

Renewables Obligation Annual Report

March 2019

2017-18

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Executive Summary

The Renewables Obligation (RO) is a scheme which supports the deployment of large-scale renewable electricity generating stations in the United Kingdom (UK), including smaller scale renewable generation in Northern Ireland (NI), by setting an obligation on licensed electricity suppliers to source a portion of their supply from renewable sources. This report covers scheme activity during the 2017-18 obligation period (1 April 2017 – 31 March 2018).

Supplier compliance

Overall, suppliers presented 103.22 million ROCs towards the total UK obligation of 117.8 million ROCs. Those suppliers not meeting their obligation by presenting ROCs, are required to make up the shortfall by making payments into the buy-out fund. These payments resulted in the largest buy-out fund in the scheme's history. In total, the sum redistributed to eligible suppliers from the combined buy-out fund and late payment fund was £604.1m. In comparison the previous largest buy-out fund (in 2016-17) was £460m. The proportion of the obligation met by suppliers presenting ROCs (87.6%) was slightly lower than the corresponding figure in 2016-17 (89.5%). The large buy-out fund resulted in the highest notional ROC value since 2009-10. Each ROC was notionally worth £51.43, leading to a total scheme value of £5.3 billion in 2017-18.¹

Mutualisation

In 2017-18, 14 suppliers did not meet their obligation: of these, seven suppliers because they had ceased trading, four suppliers failed to make a late payment by the 31 October legislative deadline and a further three suppliers failed to make a late payment by the 31 October deadline but have now paid in full. As 14 suppliers failed to meet their obligation this resulted in a shortfall of £58.6m in the buy-out fund. This shortfall triggered mutualisation on both the RO and ROS schemes for the first time in the schemes' history.² In line with the RO Orders, suppliers who met all or part of their obligation have been contacted to make quarterly payments to make up the shortfall. The payments required are in proportion to their obligation.

Scheme closure

After early closure for some technology types, the Renewables Obligation (RO) closed to all new generating capacity on 31 March 2017. This closure does not affect capacity with an accreditation date on or before the relevant closure date; these generators are still able to receive ROCs. Generators can gain entry to the scheme after closure for a specified time if they meet certain grace period criteria.³

Accreditations

From the start of the scheme in 2002 until the end of 2017-18, we accredited 26,422 generating stations with a total capacity of 32.7GW. As only stations meeting grace period criteria have been eligible for accreditation during 2017-18, the number of generating stations gaining accreditation has fallen substantially from previous years. In 2017-18 we accredited 142 generating stations, down from the 5,095 generating stations accredited in 2016-17. The

¹ Calculations are detailed in Chapter 5.

² Threshold to trigger mutualisation is £15.4m for England and Wales, and £1.54m for Scotland.

³ <https://www.ofgem.gov.uk/environmental-programmes/ro/about-ro/ro-closure>

majority (104) of the stations accredited were onshore wind stations in NI. The predominance of NI onshore wind is a reflection of the technology and capacity bands still open (via grace periods) during the year. The aggregate capacity of stations accredited during 2017-18 was 1,983MW, a 43% decrease on the 3,493MW reported for 2016-17.

The 2017-18 year saw an increase in the number of complex applications being submitted to us. In order to submit applications before scheme closure or the date by which the relevant grace period closed, generators are sometimes using unusual or innovative arrangements on site. These applications are more difficult and time consuming to assess.

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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), including smaller scale renewable generation in Northern Ireland (NI). To achieve this, it puts an obligation on licensed electricity suppliers to source some of their supply from renewable sources.

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, one for each obligation. These are known as the RO Orders ('the Orders').

The Gas and Electricity Markets Authority (the Authority) is the statutory body responsible for administering the RO and ROS in Great Britain (GB). We also administer the NIRO on behalf of the Northern Ireland Utility Regulator (UR), however UR retains the statutory responsibility for administering the NIRO. The Authority's day-to-day functions are performed by Ofgem, the office of the Authority.

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 Department for Business, Energy and Industrial Strategy (BEIS) on behalf of the Secretary of State. 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 parties.

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 obligations by presenting ROCs to us, making a payment per ROC into a buy-out fund, or through a combination of these. We then withdraw our scheme administration costs from the buy-out fund and redistribute the remaining buy-out payments to suppliers, in proportion to the number of ROCs they presented.

After early closure for some technology types, the Renewables Obligation (RO) closed to all new generating capacity on 31 March 2017. This closure does not affect capacity with an accreditation date on or before the relevant closure date, ie they are still eligible to receive ROCs. Generators can gain entry to the scheme after closure for a specified time if they meet specified grace period criteria.⁴

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 in this report is included as part of our statutory functions. Additionally, we have also included additional information that we think is relevant and beneficial to scheme stakeholders and the general public.

⁴ <https://www.ofgem.gov.uk/environmental-programmes/ro/about-ro/ro-closure>

1. Introduction

Scheme administration

1.1 We administer the RO (England and Wales) and ROS (Scotland) in GB. We also administer the NIRO (Northern Ireland) on behalf of the Northern Ireland Utility Regulator (UR) through an Agency Services Agreement,⁵ however UR retains the statutory responsibility for administering the NIRO.

1.2 The legislation governing the administration of the three schemes,⁶ collectively referred to as 'the Orders' in this report, set out our functions. These include:

- accrediting generating stations so they can receive ROCs⁷,
- publishing a list of accredited generating stations (with full and preliminary accreditation),
- issuing, revoking and withholding ROCs,
- establishing and maintaining a register of ROCs,
- monitoring compliance of suppliers and generators with the requirements of legislation,
- adjusting the buy-out price and mutualisation ceiling in line with the Retail Price Index (RPI) each year (NI is excluded from mutualisation),
- receiving statutory buy-out and late payments from suppliers and redistributing these funds, and
- 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 statutory buy-out fund. We take our costs for the current scheme year from the previous year's buy-out fund. On 23 August 2018 we published proposed costs for 2018-19 of £4,416,747 on our website. Also included are details on how we have performed against the previous scheme year's proposed costs.⁸

Purpose of this document

1.4 This report fulfils our duty to publish an annual report on the scheme activity during the 2017-18 obligation period by 1 April 2019. The Orders⁹ state 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,

⁵ Section 121 of the Energy Act 2004 gives us the power to enter into "arrangements" like an agency services agreement.

⁶ Appendix 1 contains a full list of current RO legislation.

