



Calculating the Level of the Renewables Obligation for 2013/14

The Renewables Obligation Order (ROO) 2009 introduced changes that require the Secretary of State to announce the level of the Obligation six months preceding an Obligation period. The Secretary of State is therefore announcing the size of the Obligation for the 2013/14 period today, 28 September 2012. This paper sets out the methodology used in calculating the size of the Obligation.

Setting the size of the Obligation requires two calculations:

- A) The number of Renewable Obligation Certificates (ROCs) that would be needed for suppliers to meet a **fixed target** of 0.134 ROCs per MWh from eligible renewable sources in England, Scotland and Wales and 0.063 ROCs per MWh in Northern Ireland
- B) The amount of renewable electricity we expect to be generated, and based on this the number of ROCs that we expect will be issued, uplifted by 10% (**headroom**)

The Obligation level is set as one of these calculations, determined as:

- **Fixed targets:** If fixed targets (A) is greater than headroom (B).
- **Headroom:** If headroom (B) is greater than the fixed target (A).

Following further evidence of expected generation from industry, analysis suggests that Calculation B will determine the number of ROCs to be supplied for the 2013/14 period. **Calculation A sets the total obligation at 40m ROCs** using DECC forward electricity demand figures Central scenario, compared with **Calculation B which sets it at 61.5m ROCs**.

This means that the number of Renewable Obligation Certificates (ROCs) that would be needed for suppliers to meet their targets will be 0.206 ROCs per MWh in England, Scotland and Wales, and 0.097 ROCs per MWh in Northern Ireland.

Further information is provided in the Annex.

Calculation A

For 2013/14 DECC central UEP predictions¹ are that 302.7TWh of electricity will be supplied by Licensed Supplier Electricity. At 0.134 ROCs per MWh for England and Wales and Scotland; and 0.063 ROCs per MWh for Northern Ireland, this gives a total of 40 million ROCs for Calculation A.

Calculation B

Calculation B estimates the potential amount of ROCs to be generated by stations accredited as of 20 August 2012 – multiplying together the MW capacity, the number of hours in the year, the banding level of that technology and the load factors set out below. This is then added to potential new build which will be generating during the period.

The list of potential new build expected to generate in 2013/14 was sourced from the Renewable Energy Planning Database (REPD)², the National Grid's Transmission Entry Capacity (TEC) Report³, Ofgem's preliminary ROC Register⁴, and, the UK Wind Energy Database⁵. We have also contacted a range of developers to confirm the capacity and timescales for completion of these projects.

| | ROCs (millions) |
|---------------------------------------|--------------------|
| Potential ROCs from existing stations | 39.7 |
| Potential ROCs for new build | 16.2 |
| Total (with 10% headroom) | 61.5 |

DECC's calculations give a total of 55.9 million ROCs before headroom. With headroom, this gives a total of 61.5 million ROCs. Calculation B is therefore higher than Calculation A. In accordance with the Renewables Obligation Order 2009, Calculation B must be used to set the level of the Obligation.

Assumptions used for Calculation B

Co-firing and biomass conversion

We have contacted developers who have co-fired in recent years to ask whether or not they intend to co-fire, convert to 100% biomass generation, or to cease generation in 2013/14.

¹ Based on latest published DECC electricity consumption predictions (UEP 43).

² <https://restats.decc.gov.uk/cms/planning-database-reports/>

³ <http://www.nationalgrid.com/uk/Electricity/Codes/systemcode/tectrading/>

⁴ <https://www.renewablesandchp.ofgem.gov.uk/Public/ReportManager.aspx?ReportVisibility=1&ReportCategory=0>

⁵ <http://www.bwea.com/ukwed/>

Dedicated biomass CHP

According to the Ofgem ROC register, some dedicated biomass plants have received ROCs for combined heat and power (CHP) production (banded at 2 ROCs) in some months of 2011/12 and ROCs for electricity-only production (banded at 1.5 ROCs) in others. To account properly for these generators when setting the obligation for 2013/14, DECC has identified all relevant installations in the ROCs register and calculated the percentage of the year in which these installations generated CHP, electricity-only or a ratio of both. Using these annual shares, DECC then calculated the resulting annual generation of both CHP and electricity-only generation, based on the 2011/12 ROC data. These estimates were then multiplied by 2 ROCs for CHP and 1.5 ROCs for electricity only, to get an estimate of total ROCs received by these plants. The same was done for plants that alternate between using biomass and energy crops.

Load Factors

For all load factors, DECC has considered actual generation and capacity (from the Digest of UK Energy Statistics⁶ (DUKES) and the ROC register). Where historic load factors showed a clear trend, this trend was continued for 2013/14. If there was not a clear trend, averages were considered, either an average over 15 years (the DUKES published series where available) or an average over the last three to seven observed years as described below. The following load factors were used in the calculation:

| Type | Load Factor |
|--|-------------|
| Anaerobic Digestion | 48.7% |
| Energy from Waste CHP | 38.1% |
| Hydro | |
| - Small scale (<i>less than 5 MW</i>) | 36.3% |
| - Large scale | 35.4% |
| Landfill Gas | 57.6% |
| Offshore | 32.0% |
| Onshore | |
| - England | 25.5% |
| - Scotland | 28.7% |
| - Northern Ireland | 33.3% |
| Other biomass (Dedicated Biomass and Advanced Conversion Technologies (ACTs)) | 62.3% |
| Sewage Gas | 52.1% |
| Solar PV | 9.7% |
| Tidal stream | 14.5% |
| Wave | 1.0% |

⁶ <http://www.decc.gov.uk/en/content/cms/statistics/publications/dukes/dukes.aspx>