

## Green Energy Insights

### LGC creation falls by 3 per cent in 2014

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The Renewable Energy Target (RET) is the primary support mechanism for renewable power generation in Australia and supported more than 331 renewable power stations in 2014. [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 22 May 2015. Wind was the leading renewable fuel creating LGCs and accounted for 64 per cent of certificates. Wind LGCs increased by 8 per cent from 2013 levels.

The number of LGCs produced by hydro projects fell by 39 per cent as generation levels returned to more normal levels after a surge in generation in 2013. The Gordon and Poatina hydro power stations in Tasmania, which are baseline generators, still produced enough LGCs to be in the top 5 largest creators. Of the 23 power stations producing more than 200,000 LGCs, 16 were wind farms (Table 1).

**Table 1 – Power stations creating more than 200,000 LGCs per annum**  
 (based on LGCs created at 22 May 2015 with estimates for yet to be created)

| Power Station                   | Fuel                                   | State | 2012      | 2013      | 2014    | Yet to create | Total 2014 |
|---------------------------------|--|-------|-----------|-----------|---------|---------------|------------|
| Macarthur Wind Farm - VIC       | Wind                                   | VIC   | 127,921   | 1,072,822 | 868,827 |               | 868,827    |
| Gordon                          | Hydro                                  | TAS   |           | 1,483,632 | 689,980 | 160,020       | 850,000    |
| Collgar Wind Farm - WA          | Wind                                   | WA    | 686,235   | 654,215   | 672,998 |               | 672,998    |
| Waubra Wind Farm - VIC          | Wind                                   | VIC   | 673,174   | 664,267   | 621,789 |               | 621,789    |
| Poatina                         | Hydro                                  | TAS   | 1,089,252 | 263,533   | 290,390 | 249,610       | 540,000    |
| Musselroe Wind Farm - TAS       | Wind                                   | TAS   |           | 261,744   | 423,170 |               | 423,170    |
| North Brown Hill Wind Farm - SA | Wind                                   | SA    | 437,056   | 442,177   | 397,712 |               | 397,712    |
| Snowtown South Wind Farm - SA   | Wind                                   | SA    |           | 36,233    | 383,000 |               | 383,000    |
| Lake Bonney Wind Farm Stage 2   | Wind                                   | SA    | 380,731   | 401,786   | 342,702 |               | 342,702    |
| Snowtown Wind Farm - SA         | Wind                                   | SA    | 361,822   | 362,552   | 329,305 |               | 329,305    |
| Snowtown Wind Farm Stage 2 - SA | Wind                                   | SA    |           |           | 315,479 |               | 315,479    |
| Capital Wind Farm - NSW         | Wind                                   | NSW   | 307,204   | 373,963   | 311,119 |               | 311,119    |
| Alinta Wind Farm                | Wind                                   | WA    | 302,284   | 302,377   | 309,464 |               | 309,464    |
| Waterloo Wind Farm - SA         | Wind                                   | SA    | 322,945   | 315,713   | 303,811 |               | 303,811    |
| Hallett Wind Farm SA            | Wind                                   | SA    | 336,310   | 340,285   | 294,260 |               | 294,260    |
| Mt Mercer Wind Farm - VIC       | Wind                                   | VIC   |           | 4,929     | 279,388 |               | 279,388    |
| Moranbah North Power Station    | Waste coal<br>mine gas                 | QLD   | 157,701   | 276,470   | 264,019 |               | 264,019    |
| German Creek Power Station      | Waste coal<br>mine gas                 | QLD   | 92,524    | 251,540   | 264,020 |               | 264,020    |
| Emu Downs Wind Farm - WA        | Wind                                   | WA    | 250,363   | 216,642   | 237,609 |               | 237,609    |
| Pioneer Mill                    | Bagasse                                | QLD   | 225,381   | 203,635   | 232,862 |               | 232,862    |
| Visy Pulp and Paper             | Black liquor<br>and other<br>bioenergy | NSW   | 230,248   | 225,645   | 228,538 |               | 228,538    |
| Hallett 2 Wind Farm - SA        | Wind                                   | SA    | 264,069   | 256,428   | 215,682 |               | 215,682    |
| Woolnorth Studland Bay          | Wind                                   | TAS   | 216,384   | 237,981   | 211,959 |               | 211,959    |

The Poatina and Gordon hydro 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 2014. Power stations have until 31 December 2015 to produce LGCs for 2014 generation and we expect that more LGCs are still be created for these power stations. Based on an assessment of their electricity generation for 2014 we have estimated the likely level of LGCs for 2014.

In total, 14.6 million LGCs were created for electricity generated in 2014 (as at 22 May 2015). We estimate that there are still 1.1 million LGCs yet to be created for 2014 generation, largely from wind and baseline hydro generators (refer to Table 2). We estimate that a total of 15.7 million LGCs will eventually be created by power stations for 2014 generation, a 3 per cent decrease on 2013 levels.

**Table 2 – LGC creation ('000) by fuel source for 2012 - 2014 generation years**

| Fuel Source         | 2012 Gen Year | 2013 Gen Year | 2014 Gen Year | 2014 still to create | 2014 total    | Market share  |
|---------------------|---------------|---------------|---------------|----------------------|---------------|---------------|
| Wind                | 7,706         | 9,334         | 9,853         | 240                  | 10,093        | 64.3%         |
| Hydro               | 2,591         | 3,861         | 1,641         | 735                  | 2,376         | 15.1%         |
| Landfill gas        | 834           | 821           | 815           | 36                   | 851           | 5.4%          |
| Bagasse             | 640           | 748           | 836           | 2                    | 838           | 5.3%          |
| Waste coal mine gas | 387           | 755           | 790           | 60                   | 850           | 5.4%          |
| Black liquor        | 243           | 250           | 250           | 1                    | 251           | 1.6%          |
| Wood waste          | 104           | 130           | 152           | 1                    | 153           | 1.0%          |
| Sewage gas          | 131           | 118           | 118           | 0                    | 118           | 0.8%          |
| Other Biomass       | 37            | 80            | 97            | 1                    | 98            | 0.6%          |
| Solar               | 21            | 39            | 56            | 4                    | 60            | 0.4%          |
| Other (Deemed)      | 85            | 0             | 0             | 0                    |               | 0.0%          |
|                     | <b>12,694</b> | <b>16,136</b> | <b>14,608</b> | <b>1,080</b>         | <b>15,688</b> | <b>100.0%</b> |

A total of 46 new renewable power stations were accredited in 2014 and 30 of these produced LGCs for the first time in 2014.

**Table 3 – Number of Power stations creating LGCs and those newly Accredited**

| Fuel Source         | Creating LGCs in 2013/14 | Creating in 2014 for first time | Accredited in 2014 |
|---------------------|--------------------------|---------------------------------|--------------------|
| Bagasse             | 22                       |                                 |                    |
| Black liquor        | 2                        |                                 |                    |
| Hydro               | 76                       | 5                               | 6                  |
| Landfill gas        | 52                       |                                 |                    |
| Other Biomass       | 14                       | 3                               | 5                  |
| Sewage gas          | 14                       |                                 |                    |
| Solar               | 68                       | 17                              | 31                 |
| Waste coal mine gas | 7                        |                                 |                    |
| Wind                | 74                       | 5                               | 4                  |
| Wood waste          | 2                        |                                 |                    |
| <b>Total</b>        | <b>331</b>               | <b>30</b>                       | <b>46</b>          |

The analysis above is an extract from Green Energy Market's Renewable Power Station Report (May 2015) that is available on a subscription basis. Refer to [www.greenmarkets.com.au](http://www.greenmarkets.com.au)