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Renewables Obligation
Annual Report

2014-15

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Context

The Renewables Obligation (RO) is a scheme which supports the deployment of large-scale renewable electricity generating stations in the United Kingdom (UK). It puts an obligation on licensed electricity suppliers to source some of their supply from renewables, a proportion which increases every year.

The scheme was introduced in England, Wales and Scotland in 2002 and in Northern Ireland in 2005. There are three separate obligations across the UK: the Renewables Obligation England and Wales (RO), the Renewables Obligation Scotland (ROS) and the Northern Ireland Renewables Obligation (NIRO). The scheme is governed by three separate, but similar, pieces of legislation[1] for each obligation. These are known as the RO Orders ('the Orders').

The scheme obligation period runs annually from 1 April to 31 March. The obligation level for suppliers is announced before the start of each obligation period by the Secretary of State for Energy and Climate Change. During an obligation period, we accredit generating stations under the scheme and issue them with Renewables Obligation Certificates (ROCs) for the renewable electricity they generate. ROCs are tradable and can be sold between scheme participants.

After the end of an obligation period, we confirm each supplier's obligation based on the obligation level and the amount of electricity it has supplied to its customers. We set this obligation as a number of ROCs. Suppliers must meet their respective obligations by presenting ROCs to us, making a payment per ROC into a buy-out fund, or through a combination of these. We then redistribute buy-out payments to suppliers in proportion to the number of ROCs they presented. In advance of doing this, we take our scheme administration costs from the buy-out fund.

The Gas and Electricity Markets Authority (the Authority) is the body responsible for administering the RO. The Authority's day-to-day functions are performed by Ofgem. E-Serve, is the division of Ofgem that delivers environmental and social schemes, including the RO, for the government.

The Orders require us to produce an annual report on the scheme by 1 April following the end of an obligation period. Much of the information included in this report is a statutory requirement, and we have also included other information that we think is relevant and beneficial to scheme stakeholders and the general public.

[1] The Renewables Obligation Order 2015 (RO), Renewables Obligation Order 2009, Renewables Obligation (Scotland) Order 2009 (ROS) and Renewables Obligation Order (Northern Ireland) 2009 (NIRO) and their respective amendments.

Associated documents

The annual reports for all previous obligation periods are published on the RO homepage of our website:

https://www.ofgem.gov.uk/environmental-programmes/renewables-obligation-ro

More up-to-date data on scheme activity is published on the RO: Data and statistics page of the RO homepage of our website:

https://www.ofgem.gov.uk/environmental-programmes/renewables-obligation-ro/renewables-obligation-data-and-statistics

A variety of data reports are available to download from the Renewables and CHP Register:

https://renewablesandchp.ofgem.gov.uk/

Information for generators accredited (or those who wish to become accredited) under the RO:

https://www.ofgem.gov.uk/environmental-programmes/renewables-obligation-ro/information-generators

Information for licensed UK electricity suppliers on how to comply with the RO is available from our website here:

https://www.ofgem.gov.uk/environmental-programmes/renewables-obligation-ro/information-suppliers

Contents

Executive summary

Renewables Obligation 2014-15

This report covers the 2014-15 obligation period (1 April 2014 – 31 March 2015). It includes details of the renewable generating stations we accredited, the electricity generated by all accredited stations, the ROCs we issued to them, the sustainability of biomass fuels, compliance with the scheme by licensed suppliers, audits we carried out during the year, and upcoming changes to scheme administration and legislation.

ROCs issued and renewable generation

In 2014-15, 71.3 million ROCs were issued based on 55.7TWh electricity generated by stations accredited under the scheme. The total electricity supplied in the UK was 299.2TWh; therefore renewable generation under the RO was equivalent to 18.6% of the UK electricity supply market. When combined with the 3.8TWh generated by FIT installations, this figure rises to 19.9%, an increase of 2.8 percentage points over last year's figure.

The number of ROCs issued was slightly below the total UK supplier obligation of 71.9 million ROCs. This combined with the issuance of more ROCs than the total obligation in 2013-14 led to a relatively small buy-out fund, as the ROCs banked from this period had to be used for compliance in 2014-15.

Between them, offshore and onshore wind received the largest share of ROCs. ROCs issued to fuelled stations more than doubled in the last two years, holding the third largest share of ROCs. Solar PV grew three-fold since 2013-14 with electricity generated by this technology accounting for 4.5% of all ROCs issued during 2014-15.

An equivalent of 29.4 million tonnes of carbon dioxide (CO2e) emissions were avoided from electricity generation due to renewable generation under the scheme. This is a 19.6% increase from last year, in line with the growth in the number of ROCs we issued and the amount of renewable generation.

Generating stations accredited

In 2014-15 we accredited 6,658 generating stations, a significant increase from the 4,068 stations accredited in 2013-14. As with last year, this was driven up by the high number of applications received from micro NIRO generators (6,243), over 99% of which were domestic solar PV installations.

We accredited 415 larger stations. Over half of these were also solar PV stations, gaining accreditation before the closure of the RO to large scale (greater than 5MW TIC) solar PV on 1 April 2015.

The aggregate capacity of the stations we accredited during 2014-15 was 3,301MW. Solar PV represented 73% of this, making it now the third largest technology by capacity in the RO. This brings it closer to the two most prolific technologies – offshore and onshore wind. Between them these three technologies represent more than 80% of all the capacity accredited under the RO to date. Due to lower load factors than fuelled technologies however solar PV is not the third largest technology in receipt of ROCs.

From the start of the scheme in 2002 until the end of 2014-15, we accredited 14,042 generating stations with a total capacity of 22,597MW. This is almost double the amount of stations accredited up until the end of 2013-14.

Compliance by licensed electricity suppliers

All apart from one of the obligated suppliers in 2014-15 complied with their obligations. The supplier that did not comply – EPG Energy – paid a sum equal to its shortfall after the late payment deadline. The number of ROCs we issued during the year, combined with the high number of banked ROCs from 2013-14 meant that suppliers were able to present a large number for compliance: 71.3 million, which was 99.1% of the total UK obligation. This is the highest proportion since the RO began and hence even higher than last year's 98.2%. Conversely, the amount of buy-out and late payments suppliers made was the smallest ever.

We redistributed £24.7 million to suppliers. Each ROC was worth £43.65, leading to a scheme value of £3.1 billion. The cost of support in 2014-15 was £55.87 per MWh supplied and the cost of GHG savings under the scheme was £105.66 per tonne (CO2e).

Audits under the RO

We carried out audits of generating stations and suppliers in 2014-15 to verify their compliance with the requirements of the scheme. We audited 40 generating stations across a range of technologies, including 12 new pre-accreditation audits and two enhanced fuel audits following on from last year's trial. Similarly, we audited seven licensed suppliers on their supply volume submissions. We rated the majority of both types of audit as good or satisfactory. We addressed any findings where audits were returned with a weak or unsatisfactory rating.

Recent changes to RO legislation

DECC and the devolved administrations in Scotland and Northern Ireland (NI) introduced a number of amendments to the RO legislation in 2015. These were to consolidate the Orders, introduce further enhancements to the sustainability criteria for biomass and a reduction in the ROC rate for solar PV in NI. The RO was also closed to large scale solar PV (greater than 5MW) from 1 April 2015. Legislation was introduced to close the NIRO to new non-wind capacity on 31 March 2017 following on from similar legislation introduced in 2014 to close the RO in England and Wales and ROS in Scotland. New legislation is also being introduced to close the RO and ROS to small scale solar PV stations from 1 April 2016.

1. Introduction

Scheme administration

1.1 We administer the RO and ROS in GB. We also administer the NIRO on behalf of the Utility Regulator Northern Ireland (UR) through an Agency Service Agreement[2], however, UR retains the statutory responsibility for administering the NIRO.

1.2 The legislation governing the administration of the three schemes[3], collectively referred to as 'the Orders' in this report, define our powers and responsibilities. These include:

- Accrediting generating stations so they can receive ROCs
- Publishing a list of accredited generating stations (with full and preliminary accreditation)
- Issuing and revoking ROCs
- Establishing and maintaining a register of ROCs
- Monitoring compliance of suppliers and generators on the requirements of legislation
- Adjusting the buy-out price and mutualisation ceiling in line with the Retail Prices Index (RPI) each year (NI is excluded from mutualisation)
- Receiving buy-out and late payments from suppliers and redistributing these funds
- Publishing an annual report on scheme activity in the preceding obligation period by 1 April each year.

1.3 Our costs for administering the RO are recovered from the buy-out fund. We take our costs for the current scheme year from the previous year's buy-out fund. We published proposed costs for 2015-16 of £3,121,446 on our website[4] on 2 September 2015. We received no responses during the four-week public comment period, and therefore withdrew this amount from the 2014-15 buy-out fund in October 2015.

Purpose of this document

1.4 This report fulfils our duty to publish an annual report on scheme activity during the 2014-15 obligation period by 1 April 2016. The Orders[5] state that the minimum information the report must include:

- Details of the compliance of each obligated electricity supplier, including the ROCs they presented, payments they made and our redistribution of these payments.
- The number of ROCs we issued, broken down by generation technology.
- Details of any mutualisation triggered (except for the NIRO).
- The outcome of any investigations we conducted into suppliers' and generators' compliance with the Orders.

[2] Section 121 of the Energy Act 2004 gives us the power to enter into "arrangements" like an agency service agreement.
[3] Appendix 1 contains a full list of current RO legislation.
[4] https://www.ofgem.gov.uk/ofgem-publications/96425/commentperiodon2015-16roadmincosts-pdf
[5] Article 86(1)(f) of the RO, Article 57(1)(f) of the ROS and Article 49(1)(e) of the NIRO list the requirements for the annual report.

1.5 We can also publish "*any other matter"* that we consider relevant in the report. So we have included information on the number and type of stations we have accredited, the amount of renewable generation for which ROCs were claimed, biomass sustainability, the value of the scheme, recent and upcoming changes in legislation and improvements we have made to the administration of the scheme.

Points to note

1.6 Unless it is clear from the context, 'RO' refers to the three UK obligations – the RO England and Wales (RO), the ROS and the NIRO – collectively. Similarly, 'ROC' refers to England and Wales ROCs (ROCs), Scottish ROCs (SROCs) and Northern Ireland ROCs (NIROCs).

1.7 There are technically three buy-out funds and three late payment funds for the RO (one for each obligation). Where we refer to the 'buy-out fund' or 'late payment fund' without specifying the obligation, this refers to all three collectively.

1.8 The data included in this report was downloaded from the Renewables and CHP Register (the Register) on 15 December 2015. The data stored in the Register is live data and subject to change. For example, a station's accreditation details might be amended or the number of ROCs issued/revoked might change. As such, data downloaded from the Register at a later date may vary from that used in this report.

2. Generators accredited under the RO

Chapter summary

By the end of 2014-15 we had accredited 14,042 stations since the start of the scheme, with a total capacity of 22,597MW. We accredited around 2.4GW of solar PV capacity in 2014-15, more than double the capacity accredited in the 2013-14 period. The capacity of both onshore and offshore wind generating stations accredited in 2014-15 was notably reduced from the previous two years. 2014-15 again saw a large increase in the number of micro NIRO stations (stations in NI with a Declared Net Capacity (DNC) of 50kW or less) we accredited, where there is no Feed-in Tariff (FIT) scheme. More than 11,000 of the stations now accredited under the RO are micro NIRO stations.

2.1 One of our functions under the Orders is to accredit renewable generating stations. For full details on how a generating station becomes accredited under the RO please refer to our *Guidance for generators*.

2.2 We make a number of general assumptions of the data used within this section of the report, detailed below. These are the same assumptions applied in the 2013-14 RO Annual Report. However, note that these assumptions were revised in last year's Annual Report so it's not possible to compare them directly to years before 2013-14.

- When we refer to stations accredited during the 2014-15 obligation period, we mean that the station's accreditation became effective during the obligation period regardless of when we processed the application.
- We only include data on generating stations that have received full accreditation. We have not included any information on stations with preliminary accreditation, nor those that have had their accreditation withdrawn so the data is subject to change year on year.
- References to 'fuelled' generating stations relate to stations generating electricity from eligible biomass, bioliquids, biogas, energy crops or waste but do not include landfill gas and sewage gas stations.
- The capacities we quote are Declared Net Capacity (DNC)[6], rather than Total Installed Capacity (TIC)[7], values unless specified otherwise. The main exception to this is fuelled generating stations that burn renewable fuel alongside fossil fuel (we term these co-firing stations).

2.3 To determine the capacity of a fuelled station, we have to calculate the renewable capacity of the generating station. For example, a generating station's capacity might be 2 GW, but if it only burns 2% of eligible renewable fuels its renewable capacity is taken to be 40 MW. There are more complicated cases, such as where a station burns different proportions of renewable fuel (the biomass fraction) from month to month, or where it did not claim any ROCs in 2014-15, so there is no biomass fraction to use. Where we have issued ROCs to them

[6] DNC means "the maximum capacity at which the station could be operated for a sustained period without causing damage to it (assuming the source of power used by it to generate electricity was available to it without interruption) less the amount of electricity that is consumed by the plant".
[7] TIC means "the maximum capacity at which the station could be operated for a sustained period without causing damage to it (assuming the source of power used by it to generate electricity was available to it without interruption)".

previously and they are still accredited under the scheme, our methodology for determining a station's capacity is as follows:

- If we issued ROCs to a station in 2014-15, we multiply its average biomass fraction for the year by its capacity. The biomass fraction may be 100%, in the case of dedicated biomass stations for example.
- If we did not issue ROCs to a station in 2014-15, but they are still accredited and have received ROCs previously, we use the station's biomass fraction from the most recent year it did receive ROCs and multiply this by its current capacity.
- If we did not issue ROCs to a station in 2014-15, nor at any time since April 2007 (the earliest date for which we have data on the Register), but it remains accredited, we use the average biomass fraction from 2014-15 for all active stations (26.1%) and multiply this by the station's capacity. For inactive co-firing stations with a capacity of 1GW or more, we use the average biomass fraction from 2014-15 (0.59%) for active co-firing stations of this size. This average does not take into account fractions for Drax, Ironbridge and Tilbury power stations, whose average biomass fractions are so high that they would skew the capacities of the inactive stations to an unrealistically high value.

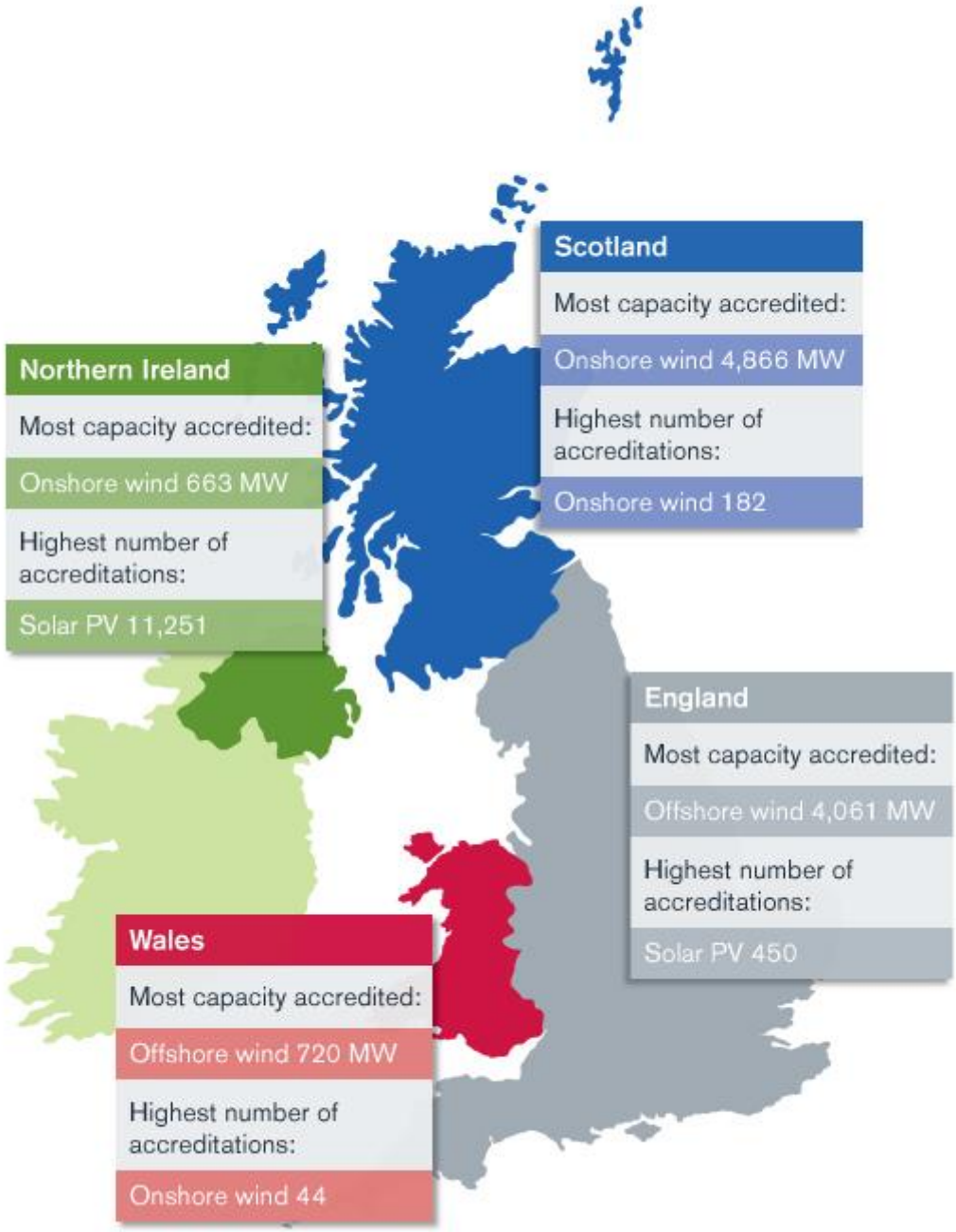
2.4 Since 1 April 2010, with the introduction of the FIT scheme in GB, all wind, solar PV, hydro and anaerobic digestion (AD) stations with a DNC of 50kW or less, i.e. microgenerators, are ineligible for the RO. Since no FIT scheme exists in NI, microgenerators remain eligible for accreditation under the NIRO. A large majority of the total number of accreditations granted are for such stations. Given this, when reporting on the number and type of large stations accredited under the RO, we have removed the micro NIRO stations from some of the information in this chapter.

Stations accredited from the start of the scheme to the end of 2014-15

2.5 There were 14,042 stations accredited under the RO by the end of 2014-15. The combined capacity of these stations was 22,597MW. Mirroring last year's trend, this represents a significant increase on the reported figures from last year's report, of 7,280 stations accredited and 18,925MW capacity. Micro NIRO stations account for 11,708 of these stations, with a combined capacity of 66.1MW, more than double last year's reported figures in both respects.

2.6 As one would expect, the technologies with the most accreditations and the highest total capacity vary across each country in the UK. These trends are shown in **Figure 1**.

Figure 1 - The highest accreditation and capacity renewable technologies across the UK at the end of 2014-15



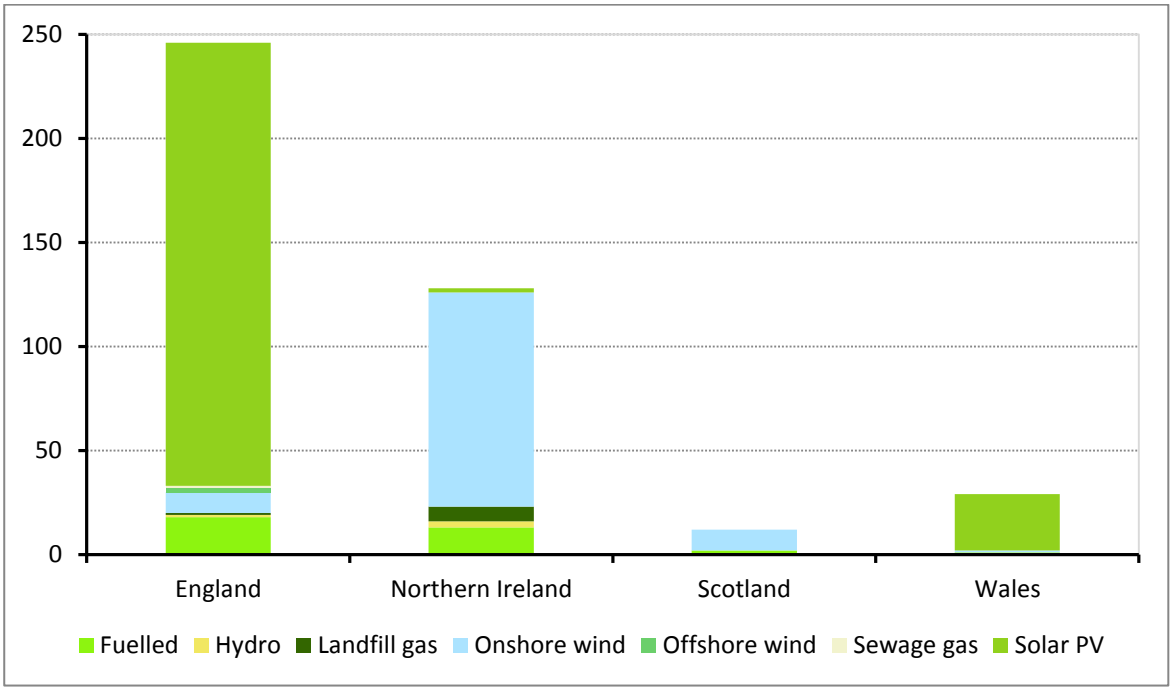
Generators accredited in 2014-15

Numbers of generating stations accredited

2.7 6,658 stations were accredited under the RO in 2014-15. This is a significant increase on the 4,068 that were reported in 2013-14, and more than six times as many as the 892 reported in 2012-13.

2.8 The vast majority (6,243) of the stations accredited were micro NIRO, over 99% (6,218) of which were small solar photovoltaic (PV) stations installed on domestic properties. The other 1% of micro NIRO stations was made up of hydro (6) and onshore wind (19). Excluding the micro NIRO stations, there was still a 73% increase (415 compared with 240 reported in 2013-14) in stations accredited.