⁷ For further information, please see our Guidance for Generators:

<https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-generators>

⁸ <https://www.ofgem.gov.uk/publications-and-updates/ofgem-s-costs-administering-renewables-obligation-0>

⁹ 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.

- the number of ROCs we issued, broken down by generation technology,
- details of any mutualisation triggered (except for the NIRO), and
- the outcome of any investigations we conducted into suppliers' and generators' compliance with the Orders.

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, 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 7 November 2018. The data stored in the Register are 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 those used in this report.

2. Generators accredited under the RO

Chapter summary

By the end of 2017-18 we had accredited 26,422 stations since the start of the scheme, with a total capacity of 32.7GW. Following scheme closure, we accredited around 19MW of solar PV capacity in 2017-18, much less than the 716MW accredited in the 2016-17 period. Onshore wind capacity accredited fell in 2017-18 (494MW) compared to 2016-17 (2.4GW), but the contribution from offshore wind rose from zero capacity accredited in 2016-17 to 1.3GW in 2017-18.

Also as a result of scheme closure we accredited only one micro NIRO application in 2017-18 (stations in NI with a Declared Net Capacity (DNC) of 50kW or less) compared to 4,278 in the previous reporting year. This means that there are now 22,665 micro NIRO stations accredited under the RO - 85.8% of the total.

2.1 One of our functions under the Orders is to accredit eligible renewable generating stations. For more information on how a generating station becomes accredited under the RO please refer to our Guidance for generators.¹⁰

2.2 We make a number of general assumptions on the data used within this section of the report, detailed below. These are the same assumptions applied since the 2014-15 RO Annual Report.

- When we refer to stations accredited during the 2017-18 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 are 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 only stations.
- The capacities we quote are Declared Net Capacity (DNC),¹¹ rather than Total Installed Capacity (TIC),¹² 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).

Determining fuelled station capacities

2.3 To determine the capacity of a fuelled station, we have to calculate the renewable proportion of the electricity generated by the station. For example, a generating station's capacity might be 2GW, but if it only burns 2% of eligible renewable fuels its renewable

¹⁰ <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-generators>

¹¹ 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".

¹² 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)".

capacity is taken to be 40MW. 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 2017-18, so there is no biomass fraction to use. Where we have issued ROCs to them 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 2017-18, we multiply its average biomass fraction for the year by its capacity. The biomass fraction may be 100%, for example in the case of dedicated biomass stations.
- If we did not issue ROCs to a station in 2017-18, 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 2017-18, 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 2017-18 for all active stations (99.48%) 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 2017-18 (0.58%) for active co-firing stations of this size. This average does not take into account fractions for Drax power station (the largest generating station accredited under the RO), 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 Feed-in Tariffs (FIT) scheme in GB, all wind, solar PV, hydro and anaerobic digestion (AD) stations with a DNC of 50kW or less (micro generators) are ineligible for the RO. Since no FIT scheme exists in NI, micro generators 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.

2.5 The Renewables Obligation (RO) closed to all new generating capacity on 31 March 2017 and there have been early closures for some technologies. **Table 2.1** sets out the closure dates for all RO technologies. If eligible to apply for a grace period, generators can gain entry to the scheme after these closures for specified amounts of time. Details of grace period closure dates by country and technology can be found in **Table 2.2**.¹³

Table 2.1: Summary of RO technology closure dates

Country	Technology	Closure date
England, Scotland and Wales	All, except solar PV and onshore wind	31/03/2017
	Onshore wind	12/05/2016
	Solar PV ≤5MW	31/03/2016
	Solar PV >5MW	31/03/2015
Northern Ireland	All, except onshore wind	31/03/2017
	Onshore wind ≤5MW	30/06/2016
	Onshore wind >5MW	31/03/2016

¹³ <https://www.ofgem.gov.uk/environmental-programmes/ro/about-ro/ro-closure>

Table 2.2: Summary of grace period closure dates

Country	Technology	Final grace period closes*
Northern Ireland	All, except onshore wind	31/03/2018
	Onshore wind ≤5MW	31/03/2019
	Onshore wind >5MW	31/12/2018
England, Scotland and Wales	All, except onshore wind, biomass and solar PV	31/03/2018
	Solar PV ≤5MW	31/03/2017
	Solar PV >5MW	31/03/2016
	Onshore wind	31/01/2019
	Biomass	30/09/2018
Scotland	Offshore wind (floating and demonstration turbines)	30/09/2018

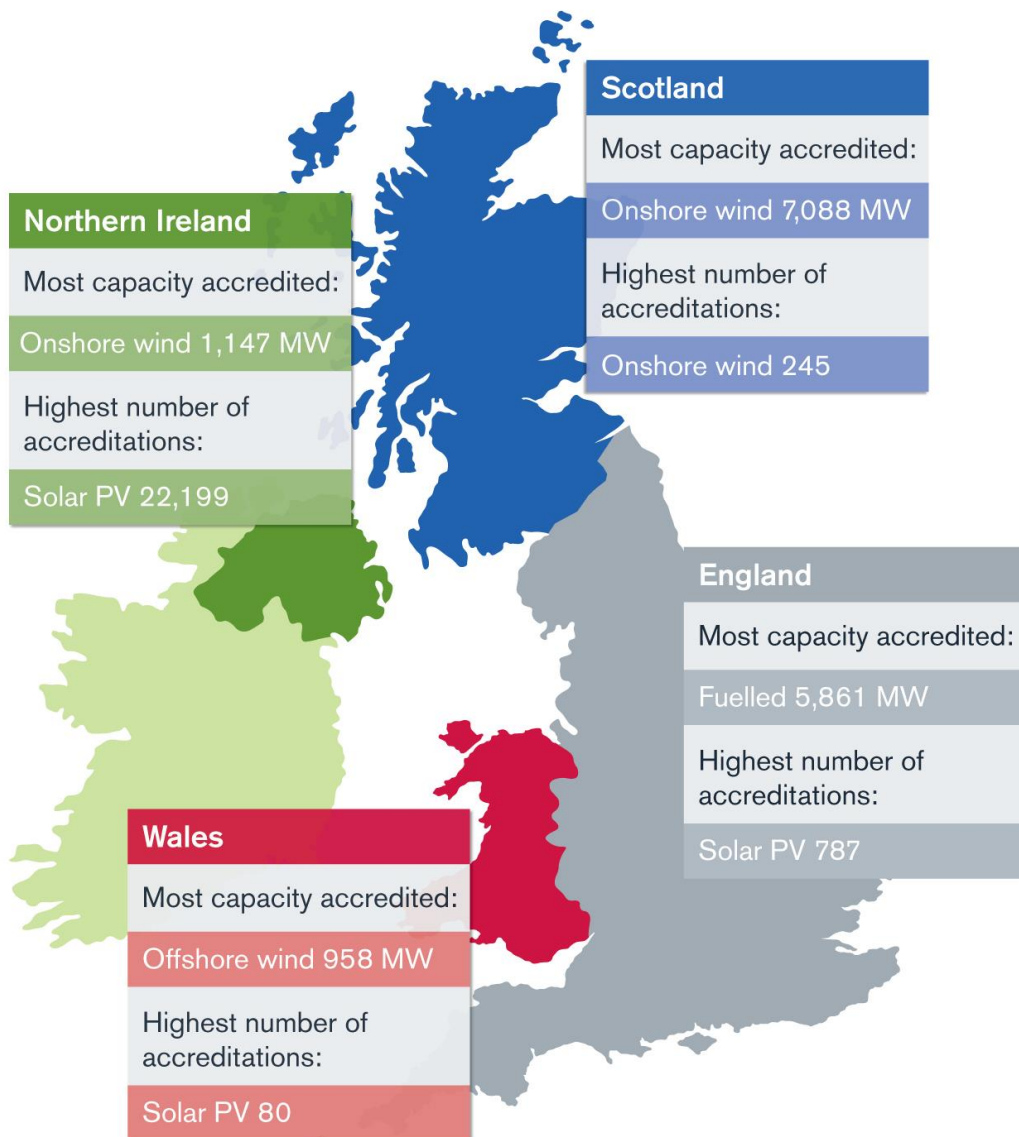
* For most technologies there are a number of grace periods, each with different eligibility criteria and closure dates. The date shown in the table above is the date of the final grace period for that country and technology type to close.

