

## Research Note: 2-2014

### Wind generation increases 22 percent in 2013

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The Renewable Energy Target (RET) has supported a significant growth in wind energy projects with generation in 2013 increasing by 22 per cent. Green Energy Markets has analysed the creation of Large-scale Generation Certificates (LGCs) under the RET based on data available from the REC-Registry as at 20 May 2014. While wind was the leading renewable fuel creating LGCs, the power stations that created the most LGCs in both 2012 and 2013 were hydro generation plants in Tasmania.

The Poatina and Gordon hydro power stations in Tasmania are the largest creators of Large-scale Generation Certificates (LGCs) over the last two years. Sixteen of the largest 20 LGC generators in 2013 were wind farms.

Wind is the largest creator of LGCs again accounting for 60 per cent in 2013 with hydro the next biggest at 21 per cent.

**Table 1 – Power stations creating more than 200,000 LGCs per annum**  
(based on LGCs created at 20 May 2014)

Power Station	State	Fuel	2012 Generation	2013 Generation
Gordon Hydro	TAS	Hydro	0	1,483,603
Waubra Wind Farm	VIC	Wind	673,174	664,267
Collgar Wind Farm	WA	Wind	686,235	654,215
North Brown Hill Wind	SA	Wind	437,056	420,063
Lake Bonney Wind Farm Stage 2	SA	Wind	380,731	400,810
Capital wind Farm	NSW	Wind	307,204	373,960
Snowton Wind Farm	SA	Wind	361,822	362,548
Hallett Wind Farm	SA	Wind	336,310	323,265
Waterloo Wind Farm	SA	Wind	322,945	315,713
Alinta Wind Farm	WA	Wind	302,284	302,375
Musselroe Wind Farm	TAS	Wind	0	261,744
Hallett 2 Wind Farm	SA	Wind	264,069	244,559
Woolnorth Studland Bay	TAS	Wind	216,384	237,981
Woolnorth Wind Farm	TAS	Wind	198,450	226,273
Wattle Point Wind Farm	SA	Wind	209,915	213,874
Visy Pulp and Paper	NSW	Black Liquor / Wood Waste	222,139	213,829
Cape Bridgewater Wind Farm	VIC	Wind	200,751	211,759
Emu Downs Wind Farm	WA	Wind	250,363	211,693
Poatina Hydro	TAS	Hydro	1,089,252	208,364
Pioneer Mill	QLD	Bagasse	225,381	203,635

The Poatina and Gordon power stations are baseline generators that were in operation on 1 January 1997. Pre-existing power stations are able to produce LGCs to the extent that their power generation is above their 1997 baseline. Both Gordon and Poatina considerably exceeded their 1997 baselines and will produce significant quantities of LGCs for generation in 2013. Power stations have until 31 December 2014 to produce LGCs for 2013 generation and we expect that more LGCs are still being created for these power stations.

The Macarthur wind farm in western Victoria (420 MW) is the largest wind farm in Australia and became fully operational in January 2013. Macarthur has only produced a modest amount of LGCs to date and we expect that it will eventually produce more than 1 million LGCs for 2013 generation and will be second to only Gordon Hydro in terms of the most LGCs created.

In total, 13.9 million LGCs were created for electricity generated in 2013 (as at 20 May 2014). We estimate that there are still 1.9 million LGCs yet to be created for 2013 generation, largely from wind and baseline hydro generators (refer to Table 2). We estimate that a total of 15.8 million LGCs will eventually be created by power stations for 2013 generation, a 23 per cent increase on 2012 levels.

**Table 2 – LGC creation by fuel source for 2012 and 2013 generation years**

Fuel Source	2012 Generation year	2013 Gen year created to date	2013 still to create	2013 total	2013 Share of total
Wind	7,706	8,237	1,194	<b>9,431</b>	59.6%
Hydro	2,591	2,752	498	<b>3,250</b>	20.5%
Bagasse	640	746	14	<b>760</b>	4.8%
Black liquor	243	250	5	<b>255</b>	1.6%
Landfill gas	834	821	14	<b>835</b>	5.3%
Sewage gas	131	97	31	<b>128</b>	0.8%
Wood waste	104	130	3	<b>133</b>	0.8%
Other biomass	37	76	3	<b>79</b>	0.5%
Solar	21	35	60	<b>95</b>	0.6%
Other (Deemed)	85		10	<b>10</b>	0.1%
Waste coal mine gas	387	755	95	<b>850</b>	5.4%
<b>Total</b>	<b>12,779</b>	<b>13,898</b>	<b>1,928</b>	<b>15,826</b>	<b>100.0%</b>

The analysis above is an extract from Green Energy Market's Renewable Power Station Report (June 2014) that is available on a subscription basis. Refer to [www.greenmarkets.com.au](http://www.greenmarkets.com.au)