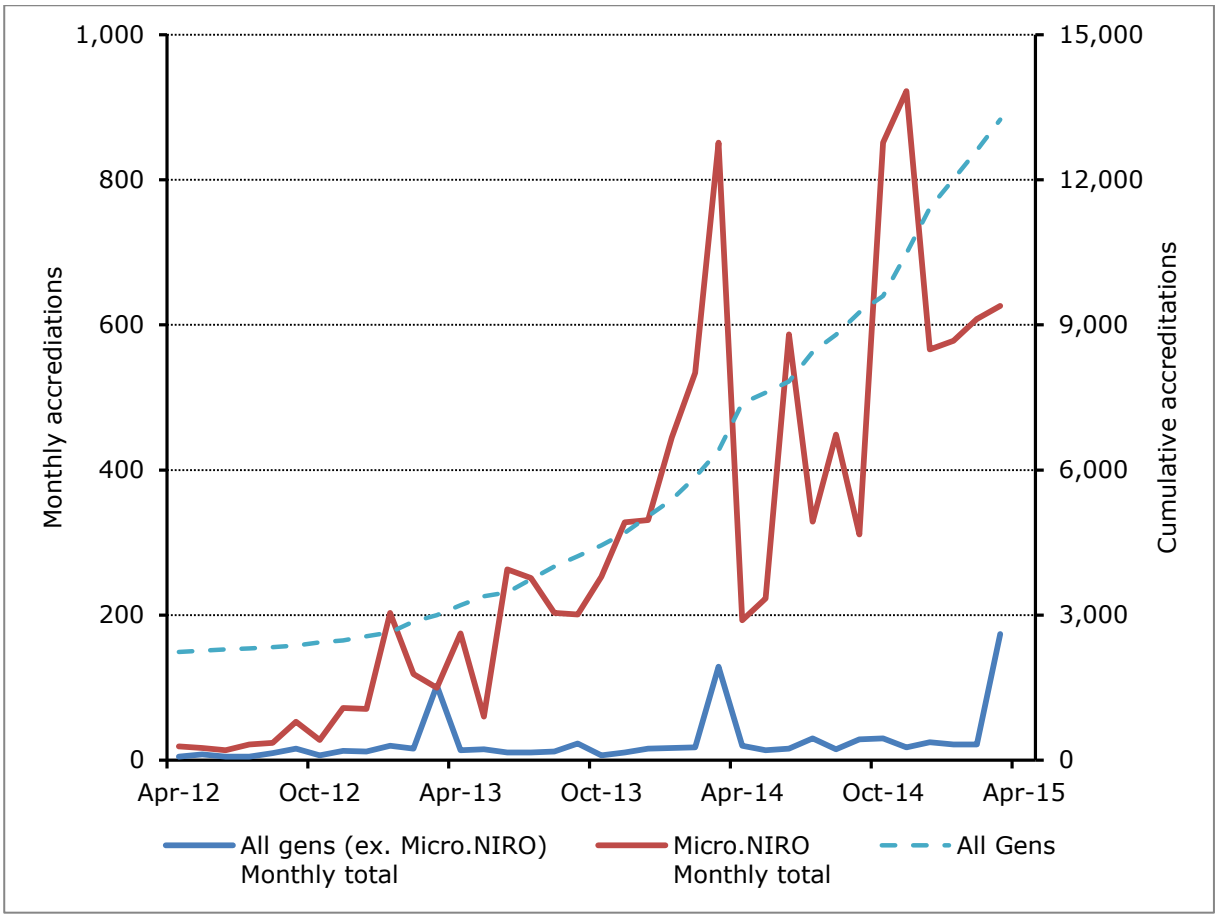
Figure 2 - Number of accreditations in 2014-15 by country and technology (excluding micro NIRO)



2.9 **Figure 2** shows that, in England and Wales, solar PV makes up the largest proportion (58%) of accredited generating stations. This highlights the advances in this technology and the drop in deployment costs. Onshore wind stations accounted for around 30% of the total number of accreditations. This was, in part, due to the 103 onshore wind stations accredited in NI. In NI, as with microgenerators, 50kW to 250kW wind stations receive a rate of 4 ROCs/MWh, one of the highest rates on the RO scheme. The remaining stations accredited were made up of fuelled stations (34), landfill gas stations (8), hydro stations (4), offshore wind (2) and sewage gas (1).

2.10 Like last year, as can be seen in **Figure 3**, a large number (159) of solar PV stations were accredited in March 2015. There are two reasons for this. Firstly, the RO scheme closed to large solar PV stations i.e. those with a TIC greater than 5MW in GB. Secondly, support for building-mounted solar PV stations reduced from 1.6 to 1.5 ROCs per MWh, and ground-mounted solar PV stations reduced from 1.4 to 1.3 ROCs per MWh in GB.

Figure 3 - Number of generating stations with accreditations effective from 2012-13



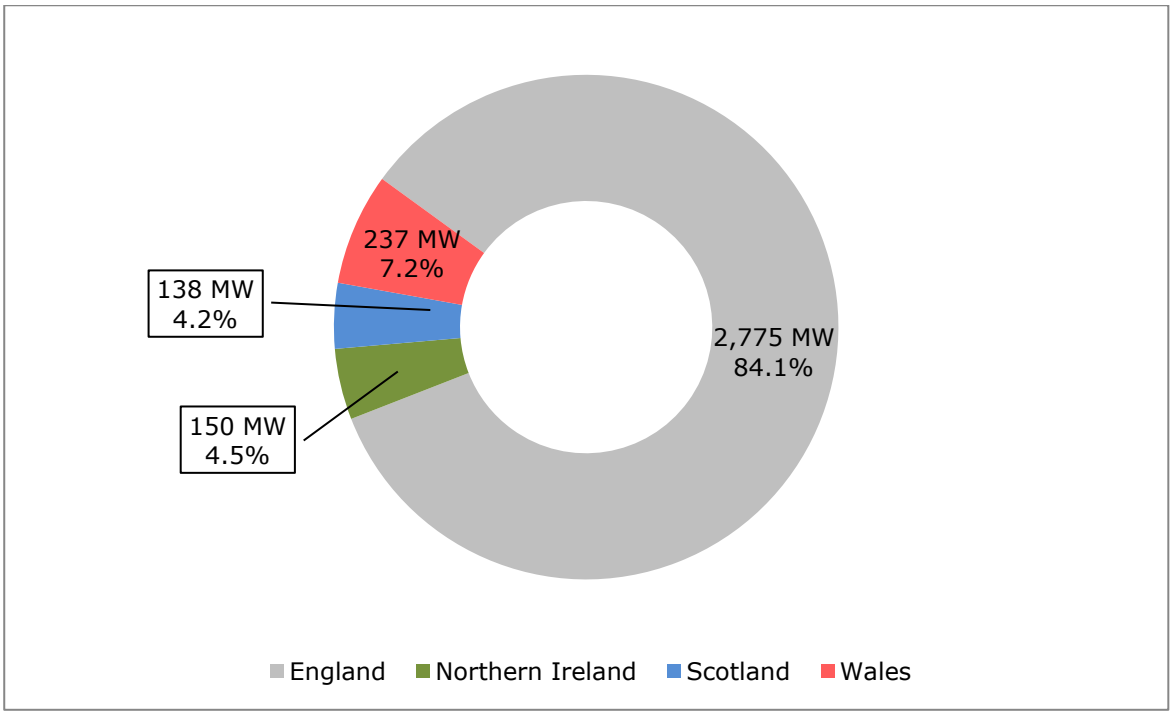
2.11 **Figure 3** shows the number of stations accredited under the RO each month from April 2012 to March 2015. Micro NIRO stations are shown on a separate line to the rest of the generating stations, with a cumulative total covering all stations. The overall number of accreditations started to increase in the middle of 2012-13, accelerating rapidly in 2013-14, with a large rise in accreditations of micro NIRO stations. The number of micro NIRO accreditations has continued to rise steeply this year, again. In October 2014 alone, 881 stations gained accreditation, most of which were micro NIRO.

2.12 After historically being relatively low, 2013-14 saw 3,895 accreditation applications from micro generators in NI, which increased to 6,243 in 2014-15, resulting in a total of 11,708 stations accredited for the scheme. The overwhelming majority of these are 4kW or less solar PV stations mounted on domestic properties using a single phase grid connection. This growth in applications is due to a decrease in the cost of solar PV panels and the microgeneration sector in NI becoming more developed.

Capacity of accredited generating stations

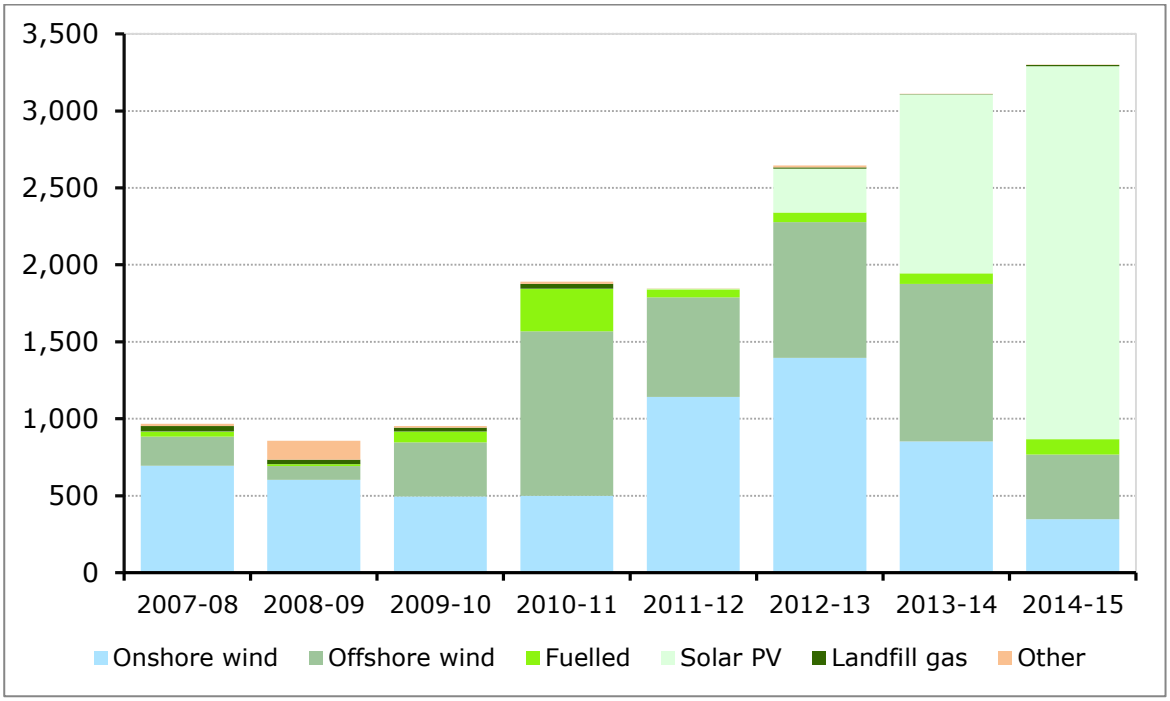
2.13 The aggregate capacity of all stations accredited in 2014-15 was 3,301MW, a 16% increase on the 2,829MW reported in the previous year.

Figure 4 - Capacity of generators accredited in 2014-15 by country



2.14 **Figure 4** shows that, as in previous years, stations in England represented the majority of accredited capacity. There was a 60% increase in the capacity accredited in England since last year (2,775MW in 2014-15 compared with 1,733MW in 2013-14). This was driven mainly by investment in, and deployment of, large ground-mounted solar PV stations. Although new capacity was accredited in Scotland (138MW in 2014-15 down from 416MW in 2013-14) and Wales (237MW in 2014-15 down from 625MW in 2013-14) this was at a significantly lower amount than the capacity accredited in 2013-14. This is due in part to a drop in installations of new onshore wind stations. There has been an increase in capacity accredited in NI compared with 2013-14 (150MW in 2014-15 compared with 55MW in 2013-14). This includes micro NIRO stations, whose total combined capacity was 32.9MW, as well as a large proportion of onshore wind, which increased in popularity during 2014-15 in NI.

Figure 5 - Total capacity accredited by generation technology and obligation period since 2007-08 (MW)



**Other technologies are sewage gas, tidal power and hydro*

2.15 **Figure 5** shows that until 2013-14, onshore and offshore wind stations made up the largest proportion of accredited capacity. For onshore wind this is mainly due to the number of stations, while for offshore it is due to the large size of individual stations. For example, stations such as London Array and Gwynt y Môr each have installed capacities in excess of 500MW. The amount of newly-accredited capacity for wind-based technologies dropped significantly in 2014-15, with 768MW accredited (348MW of onshore wind and 420MW of offshore wind). Only two offshore wind stations, Westermost Rough and Humber Gateway Offshore Wind Farm, were accredited during this period. Additionally, this period saw a drop in onshore wind accreditations.

2.16 In the previous two obligation periods, we have seen a dramatic increase in the amount of solar PV capacity accredited, and this continued in 2014-15, with solar PV representing 73% of capacity accredited in 2014-15. Until the end of 2011-12, just 8MW of solar PV had been accredited. In the periods 2012-15 over 3.8GW was accredited, with significant spikes of deployment in March 2014 and March 2015 due to decreases in support in the following Aprils. In March 2015, deployment of solar PV was further increased due to the closure of the scheme to large solar PV stations in GB a month later.

2.17 Following the recent growth in solar PV, it is now the third-largest technology in the RO by accredited capacity, bringing it closer to the two most prolific technologies: offshore and onshore wind. Between them, these three technologies represent more than 80% of all capacity accredited under the RO.

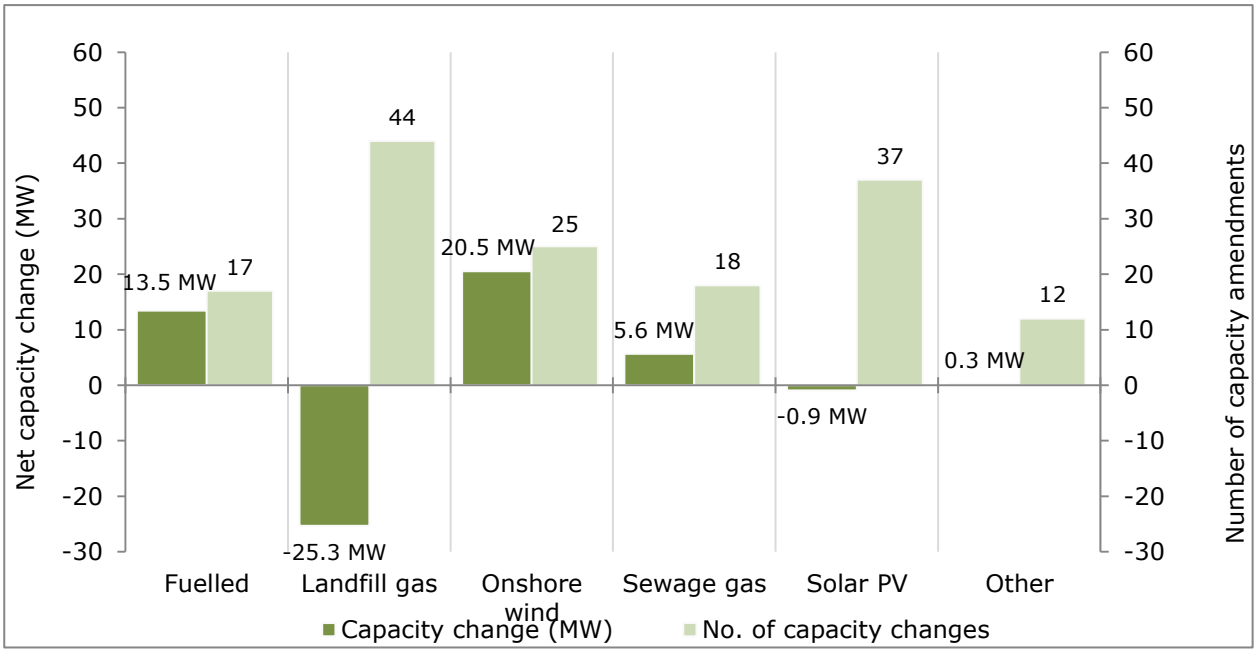
2.18 We accredited 100MW of fuelled stations in 2014-15, a sharp increase from the 8.2MW

accredited capacity in 2013-14, due to the accreditation of several large stations. Landfill gas stations accounted for a further 7MW of capacity, and the 'Other' technologies category for 2014-15 is made up of an additional 2MW of capacity from hydro and sewage gas stations.

Capacity amendments

2.19 As well as accrediting new stations, we also receive requests from generators to change the details of their stations in some way. Often this is to increase or decrease a station's capacity due to adding or removing generating equipment.

Figure 6: Capacity amendments in 2014-15



2.20 There were 153 changes in capacity during 2014-15. The net change in capacity across all stations as a result of this was +13.6 MW. **Figure 6** shows that most of the added capacity during the year came from onshore wind and fuelled stations, as stations expanded or replaced existing turbines or engines with ones of a higher capacity. Most of the capacity reductions were for landfill gas stations, as the quality and quantity of available gas has reduced in recent years. Despite having the second highest number of capacity amendments during 2014-15, solar PV stations had a -0.9MW net capacity change. This is as a result of a levelling out of increases and decreases in capacity changes during the year.

NFFO generating stations

2.21 Before the RO was introduced, the Non Fossil Fuel Obligation (NFFO), NI NFFO and Scottish Renewables Obligation (SRO) were the government's primary instruments of renewable energy policy. We refer to these collectively as NFFO.

2.22 NFFO legislation[8] required the former public electricity suppliers (PES) to buy electricity from renewable generators. It specified that they would purchase the electricity at fixed prices for long-term contract periods (typically 15 years). The PES established the Non Fossil Purchasing Agency (NFPA) in 1990 as their agent and it enabled them to carry out their obligations to collectively contract with renewable generators and comply with the legislation. The NFPA became the electricity purchasing body in England and Wales in 2001. NFPA Scotland, a wholly-owned subsidiary of the NFPA, has acted as the purchasing body in Scotland since 2006.

2.23 The NFFO, SRO and NI NFFO are no longer open to new generators, although their contracts will continue until the last of them expires in 2019. Where these stations are also accredited under the RO, we issue ROCs to the electricity supplier who has purchased the electricity from the station, rather than to the operator of the generating station that the NFPA notifies to us.

2.24 At the end of 2014-15, there were 71 stations still supported under NFFO contracts, with an aggregate capacity of 344MW. This is down from 95 stations during 2013-14. The reduction is due to several contracts having ended, either through fulfilment of the contract term or because an economic termination to the contract has been granted. Of these, 68 stations were also accredited under the RO.

[8] The Electricity (Non-Fossil Fuel Sources) (England and Wales) Order 1994, the Electricity (Non-Fossil Fuel Sources) (Northern Ireland) Order 1996 and the Electricity (Non-Fossil Fuel Sources) (Scotland) Order 1994 and subsequent orders

3. ROCs issued and renewable generation

Chapter summary

In 2014-15 we issued 71.3 million ROCs to renewable generating stations, an increase of 13.2% from the previous obligation period. This represents 55.7TWh of renewable electricity generation, equivalent to 18.6% of the total electricity supplied within the UK. The majority of this generation was by offshore and onshore wind, and fuelled stations. Solar PV continued to grow significantly in comparison to previous years and accounted for 4.5% of all ROCs issued during the year.

3.1 We issue ROCs to operators of accredited generating stations based upon monthly electricity output figures submitted to us within two months following the month of generation[9]. Chapters 4 and 5 of the *Renewables Obligation: Guidance for Generators* explain in detail how we calculate and issue ROCs[10].

3.2 Banding was introduced in the 2009 ROO[11], which meant that, rather than issuing one ROC per MWh of eligible renewable generation, the number of ROCs issued per MWh depended on a number of factors. These include the technology that was used to generate the electricity, when the station was accredited and its installed capacity. The level of support offered also differs for each of the three Orders and a banding review was undertaken by the Secretary of State in 2013. Appendix 3 of the *Renewables Obligation: Guidance for Generators* contains detailed information on banding, including the rates for each technology.

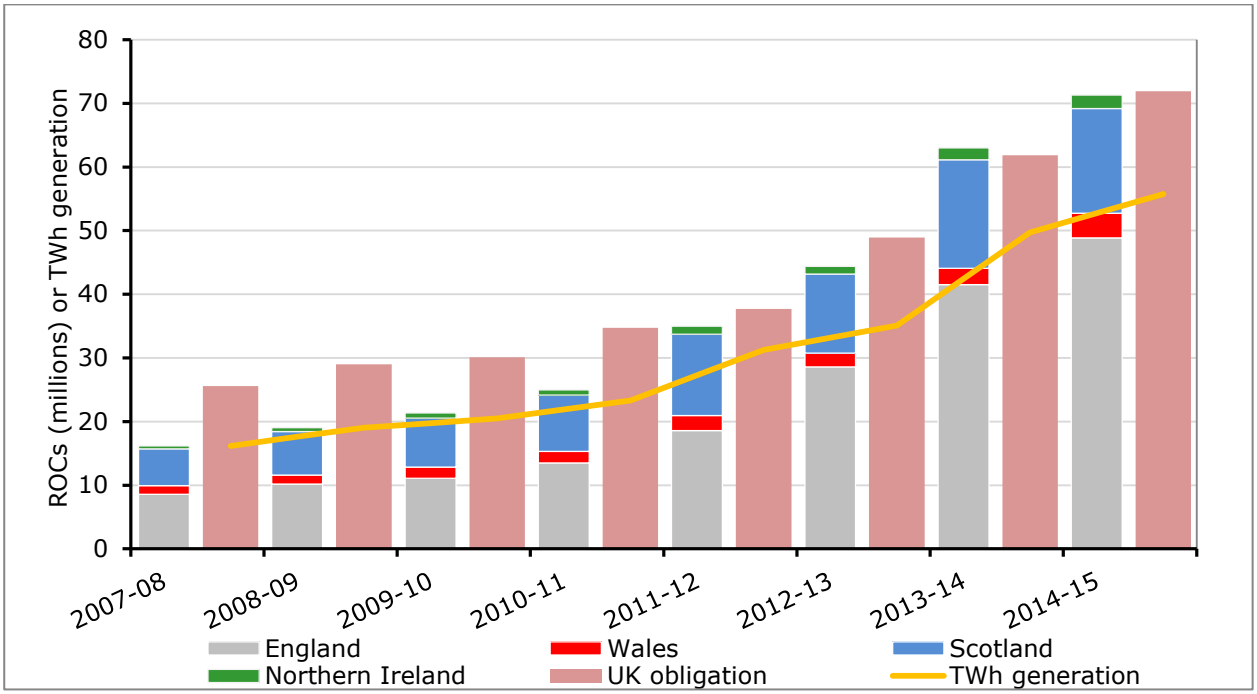
ROCs issued and renewable generation in 2014-15

3.3 A total of 71,310,673 ROCs were issued in 2014-15 following the generation of 55,747,937MWh of renewable electricity by stations accredited under the RO. This represents an increase of 13.2% in the number of ROCs issued in 2014-15 compared with 2013-14, while renewable electricity generation under the RO increased by 12.1%. The total amount of electricity supplied within the UK in 2014-15 by licensed suppliers was 299.2TWh (see Table 6 in Chapter 5). The 55.7TWh of renewable electricity generated by stations accredited under the RO therefore represents 18.6% of the total UK supply in 2014-15. Including the 3.8TWh generated by FITs installations[12], this figure rises to 19.9%. This is an increase of 2.8 percentage points over last year's figure.