Stations accredited from the start of the scheme to the end of 2017-18

2.6 By the end of 2017-18 there were 26,422 stations accredited under the RO. The combined capacity of these stations was 32.7GW. Mirroring last year's trend, this represents a smaller increase on the reported figures from last year's report, of 25,156 stations accredited and 29.2GW capacity. Micro NIRO stations account for 22,665 of all these stations, with a combined capacity of 120.7MW.

2.7 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 2.1**.

Figure 2.1: The highest accreditation and capacity renewable technologies across the UK at the end of 2017-18



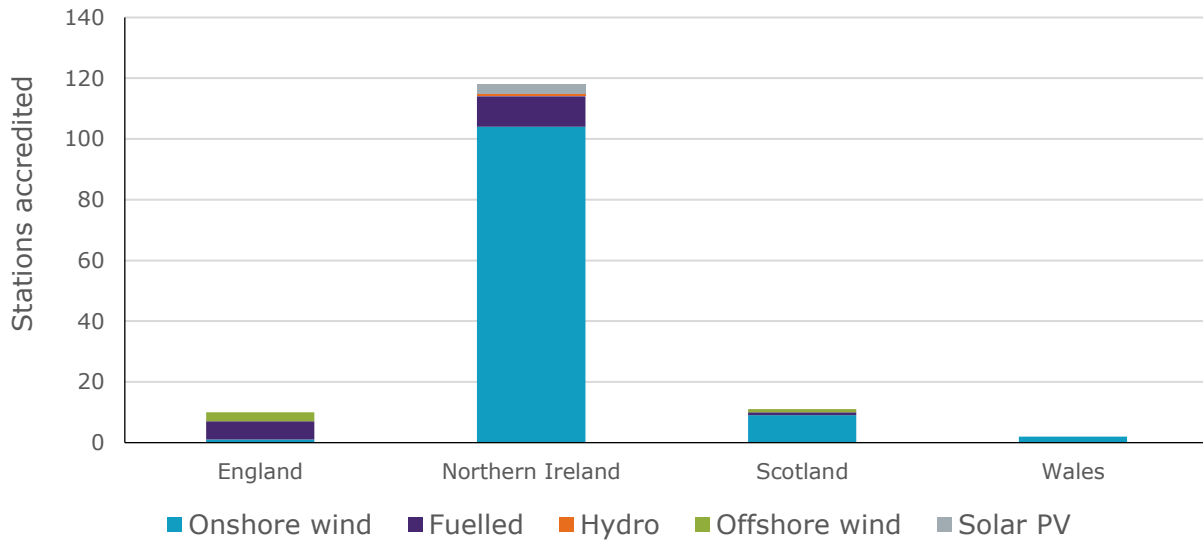
Generators accredited in 2017-18

Numbers of generating stations accredited

2.8 In 2017-18, 142 stations were accredited under the RO. This is a large reduction compared to the number of generating stations that were accredited in 2016-17, 2015-16 and 2014-15: 5,095, 7,146 and 6,685 respectively. This dramatic reduction is due to the closure of the scheme.

2.9 The majority (141) of the stations accredited were non-Micro NIRO and 116 (82%) were onshore wind stations.

Figure 2.2: Number of accreditations in 2017-18 by country and technology (excluding micro NIRO)

