gas prices rise



Renewables build required



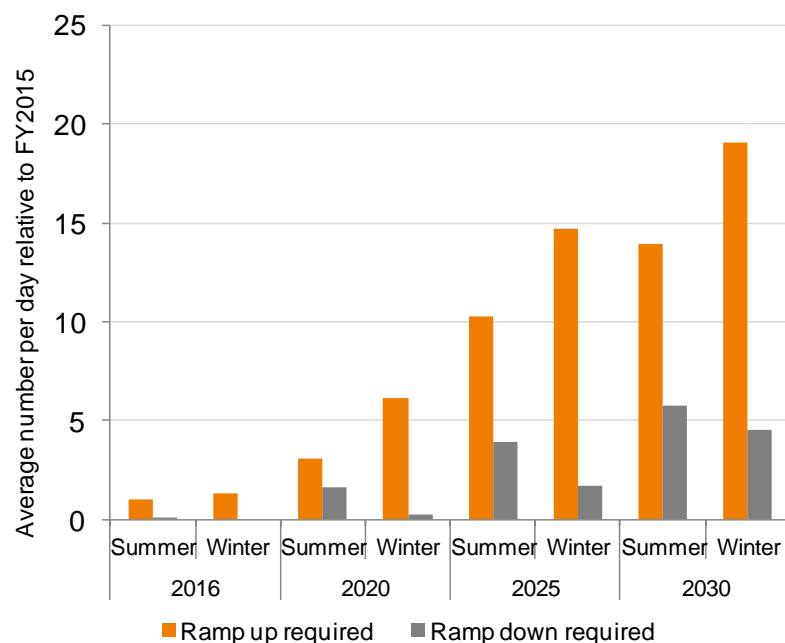
Wind is most suited to the southern states where the demand outlook is more subdued

The intermittency of wind will likely increase volatility for which Origin is well placed to benefit through its gas-peaking portfolio



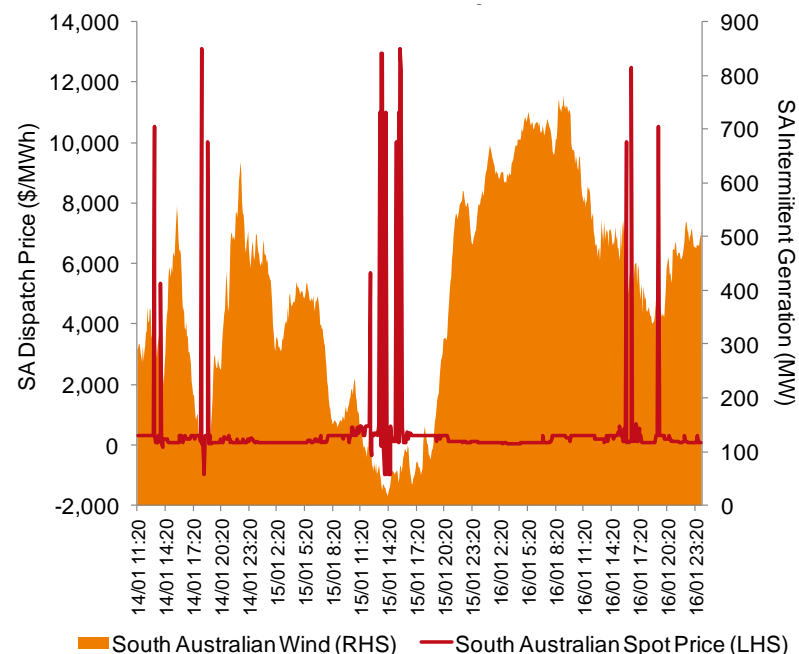
Intermittency of renewables increases reliance on peaking generation support

Number of 5-minute periods per day where required generator response exceeds coal flexibility to ramp both up and down¹



Wind variability driving volatility in SA

Price Volatility and Wind Generation in South Australia



Solar will play a significant role in the future energy landscape; Origin aspires to be #1 in rooftop solar and utility solar will become increasingly attractive

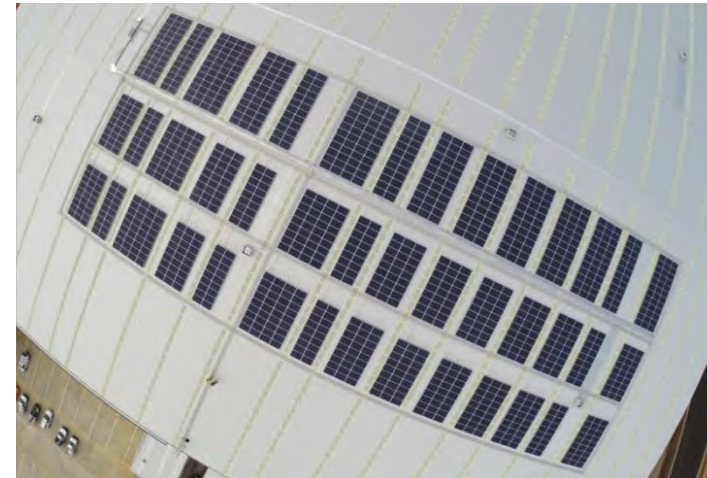


Residential



- Remaining addressable market greater than 5 million homes (owner occupied and landlord)
- Growth will be driven by falling costs and new propositions being taken to market
- PPA sales now ~50% of total daily volume following May launch

SME / Commercial



- Delivered commercial solar projects and built a substantial pipeline of which over 50% are PPA projects
- Strong value proposition for SME PPA and actively pursuing this segment
- Origin is seen as a leading credible counter party for Commercial solar



THANK YOU

For more information

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