3.4 **Figure 7** shows the number of ROCs issued each year since 2007-08, alongside renewable generation and the obligation level for that year. This chart makes it very clear that the gap between the target obligation and the actual number of ROCs issued has narrowed significantly over recent years. The number of ROCs issued this year was slightly below the total UK supplier obligation of 71,922,000. This, combined with the issuance of more ROCs than the total obligation in 2013-14, led to a relatively small buy-out fund, as the ROCs banked from 2013-14 had to be used for compliance in the 2014-15 obligation period. This is explained in more detail in Chapter 5.

[9] In accordance with the ROC and LEC Issue Schedule 2014-2015 https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-certificate-roc-and-levy-exemption-certificate-lec-issue-schedule-2014-2015
[10] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-generators-2
[11] Article 27 of the RO and ROS Orders and article 25 of the NIRO.
[12] Figure from the 2014-15 FITs annual report: https://www.ofgem.gov.uk/publications-and-updates/feed-tariff-fit-annual-report-2014-15

Figure 7 – ROCs issued, obligation level, and renewable generation since 2007-08



3.5 The average number of ROCs issued per MWh of generation in 2014-15 was 1.28, very similar to the previous two years, as shown in **Table 1,** which suggests that the number of ROCs issued increased from last year at the same rate as the amount of generation across the different technologies.

Table 1 – Average number of ROCs issued per MWh of generation since the introduction of banding

Obligation period	Average ROCs issued/MWH of generation
2009-10	1.04
2010-11	1.07
2011-12	1.12
2012-13	1.27
2013-14	1.27
2014-15	1.28

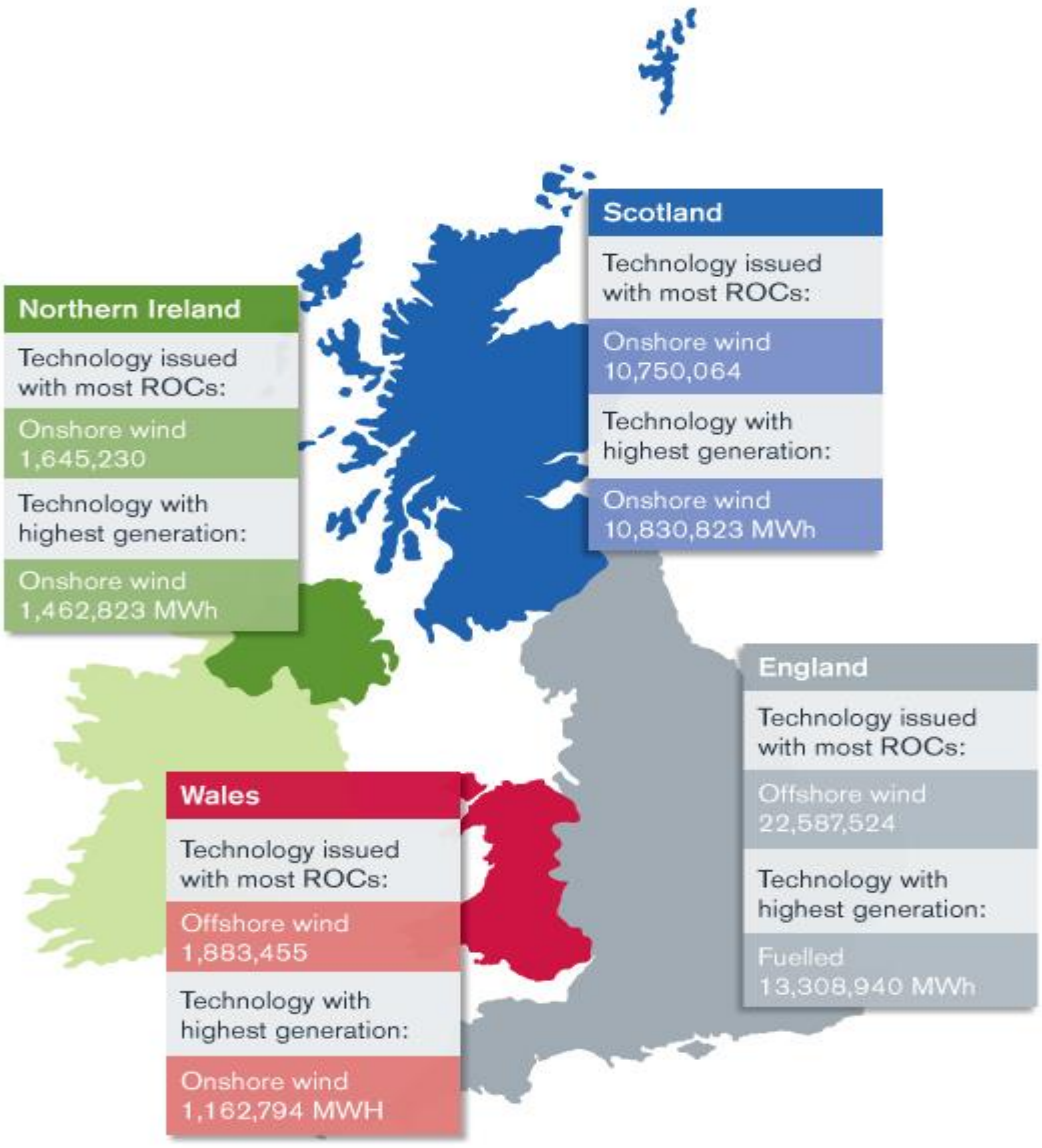
Country summary

3.6 As shown in **Figure 7**, by country, generators in England dominate the support received under the RO. **Table 2** details the renewable generation and number of ROCs issued within each country in the UK in 2014-15. The main change to last year is a swing in both ROCs issued and generation from Scotland to England. **Figure 8** shows that the prevalence of offshore wind and some types of fuelled stations in England (which receive more than 1 ROC per MWh) led to it, once again, being the only country with a significantly greater share of ROCs issued than of generation.

Table 2: ROCs issued and renewable generation across the UK in 2014-15

England	Wales	Scotland	Northern Ireland	Totals
ROCs issued				
48,884,235	3,842,565	16,461,560	2,122,313	71,310,673
68.6%	5.4%	23%	3%	100%
Renewable generation (MWh)				
36,021,486	2,892,197	15,175,962	1,658,293	55,747,937
64.6%	5.2%	27.2%	3%	100%

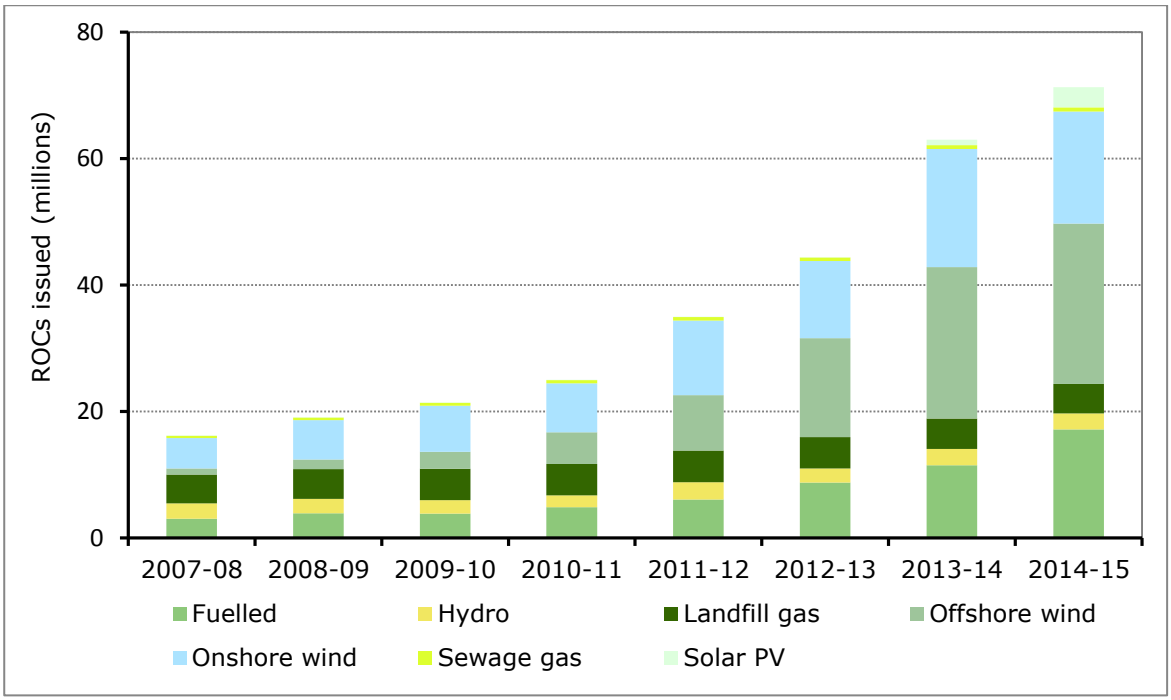
Figure 8 - Technologies issued the most ROCs and highest generation across the UK in 2014-15



Technology summary

3.7 **Figure 9** shows the total number of ROCs issued to different technologies per obligation period since April 2007.

Figure 9 – Annual issue of ROCs by generation technology since 2007-08



3.8 In the UK, the number of ROCs issued to offshore wind increased by 6% from 2013-14 due to new capacity accredited during 2013-14 and 2014-15. This was despite conditions being less favourable for generation, with lower wind speeds. The number of ROCs issued to onshore wind fell slightly in 2014-15, mainly due to lower wind speeds, but it still remains the second-largest technology supported by the RO in terms of ROCs issued. It is not surprising that eight of the top ten stations with the most renewable generation during 2014-15 were offshore wind stations as shown in **Table 3**.

3.9 ROCs issued to fuelled generating stations have more than doubled in the last two years making, it the third largest technology supported by ROCs. This is as a direct result of Drax converting its first biomass fuelled unit in July 2013 and the second in May 2014.

3.10 The 2014-15 obligation period also saw a significant increase in the number of ROCs issued to solar PV stations, increasing more than three-fold since 2013-14, contributing to 4.5% of all ROCs issued in 2014-15. This was driven by the large number of solar PV stations which have been accredited since March 2014.

3.11 The number of ROCs issued to hydro and sewage gas stations in 2014-15 has remained similar to last year due to little new capacity being accredited for these technologies in recent years. Landfill gas continued to decrease due to the closure of and reduction in capacity at a number of stations.

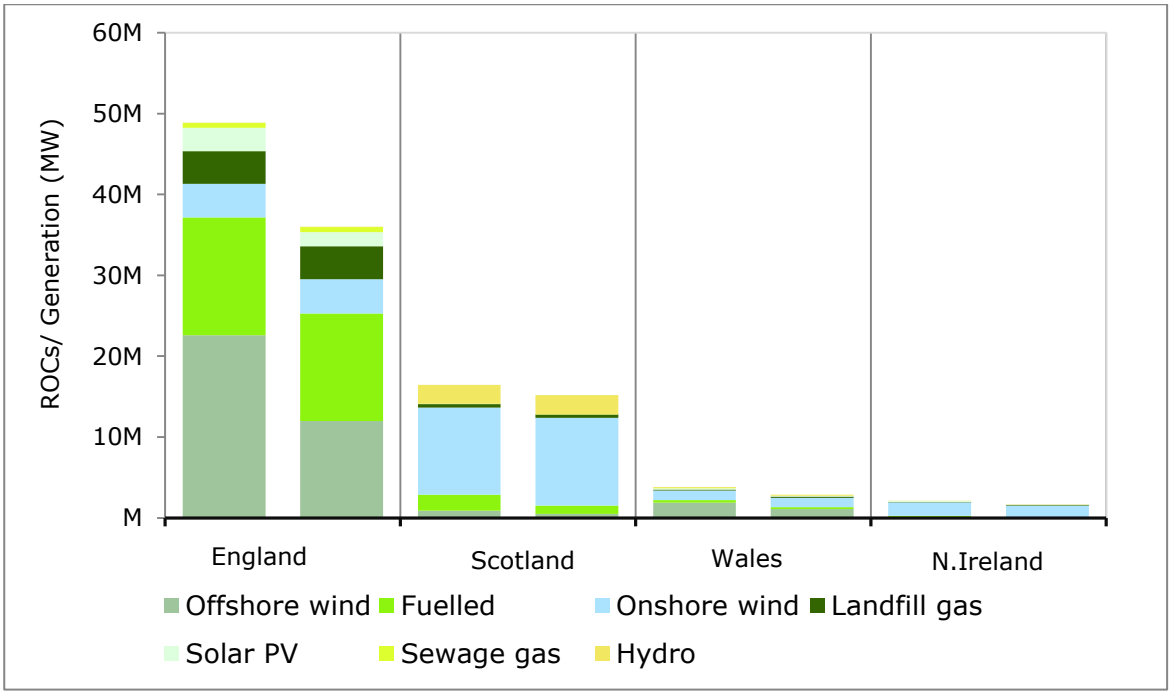
Table 3 – Top ten RO accredited stations by electricity generation in 2014-15

Station	Technology	Total generation (MWh)	Total ROCs issued
Drax Power Station (RB) - A,C,E	Fuelled	9,296,657	9,142,699
London Array Offshore Windfarm	Offshore wind	2,139,576	4,279,152
Greater Gabbard	Offshore wind	1,729,217	3,458,433
Ironbridge Power Station - A,C	Fuelled	1,721,835	1,721,835
West of Duddon Sands Offshore Wind Farm	Offshore wind	1,196,658	2,393,316
Sheringham Shoal	Offshore wind	1,056,476	2,112,951
Lincs Wind Farm	Offshore wind	871,156	1,742,312
Thanet Offshore Wind Farm	Offshore wind	801,233	1,602,466
Walney Offshore Wind Phase II	Offshore wind	758,545	1,517,089
Gwynt y Mor	Offshore wind	661,944	1,323,887

Technology split by country

3.12 **Figure 10** shows how the ROCs issued and associated generation for each country is distributed by technology in 2014-15. The left-hand stacked bar shows the number of ROCs issued split by technology and the right-hand stacked bar shows the generation split by technology.

Figure 10 – ROCs issued and generation by country and technology in 2014-15



3.13 Generation in Scotland and NI is dominated by onshore wind, making up 71.4% and 88.2% of the county's renewable generation respectively. Hydro remains significant in Scotland, accounting for 15.4% of Scottish RO generation. Generation in NI was only 1.3% higher than in the previous obligation period, however the number of ROCs issued increased by 13.7%. This was primarily driven by a 54.9% increase in generation by fuelled technologies

(mainly additional capacity from AD stations), which typically have a ROC rate greater than 1 ROC per MWh of generation. There was also a significant rise in the number of onshore wind stations with a capacity of 250kW or less and of micro NIRO solar PV stations, both of which realise 4 ROCs per MWh of generation.

3.14 In Wales, there was 37.9% of offshore wind generation, a significant increase from 21.2% in 2013-14, and now lies just behind onshore wind. This is due to the accreditation of Gwynt y Mor offshore wind farm, which accounted for 22.9% of all generation and 34.5% of ROCs issued in Wales in 2014-15.

3.15 In England, fuelled technologies (with 36.9% of generation) and offshore wind (with 33.2% of generation) formed the majority of renewable electricity generation and accounted for 76% of all ROCs issued in 2014-15. Drax alone accounted for 25.8% of all generation and 18.7% of all ROCs issued in England. Solar PV also increased significantly from 1.4% of generation in 2013-14 to 4.9% in 2014-15.

3.16 Previously, the record for the highest number of ROCs issued within a single month was 7.18 million in December 2013. The added offshore wind capacity and the introduction of a second biomass conversion unit at Drax led to four months within 2014-15 exceeding the previous record total. The record month is now for generation in January 2015, which saw 8.62 million ROCs issued.

Revoked and retired ROCs

3.17 ROCs are sometimes revoked if, for example, we find that the output data on which they were issued was inaccurate. We may discover such inaccuracies through our own investigations, audits of generation stations (see Chapter 6) or where a generator notifies us themselves. We cannot revoke ROCs if a supplier has already presented them to us for compliance. In this situation we will withhold an equivalent number of ROCs from the station in the future instead[13].

3.18 We generally revoke a very small proportion of the ROCs we issue during an obligation period. This year we revoked 14,915 ROCs which were issued during the 2014-15 obligation year.

3.19 The registered holder of a ROC may voluntarily retire it on the Register at any time. Retired ROCs can no longer be used for RO compliance. For this obligation year, 1,372 ROCs were retired by their holders.

Emissions saved by the scheme

3.20 The Department for Environment, Food and Rural Affairs (Defra) publishes conversion factors for greenhouse gas (GHG) reporting on its website[14]. For UK electricity, it publishes these conversion factors as an equivalent mass of carbon dioxide per kilowatt-hour ($kgCO_{2e}$/kWh) and they are available both for generation and transmission, and distribution. From this, we can calculate a figure for the amount of GHG emissions saved from renewable generation under the scheme.

[13] Article 25 of the RO, 41A of the ROS and article 37A of the NIRO
[14] http://www.ukconversionfactorscarbonsmart.co.uk/Landingpage.aspx

3.21 The GHG conversion factor for 2014-15 is 0.52820 $kgCO_{2e}$/kWh, marginally higher than last year's value of 0.49705 $kgCO_{2e}$/kWh[15]. When multiplied through by the 55.7TWh of renewable generation supported under the RO, this gives an approximate saving of 29.4 million tonnes carbon dioxide equivalents (CO_{2e}) for the 2014-15 obligation period. This is an increase of 19.6% from last year's 24.6 million tonnes CO_{2e}.

3.22 Our calculation of the cost of reducing carbon emissions due to the RO in 2014-15, derived from the value of the scheme, is in Chapter 5.

[15] We reached this figure by adding the generation and transmission and distribution factors to reach overall values for UK electricity in 2014 and 2015 (0.53748 and 0.50035 $kgCO_{2e}$/kWh respectively). The value for the 2014-15 obligation period is weighted 75% in favour of the 2014 value and 25% in favour of the 2015 value.

4. Biomass sustainability

Chapter summary

In 2014-15, there was a significant increase in the amount of solid biomass that fuelled stations used for electricity generation. This was also the first obligation year that waste stations had to report profiling data, providing a clearer picture of the fuels used. Also this year, solid biomass and biogas stations with a TIC of 1MW or greater had to submit a sustainability audit for the first time.

4.1 From 2011, operators of fuelled generating stations have been required to submit information to us on the sustainability of the fuels burnt. Each month, operators of all bioliquid, and solid biomass and biogas generating stations with a DNC greater than 50kW, report to us on whether the biomass used to generate electricity has met, or is exempt from the land and GHG criteria[16]. For each consignment of fuel, the operator is required to submit the following information:

- Land criteria – This refers specifically to the production of the raw material, ie at the farm, forest or plantation. For woody biomass, this is demonstrated by providing evidence that the wood meets the Timber Standard for Heat and Electricity[17]. For non-woody biomass, this is demonstrated by providing evidence that the material does not come from a protected land type[18].
- The life-cycle GHG emissions associated with the biomass. For solid biomass and biogas this is in grams of GHG per megajoule of electricity (gGHG/MJ electricity). For bioliquids it is as a percentage emissions saving against the relevant fossil fuel comparator[19].

4.2 These stations must also submit annual profiling data on the sustainability characteristics of each consignment of biomass used in an obligation period[20]. Profiling data includes information such as biomass type, mass/volume and country of origin.

4.3 In the 2014-15 obligation period, meeting the sustainability criteria for bioliquids was a requirement for ROC issue. We therefore have not issued any ROCs to operators who reported that their bioliquid fuel did not meet the sustainability criteria or that the information is unknown. However, the sustainability criteria for solid biomass and biogas fuels were not linked to ROC issue, meaning that we are required to issue ROCs regardless of whether the operator reports the sustainability criteria have been met or not.