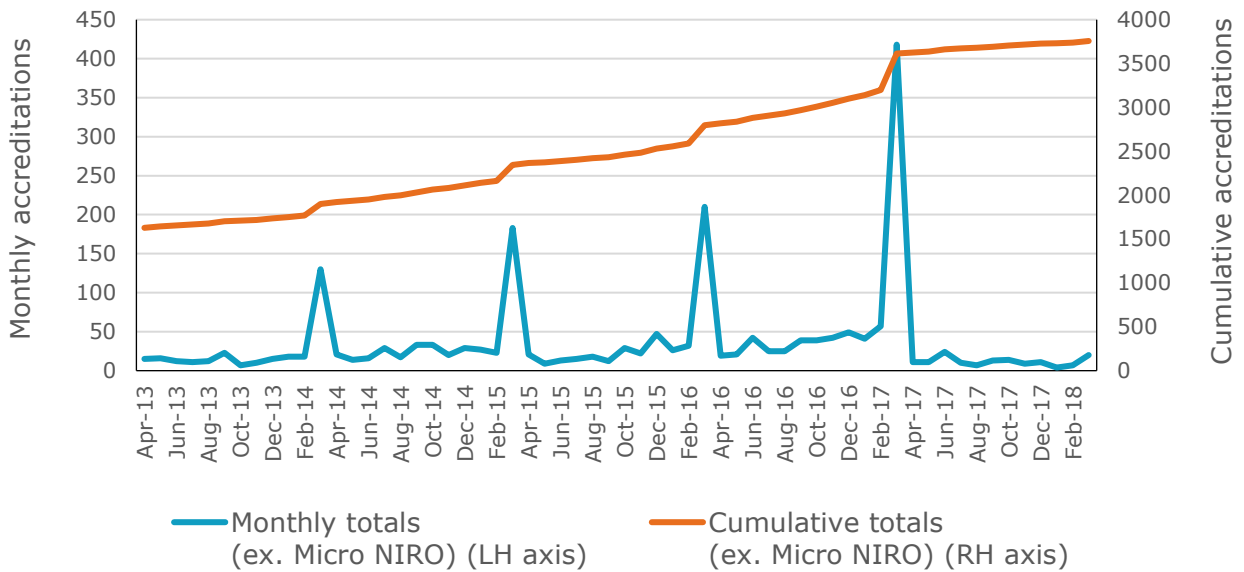


2.10 **Figure 2.2** shows that in England, Scotland and Wales there were no solar PV accreditations. In total, there were only three PV accreditations in 2017-18, all located in NI, accounting for 2% of accreditations. This differs from 2016-2017 where PV accounted for the largest proportion of accredited stations in England (41.3%) and Wales (41.8%). These figures can be attributed to the early closure of the RO in GB to solar PV and the ending of related GB grace periods before the start of the 2017-18 RO year.

2.11 Onshore wind accounts for the largest number of accredited generating stations in 2017-2018 at 116 (82%), with those located in Northern Ireland accounting for 104 (89.7%) of this figure. This is a marked increase in proportion from 2016-2017 when the number of accredited onshore wind stations was 40% of the UK total. Primarily this was due to the NIRO onshore wind grace periods, the final one of which will close on 31 March 2019. The remaining 26 stations accredited in 2017-2018 consist of 17 fuelled (12%), 4 offshore wind (3%), 3 solar PV (2%) and 2 hydro (1%).

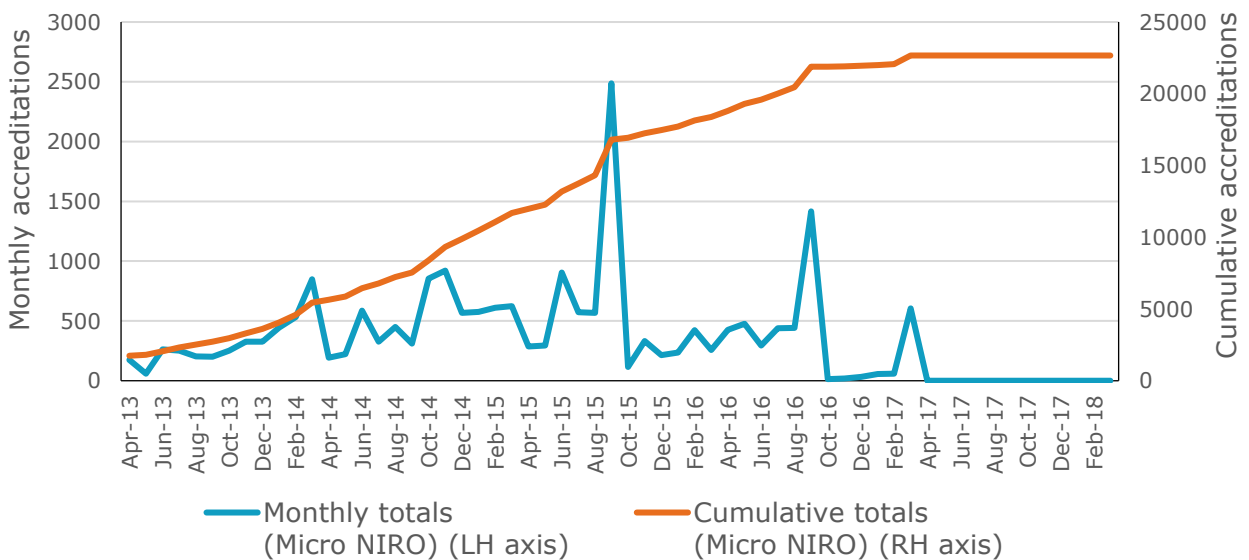
2.12 The historic accreditation profile of all generating stations in Great Britain and Northern Ireland (non-micro) can be seen in **Figure 2.3** below. Fewer stations were accredited in 2017-18 (141) compared to 2016-17 (817). The 2016-17 figure was higher as the scheme was still open to certain non-grace period applications and also due to a surge in applications ahead of the closure of the scheme on 1 April 2017 and the end of the small scale solar PV ($\leq 5\text{MW}$) grace period window.

Figure 2.3: Number of generating stations (excluding micro NIRO) with accreditations effective from RO years 2013-14 to 2017-18



2.13 As a large volume of 2016-17 applications were made in advance of the closure of several grace periods and the overall closure of the RO scheme on 31st March 2017; a significant number of applications were pending a decision after publication of the accreditation figures in last year’s annual report. ROCs associated with generation in the 2016-17 obligation year, and therefore many of the ROCs associated with these applications, were set to expire on 1st September 2018. As such, processing of these applications was completed in advance of this date, so the number of accreditations (excluding microNIRO) reported for 2016-17 has increased significantly from 513 to 817.

