

Understanding Energy Australia's electricity generation mix

Key findings

- Energy Australia's renewable electricity generation capacity is 177 Megawatts, or 3.43% of the company's overall portfolio. Coal (Mt Piper, Wallerawang and Yallourn) makes up 65% of Energy Australia's generating capacity and gas another 31%. Mt Piper, Wallerawang and Yallourn are all owned (part owned?) by Energy Australia.
- 1.96% of electricity produced by Energy Australia-owned generators was from renewable energy in 2013, with 86% from coal and almost 13% from gas.
- We estimate that 1.67% of Energy Australia's domestic revenue is derived from its renewable energy operations.

Power capacity

Energy Australia's electricity generating assets are as follows:

		Capacity	MW
Coal	Mt Piper and Wallerawang	1900	37%
	Yallourn	1480	29%
Oil & Gas	Ecogen (Newport & Jeeralang)	966	19%
	Hallett	203	4%
	Tallawarra	420	8%
	Wilga Park	16	~%
Renewable	Cathedral Rocks	66	1%
	Waterloo	111	2%
Total		5162	100%

Generation capacity in the Mt Piper and Wallerawang projects has fallen by 500 megawatts in 2014 but this is the only change observed to Energy Australia's portfolio, with no new additions or acquisitions of renewable energy projects in at least the past three years.

Power generation

The table below shows the power generated in the 2012 and 2013 calendar years from their owned or part-owned assets. Renewable energy makes up less than 2% of Energy Australia's power generation. While we would expect the balance to shift slightly in 2014 due to the drop on capacity at Mt Piper and Wallerawang, without further renewable energy projects or acquisitions added to Energy Australia's portfolio, it is unlikely that renewable energy will exceed 2.5% of the company's generation in 2014.

Generation (GWh)		CY 2012		CY 2013	
Coal	Mt Piper and Wallerawang	12634	50%	12987	52%
	Yallourn	8965	36%	8525	34%
Oil & Gas	Ecogen (Newport & Jeeralang)	241	1%	171	1%
	Hallett	5.5	0%	73	0%
	Tallawarra	2758	11%	3115	12%
	Wilga Park	0	0%	0	0%
Renewable	Cathedral Rocks	180.9	0.72%	194.7	0.78%
	Waterloo	298	1.19%	296.6	1.18%
Total		25082.4		25362.3	

Revenue

Energy Australia is a subsidiary of China Light and Power, whose revenue is given in Hong Kong dollars. We estimate that the renewable energy generation component of Energy Australia's business is consistently contributing 1.66% of the company's Australian revenue. This appears to be the case even as the first half of 2014 revenue appears down on previous years.

Revenue (HKDm)	FY 2012	FY 2013	H1 2014
Australia	66,843	64,976	27,711
Renewable Energy	1.66%	1.66%	1.67%

Greenhouse gas emissions

We estimate the greenhouse gas emissions of Energy Australia's electricity generation assets in 2013 at 20,810,266 tonnes of CO₂ e, approximately 3.9% of Australia's annual emissions as of March 2015. This figure (which we calculate based on output multiplied by the emissions intensity of each generating facility) is roughly equal to that used by the Australian Conservation Foundation in a recent report: [Australia's top ten climate polluters](#), which used figures reported through the National Greenhouse and energy Reporting scheme.

Concluding remarks

Energy Australia is clearly a fossil fuel dominated electricity generator and its portfolio of assets is likely to be altered most by the acquisition or development of new renewable energy generating capacity.

Sources used for this research:

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