4.4 As the sustainability criteria are not yet linked to ROC issue for solid biomass and biogas fuels, this data is not as comprehensive as the data for the bioliquids. However from 1 December 2015 sustainability criteria are linked to ROC issue for stations with a TIC of 1MW or over using solid biomass and, or biogas fuels[21]. In preparation for this change we engaged extensively with operators. We held a number of workshops and re-agreed all the Fuel Measurement and Sampling (FMS) procedures for these stations. As a result, a lot of stations

[16] More information on land and GHG criteria is in chapters 4 and 5 of our RO: Sustainability Criteria guidance.
[17] https://www.gov.uk/government/publications/timber-standard-for-heat-electricity
[18] Schedule 3 ROO 2015, Schedule A2 of the ROS 2009 Order (as amended) and the NIRO 2009 Order (as amended)
[19] The fossil fuel comparator is specified in Paragraph 19, Annex V, Part C of the RED as 91 gCO_{2eq}/MJ.
[20] More information on consignment is in Chapter 6 of our RO: Sustainability Criteria guidance.
[21] Introduced by the ROO 2015 and the ROO (Scotland) Amendment Order 2015.

have been improving their sustainability data collection in anticipation of linkage to ROC issue coming into effect.

4.5 The RO legislation states that for solid biomass and biogas the reported information must be provided to the best of an operator's knowledge and belief. This includes all the annual profiling data as well as the monthly information on land and GHG criteria.

4.6 Since 2011, operators of stations using bioliquids were also required to submit an annual sustainability audit. For 2014-15, solid biomass and biogas stations with a TIC of 1MW or greater also had to submit a sustainability audit for the first time. The purpose of these audits is to provide independent verification that the sustainability criteria have been met and reported to us correctly for each month in the obligation year.

4.7 The audit reports must be undertaken in accordance with ISAE 3000 (the International Standard on Assurance Engagements). If a generator does not submit an audit report to us or if the audit report for a bioliquid station concludes that we have issued ROCs for generation from unsustainable bioliquids, then the legislation sets out what action we can take. This could include postponing, revoking or withholding ROCs from a future issue.

4.8 In some cases sustainability information relating to these audit reports is yet to be finalised or has not yet been provided and so is subject to change. Data from these stations has been included in this chapter and in the accompanying dataset. Sustainability data from operators of generating stations which have not yet been accredited has not been included.

4.9 The full set of sustainability information we received from operators in 2014-15 is in a separate dataset on our website[22].

Monthly data reporting

4.10 Where we refer to a consignment in the context of monthly data, this refers to a single consignment submission for one month. Therefore a station that uses one type of consignment for the whole year would report this 12 times in the year, once for each month.

4.11 In 2014-15, fuelled stations used 453 bioliquid consignments for generation which is down 30.5% on the total of 652 bioliquid consignments reported in 2013-14. There is no clear trend for this decrease, we note that some generating stations have stopped generation but some new stations have been accredited. The number of solid biomass consignments reported increased by 75.9% from 687 to 1209 consignments and the number of biogas consignments slightly increased from 600 to 693. One of the reasons for the increase in the number of reported solid biomass and biogas consignments this year is because several FMS procedures were re-agreed in 2014, which resulted in additional consignment groupings.

[22] https://www.ofgem.gov.uk/publications-and-updates/biomass-sustainability-dataset-2014-15

Land criteria

Table 4 – Number of consignments reported against the land criteria in 2014-15

Land Criteria reported	Bioliquid		Solid Biomass		Biogas	
	Number of consignments	Percentage of total	Number of consignments	Percentage of total	Number of consignments	Percentage of total
Yes	126	28%	631	52%	66	10%
Exempt	327	72%	349	29%	406	59%
Unknown	0		229	19%	221	31%
Total	**453**		**1209**		**693**	

4.12 **Table 4** shows that 72% of bioliquids were exempt from meeting the land criteria. The most common bioliquid consignments reported were recovered vegetable oil and fish oil residue. Just over half of the solid biomass fuels (52.1%) met the land criteria whereas less than 10% of biogas fuels did. The data demonstrates that almost 60% of the biogas fuels were exempt from meeting the land criteria. This is because a lot of biogas stations use feedstocks which are classed as waste (such as food waste and household waste) and therefore do not need to report against the land criteria.

Greenhouse gas criteria

Table 5 – Number of consignments reported against the GHG criteria in 2014-15

Greenhouse gas criteria reported	Bioliquids		Solid Biomass		Biogas	
	Number of consignments	Percentage of total	Number of consignments	Percentage of total	Number of consignments	Percentage of total
Criteria met	448	98.8%	673	56%	32	5%
Criteria not met	4	1%	0	0 %	0	0 %
Exempt	0	0 %	348	28%	399	57%
Unknown	1	0.2%	188	16%	262	38%
Total	**453**		**1209**		**693**	

4.13 The 2014-15 GHG threshold for bioliquids is a 35% emissions saving against the fossil fuel comparator. The average GHG saving reported for bioliquids in 2014-2015 was 94.3%[23]. This is slightly higher than the previous obligation year (a reported saving of 86.2%). The lowest reported GHG saving in 2014-15 was 57%, which is still well above the threshold[24].

4.14 There are no exemptions available against the GHG criteria for bioliquids, unlike solid biomass and biogas. There were five bioliquid consignments that were reported as unsustainable, one consignment reported 'unknown' and four consignments had a GHG saving of less than 35%. These unsustainable consignments consisted of liquid blood and sludge, the lowest of these reported a GHG saving of 19%. We did not issue ROCs for the electricity generated from these fuels.

[23] This figure is a weighted average and excludes bioliquids which did not report a quantity.
[24] This figure excludes bioliquids which did not meet the threshold and therefore received no ROCs.

4.15 For solid biomass and biogas fuels, the emissions threshold is 79.2gGHG/MJ electricity. **Table 5** shows that 56% of solid biomass fuels met the criteria. Of these the average value reported for solid biomass was 31.3gGHG/MJ electricity[25] and the highest reported was 54.44gGHG/MJ electricity.

4.16 The average GHG value reported for gaseous fuels was 46.1gGHG/MJ electricity[26]. However it is important to note that less than 5% reported against the GHG criteria, so it is unlikely that this average is representative of the picture across all gaseous fuels. No station reported a GHG figure for a solid biomass or biogas fuel that did not meet the criteria.

Annual sustainability reporting

4.17 The annual sustainability reporting under the RO consists of two parts –annual sustainability audit reports and annual profiling data.

Annual sustainability audit reports

4.18 This was the first year that solid biomass and biogas stations with a TIC of 1MW or over were required to submit an annual sustainability audit report. This meant that 103 stations were obligated to submit audit reports within the 2014-15 obligation year, nearly three times the number submitted in 2013-14, when it was only a requirement for bioliquid stations.

4.19 Of the reports submitted, 41 were for bioliquid stations and 62 for solid biomass and biogas stations. At the deadline of submitting audit reports to us, 34 audit reports were right first time, 25 for bioliquid stations and nine for solid biomass and/or biogas stations. We did not identify any cases of fraud but we raised queries on a further 47 audits, as we were not satisfied that the requirements of the legislation had been met. We withheld ROCs from future issue from these stations until we were satisfied that these audits met the requirements of the legislation. We also withheld ROCs from stations who missed the audit deadline. This year, 22 obligated stations missed the audit deadline, but have since submitted an audit report.

Annual profiling data

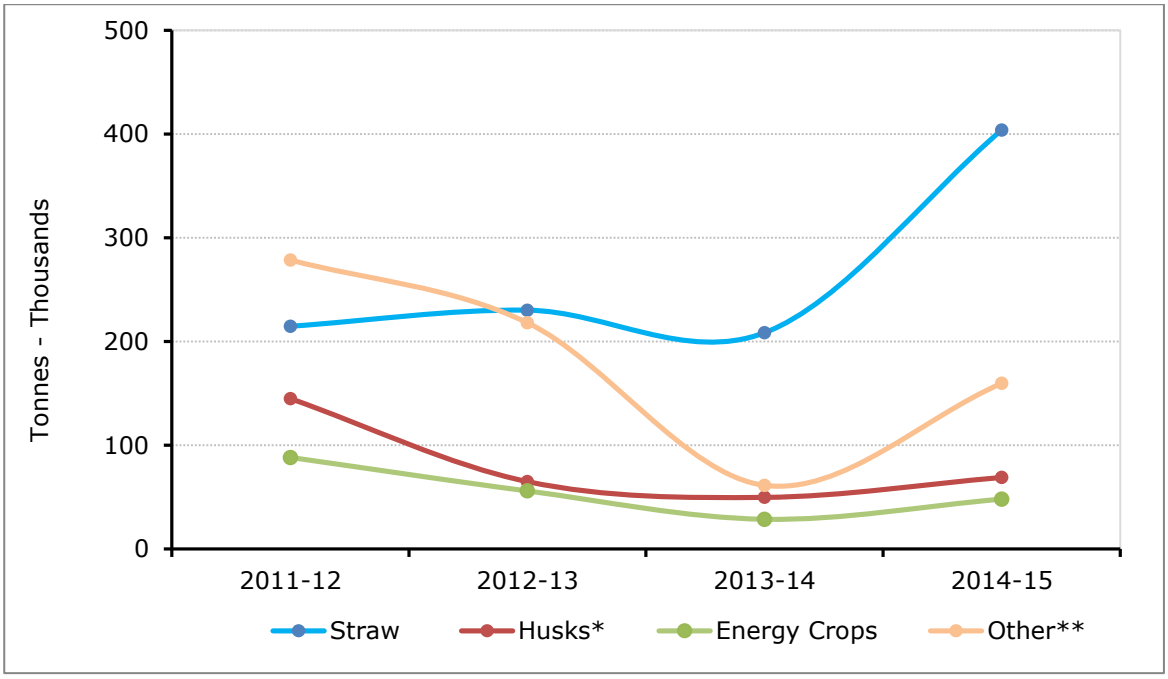
4.20 Annual profiling data was submitted by 140 fuelled stations in 2014-15. This is the first year that stations using wastes were required to submit profiling data. As such, we are unable to make comparisons to the previous year's submissions. The volume of fuels used – bioliquids, biogas and solid biomass – reported has significantly increased. The volume of bioliquid reported increased by 363% from 41.9 million litres in 2013-14 to 152.1 million litres in 2014-15[27].

4.21 Stations used approximately 165.9 million m^3 of biogas for electrical generation in 2014-15 compared to 21.5 million m^3 in 2013-14. Stations reported volumes on 98 of the fuels used, which is up from 29 fuels that reported volumes in 2013-14. This figure has increased partly because there are more stations accredited under the RO using biogas, but also due to improved reporting on the volume of biogas used. Again, as in 2013-14 almost 100% of the feedstock for producing biogas in 2014-15 was sourced from the UK and Republic of Ireland (ROI).

[25] This figure is a weighted average and excludes biomass which did not report a quantity.
[26] This figure is a weighted average and excludes biogases which did not report a quantity.
[27] Operators often report the quantity of bioliquids they have used as a mass in kg or tonnes. For our calculations we convert the mass to volume by using generic density values of 0.8kg/litres for oils and 1 kg/litre for aqueous liquid.

4.22 The total quantity of solid biomass used increased from 5.7 million tonnes in 2013-14 to 10.4 million tonnes in 2014-15. As with bioliquids, this total has increased dramatically because of the addition of wastes being reported in the profiling data.

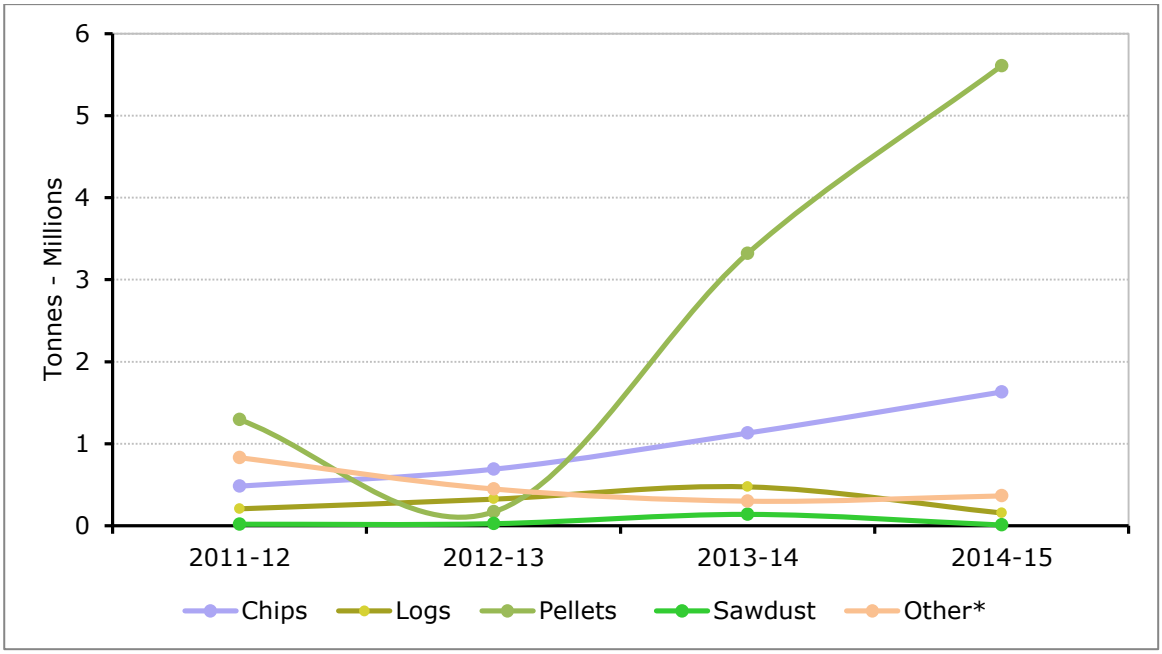
Figure 11 – Types of non-wood solid biomass used from 2011-12 to 2014-15 (excluding wastes)



**Husk - includes cocoa, oat peanut and sunflower*
***Other -includes barley, palm kernel expeller, oats, sunflower and shea, olive/pellets/cake/residue/pornace and mixed consignments.*

4.23 **Figure 11** shows the volume and types of non-wood solid biomass used since annual profiling reporting was introduced on 1 April 2011. This figure excludes waste as no comparison can be made to previous years. In total 680,491 tonnes of non-wood solid biomass excluding wastes was used for electrical generation in 2014-15. There has been a dramatic increase in the volume of straw used, while the use of husks and energy crops has remained relatively steady. In 2014-15 some stations reported more than one consignment together. As we could not split up these mixed consignments we have included this within the 'other' category.

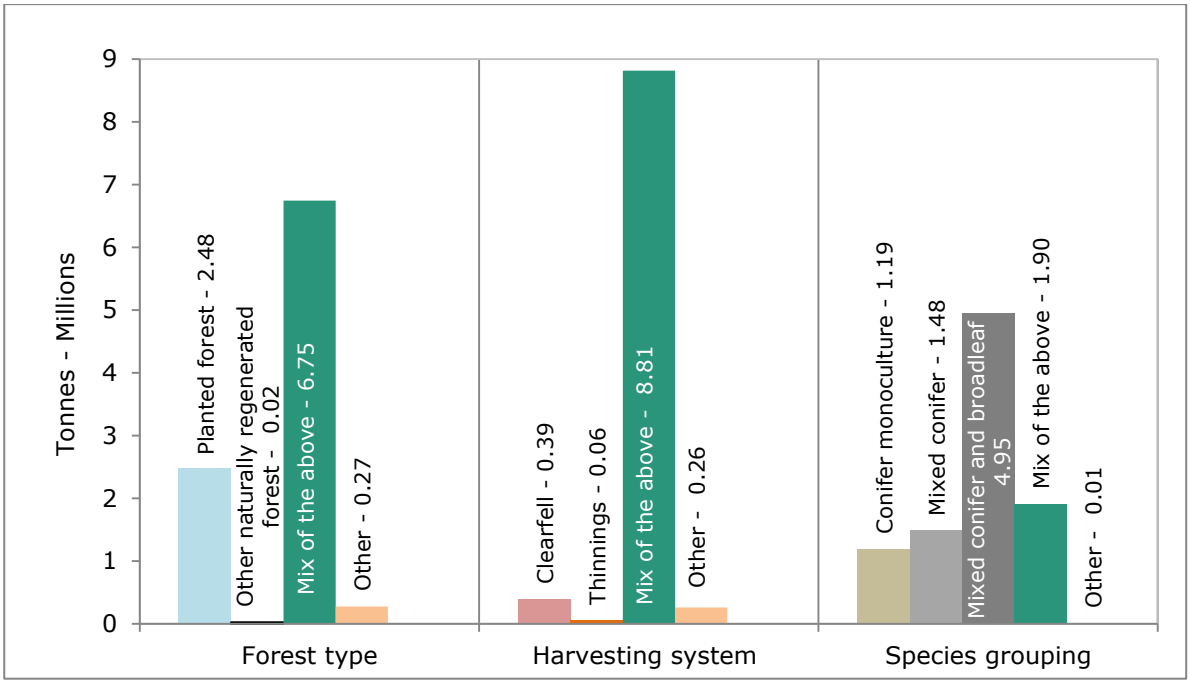
Figure 12 – Types of wood used from 2011-12 to 2014-15 (excluding wastes)



**Other includes fibre sludge, mixed wood, brash bundles and virgin wood*

4.24 **Figure 12** shows the volume and types of wood used, excluding waste as in Figure 10. The use of wood has significantly increased from just under 3 million tonnes in 2011-12 to just over 7 million tonnes in 2014-15. There has been a 69% increase in the volume of pellets used since last year. There was also an increase of 44% in wood chips used while other types of wood used remained steady compared with previous years.

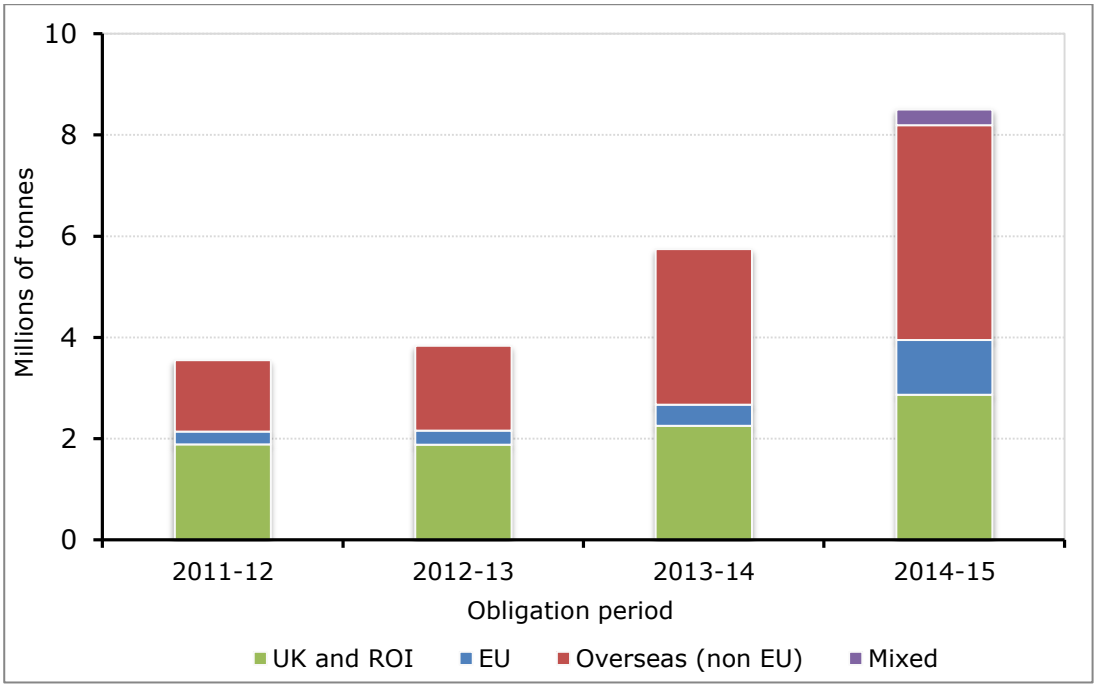
Figure 13 – Forest type, harvesting system and species grouping for wood



**The categories used in the above figure are taken from the Annual Profiling Data Questionnaire.*

4.25 2014-15 was the first year that stations using wood were required to provide more detailed profiling information. This included information such as the place where the wood was grown, the forestry or land management practices used. **Figure 13** shows the responses to some of the questions asked for the wood profiling information. It shows that the wood used for electrical generation mainly comes from a mix of forest types using a mix of harvesting systems. The species of trees used are a bit more varied but mixed conifers and broadleaf are the preferred choice.

Figure 14 – Origin of solid biomass used from 2011-12 to 2014-15 (excluding waste*)



**Waste stations are only required to provide limited profiling data and do not have to provide information on country of origin.*

4.26 **Figure 14** shows stations sourced 66% of all solid biomass from overseas in 2014-15, with the United States and Canada supplying 75% of this. The quantity of solid biomass sourced from UK and ROI increased by 27% from the previous obligation year. This obligation year, all stations that used energy crops sourced them from UK and ROI.

4.27 Overall the quality of sustainability reporting improved significantly in 2014-15. This is mainly due to the large number of FMS procedures that have been re-agreed and the stakeholder engagement we have carried out. We did this to ensure the operators were prepared for the new sustainability requirements that came into force for England, Scotland and Wales in December 2015 and NI in March 2016.

5. Compliance by licensed suppliers

Chapter summary

Suppliers presented 71.3 million ROCs for compliance in 2014-15, towards a total UK obligation of 71.9 million ROCs. This was the largest ever proportion of the obligation met through presenting ROCs – 99.1%. As in 2013-14, this led to the smallest amounts we have ever redistributed to suppliers from the buy-out and late payment funds: £24.7 million. Each ROC was worth £43.65, with a recycle value of £0.35 per ROC and the value of the scheme was £3.1 billion.

All suppliers complied with their obligations except for EPG Energy Limited, who did not pay the full amount to meet their obligation before the late payment deadline of 31 October 2015. However, they did make this payment after the late payment period had closed.

5.1 Under the RO, every supplier must demonstrate that it gets a proportion of the electricity it supplies to UK customers from renewable sources. This proportion, or obligation level, is set by the Secretary of State and published by DECC six months before each obligation period begins[28].

5.2 The 2014-15 obligation level was announced on 30 September 2013[29]. This required suppliers in England, Wales and Scotland to present 0.244 ROCs per MWh of electricity they supplied to their customers. Suppliers in NI had to present 0.107 ROCs per MWh. This represented a slight increase in the obligation level from last year.