Figure 2.4: Number of micro NIRO generating stations with accreditations effective from RO years 2013-14 to 2017-18



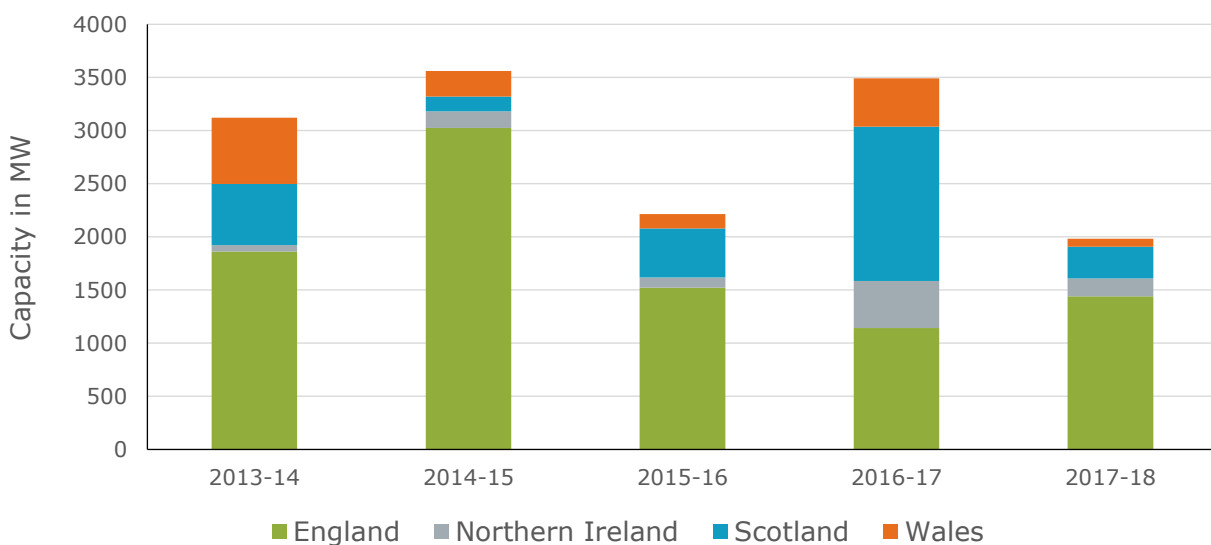
2.14 **Figure 2.4** shows the number of micro NIRO generating stations accredited each month from April 2013 to March 2018. A significant peak in applications occurred prior to 1 October 2015 and was in response to a drop in ROC banding for micro stations (from four ROCs/MWh to three ROCs/MWh). The peak visible for October 2016 occurred before a further ROC banding drop to two ROCs/MWh. A much smaller peak occurred before scheme closure in April 2017. Since scheme closure there has only been one accreditation which was for a hydro station, eligible for the grid delay grace period.

2.15 From April 2017, only stations meeting grace period criteria could be accredited. Only one station was accredited in 2017-2018. Meaning it had an effective date between 1 April 2017 and 31 March 2018.

Capacity of accredited generating stations

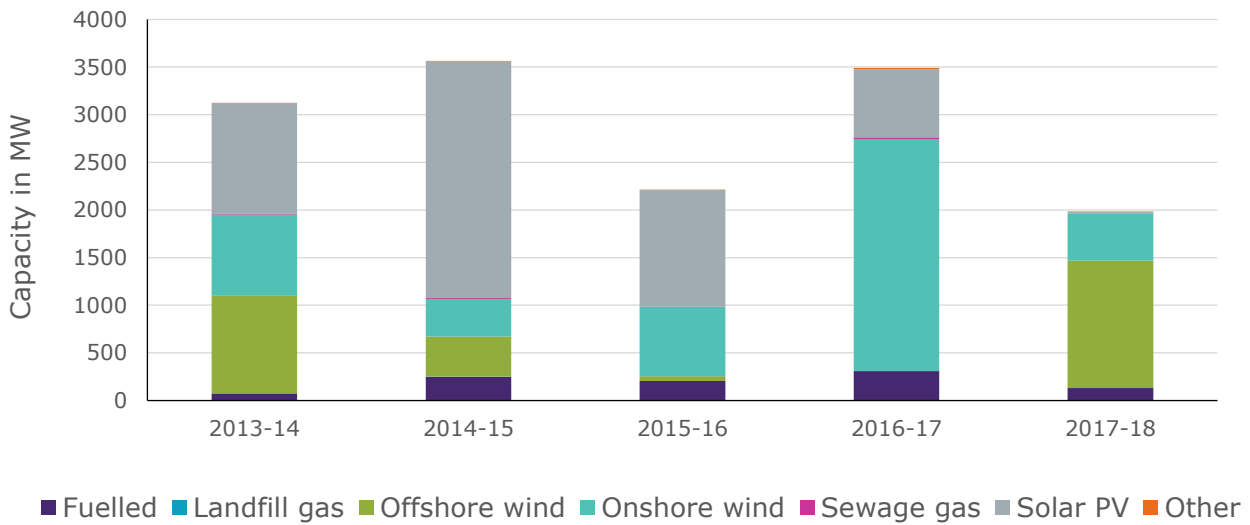
2.16 The aggregate capacity of all stations accredited in 2017-18 was 1,983MW, a 43.2% decrease on the 3,493MW accredited in 2016-17. As explored below, this was mainly due to the closure of the scheme and the closure of the solar PV grace period on 31 March 2017.

Figure 2.5: Capacity of generators accredited by obligation year and country since 2013-14



2.17 **Figure 2.5** shows that Northern Ireland, Scotland and Wales have seen a fall in newly accredited capacity during 2017-18. Only stations meeting grace period criteria could be accredited between 1 April 2017 and 31 March 2018. The capacity accredited in Scotland reduced significantly in 2017-2018 from 1,451MW to 298MW. In Northern Ireland it fell from 443MW to 168MW and in Wales it dropped from 455MW to 76MW. Bucking this trend, accredited capacity in England rose from 1,144MW in 2016-2017 to 1,441MW in 2017-2018. This is due to three large offshore wind stations gaining accreditation, accounting for 1,312MW of the total.

Figure 2.6: Total capacity accredited by generation technology and obligation period since 2013-14

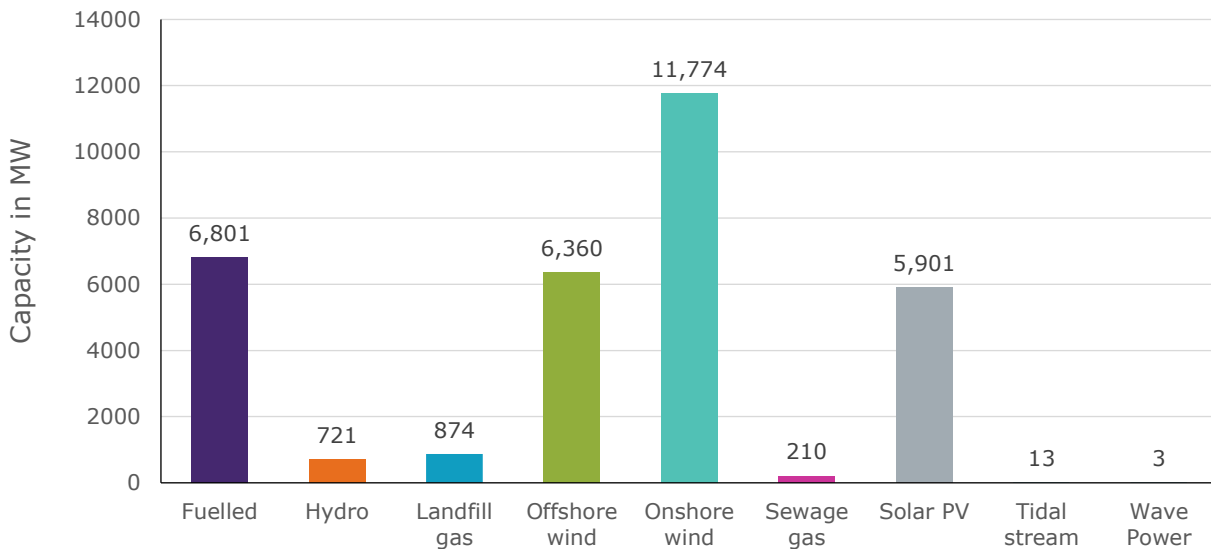


2.18 **Figure 2.6** shows that the capacity of accredited solar PV stations has fallen each year since its peak in 2014-15, at 2.5GW; in 2016-17 the figure was 716MW and in 2017-18 just 19MW was accredited. Onshore wind accredited capacity peaked in 2016-17 at 2.4GW, due to a rise in applications in advance of the closure of the scheme. Since the scheme closed to all new generating capacity on 31 March 2017, only applications qualifying for a grace period have been eligible for accreditation. The vast majority of these have been for NI onshore wind, but the greatest capacity accredited in 2017-18 was for offshore wind – four stations with a combined capacity of 1,341MW. No landfill or sewage gas stations were accredited in 2017-18.

2.19 The scheme closed to new small GB (≤ 5 MW) solar PV capacity at the end of the 2015-16 obligation year, with grace periods which closed on 31 March 2017. This saw a massive decrease in the accredited capacity of solar PV stations in 2017-18, as only stations in NI could apply.

2.20 The number of fuelled stations accredited in 2017-18 significantly reduced (17) compared to those accredited in 2016-17 (279). Alongside a reduction in the number of accreditations, we also saw a decrease in the overall capacity accredited, from 309MW in 2016-17 to 130MW in 2017-18. The majority of the fuelled stations (ten) had a capacity under 1MW whilst the remaining seven stations were over 1MW. The largest fuelled station accredited, Tilbury Green Power, has a capacity of 40.92MW.

Figure 2.7: Total capacity accredited under the RO by generation technology to RO year 2017-18



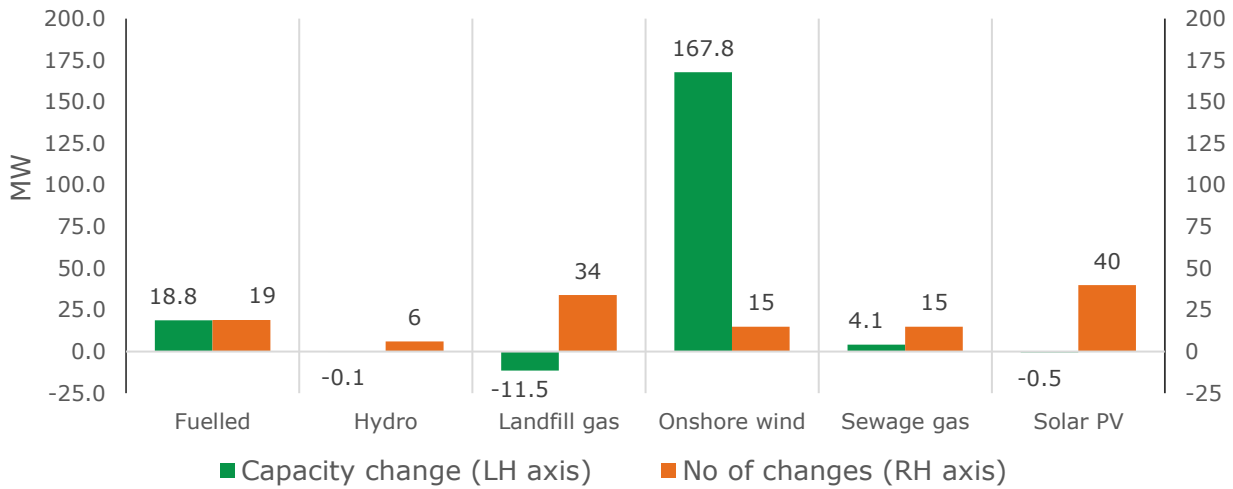
2.21 **Figure 2.7** provides a snapshot of the total capacity currently accredited under the scheme. Onshore wind has the most capacity (11,774MW), due to the number of stations accredited and also the large capacities of some of those stations. By the end of 2017-18 the capacity of fuelled stations (6,801MW) accredited was greater than the capacity of solar PV (5901MW) and the capacity of offshore wind stations (6,360MW).

Capacity amendments

2.22 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 the addition or removal of generating equipment.¹⁴

2.23 **Figure 2.8** shows the 129 changes to capacity made during 2017-18. The net change in capacity across all stations as a result of this was +178.6MW. Most of this increase came from an additional 167.8MW accredited for two onshore wind stations (Clyde Windfarm (Central) and Clyde Windfarm (North)). Most capacity reductions were for landfill gas stations, as the quality and quantity of gas available continues to reduce.

¹⁴ Changes are normally as a result of added or removed generating capacity but can also be a correction to the capacity details we hold for a station.