5.3 A supplier can meet its obligation by presenting ROCs, making a buy-out payment for each ROC it cannot present, or through a combination of these.

5.4 We set the buy-out price before each obligation period. We do this by taking the buy-out price from the previous obligation period and adjusting it in line with the change in the Retail Prices Index (RPI)[30] during the previous calendar year. For 2014-15 we announced a price of £43.30 per ROC[31] – an increase of 3% from the 2013-14 value of £42.02.

5.5 The total obligation across all suppliers is the obligation level (ROCs per MWh) multiplied by the total amount of electricity they supplied (MWh). In 2014-15 the total supply was 291.3TWh to customers in GB, and 7.9TWh in NI. Using the obligation levels in paragraph 5.2 above gave a total UK obligation of 71.9 million ROCs. As shown in Figure 7 in Chapter 3, this is an increase of 10 million ROCs (16.3%) from the total obligation of 61.9 million ROCs in 2013-14.

5.6 The obligation was shared by all UK suppliers that supplied electricity during the obligation period. Some licensed suppliers did not supply electricity in 2014-15 and so did not have an obligation. A breakdown by individual supply licence is in Appendix 4. Please note suppliers with an obligation under the RO are not the complete group of licensed suppliers in

[28] Articles 12 of the 2009 Orders define these calculations to set the obligation.

[29] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/245488/calculatingro_2014_15.pdf

[30] RPI from the Office for National Statistics: http://www.ons.gov.uk

[31] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-buy-out-price-and-mutualisation-ceiling-2014-15

the UK. A full list of all electricity supply licenses in GB is available from our Licensing website[32]. An equivalent list for NI is on the UR website[33].

Information required from suppliers

5.7 After an obligation period (1 April – 31 March) each licensed supplier must:

- Estimate the amount of electricity it has supplied during the obligation period and submit these figures to us by 1 June.
- Provide us with the final figures for the amount of electricity it has supplied by 1 July.
- Comply with its obligations through one or a combination of the options below:
    - Presenting ROCs to us by 1 September.
    - Making a buy-out payment by 31 August for each ROC it has not presented.
    - Making a late payment by 31 October to meet any remaining obligation it has not met by 1 September. Late payments are subject to a daily interest penalty at an annualised rate of 5% plus the Bank of England base rate.[34]

Validation and submission of supply volumes

5.8 Appendix 5 of the *Renewables Obligation: Guidance for Licensed Electricity Suppliers*[35] recommends a methodology for suppliers to follow when they report their supply volumes for an obligation period. This states that they should use settlement reports from Elexon[36] for supply in GB, and from Northern Ireland Electricity Networks (NIE)[37] for supply in NI.

5.9 Following the process we introduced last year, we obtained the settlement reports from Elexon and NIE before suppliers had submitted their figures. We sent an extract of the report to each supplier for validation of their supply volumes. Suppliers either accepted the figures, or explained any variance to us before submitting their figures.

5.10 There were four licensees who submitted their estimated figures to us after the 1 June deadline. Including those who revised their initial figures when we found they were incorrect from the Elexon reports, three licensees[38] (out of 67 who had obligations) submitted their final supply volumes after the 1 July deadline. The names of these suppliers are listed in Appendix 4.

Share of obligation by suppliers

5.11 **Figure 15** shows how the total UK obligation was split between supplier groups.[39] Each supplier group with a share above 2% is shown individually, those with a share below 2% are grouped together under 'Other'.

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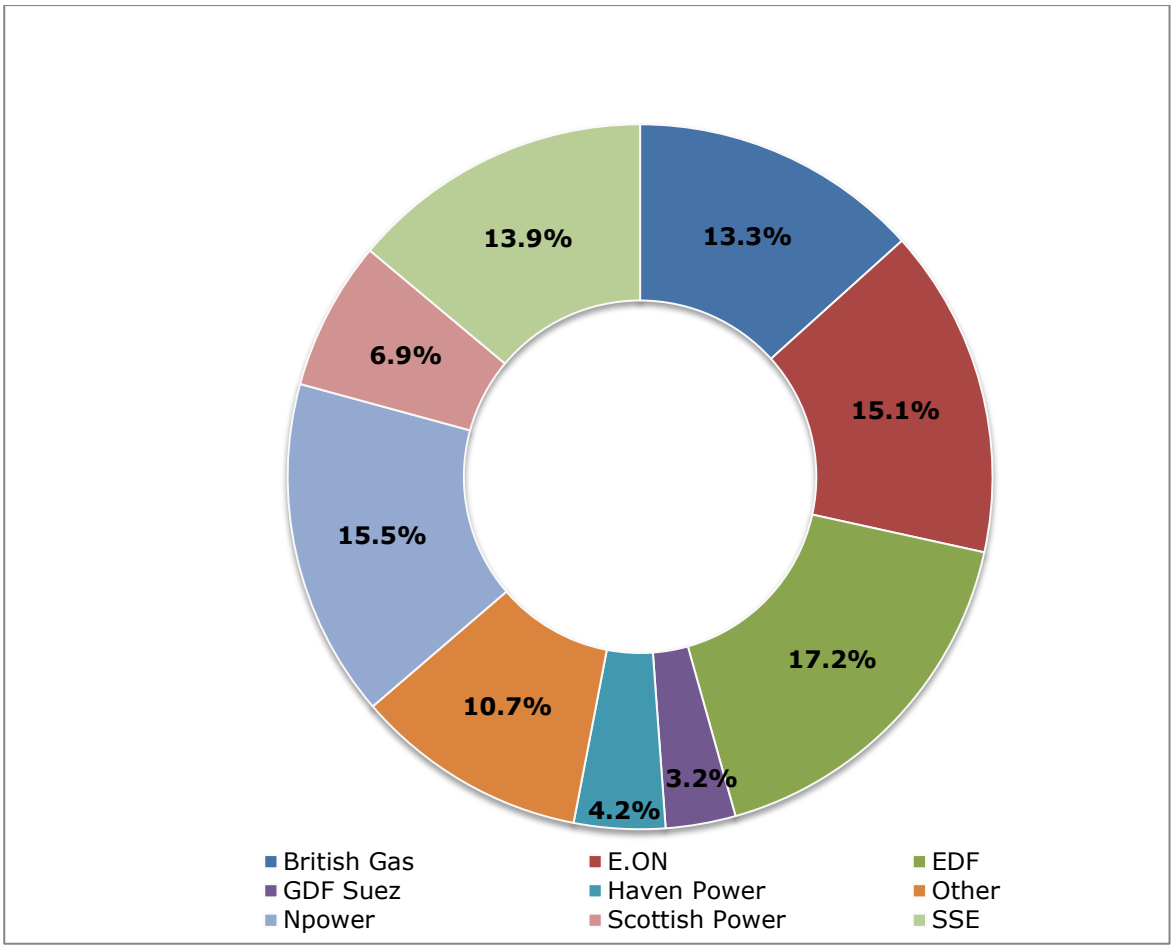
[32] https://epr.ofgem.gov.uk/Document
[33] http://www.uregni.gov.uk/electricity/licences/
[34] Defined in article 68 (4) of the 2015 RO Order, article 44 (4) of the 2009 ROS Order and article 41 (4) of the 2009 NIRO Order.
[35] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-suppliers-december-2015
[36] http://www.elexon.co.uk/
[37] http://www.nie.co.uk/
[38] A licensee is an person that supplies electricity in the UK and incurs a Renewables Obligation. In some cases parent companies (supplier groups) own more than one licensee. Licensees can also have more than one obligation, if for example they supply electricity in England and Wales, and Scotland.
[39] A list of supplier groups and their licences is in Appendix 4.

5.12 The 'big six' suppliers (British Gas, E.ON, EDF, Npower, Scottish Power and SSE) shared 81.9% of the obligation between them. This is down from 84.9% last year. Full details are included in Appendix 4.

Figure 15 – Proportion of total obligation (RO, ROS and NIRO combined) by supplier group



ROCs presented and payments made by suppliers

5.13 Suppliers had a total of 116 obligations across the three Orders and their various licences. Across the schemes:

- Suppliers met 76 of the 116 obligations by presenting ROCs alone. Of these, 33 were on the RO, 38 on the ROS and five on the NIRO.
- Suppliers met 25 obligations entirely through buy-out payments. Of these 14 were on the RO, eight were on the ROS and three on the NIRO.
- Suppliers met 15 obligations through a combination of payments and ROCs. Of these 12 were on the RO and three on the ROS. None were on the NIRO.

ROCs presented

5.14 **Table 6** summarises the obligations and ROCs presented by suppliers across the Orders. This shows that suppliers presented 71.3 million ROCs to us for compliance in 2014-

15. This is an increase of 10.5 million ROCs, or 17.3%, on the 60.8 million they presented in 2013-14.

5.15 Suppliers met 99.1% of the total UK obligation by presenting ROCs to us. This is the highest-ever proportion of the obligation met by presenting ROCs. This level of compliance was even higher than last year's 98.2% which, in itself, was a significant increase from previous years. As in 2013-14, this is mainly because of the large number of ROCs we issued relative to the size of the ROC target.

Table 6 – Summary of ROCs presented towards each UK obligation in 2014-15

	RO	ROS	NIRO	UK total
Electricity supplied (MWh)	264,352,836	26,965,850	7,852,710	299,171,396
Obligation (ROCs)	64,502,089	6,579,671	840,240	71,922,000
ROCs presented	63,991,929	6,527,541	757,055	71,276,525
No. of licensees with an obligation	59	49	8	116
Percentage of obligation met by ROCs	99.2%	99.2%	90.1%	99.1%

5.16 Suppliers are allowed to meet up to 25% of an obligation by presenting unused ROCs from the previous obligation period.[40] We call these banked ROCs. Because we issued so many ROCs in 2013-14, a large number of banked ROCs were available for suppliers to present to us in 2014-15. They presented around 2.6 million, a large increase from the 340,153 banked ROCs presented last year. This is also part of the reason that suppliers could meet such a high proportion of the obligation by presenting ROCs.

5.17 The high volume of ROCs we issued in 2014-15 and the large number of banked ROCs from 2013-14 that suppliers presented will have a consequential effect into 2015-16. Of the 71.3 million ROCs we issued in 2014-15, around 2.6 million were not presented by suppliers and will be available as banked ROCs next year.

5.18 There is a cap[41] on the amount of ROCs from electricity generated from bioliquids that suppliers can present towards their obligations. This limits suppliers to meeting 4% of an obligation using bioliquid ROCs. Some bioliquid ROCs are exempt from the cap. Details of the exemptions are in section 4.5 of our supplier guidance document[42].

5.19 In 2014-15 suppliers presented 29,301 bioliquid ROCs to us, across the obligations, which qualified under the cap. This is 0.04% of the total obligation, so well below the 4% cap, and significantly less 143,498 qualifying bioliquid ROCs presented last year. Suppliers also presented 874,999 bioliquid ROCs that were exempt from the cap, which, conversely, was a significant increase on the 21,011 presented in the 2013-14 obligation period.

[40] Defined in article 14(2) of the 2015 RO Order and articles 13(2) of the 2009 ROS and NIRO Orders
[41] The bioliquid cap is described in article 14(3) and (4) of the 2015 RO Order and in the 2013 amendments to articles 13 of the 2009 RO and NIRO Orders.
[42] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-suppliers-december-2015

Payments made

5.20 Suppliers who chose to make buy-out payments paid a total of £20.2 million into the buy-out funds by the legislative deadline of 31 August.

5.21 Across the schemes, seven suppliers covering ten obligations[43] did not meet the deadline for making buy-out payments. Six of these suppliers complied with their obligations by making late payments by 31 October, totalling £7.6 million. The remaining supplier, EPG Energy, did not make its late payment in full by 31 October and so did not comply with its obligation for 2014-15. It did, however, make its payment in full after the late payment period had closed.

5.22 **Table 7** summarises the payments suppliers made towards each UK obligation in 2014-15. Full tables of how all suppliers met their obligations are in Appendix 4.

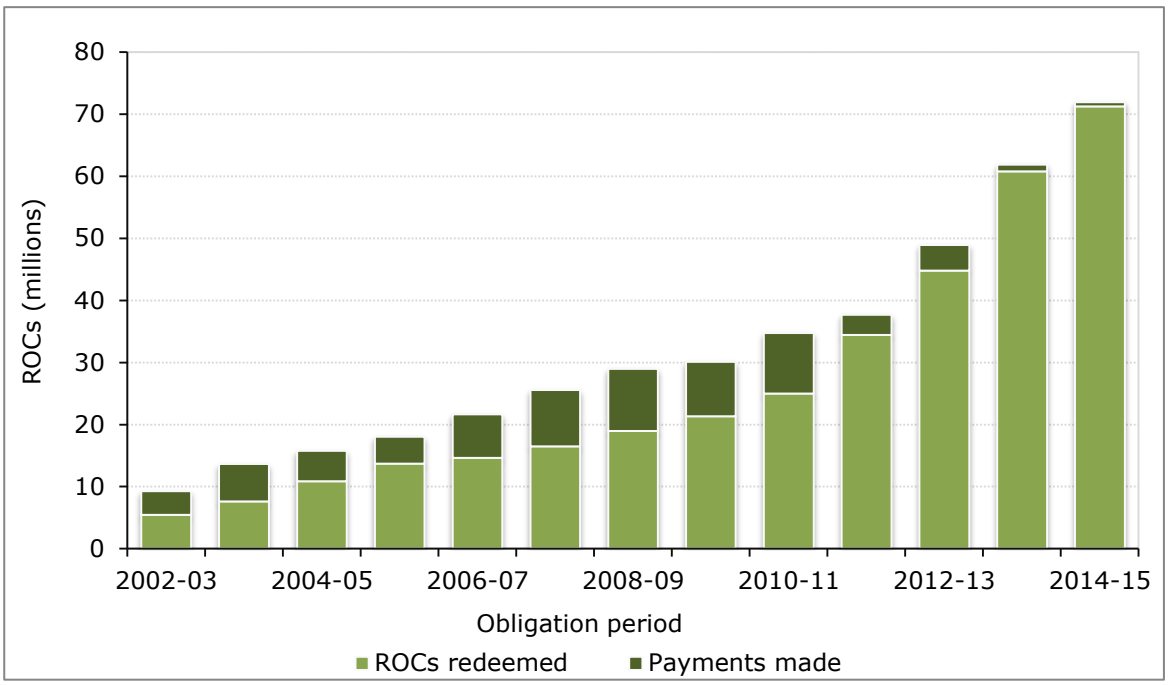
Table 7 – Payments made towards each UK obligation in 2014-15

	RO	ROS	NIRO	UK total
Buy-out payments made	£17,772,168.40	£1,914,379.60	£515,010.20	£20,201,558.20
Late payments made	£4,202,196.21	£345,736.69	£3,086,900.30	£7,634,833.20

5.23 **Figure 16** shows the trend in total UK obligation and the proportions met through ROCs and payments respectively since the RO began in 2002-03. The height of the columns represents the total obligation each year. The green sections represent the proportion of the obligation the suppliers met by presenting ROCs, the red sections represent the payments they made. This very clearly shows the marked increase in the proportion met by presenting ROCs in the last two years.

[43] Three of the suppliers had to make late payments in both England and Wales and Scotland.

Figure 16 – Trend in UK obligation and proportion met through ROCs and payments since 2002-03



Redistribution of the buy-out and late payment funds

5.24 We redistribute the buy-out and late payment funds to suppliers using the single recycling mechanism. This means that we pay out the aggregate of the funds across the three obligations to suppliers, in proportion to the amount of ROCs each supplier presented across the three Orders. For example, a supplier who presents 3% of the total ROCs across the three obligations will get back 3% of the amount we redistribute from the buy-out and late payment funds. This is the case regardless of the Order under which a supplier had its obligations. So, for example, a supplier who only has an obligation in England and Wales will still receive part of the Scotland and Northern Ireland payment funds.

Table 8 – Summary of redistribution payments for 2014-15

	RO	ROS	NIRO	UK total
Buy-out payments	£15,020,418	£1,619,421	£435,261	£17,075,100
Late payments	£4,204,714	£345,913	£3,088,393	£7,639,020
Totals	**£19,225,132**	**£1,965,334**	**£3,523,654**	**£24,714,120**

5.25 As **Table 8** summarises, the combined sum redistributed to suppliers from the buy-out and late payment funds was approximately £24.7 million for the 2014-15 obligation period. Full information on payments made to individual supply licenses is included in Appendix 4.We redistributed £17.1 million from the buy-out funds. We withdrew £3.1 million for our scheme administration costs described in paragraph 1.3 in Chapter 1, accounted for interest accrued

on the buy-out payments while in our accounts, and rounded the redistribution amounts down to the nearest whole pound. We then made the redistribution payments on 16 October 2015,[44] in advance of the legislative deadline of 1 November.

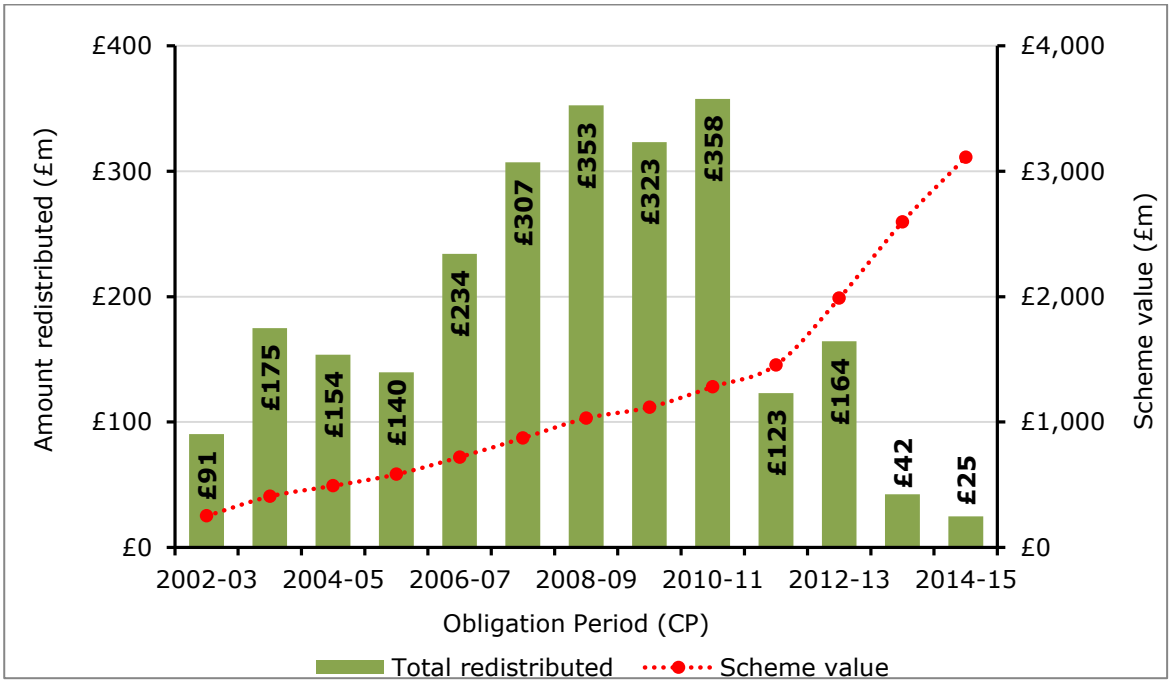
5.26 We redistributed £7.6 million in late payments, on the same basis as the buy-out funds (though without the withdrawal of administration costs) on 16 December 2015.[45] This was in advance of the legislative deadline of 1 January 2016.

5.27 EPG Energy's failure to make its late payment in full did not have a significant effect on the amount we redistributed from the late payment fund. Once the late payment deadline had passed, any payment made by EPG Energy could not be regarded as part of the late payment fund. EPG Energy paid a sum equal to the amount of its shortfall after the late payment deadline had passed. These funds were redistributed to suppliers who presented ROCs toward their obligations. We made these payments to suppliers, in the same proportions we redistributed the buy-out and late payment funds, in February 2016.

5.28 We will be monitoring EPG Energy's performance, including its compliance with the other schemes we administer, to ensure it does not repeat its non-compliance in future obligation periods.

5.29 **Figure 17** shows the amounts we have redistributed each year, and the growth in value of the scheme, since its introduction in 2002.

Figure 17 – Total payments redistributed to suppliers and scheme value since 2002-03



ROC recycle value

5.30 As suppliers presented 71.3 million ROCs, this means the recycle value of a ROC for 2014-15 – the amount suppliers received back for each ROC they presented – was £0.35.

[44] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-buy-out-fund-2014-15
[45] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-late-payment-distribution-2014-2015

When added to the buy-out price of £43.30, the total worth of a ROC for this obligation period was £43.65.

5.31 The percentage of the obligation suppliers met by presenting ROCs was, as described earlier, even higher than last year. This means that the amounts we redistributed and the recycle value were lower than last year and were their lowest values since the scheme began.

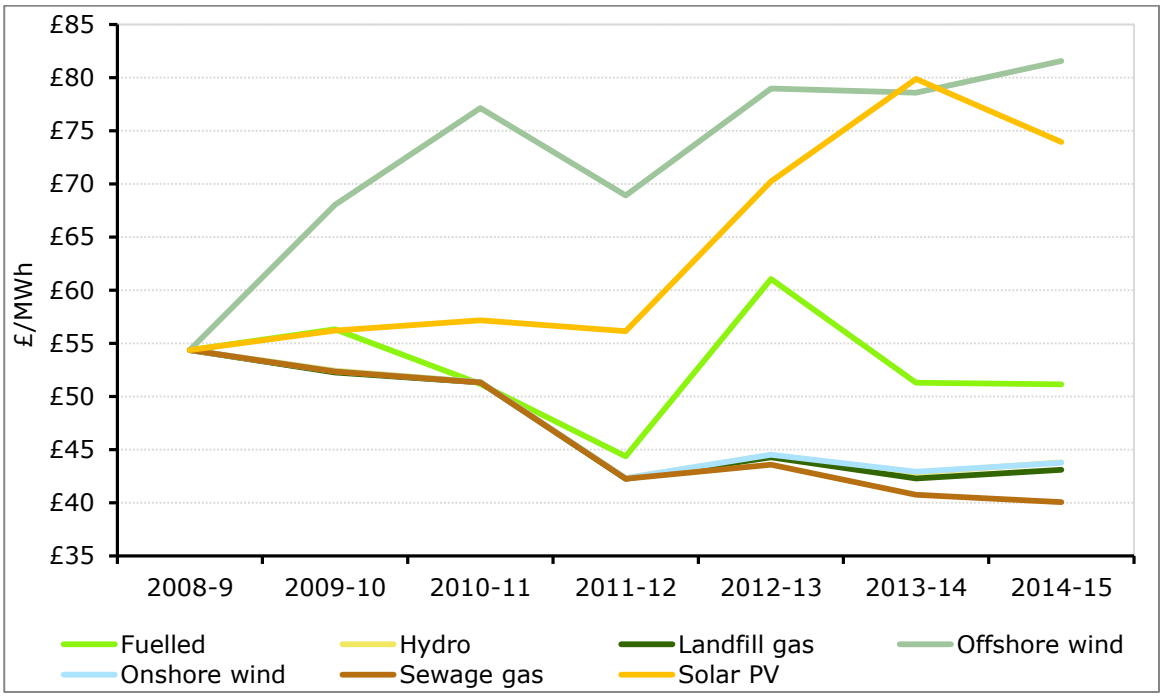
Table 9 – Determination of ROC recycle value since 2008-09

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Buy-out and late payments redistributed (millions)	£352.6	£323.7	£358.3	£123.1	£164.4	£42.4	£24.7
ROCs presented (millions)	18.9	21.3	25.0	34.4	44.8	60.8	71.3
Recycle value per ROC	£18.61	£15.17	£14.35	£3.58	£3.67	£0.70	£0.35
"Value" of a ROC	£54.37	£52.36	£51.34	£42.27	£44.38	£42.72	£43.65
Average ROCs issued/MWh	1.00	1.04	1.07	1.12	1.27	1.27	1.28
Support per MWh generated	£54.37	£54.45	£54.93	£47.34	£56.36	£54.25	£55.87

5.32 **Table 9** summarises the ROC recycle value and support per MWh supplied since 2008-09. The total value of the scheme in an obligation period is the worth of a ROC multiplied by the number of ROCs presented for compliance by suppliers. In 2014-15, suppliers presented 71.3 million ROCs each worth £43.65, giving a scheme value of £3.1 billion.

5.33 The average number of ROCs issued per MWh (from Table 1 in Chapter 3) multiplied by the worth of a ROC gives the support (in £) per MWh generated for an obligation period. These are shown in the bottom row of Table 9. There was a slight increase in the ROCs per MWh ratio and the worth of a ROC from 2013-14 to 2014-15. Correspondingly there was also a slight increase in the support per MWh generated, from £54.25 to £55.87. Other than a sharp drop in 2011-12, this value has remained fairly stable since 2008-09 (£55 ± £1.50).

Figure 18 – Value of support per MWh for each technology since 2008-09



**Tidal and wave power are not included here due to the very small number of ROCs each technology has received.*

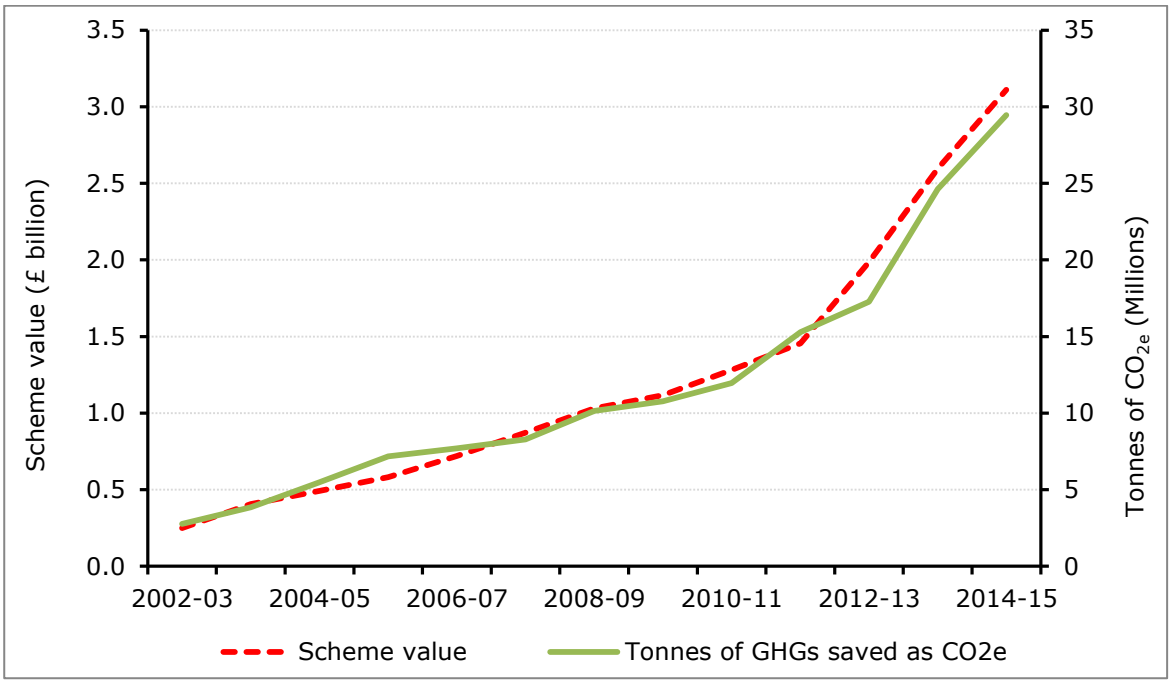
5.34 **Figure 18** shows the cost of support in £ per MWh broken down by technology type. The chart begins in 2008-09, before banding, when all technologies received 1 ROC per MWh generated. The most obvious change from last year is the drop in the cost of support per MWh of solar PV, from around £80 in 2013-14 to about £74 in 2014-15. This is because we have accredited a large proportion of the RO's solar PV capacity in the last two obligation periods alongside a drop in banding rates for solar PV stations.

Carbon emissions

5.35 Using the scheme value of £3.1 billion and the estimated GHG emissions saved under the scheme of 29.4 million tonnes (as explained in paragraph 3.21 of Chapter 3), the cost of GHG emissions saved in 2014-15 was £105.66 per tonne (CO2e). This is almost identical to last year's value of £105.38.

5.36 We have used the methodology described in paragraphs 3.20 – 3.22 in Chapter 3, and Defra's figures for each year since 2002, to plot GHG emissions saved against scheme value in **Figure 19**.

Figure 19 – Scheme value and yearly GHG savings since 2002-03



Mutualisation

5.37 If a supplier is unable to meet its obligation under the RO or ROS – for example, if it has gone into administration – there may be a shortfall in the buy-out fund. The mutualisation provision in RO legislation[46] is designed to account for this. Mutualisation is triggered above a certain amount, known as a relevant shortfall.[47] Mutualisation does not apply in NI.

5.38 If mutualisation is triggered, all suppliers with an obligation under the RO and ROS must make additional payments to make up the shortfall. These payments are capped at the mutualisation ceiling, an amount we publish every year before the start of the obligation period. We adjust this in the same way as the buy-out price, in line with the change in RPI from the previous calendar year.

5.39 The mutualisation ceilings for 2014-15 were approximately £260.8 million in England and Wales and £26.1 million in Scotland. We published a notice of these in February 2014.[48]

5.40 Mutualisation payments would be redistributed to suppliers on the same basis as the buy-out and late payment funds, using the single recycling mechanism. However, even though mutualisation does not apply in NI, NI suppliers will receive a share of any mutualisation funds from the RO and ROS.

5.41 Mutualisation was not triggered in 2014-15, nor in any previous obligation period.

[46] Mutualisation is described in articles 72 – 77 of the 2015 RO Order and articles 48 – 52 of the 2009 ROS Order.
[47] Article 72 in the 2015 RO Order and Schedule 3 in the 2009 ROS Order define the amount of relevant shortfall.
[48] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-buy-out-price-and-mutualisation-ceiling-2014-15

6. Audits under the RO

Chapter summary

We continued our programme of technical audits of generators in 2014-15. Our authorised representatives carried out 40 audits across a range of technology types, including 12 new pre-accreditation audits and two enhanced audits of large biomass-fuelled generators following the successful introduction of these type of audit last year. Similarly we audited seven licensed suppliers on their supply volume submissions. We rated over half of both types of audit as Good or Satisfactory. We also introduced new NI agent audits, auditing two agents and one 'rent-a-roof' company against their obligations under the RO. These audits were rated Weak or Unsatisfactory.

Audits of generating stations

6.1 We expect all generating stations accredited under the RO to submit correct information to us when applying for accreditation and continue to submit true and accurate data when claiming ROCs, once accredited. They also need to tell us about any changes that might affect their accreditation. As set out in our published guidance, each year we audit generating stations to verify this.

6.2 The objectives of our generator audit programme are to:

- Verify output data submissions (the basis we issue ROCs on).
- Assure accreditation information is correct.
- Detect fraud and non-compliance.
- Deter the fraudulent or careless submission of inaccurate data.
- Detect departures from good practice.

6.3 We give each audit a rating depending on the findings. These ratings are:

- Good (no issues identified at audit).
- Satisfactory (minor issues or instances where the generator is not following best practice).
- Weak (the audit identified moderate issues of non-compliance).
- Unsatisfactory (major instances of non-compliance or suspected fraud identified).

6.4 We receive a full report of the auditor's findings at the end of each site visit. Once we have approved them, we share a copy with the operator of the generating station, asking them to comment on the findings and rectify all issues. We only close an audit once we are sure that corrective action has been taken to address all issues identified. In a few instances, we temporarily suspend the issue of ROCs while we wait for a station to send us information or take corrective action.

2014-15 generator audits

6.5 In 2014-15 we contracted Black and Veatch to carry out technical audits of 40 generating stations. The generating stations that we selected for audit consisted predominantly of those we had specific concerns about, together with a small number which were random or representative examples of a particular class of generator (for example of technology type or

capacity). **Table 10** shows the breakdown of the audits by generating technology type and the rating given by the auditor.

Table 10 – Technologies audited in 2014-15

Technology	Stations audited	Rating awarded by auditor			
		Good	Satisfactory	Weak	Unsatisfactory
Biomass fuelled	12		8	2	2
Solar PV	12		5	3	4
Onshore wind	11		7	1	3
Landfill gas	2		2		
Hydro	2		2		
Offshore wind	1			1	
TOTALS	40	0	24	7	9

6.6 Of the 40, we carried out two enhanced audits of large biomass fuelled stations which included in-depth audits of fuels used and compliance with agreed FMS procedures at the stations. Both of these were rated as Satisfactory. We also introduced pre-accreditation audits for the first time for 12 stations where we wanted to ensure that they had commissioned before a drop in the banding rates. The audit findings identified issues, with four of the 12 audits resulting in Unsatisfactory ratings by the auditors.

6.7 Across all 40 of the audits, we rated none as Good, but just over half (24) as Satisfactory. Seven were rated Weak and nine were Unsatisfactory. The relatively high proportion of Unsatisfactory audits in 2014-15, compared with the previous year, is as a direct result of our targeted approach, meaning a higher proportion of the audited generators were selected on the basis of existing concerns, rather than being randomly selected. We have closed all but one of the audits from 2014-15, including all those rated as Unsatisfactory.

6.8 Among the Unsatisfactory audits, seven resulted from findings which called into question the ROC banding of the generating station. The things that were unclear were: the commissioning date of the stations, the TIC and, in one case, accreditation of the biomass fuelled station under the Combined Heat and Power Quality Assurance (CHPQA) scheme. In four of these (including three pre-accreditation audits) the operator was able to produce further information to verify the information provided within their accreditation application, and thus maintain the existing ROC banding granted to the station.

In the other three cases the audit findings were accepted. Changes were made to two generating stations to maintain eligibility for the claimed ROC banding. In the other case, the ROC banding was adjusted downwards. The other two Unsatisfactory audit ratings concerned large over-claims of ROCs made in error by the generators concerned. We did not identify any instances of fraudulent activity.

6.9 As in previous years, inaccuracies in accreditation information were relatively common. Incorrect figures for DNC and/or TIC and incorrect meter details were identified in around half of the audits. Incorrect commissioning dates and inaccurate single line diagrams were also found in about a third of cases. Other common findings were of errors in reported generation figures and that information or documents requested for the audit were not provided. Among biomass fuelled generators, there were several departures from agreed procedures for FMS or the sustainability criteria were not fully met. **Table 11** lists the most common issues identified in the 2014-15 generator audits.

Table 11 – Issues identified during the 2014-15 generator audits

Issues identified by audits	No. of instances
Meter details incorrect on application for accreditation	20
TIC/DNC incorrect in application for accreditation	19
Commissioning date incorrect on application for accreditation	14
Errors in reported generation figures	14
Requested documents at audit not provided	14
ROC under-claim	13
Inaccurate single line diagram submitted with application for accreditation	12
Minor FMS discrepancy/poor FMS records (no impact on ROC issue)	12
Minor discrepancies in the application for accreditation	9
ROC over-claim	8
FMS procedures not followed/approved	4
Sustainability criteria not fully met	4
Electrical meter not calibrated/no evidence of calibration	3
Errors in reported fuel use/GCV data (fuelled stations)	3

6.10 As a result, there were 13 cases in which we found that ROCs had been under-claimed. The number of certificates involved was low in each case. However, there were eight instances of ROCs having been over-claimed. We addressed all over- and under-claims by revoking or issuing additional ROCs. Where we cannot revoke (where the ROCs have already been presented for compliance) we must withhold a corresponding number of ROCs from future reported generation.

Audits of suppliers

6.11 Given the large financial sums in the RO and the critical importance of suppliers reporting accurate supply volumes for us to determine their obligations, we carry out an annual programme of supplier audits. These take place in July and early August, soon after suppliers have submitted their annual electricity supply figures for the purposes of RO compliance.

6.12 The objectives of our supplier audit programme is to assure us that the electricity supply figures submitted to us are accurate, to deter the fraudulent or careless submission of inaccurate data, and to detect departures from good practice.

6.13 We use the following criteria, as part of a risk-based approach, to select the suppliers to audit:

- Any of the 'big six' suppliers not audited in the previous two years.
- New suppliers (those for which the 2014-15 obligation period was the first complete year they held a supply licence, and had supplied electricity during the period).
- Suppliers who do not (or cannot) use our recommended methodology for reporting supply volumes (see Chapter 5).
- Any suppliers whose figures have concerned us in the present or previous obligation periods, including follow-up audits from the previous year.

2014-15 supplier audits

6.14 Before suppliers submit their annual supply figures by 1 July, we receive dataflows from Elexon which let us estimate likely supply figures for most licensed suppliers. This means we identify many anomalies and address them with suppliers before the annual audits. This reduces the scope for the auditors to find undetected discrepancies in reported supply

volumes. However, the audits remain useful in helping to determine the source of these discrepancies and in identifying weaknesses in suppliers' internal assurance processes.

6.15 As a result of our analysis of Elexon dataflows, we reduced the number of audited supply licences to seven in 2014-15, compared with 12 in the previous year. As in previous years, we contracted Grant Thornton UK LLP to do the audits for the 2014-15 obligation period. We apply the same audit ratings to the supplier audits as we do to the generator audits. We rated two of the licensees as Good, four as Satisfactory and one as Weak.

6.16 The Weak audit rating arose because the supplier reported its supply volume on the basis of the latest dataflow rather than the particular dataflow specified by our published supplier guidance. This led to a minimal variance of 9MWh between the electricity supply data reported to us and the Elexon supply volumes. Other than this, the 2014-15 audits found no major problems and none of the issues identified prevented the suppliers from meeting the legislative deadlines for compliance with the RO.

6.17 However, the auditors did identify some discrepancies in suppliers' procedures. This included some suppliers who were not managing their Register accounts appropriately, for example, where lists of registered users were out of date and instances of passwords being shared between users. The suppliers in question have since updated their accounts to remove the old users and they have amended their procedures to ensure passwords are no longer shared. Usernames and passwords should never be shared with, or used by, anyone other than the named users. This is clearly stated in the terms and conditions of use of our Register. If we find that personal login details have been shared with another party we may lock the account(s) in question.

6.18 Prior to one audit, a supplier brought to our attention the fact that over several years they had been managing and selling electricity in a private network, believing that this didn't count as 'supply' and therefore had zero obligation under the RO. Our view was that in this case an obligation did exist under the RO. Our audit was able to confirm supply volumes for the last six years. The supply volumes reported were relatively small in each year, with the highest being 327MWh and the issue was resolved by the supplier retiring 184 ROCs.

NI agent audits

6.19 The NIRO allows the operator of a micro NIRO generating station (refer to Chapter 2) to appoint an agent to receive NIROCs on their behalf. An agent is given the power to carry out all the functions of the operator including seeking accreditation, signing declarations, submitting output data and claiming NIROCs on behalf of the operator.

6.20 Although the number of ROCs issued to individual micro NIRO generators is small, as a result of the surge in the number of newly-accredited stations (refer to Chapter 2) we have considered it appropriate to introduce micro NIRO audits to provide assurance on this sector. Once again, we appointed Grant Thornton UK LLP in March 2015 to audit two agents and one rent-a-roof company operating in Northern Ireland. Micro NIRO generators make annual, rather than monthly, certificate claims for NIROCs. We selected these companies to audit because of the large number of generators they represent, some concerns about their internal assurance processes, or because they were new participants to the scheme. As the audits took place before the annual claims for the 2014-15 obligation period, the audits examined compliance with legislative requirements for the 2013-14 obligation year. They aimed to determine whether:

- An agent had permission to fully act as an agent on behalf of the generating stations they represented.
- Generating stations represented by an agent remain eligible for the purposes of the RO.

- The meter readings and output volumes notified to us by the agent were accurate and reliable, and meet the requirements of the legislation.
- We issued the correct number of ROCs based on output data submitted to us.

6.21 The same assurance ratings used for our generator and supplier audits were applied to the NI agent audits. Two of the audits were assigned assurance ratings of 'Weak' and the other was rated 'Unsatisfactory'. The types of findings which contributed to these ratings included:

- Procedures for obtaining and checking meter readings were poor.
- Output data submitted on behalf of a generating station was inaccurate or checks of such data were deficient.
- The process for reconciling NIROCs received against reported output data was absent or weak.
- The application that the accreditation was originally granted on was inaccurate.
- No systematic check to ensure meters were approved by the National Measurements Office (NMO) Schedule 4 or the Measurement Instruments Directive (MID).
- No contractual terms were included requiring generators to notify the agent of changes to their installation.

6.22 The number and severity of these findings were greater in the case of the Unsatisfactory audit. As with the generator and supplier audits, we provided copies of the audit reports to the respective parties, along with letters summarising the actions we expected to be taken. We followed these up to ensure that all issues were fully addressed by the companies concerned. In the case of the Unsatisfactory audit, we requested that the agent procured its own independent to auditors to attest to the fact that all issues identified had been addressed.

7. Changes in legislation

Chapter summary

DECC and the devolved administrations in Scotland and NI introduced a number of amendments in 2015. These amendments related to sustainability criteria and to various closure-related changes. Across the UK, the RO will close to all new generating capacity in 2017 (with grace periods available in certain circumstances). At the time of writing, some early closures have been, or are expected to be introduced.

RO amendments 2014

7.1 DECC, the Scottish Government and the Department of Enterprise Trade and Investment Northern Ireland (DETINI) made a number of amendments to the RO in 2014. These were the transition arrangements from the RO to Contracts for Difference (CFD), enhanced sustainability criteria for the use of biomass under the RO, two new offshore wind bands under the ROS and changes to solar PV under the NIRO.

RO amendments 2015

7.2 DECC and the devolved administrations made further amendments to the RO in 2015. These were the consolidation of the RO Orders (for England and Wales), further enhancement to sustainability criteria for biomass, and a reduction in the available ROC rate for solar PV in NI.

Consolidation of the RO Orders – England and Wales

7.3 DECC consolidated the Renewables Obligation Order 2009 and the subsequent amendments to this Order into the Renewables Obligation Order 2015. We reissued our primary guidance documents[49] on 1 December 2015 to update all article references to align with the consolidated Order.

Sustainability criteria amendments – England, Wales and Scotland

7.4 The Renewables Obligation Order 2015 and the Renewables Obligation (Scotland) Amendment Order 2015 took effect from 1 December 2015. This legislation introduced further enhancements to the sustainability criteria for biomass stations. The legislative amendments made the following changes for generating stations in England, Scotland and Wales:

- Stations with a TIC ≥1MW using solid biomass and/or biogas fuels must meet the sustainability criteria to be eligible for ROCs.
- A GHG annual averaging mechanism was introduced to allow flexibility for consignments of biomass that do not meet the relevant GHG threshold in a month. This must be averaged across the year and therefore may be below the GHG threshold annually. Until 2020, this is only applicable to post-2013 dedicated biomass stations[50].
- 'Highly biodiverse grasslands' was added to the protected land types in the land criteria.

[49] See Chapter 8 for a full list of the guidance updates we have issued.
[50] 'Post-2013 dedicated biomass station' is defined in schedule 2 of the ROO, article 54 of the ROS and article 46 of the NIRO.

- The Timber Standard for Heat and Electricity was written into the legislation and the addition that some woody biomass is deemed sustainable when reporting against the land criteria for woody biomass.
- The GHG trajectory until 2025 was tightened, which means stations have to meet a more stringent GHG target in 2020 and 2025 in order to still meet the GHG criteria. The target goes from 79.2 gGHG/MJ electricity for stations which are not post-2013 dedicated biomass to 50gGHG/MJ electricity in 2025.
- Revisions were made to the requirement for operators of generating stations to provide annual information to us. Specifically, the addition of a question on the proportion of woody biomass that was composed of hardwood and softwood and a change in the definition for saw logs.