Figure 2.8: Capacity amendments by technology in 2017-18

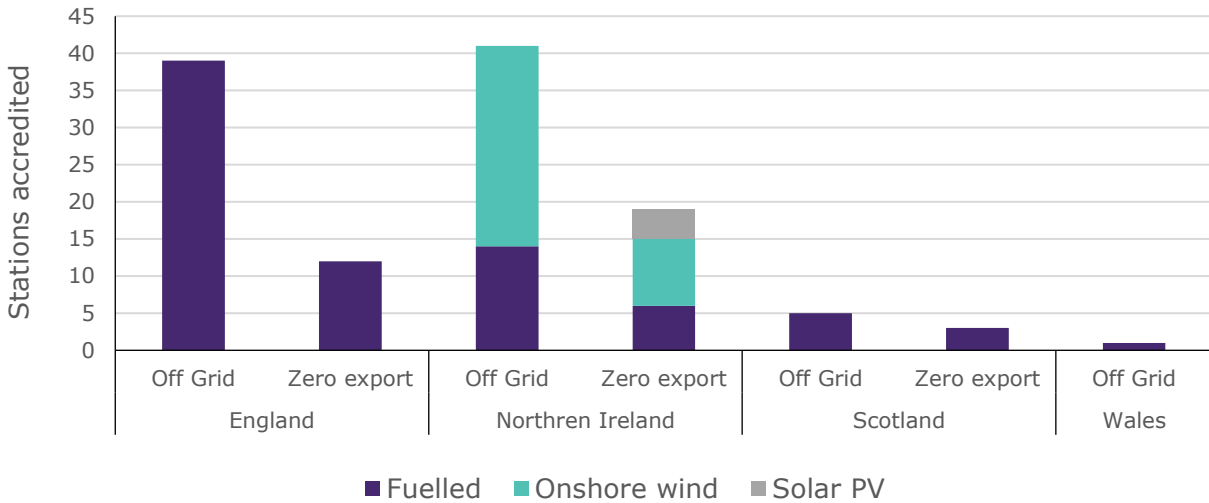
Off-Grid and Zero-Export generation stations

2.24 The formal closure of the RO scheme on 31 March 2017 saw a number of prospective scheme participants commission their generating stations either entirely off-grid (OG) or with a zero-export (ZE) connection¹⁵. We consider that one reason for stations to be commissioned in this way was due to operators not being able to secure connections to the network before formal scheme closure or the date by which the relevant grace period closed. Where stations were commissioned in this way, the electricity generated is used in a Permitted Way ie consumed by the station operator itself or sold to a third party under a private wire agreement.

2.25 By the end of 2017-18 there were a total of 120 OG and ZE generating stations accredited under the RO scheme. **Figure 2.9** provides a snapshot of these stations split by country and technology. Around half of the stations are in Northern Ireland, followed by England (42.5%), Scotland (6.7%) and Wales (0.8%). All accredited stations in GB are fuelled, whereas in Northern Ireland there is a mix of different technologies ie onshore wind, fuelled and solar PV.

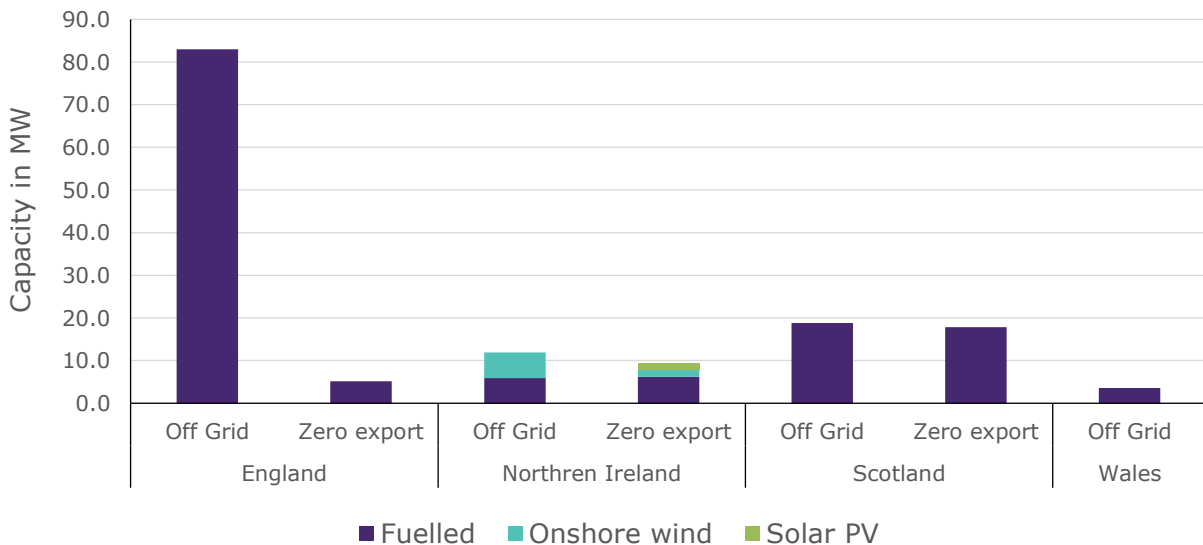
¹⁵ Zero-export stations have a grid connection to import electricity from the grid but do not export electricity to the grid.

Figure 2.9: Off grid and zero export stations accredited to the end of 2017-18



2.26 The aggregate capacity of all OG and ZE generating stations accredited to the end of 2017-18 is 149.5MW or 0.46% of total accredited capacity. As shown below in **Figure 2.10**, OG & ZE stations located in England make up nearly 60% (88MW) of this figure. Nearly a quarter of OG/ZE accredited capacity is in Scotland and stations in Northern Ireland make up around 14% (21.2MW) of the total. The fuelled stations in Northern Ireland make up 8% (12.1MW) of the total, with onshore wind contributing 5% (7.6MW) and solar PV 1% (1.5MW). Finally, stations in Wales make up just over 2% (3.6MW) of OG & ZE accredited capacity.

Figure 2.10: Capacity of off grid and zero export generating stations accredited to the end of 2017-18



2.27 Operators of OG and ZE stations have limited third party evidence available to validate the information required for the accreditation process, and subsequent ROC claims that are made to us. Given this, we introduced enhanced processes, which included the provision of an independent technical assurance report (ITAR) in advance of an accreditation decision being made. Such a report has to be produced by an independent party. To date, since Ofgem

started requesting ITARs, we have received 86 and approved a total of 53 OG and ZE applications.

NFFO generating stations

2.28 Prior to the introduction of the RO, the Non Fossil Fuel Obligation (NFFO), Northern Ireland Non Fossil Fuel Obligation (NI NFFO) and Scottish Renewables Obligation (SRO) were the government's primary instruments of renewable energy policy. We refer to these collectively as NFFO.

2.29 NFFO legislation required the former public electricity suppliers (PES)¹⁶ 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.

2.30 The NFFO, NI NFFO and SRO 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, during their NFFO contract term we issue ROCs to the electricity supplier who has purchased the electricity from the station, rather than to the operator of the generating station.