7.5 We have published updates to all relevant guidance documents[51]. These documents apply to England, Wales and Scotland only. DETINI intended to introduce the legislative provisions in line with GB on 1 December 2015 but experienced delays – see the Further Amendments in 2016 section (paragraph 7.19) for further details.

Solar PV ROC rate reduction – Northern Ireland

7.6 On 1 October 2015, a reduction to the banding level for solar PV stations in NI with a generating capacity of up to 50kW came into effect. From this date, new stations, or additional capacity which does not increase the total installed capacity of the station beyond 50kW, will receive 3 ROCS per MWh. A further reduction, to 2 ROCs per MWh, will take effect from 1 October 2016.

RO, ROS and NIRO closures

RO Closure (Amendment) Order 2015 – Closure to solar PV stations over 5MW

7.7 The RO and ROS closed to solar PV generating stations over 5MW TIC from 1 April 2015. The RO Closure (Amendment) Order 2015 introduced this change. Three grace periods were made available for stations that were not able to commission before the closure date of 1 April 2015. Accreditation for large scale solar PV stations is possible up to 31 March 2016, subject to the grace period conditions being met. The grace periods are:

- *Preliminary accreditation grace period*: for stations that were granted preliminary accreditation on or before 13 May 2014.
- *Significant investment grace period*: for stations that have made significant financial commitments in relation to a project on or before 13 May 2014.
- *Grid delay grace period*: for stations that experience grid connection delays that are outside of the developer's control.

7.8 Final guidance for applicants wishing to apply for a grace period was published on 13 April 2015[52].

[51] These include RO: Sustainability Criteria, RO: Sustainability Reporting, RO: Fuel Measurement and Sampling and RO: Biodiesel and fossil-derived bioliquids guidance

[52] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-ro-guidance-closure-scheme-large-scale-solar-pv

NIRO Closure Order 2015

7.9 The RO Closure (Northern Ireland) Order 2015 came into force on 30 September 2015 and sets out that the NIRO will close to all new non-wind capacity on 31 March 2017. The following grace periods have been made available:

- *Grid delay grace period*: for stations that experience grid connection delays that are outside of the developer's control.
- *Preliminary accreditation grace period*: for stations using Advanced Conversion Technology (ACT) which have been granted preliminary accreditation by 31 March 2015.
- *Enabling financial decisions grace period*: for stations using ACT and in relation to which a Notice of Intent was submitted to us by 5 January 2016.

7.10 We published guidance on 19 October 2015 in relation to the enabling financial decisions grace period.

7.11 We intend to provide guidance for NI generators on the closure of the NIRO and the grace periods available in Spring 2016. We will provide guidance on transition elements, if appropriate, should clarity on this be provided by DETINI.

RO Closure (Amendment) Order 2016

7.12 DECC has confirmed its intention that the RO and ROS will close to small scale solar PV stations from 1 April 2016[53]. Subject to Parliament the closure will be brought into effect by the Renewables Obligation Closure Etc. (Amendment) Order 2016, which was laid in Parliament on 25 January 2016. The following grace periods will be available allowing accreditation for certain stations up to 31 March 2017:

- *Preliminary accreditation grace period*: for new stations that have been granted preliminary accreditation on or before 22 July 2015.
- *Significant investment grace period*: for stations that have made significant financial commitments in relation to a project on or before 22 July 2015.
- *Grid delay grace period*: for stations that experience grid connection delays that are outside of the developer's control.

7.13 We have published draft guidance[54] on this closure and the grace periods that will be available.

7.14 DECC has also confirmed the removal of 'grandfathering' for all solar PV stations with an accreditation date after 22 July 2015, unless they are able to meet certain exception criteria. This policy decision will not affect stations unless the rate available to solar PV changes in the future – see the Further Amendments in 2016 (paragraph 7.18) section for further details.

[53] https://www.gov.uk/government/consultations/changes-to-financial-support-for-solar-pv
[54] https://www.ofgem.gov.uk/publications-and-updates/draft-renewables-obligation-closure-scheme-small-scale-solar-pv

Closure of RO to onshore wind

7.15 DECC announced on 18 June 2015 that it intends to close the RO to new onshore wind generating capacity from 1 April 2016. The change is to be introduced via the Energy Bill 2016 which is currently progressing through parliament and is subject to change until Royal Assent is granted. However, the following grace periods are expected to be made available:

- *Approved development grace period*: for stations where a grid connection agreement, land rights and the planning permission were in place on or before 18 June 2015[55].
- *Grid or radar delay grace period*: for generating stations that have been subject to grid connection delays that were not because of a breach by a developer.
- *Investment freezing grace period*: for generating stations where a lender was not prepared to provide funding during the period of legislative uncertainty following DECC's announcement.

7.16 We have published draft guidance[56] on this anticipated closure and the grace periods that are expected to be available.

Closure of NIRO to onshore wind

7.17 DETINI consulted on 30 September 2015 on a proposal to close the NIRO to onshore wind from 1 April 2016. On 4 March 2016 they published their response to this consultation confirming their intention that the NIRO will close from 1 April 2016 to large scale onshore wind generating capacity only. The NIRO will remain open for the time being to small scale wind until further consultation is completed. The following grace periods are expected to be made available for large scale onshore wind:

- *Approved development grace period*: for stations where a grid connection agreement, land rights and the planning permission were in place on or before the relevant eligibility date[57].
- *Grid or radar delay grace period*: for generating stations that have been subject to grid connection delays that were not because of a breach by a developer.
- *Investment freezing grace period*: for generating stations where a lender was not prepared to provide funding during the period of legislative uncertainty following the publication of DETI's consultation.

7.18 The change is to be introduced by the Renewables Obligation Order (Northern Ireland) 2016 which has been laid in the Northern Ireland Assembly. We will publish draft guidance on this closure shortly.

[55] http://www.parliament.uk/documents/commons-committees/energy-and-climate-change/Leadsom-to-chair-231115.pdf
[56] https://www.ofgem.gov.uk/publications-and-updates/draft-renewables-obligation-closure-scheme-onshore-wind
[57] The 'relevant eligibility date' is 30 September 2015 for non-cluster connecting generating stations and 30 October 2015 for cluster connecting stations.

Further amendments in 2016

Solar PV banding change

7.19 DECC have consulted on a proposal to reduce the banding rate for solar PV with the aim of introducing it from 1 June 2016. A decision is yet to be published but if this rate reduction is implemented, any generating station with an accreditation date on or after 23 July 2015 would receive the new reduced rate for any generation from the date any legislative amendment were to take effect. This is unless they qualify for the proposed exceptions.

Northern Ireland sustainability criteria amendment

7.20 DETINI intended to bring in legislative provisions to introduce further enhancements to the sustainability criteria for biomass stations on 1 December 2015, in line with DECC and the Scottish Government. However, they experienced delays. The Renewables Obligation (Amendment) Order (Northern Ireland) 2016 which introduces the changes and came into force on 1 March 2016.

8. Implementation and improvement update

Chapter summary

In 2014-15 we updated the Register and a number of guidance documents for scheme participants to reflect changes in legislation and to our processes. We also ran an Operational Excellence programme to validate the information submitted to us by the majority of distribution-connected generators, and initiated projects to improve the application for accreditation and introduced new software to access a range of management information to assist us with the administration of the scheme.

Renewables and CHP Register

8.1 During 2014-15, we made changes to the Register to reflect legislative amendments that were introduced. These changes included the closure of the RO scheme to PV generating stations over 5MW and updating the banding rates for micro-NIRO PV in preparation for 2015-16. Sustainability criteria for solid and gaseous fuels were also linked to the ROC calculation, as was already occurring for bioliquids, in preparation for 2015-16.

Guidance documents

8.2 We regularly publish guidance on aspects of the RO to inform scheme participants of changes in legislation or revised processes.

8.3 Since the last annual report we have published the following new guidance documents:

- Guidance on the transition period (July 2014)[58]
- England, Wales and Scotland: The 'enabling financial decisions' grace period guidance (September 2014)[59]
- Essential guide to commissioning (April 2015)[60]
- Frequently asked questions - closure of the RO to large-scale solar PV (April 2015)[61]
- Applying for the Northern Ireland Renewables Obligation: a step-by-step guide (April 2015)[62]
- Guidance on the closure of the scheme to large-scale solar PV (April 2015)[63]
- Northern Ireland: The "enabling financial decisions grace period" guidance (September 2015)[64]
- How to understand ROC identifiers (December 2015)[65]

[58] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-transition-period
[59] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-enabling-financial-decisions-grace-period-guidance
[60] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-ro-essential-guide-commissioning
[61] https://www.ofgem.gov.uk/publications-and-updates/frequently-asked-questions-closure-renewables-obligation-ro-large-scale-solar-pv
[62] https://www.ofgem.gov.uk/environmental-programmes/renewables-obligation-ro/information-generators/micro-generators-northern-ireland-micro-niro
[63] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-ro-guidance-closure-scheme-large-scale-solar-pv
[64] https://www.ofgem.gov.uk/publications-and-updates/draft-northern-ireland-renewables-obligation-enabling-financial-decisions-grace-period-guidance
[65] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-how-understand-roc-identifiers

- Biodiesel and fossil-derived bioliquids guidance 2015 update (December 2015)[66]
- England, Wales and Scotland sustainability reporting guidance (December 2015)[67]

8.4 We have also published updates to the following guidance documents:

- Guidance for generators (December 2015)[68]
- England, Wales and Scotland: fuel measurement and sampling guidance (December 2015)[69]
- England, Wales and Scotland: sustainability criteria guidance (December 2015)[70]
- Guidance for suppliers (December 2015)[71]

Operational Excellence

8.5 Following a successful pilot project in 2013-14, we introduced new procedures to validate output data submitted by the majority of distribution-connected generators against meter reading data provided by ElectraLink. This builds on the new procedure to validate output data from large generators against Elexon data described in the 2013-14 RO Annual Report. This has given us greater assurance on the accuracy of data submissions and allows us to either flag any potential misreporting with generators before ROC issue or revoke/withhold the appropriate amount of ROCs post-issue.

8.6 We continued working on improvements to the accreditation process. We initiated projects to reduce the number of questions, simplified the language, and added help text to the application form. In response to stakeholder feedback we have also ensured that the Register is supported on all modern web browsers.

8.7 We introduced new software to help us extract and manipulate information from the Register. This has enabled us to access useful management information which we have used to help improve the administration of the RO scheme.

8.8 During this year we also initiated projects to assess our audit and compliance processes to identify areas for improvement.

[66] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-biodiesel-and-fossil-derived-bioliquids-guidance-2015
[67] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-sustainability-reporting-england-wales-and-scotland
[68] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-generators-2
[69] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-fuel-measurement-and-sampling-guidance-england-wales-and-scotland
[70] https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-sustainability-criteria-england-wales-and-scotland
[71] https://www.ofgem.gov.uk/publications-and-updates/applying-northern-ireland-renewables-obligation-step-step-guide

Appendix 1: Renewables Obligation legislation

England and Wales

The Renewables Obligation Order 2009
http://www.legislation.gov.uk/uksi/2009/785/contents/made

The Renewables Obligation (Amendment) Order 2010
http://www.legislation.gov.uk/uksi/2010/1107/contents/made

The Renewables Obligation (Amendment) Order 2011
http://www.legislation.gov.uk/uksi/2011/984/contents/made

The Renewables Obligation (Amendment) Order 2013
http://www.legislation.gov.uk/uksi/2013/768/contents/made

The Renewables Obligation (Amendment) Order 2014
http://www.legislation.gov.uk/uksi/2014/893/contents/made

The Renewables Obligation Order 2015
http://www.legislation.gov.uk/uksi/2015/1947/contents/made

Scotland

The Renewables Obligation (Scotland) Order 2009
http://www.legislation.gov.uk/ssi/2009/140/contents/made

The Renewables Obligation (Scotland) Amendment Order 2010
http://www.legislation.gov.uk/ssi/2010/147/contents/made

The Renewables Obligation (Scotland) Amendment Order 2011
http://www.legislation.gov.uk/ssi/2011/225/contents/made

The Renewables Obligation (Scotland) Amendment Order 2013
http://www.legislation.gov.uk/ssi/2013/116/contents/made

The Renewables Obligation (Scotland) Amendment Order 2014
http://www.legislation.gov.uk/ssi/2014/94/contents/made

The Renewables Obligation (Scotland) Amendment Order 2015
http://www.legislation.gov.uk/ssi/2015/384/contents/made

Applicable to England, Wales and Scotland

The Renewables Obligation Closure Order 2014
http://www.legislation.gov.uk/uksi/2014/2388/contents/made

The Renewables Obligation Closure (Amendment) Order 2015
http://www.legislation.gov.uk/uksi/2015/920/contents/made

The Renewables Obligation Closure Etc. (Amendment) Order 2016 (DRAFT)
http://www.legislation.gov.uk/ukdsi/2016/9780111142943/pdfs/ukdsi_9780111142943_en.pdf

Northern Ireland

The Renewables Obligation Order (Northern Ireland) 2009
http://www.legislation.gov.uk/nisr/2009/154/contents/made

The Renewables Obligation (Amendment) Order (Northern Ireland) 2010
http://www.legislation.gov.uk/nisr/2010/134/contents/made

The Renewables Obligation (Amendment) Order (Northern Ireland) 2011
http://www.legislation.gov.uk/nisr/2011/169/contents/made

The Renewables Obligation (Amendment) Order (Northern Ireland) 2013
http://www.legislation.gov.uk/nisr/2013/116/contents/made

The Renewables Obligation (Amendment No. 2) Order (Northern Ireland) 2013
http://www.legislation.gov.uk/nisr/2013/174/contents/made

The Renewables Obligation (Amendment) Order (Northern Ireland) 2014
http://www.legislation.gov.uk/nisr/2014/146/contents/made

The Renewables Obligation Closure Order (Northern Ireland)
2015http://www.legislation.gov.uk/nisr/2015/346/contents/made

The Renewables Obligation (Amendment) Order (Northern Ireland) 2015
http://www.legislation.gov.uk/nisr/2015/287/contents/made

Appendix 2: Accredited stations

Table A1: Number and capacity of stations accredited in 2014-15

Generation Technology	England		Wales		Scotland		Northern Ireland		Total	
	Quantity	Capacity (MW)	Quantity	Capacity (MW)	Quantity	Capacity (MW)	Quantity	Capacity (MW)	Quantity	Capacity (MW)
Fuelled	17	91	1	2	2	0	13	7	33	100
Hydro	1	0	0	0	0	0	3	0	4	0
Landfill Gas	1	0	0	0	0	0	7	7	8	7
Offshore Wind	2	420	0	0	0	0	0	0	2	420
Onshore Wind	10	103	1	8	10	138	103	99	124	348
Sewage Gas	1	2	0	0	0	0	0	0	1	2
Solar	213	2,159	27	227	0	0	2	4	242	2,390
Sub-Total DNC >50kW	**245**	**2,775**	**29**	**237**	**12**	**138**	**128**	**117**	**414**	**3,267**
Fuelled	1	0.05	0	0	0	0	0	0	1	0.05
Hydro	0	0	0	0	0	0	6	0.08	6	0.08
Onshore Wind	0	0	0	0	0	0	19	0.21	19	0.21
Solar	0	0	0	0	0	0	6,218	32.67	6,218	32.67
Sub-Total DNC <=50kW	**1**	**0.05**	**0**	**0**	**0**	**0**	**6243**	**32.96**	**6,244**	**33.01**
Total	**246**	**2,775.05**	**29**	**237**	**12**	**138**	**6371**	**149.96**	**6,658**	**3,300.01**

Table A2: Number and capacity of stations accredited from the start of the scheme until the end of 2014-15

Generation Technology	England		Wales		Scotland		Northern Ireland		Total	
	Quantity	Capacity (MW)	Quantity	Capacity (MW)	Quantity	Capacity (MW)	Quantity	Capacity (MW)	Quantity	Capacity (MW)
Fuelled	166	3,807	8	13	21	144	31	20	226	3,984
Hydro	51	22	31	77	147	616	24	4	253	719
Landfill gas	378	789	18	31	39	91	15	19	450	930
Offshore wind	23	4,061	3	720	4	195	0	0	30	4,976
Onshore wind	187	1,882	44	527	181	4,866	290	659	702	7,934
Sewage gas	137	146	16	12	5	7	0	0	158	165
Solar	447	3,526	34	286	2	1	2	4	485	3,817
Tidal stream	0	0	0	0	3	2	1	1	4	3
Wave power	0	0	0	0	4	2	0	0	4	2
Sub-Total DNC >50kW	**1,389**	**14,233**	**154**	**1,666**	**406**	**5,924**	**363**	**707**	**2,312**	**22,530**
Fuelled	14	0.24	0	0	0	0	1	0.03	15	0.27
Hydro	0	0	0	0	0	0	29	0.48	29	0.48
Onshore wind	3	0.02	0	0	1	0	429	3.67	433	3.69
Sewage gas	1	0.03	0	0	0	0	0	0	1	0.03
Solar	3	0.01	0	0	0	0	11,249	62	11,252	62.01
Sub-Total DNC <=50kW	**21**	**0.3**	**0**	**0**	**1**	**0**	**11,708**	**66.18**	**11,730**	**66.48**
Total	**1,410**	**14,233.3**	**154**	**1,666**	**407**	**5,924**	**12,071**	**773.18**	**14,042**	**22,596.48**

Table A3: Stations with NFFO contracts at the end of 2014-15

Generation Technology	England and Wales (NFFO)		Scotland (SRO)		Northern Ireland (NFFO)		Total	
	Quantity	Capacity (MW)	Quantity	Capacity (MW)	Quantity	Capacity (MW)	Quantity	Capacity (MW)
Hydro	6	1.24	2	1.53	1	0.08	9	2.84
Landfill gas	35	104.21	5	12.74	0	0	40	116.95
Offshore wind	1	1.8	0	0	0	0	1	1.80
Onshore wind	16	98.58	6	51.38	4	20	26	169.96
Wave power	0	0	1	0.15	0	0	1	0.15
Total	**58**	**205.83**	**14**	**65.8**	**5**	**20.08**	**77**	**291.7**

Appendix 3: ROCs issued

Table A4: ROCs issued in 2014-15 by country and technology type

Technology	ROCs issued				
	England	Wales	Scotland	Northern Ireland	Total
Fuelled	14,552,006	336,599	1,989,177	273,676	17,151,458
Hydro	57,141	132,692	2,344,365	20,306	2,554,504
Landfill gas	4,008,891	141,318	442,679	64,670	4,657,558
Offshore wind	22,587,524	1,883,455	905,277	0	25,376,256
Onshore wind	4,188,219	1,160,752	10,750,064	1,645,230	17,744,265
Sewage gas	577,276	39,891	24,913	0	642,080
Solar	2,913,178	147,858	814	118,391	3,180,241
Tidal power	0	0	4,190	40	4,230
Wave power	0	0	81	0	81
Total	**48,884,235**	**3,842,565**	**16,461,560**	**2,122,313**	**71,310,673**

Appendix 4: Compliance by licensed suppliers

Table A5: Supplier groups and their licences

Company (Supplier Group)	Licence
Better Business Energy Limited	Better Business Energy Limited
	KAL-Energy Limited
British Gas Trading Limited	British Gas Trading Limited
	Electricity Direct (UK) Limited
Culzean Power Ltd	Barbican Power Limited
	Holborn Energy Limited
	Paddington Power Limited
Dyball Associates Ltd	Powerq Limited
	Sinq Power Limited
	Vavu Power Limited
	Tramonto Power Limited
E.ON Energy Limited	E.ON Energy Limited
	E.ON UK Plc
	Economy Power Limited
EDF Energy plc	British Energy Direct Limited
	EDF Energy Customers Plc
	SEEBOARD Energy Limited
GDF Suez Marketing Limited	GDF Suez Marketing Limited
	IPM Energy Retail Limited
Gilmond Consulting	I Supply Electricity 2 Limited
	I Supply Electricity Limited
	I Supply Energy Limited
	Simply Electricity Limited
	Supply Energy Limited
Opus Energy Limited	Donnington Energy Limited
	Farmoor Energy Limited
	Opus Energy (Corporate) Limited
	Opus Energy Limited
	Opus Energy Renewables Limited
OVO Electricity Limited	OVO Electricity Limited
	ONI Electricity Ltd
RWE Npower Plc	Electricity Plus Supply Limited
	Npower Direct Limited
	Npower Limited
	Npower Northern Limited
	Npower Northern Supply Limited
	Npower Yorkshire Limited
	Npower Yorkshire Supply Limited

Table A5: Supplier groups and their licences

Company (Supplier Group)	Licence
SSE Energy Supply Limited	South Wales Electricity Limited
	SSE Energy Supply Limited
	SSE Airtricity Energy Supply Limited
Utilisoft Limited	Bronze Energy Supply Limited
	Copper Energy Supply Limited
	Europa Energy Supply Limited
	Gold Energy Supply Limited
	Mercury Energy Supply Limited
	Nickel Energy Supply Limited
	Osmium Energy Supply Limited
	Palladium Energy Supply Limited
	Rhodium Energy Supply Limited
	Silver Energy Supply Limited
	Sirocco Energy Supply Limited

Table A6: Summary of compliance by supplier group in 2014-15 (all schemes)

Supplier Group	Total Obligation (ROCs)	Total ROCs presented	Total Payments Made by Supplier	Total Redistributed to Supplier	% of Funds
Addito Supply Limited	44	44	0	10	0%
Axis Telecom Limited	4,294	4,294	0	1,213	0%
AXPO UK Limited	141,842	141,842	0	40,125	0%
BES Commercial Electricity Limited	96,202	96,202	0	27,213	0%
BP Power Trading Limited	1,819	0	78,763	0	0%
EDF Energy plc	12,366,503	12,366,503	0	3,498,388	17%
British Gas Trading Limited	9,583,897	9,583,897	0	2,711,210	13%
The Co-operative Energy Limited	197,096	89,571	4,655,833	25,338	0%
Corona Energy Retail 5 Ltd	7,739	7,739	0	2,187	0%
PX Holding Ltd	20,142	20,141	43	5,696	0%
Dong Energy Power Sales UK Limited	173,027	173,027	0	48,946	0%
Dual Energy Direct Limited	71,934	71,934	0	20,347	0%
E (Gas and Electricity) Limited	6,937	0	300,372	0	0%
E.ON Energy Limited	10,871,284	10,871,284	0	3,075,401	15%
Economy Energy Trading Limited	39,464	38,900	24,421	11,002	0%
Effortless Energy Ltd	2	0	87	0	0%

Table A6: Summary of compliance by supplier group in 2014-15 (all schemes)

Supplier Group	Total Obligation (ROCs)	Total ROCs presented	Total Payments Made by Supplier	Total Redistributed to Supplier	% of Funds
RWE Npower Plc	11,171,585	11,117,523	2,340,885	3,145,053	16%
Eneco energy Trade BV	25,315	25,315	0	7,159	0%
Energy Data Company	9	0	390	0	0%
EPG Energy Limited	11,412	0	350,000	0	0%
Extra Energy Supply Limited	118,090	118,090	0	33,405	0%
F & S Energy Limited	2,984	2,984	0	842	0%
Opus Energy Limited	925,564	925,564	0	261,829	1%
First Utility Limited	621,192	605,924	661,104	171,409	1%
Flow Energy Limited	35,971	0	1,566,698	0	0%
Gazprom Marketing & Trading Retail Limited	376,350	376,350	0	106,465	1%
GB Energy Supply Limited	63	0	2,732	0	0%
GDF Suez Marketing Limited	2,308,266	2,308,266	0	652,989	3%
Gnergy Limited	292	0	12,644	0	0%
Good Energy Limited	58,721	58,721	0	16,610	0%
Green Energy (UK) plc	22,698	22,698	0	6,419	0%
Haven Power Limited	3,005,813	3,005,813	0	850,320	4%
Hudson Energy Supply UK Limited	246,419	246,419	0	69,708	0%
Gilmond Consulting	62,311	48,996	576,540	13,860	0%
Yu Energy	811	0	35,116	0	0%
LoCO2 Energy Limited	13,376	13,376	0	3,781	0%
MA Energy Limited	19,229	8,088	485,513	2,286	0%
MVV Environment Services Limited	490	0	21,217	0	0%
OVO Electricity Limited	437,121	437,121	0	123,656	1%
Power 4 All Limited	306,322	306,322	0	86,653	0%
Scottish Power Energy Retail	4,930,673	4,930,673	0	1,394,848	7%
SmartestEnergy Limited	1,395,940	1,395,940	0	394,900	2%
Spark Energy Supply Limited	97,134	25,000	3,142,600	7,071	0%
SSE Energy Supply Limited	10,000,628	9,932,923	2,931,627	2,809,944	14%
Statkraft Markets GmbH	144	0	6,235	0	0%
Symbio Energy Limited	187	0	8,097	0	0%
Ecotricity Group Limited	106,713	106,713	0	30,186	0%
Total Gas & Power Limited	1,244,070	1,244,070	0	351,936	2%
Tradelink Solutions Limited	109	109	0	28	0%
Utilita Energy Limited	127,220	0	5,508,626	0	0%
Sembcorp Utilities (UK) Limited	35,218	0	1,524,939	0	0%
Budget Energy Limited	23,900	23,900	0	6,759	0%

Table A6: Summary of compliance by supplier group in 2014-15 (all schemes)

Supplier Group	Total Obligation (ROCs)	Total ROCs presented	Total Payments Made by Supplier	Total Redistributed to Supplier	% of Funds
ESB Independent Energy NI Limited	108,726	108,726	0	30,756	0%
Firmus Energy Supply Limited	6,623	0	286,776	0	0%
Lissan Coal Company	74,921	0	3,244,079	0	0%
Power NI	315,424	315,424	0	89,229	0%
Vayu Limited	1,641	0	71,055	0	0%
Viridian Energy Supply Limited (t/a Energia)	100,099	100,099	0	28,316	0%
Totals	**71,922,000**	**71,276,525**	**27,836,391**	**20,163,493**	**100%**

Table A7: Compliance by licence with the RO (England and Wales)

Licence	RO Obligation (ROCs)	Total ROCs presented	Bioliquid ROCs presented	Banked ROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier	Buy-out Payment Redistributed to Supplier	Late Buy-out Payment Redistributed to Supplier
Addito Supply Limited	39	39	0	0	£0.00	£0.00	£9.00	£2.00
Axis Telecom Limited	4,203	4,203	0	0	£0.00	£0.00	£904.00	£253.00
AXPO UK Limited	140,061	140,061	873	7,699	£0.00	£0.00	£29,891.00	£8,367.00
BES Commercial Electricity Limited	87,170	87,170	0	2,845	£0.00	£0.00	£20,273.00	£5,675.00
BP Energy Europe Limited	1,819	0	0	0	£78,762.70	£0.00	£0.00	£0.00
British Energy Direct Limited	421,735	421,735	0	0	£0.00	£0.00	£94,913.00	£26,569.00
British Gas Trading Limited	8,826,661	8,826,661	10	15,014	£0.00	£0.00	£2,019,660.00	£565,372.00
Co-Operative Energy Limited	188,263	80,738	0	7,531	£4,655,832.50	£0.00	£18,875.00	£5,283.00
Corona Energy Retail 5 Limited	6,469	6,469	0	0	£0.00	£0.00	£1,630.00	£456.00
Coulomb Energy Supply Limited	20,142	20,141	0	1,280	£43.30	£0.00	£4,244.00	£1,188.00
Dong Energy Power Sales UK Limited	164,556	164,556	0	41,139	£0.00	£0.00	£36,462.00	£10,207.00
Dual Energy Direct Limited	64,576	64,576	0	0	£0.00	£0.00	£15,158.00	£4,243.00
E (Gas and Electricity) Limited	6,899	0	0	0	£298,726.70	£0.00	£0.00	£0.00
E.ON Energy Limited	5,499,815	5,499,815	80	131,067	£0.00	£0.00	£1,226,638.00	£343,378.00
E.ON UK Plc	4,826,741	4,826,741	697	190,139	£0.00	£0.00	£1,064,319.00	£297,939.00
Economy Energy Trading Limited	39,107	38,900	0	0	£8,963.10	£0.00	£8,197.00	£2,294.00
EDF Energy Customers Plc	10,743,086	10,743,086	0	18,736	£0.00	£0.00	£2,511,139.00	£702,953.00
Effortless Energy Ltd	2	0	0	0	£86.60	£0.00	£0.00	£0.00
Electricity Plus Supply Limited	483,506	481,026	0	0	£107,384.00	£0.00	£106,166.00	£29,719.00
Eneco energy Trade BV	23,963	23,963	0	2,995	£0.00	£0.00	£5,334.00	£1,493.00
Energy Data Company Limited	9	0	0	0	£0.00	£389.70	£0.00	£0.00
EPG Energy Limited	11,412	0	0	0	£0.00	£350,000.00*	£0.00	£0.00
Extra Energy Supply Limited	107,493	107,493	0	0	£0.00	£0.00	£24,885.00	£6,966.00

*Note, the late payment made by EPG Energy Limited was made outside the late payment period.

Table A7: Compliance by licence with the RO (England and Wales)

Licence	RO Obligation (ROCs)	Total ROCs presented	Bioliquid ROCs presented	Banked ROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier	Buy-out Payment Redistributed to Supplier	Late Buy-out Payment Redistributed to Supplier
F & S Energy Limited	2,921	2,921	0	152	£0.00	£0.00	£628.00	£176.00
Farmoor Energy Limited	45,789	45,789	0	0	£0.00	£0.00	£9,808.00	£2,745.00
First Utility Limited	584,208	584,208	0	0	£0.00	£0.00	£127,689.00	£35,744.00
Flow Energy Limited	34,443	0	0	0	£0.00	£1,500,146.37	£0.00	£0.00
Gazprom Marketing & Trading Retail Limited	336,904	336,904	0	0	£0.00	£0.00	£79,310.00	£22,201.00
GB Energy Supply Limited	54	0	0	0	£0.00	£2,342.05	£0.00	£0.00
GDF Suez Marketing Limited	2,183,062	2,183,062	0	35,839	£0.00	£0.00	£486,431.00	£136,168.00
Gnergy Limited	292	0	0	0	£12,643.60	£0.00	£0.00	£0.00
Good Energy Limited	55,935	55,935	0	10,678	£0.00	£0.00	£12,374.00	£3,464.00
Green Energy (UK) plc	21,883	21,883	0	1,773	£0.00	£0.00	£4,783.00	£1,338.00
Haven Power Limited	2,779,278	2,779,278	0	0	£0.00	£0.00	£633,429.00	£177,318.00
Hudson Energy Supply UK Limited	223,932	223,932	0	16,340	£0.00	£0.00	£51,929.00	£14,536.00
I Supply Energy Limited	60,082	48,493	0	0	£501,803.70	£0.00	£10,325.00	£2,890.00
Kensington Power Limited	722	0	0	0	£31,262.60	£0.00	£0.00	£0.00
LoCO2 Energy Limited	12,612	12,612	0	134	£0.00	£0.00	£2,818.00	£789.00
MA Energy Limited	18,083	6,942	0	0	£0.00	£485,513.39	£1,704.00	£477.00
MVV Environment Services Limited	490	0	0	0	£21,217.00	£0.00	£0.00	£0.00
Npower Direct Limited	573,769	570,826	0	0	£127,431.90	£0.00	£127,794.00	£35,774.00
Npower Limited	7,527,706	7,489,088	14,510	257,712	£1,672,159.40	£0.00	£1,677,041.00	£469,461.00
Npower Northern Supply Limited	1,694,840	1,686,146	0	0	£376,450.20	£0.00	£377,599.00	£105,703.00
Npower Yorkshire Supply Limited	258,696	257,369	0	0	£57,459.10	£0.00	£54,246.00	£15,185.00
Opus Energy (Corporate) Limited	430,664	430,664	5,520	97,337	£0.00	£0.00	£98,197.00	£27,488.00
Opus Energy Limited	377,134	377,134	465	51,227	£0.00	£0.00	£87,042.00	£24,366.00

Table A7: Compliance by licence with the RO (England and Wales)

Licence	RO Obligation (ROCs)	Total ROCs presented	Bioliquid ROCs presented	Banked ROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier	Buy-out Payment Redistributed to Supplier	Late Buy-out Payment Redistributed to Supplier
OVO Electricity Limited	415,064	415,064	0	0	£0.00	£0.00	£92,116.00	£25,786.00
Power4All Limited	268,908	268,908	0	3,948	£0.00	£0.00	£64,552.00	£18,070.00
Scottish Power Energy Retail Limited	3,774,718	3,774,718	0	506,325	£0.00	£0.00	£1,039,064.00	£290,869.00
SmartestEnergy Limited	1,289,045	1,289,045	2,272	54,898	£0.00	£0.00	£294,173.00	£82,349.00
Spark Energy Supply Limited	90,753	25,000	0	0	£1,000,000.00	£1,863,804.70	£5,268.00	£1,474.00
SSE Energy Supply Limited	8,369,571	8,326,393	3,702	521,641	£1,869,607.40	£0.00	£2,049,188.00	£573,638.00
Statkraft Markets GmbH	16	0	0	0	£692.80	£0.00	£0.00	£0.00
Symbio Energy Limited	187	0	0	0	£8,097.10	£0.00	£0.00	£0.00
The Renewable Energy Company Limited	101,943	101,943	0	86	£0.00	£0.00	£22,488.00	£6,295.00
Total Gas & Power Limited	1,140,190	1,140,190	210	178,916	£0.00	£0.00	£262,168.00	£73,390.00
Tradelink Solutions Limited	109	109	0	0	£0.00	£0.00	£22.00	£6.00
Utilita Energy Limited	125,141	0	0	0	£5,418,605.30	£0.00	£0.00	£0.00
Wilton Energy Limited	35,218	0	0	0	£1,524,939.40	£0.00	£0.00	£0.00
Totals	**64,502,089**	**63,991,929**	**28,339**	**2,155,451**	**£17,772,168.40**	**£4,202,196.21**	**£14,860,883.00**	**£4,160,057.00**

Table A8: Compliance by licence with the ROS (Scotland)

Licence	ROS Obligation (ROCs)	Total ROCs presented	Bioliquid ROCs presented	Banked ROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier	Buy-out Payment Redistributed to Supplier	Late Buy-out Payment Redistributed to Supplier
Addito Supply Limited	5	5	0	0	£0.00	£0.00	£0.00	£0.00
Axis Telecom Limited	91	91	0	0	£0.00	£0.00	£97.00	£20.00
AXPO UK Limited	1,781	1,781	0	445	£0.00	£0.00	£3,222.00	£688.00
BES Commercial Electricity Limited	9,032	9,032	361	0	£0.00	£0.00	£2,185.00	£466.00
British Energy Direct Limited	28,656	28,656	0	0	£0.00	£0.00	£10,233.00	£2,185.00
British Gas Trading Limited	757,236	757,236	125	0	£0.00	£0.00	£217,752.00	£46,515.00
Co-Operative Energy Limited	8,833	8,833	0	2,208	£0.00	£0.00	£2,035.00	£434.00
Corona Energy Retail 5 Limited	1,270	1,270	0	0	£0.00	£0.00	£175.00	£37.00
Dong Energy Power Sales UK Limited	8,471	8,471	0	2,117	£0.00	£0.00	£3,931.00	£839.00
Dual Energy Direct Limited	7,358	7,358	0	0	£0.00	£0.00	£1,634.00	£349.00
E (Gas and Electricity) Limited	38	0	0	0	£1,645.40	£0.00	£0.00	£0.00
E.ON Energy Limited	320,953	320,953	0	66,405	£0.00	£0.00	£132,251.00	£28,251.00
E.ON UK Plc	223,775	223,775	0	0	£0.00	£0.00	£114,750.00	£24,512.00
Economy Energy Trading Limited	357	0	0	0	£15,458.10	£0.00	£883.00	£188.00
EDF Energy Customers Plc	1,173,026	1,173,026	0	0	£0.00	£0.00	£270,741.00	£57,835.00
Electricity Plus Supply Limited	22,766	22,766	0	0	£0.00	£0.00	£11,446.00	£2,445.00
Eneco energy Trade BV	1,352	1,352	0	0	£0.00	£0.00	£575.00	£122.00
Extra Energy Supply Limited	10,597	10,597	0	0	£0.00	£0.00	£2,683.00	£573.00
F & S Energy Limited	63	63	0	0	£0.00	£0.00	£67.00	£14.00
Farmoor Energy Limited	755	755	0	0	£0.00	£0.00	£1,057.00	£225.00
First Utility Limited	36,984	21,716	0	0	£661,104.40	£0.00	£13,766.00	£2,940.00
Flow Energy Limited	1,528	0	0	0	£0.00	£66,551.23	£0.00	£0.00
Gazprom Marketing & Trading Retail Limited	39,446	39,446	0	0	£0.00	£0.00	£8,550.00	£1,826.00

Table A8: Compliance by licence with the ROS (Scotland)

Licence	ROS Obligation (ROCs)	Total ROCs presented	Bioliquid ROCs presented	Banked ROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier	Buy-out Payment Redistributed to Supplier	Late Buy-out Payment Redistributed to Supplier
GB Energy Supply Limited	9	0	0	0	£0.00	£390.36	£0.00	£0.00
GDF Suez Marketing Limited	125,204	125,204	0	11,625	£0.00	£0.00	£52,445.00	£11,203.00
Good Energy Limited	2,786	2,786	0	0	£0.00	£0.00	£1,334.00	£285.00
Green Energy (UK) plc	815	815	0	0	£0.00	£0.00	£515.00	£110.00
Haven Power Limited	226,535	226,535	0	0	£0.00	£0.00	£68,293.00	£14,588.00
Hudson Energy Supply UK Limited	22,487	22,487	0	1,264	£0.00	£0.00	£5,598.00	£1,195.00
I Supply Energy Limited	2,229	503	0	0	£74,735.80	£0.00	£1,113.00	£237.00
Kensington Power Limited	89	0	0	0	£3,853.70	£0.00	£0.00	£0.00
LoCO2 Energy Limited	764	764	0	0	£0.00	£0.00	£303.00	£64.00
MA Energy Limited	1,146	1,146	0	0	£0.00	£0.00	£183.00	£39.00
Npower Direct Limited	35,599	35,599	0	0	£0.00	£0.00	£13,778.00	£2,943.00
Npower Limited	468,979	468,979	0	0	£0.00	£0.00	£180,812.00	£38,624.00
Npower Northern Supply Limited	105,677	105,677	0	0	£0.00	£0.00	£40,711.00	£8,696.00
Npower Yorkshire Supply Limited	47	47	0	0	£0.00	£0.00	£5,848.00	£1,249.00
Opus Energy (Corporate) Limited	35,312	35,312	0	0	£0.00	£0.00	£10,587.00	£2,261.00
Opus Energy Limited	35,910	35,910	0	0	£0.00	£0.00	£9,384.00	£2,004.00
OVO Electricity Limited	22,057	22,057	0	0	£0.00	£0.00	£9,931.00	£2,121.00
Power4All Limited	37,414	37,414	0	0	£0.00	£0.00	£6,959.00	£1,486.00
Scottish Power Energy Retail Limited	1,155,955	1,155,955	0	288,988	£0.00	£0.00	£112,027.00	£23,931.00
SmartestEnergy Limited	106,895	106,895	0	20,268	£0.00	£0.00	£31,716.00	£6,775.00
Spark Energy Supply Limited	6,381	0	0	0	£0.00	£278,795.10	£568.00	£121.00
SSE Energy Supply Limited	1,422,151	1,397,624	476	0	£1,062,019.10	£0.00	£220,935.00	£47,195.00
Statkraft Markets GmbH	128	0	0	0	£5,542.40	£0.00	£0.00	£0.00

Table A8: Compliance by licence with the ROS (Scotland)

Licence	ROS Obligation (ROCs)	Total ROCs presented	Bioliquid ROCs presented	Banked ROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier	Buy-out Payment Redistributed to Supplier	Late Buy-out Payment Redistributed to Supplier
The Renewable Energy Company Limited	4,770	4,770	0	0	£0.00	£0.00	£2,424.00	£517.00
Total Gas & Power Limited	103,880	103,880	0	0	£0.00	£0.00	£28,266.00	£6,038.00
Utilita Energy Limited	2,079	0	0	0	£90,020.70	£0.00	£0.00	£0.00
Totals	**6,579,671**	**6,527,541**	**962**	**393,320**	**£1,914,379.60**	**£345,736.69**	**£1,601,763.00**	**£342,146.00**

Table A9: Compliance by licence with the NIRO (Northern Ireland)

Licence	NIRO Obligation (ROCs)	Total ROCs presented	Bioliquid ROCs presented	Banked ROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier	Buy-out Payment Redistributed to Supplier	Late Buy-out Payment Redistributed to Supplier
Budget Energy Limited	23,900	23,900	0	0	£0.00	£0.00	£145.00	£1,035.00
ESB Independent Energy NI Limited	108,726	108,726	0	27,054	£0.00	£0.00	£663.00	£4,711.00
Firmus Energy Supply Limited	6,623	0	0	0	£286,775.90	£0.00	£0.00	£0.00
LCC Power Limited	74,921	0	0	0	£157,179.00	£3,086,900.30	£0.00	£0.00
Power NI	315,424	315,424	0	19,821	£0.00	£0.00	£1,926.00	£13,667.00
SSE Airtricity Energy Supply Limited	208,906	208,906	0	0	£0.00	£0.00	£1,275.00	£9,051.00
Vayu Limited	1,641	0	0	0	£71,055.30	£0.00	£0.00	£0.00
Viridian Energy Supply Limited	100,099	100,099	0	8	£0.00	£0.00	£611.00	£4,337.00
Totals	**840,240**	**757,055**	**0**	**46,883**	**£515,010.20**	**£3,086,900.30**	**£4,620.00**	**£32,801.00**

Table A10: Suppliers with an obligation who did not meet the 1 June 2015 deadline to submit estimated supply volumes

Supplier Group
F & S Energy Limited
Gnergy Limited

Table A11: Suppliers with an obligation who did not meet the 1 July 2015 deadline to submit final supply volumes

Supplier Group
Addito Supply Limited
Gnergy Limited
Yu Energy

Appendix 5: Glossary of terms

A

ACT	Advanced Conversion Technology
AD	Anaerobic digestion
Authority	Gas and Electricity Markets Authority

C

CHPQA	Combined Heat and Power Quality Assurance
CFD	Contracts for Difference
CO2e	Carbon Dioxide equivalent

D

DECC	Department for Energy and Climate Change
Defra	Department of Environment and Rural Affairs
DETINI	Department of Enterprise Trade and Investment Northern Ireland
DNC	Declared Net Capacity

F

FIT	Feed-in-Tariff
FMS	Fuel Measurement and Sampling

G

GB	Great Britain
GHG	Greenhouse Gas
GW	Gigawatt

I

ISAE	International Standard on Assurance Engagements

M

MID	Measurement Instruments Directive
MW	Megawatt
MWh	Megawatt hour

N

NFFO	Non-Fossil Fuel Obligation
NFPA	Non-Fossil Fuel Purchasing Agency
NI	Northern Ireland
NI NFFO	Northern Ireland Non-Fossil Fuel Obligation
NIE	Northern Ireland Electricity Networks
NIRO	Northern Ireland Renewables Obligation
NIROC	Northern Ireland Renewables Obligation Certificate
NMO	National Measurements Office

O

Ofgem	Office of Gas and Electricity Markets

P

PES	Public Electricity Suppliers
PV	Photovoltaic

R

Register	Renewables and CHP Register
RO	Renewables Obligation
ROC	Renewables Obligation Certificate
ROI	Republic of Ireland
ROO	Renewables Obligation Order
ROS	Renewables Obligation Scotland
RPI	Retail Price Index

S

SRO	Scottish Renewables Obligation
SROC	Scottish Renewables Obligation Certificates

T

TIC	Total Installed Capacity

TWh	Terawatt hour

U

UK	United Kingdom
UR	Utility Regulator Northern Ireland