2.31 At the end of 2017-18, there were 16 stations still supported under NFFO contracts, with an aggregate capacity of 69.857MW. This is down from 21 stations in 2016-17. The reduction is due to several contracts having ended, either through fulfilment of the contract term or because we have granted economic termination to the contract¹⁷. All 16 stations are also accredited under the RO.

¹⁶ The fourteen electricity companies formed when the UK electricity market was privatised following the Electricity Act 1989.

¹⁷ <https://www.ofgem.gov.uk/publications-and-updates/procedure-dealing-requests-economic-termination-non-fossil-fuel-obligation-scottish-renewables-obligation-contracts>

3. ROCs issued and renewable generation

Chapter summary

In 2017-18 we issued 100.6 million ROCs to renewable generating stations, lower than the supplier obligation of 117.8 million. This represents 75.2 TWh of renewable electricity generation, an increase of 16.7% from last year, and is equivalent to 26.4% of the total electricity supply in the UK in 2017-18. Wind saw a considerable increase compared to 2016-17 (40.1% increase in onshore ROC issue and 26.6% increase in offshore ROC issue). Fuelled ROC issue fell by 12% compared to 2016-17, despite the overall increase in RO certificate issue.

Issuing ROCs

3.1 We issue ROCs to the operators or agents of accredited generating stations based on their net renewable output. Generators submit their output figures to us¹⁸ on a monthly basis with the exception of micro generators who can opt to claim on an annual basis. Chapters 4 and 5 of the *Renewables Obligation: Guidance for Generators* explain in detail how we calculate and issue ROCs.¹⁹

3.2 Banding was introduced in the 2009 Renewables Obligation Order (ROO)²⁰ prior to which all accredited stations received one ROC per MWh of generation. Since the introduction of banding, stations are issued ROCs at a rate determined by one or more of the following: the technology used to generate electricity, when the station was accredited, the station's installed capacity. The level of support offered can also differ between each of the three orders. Further information on banding can be found in Appendix 3 of the *Renewables Obligation: Guidance for Generators*.

ROCs issued and associated renewable generation in 2017-18

3.3 The 2017-18 year saw an increase in both the number of accreditations and the amount of electricity generated, resulting in an increase in the certificate issue, which is consistent with what was forecast. The fraction of renewable generation exceeded a quarter of the electricity supplied in the UK, reaching 26.4%, an increase of 4.2% compared the 2016-17 year. The exact figures for 2017-18 and the percentage change from the previous years are shown in **Table 3.1**.

¹⁸ In accordance with the ROC Issue Schedule 2017-2018 <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-certificate-roc-issue-schedule-2017-2018>

¹⁹ <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-generators-2>

²⁰ Article 27 of the RO and ROS Orders and article 25 of the NIRO.

Table 3.1: Comparison of ROCs issued in 2015-16, 2016-17 and 2017-18

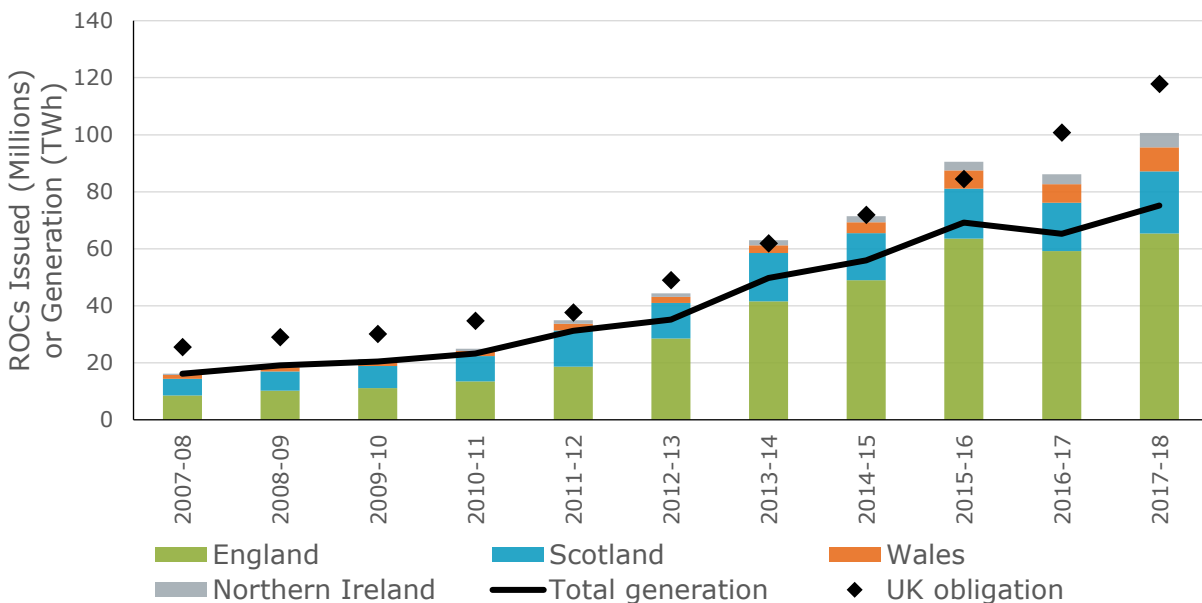
	2017-18	Change from 2016-17	Change from 2015-16
Total number of ROCs issued	100,581,303	+16.7%	+11.1%
Associated renewable generation (MWh)	75,161,323	+15.2%	+8.6%
Total UK electricity supply (MWh)	284,852,675	-3.1%	-3.7%
RO renewable generation as a proportion of electricity supply*	26.4%	+4.2pp**	+3.0pp
Renewable generation including FIT (MWh)	83,517,865	+14.4%	+11.7%
Renewable generation as a proportion of electricity supply*	29.3%	+4.5pp	+4pp

* Figure includes electricity generated under both RO and FIT schemes. Both schemes generation figures include generation not exported to the grid and therefore not captured within the total electricity supply figure. Approximately 93.5% of electricity generated through the RO is exported to the grid.

** pp – Percentage Points

3.4 Despite the increase in the number of ROCs issued, the difference between the Obligation Level and the number of ROCs issued was the highest in the scheme history, as shown in **Figure 3.1**. The total shortfall in the number of ROCs was over 17 million. However, it should be noted that proportionally to the size of the scheme, the shortfall has not increased significantly compared to 2016-17.

Figure 3.1: ROCs issued, obligation level and renewable generation since 2007-08

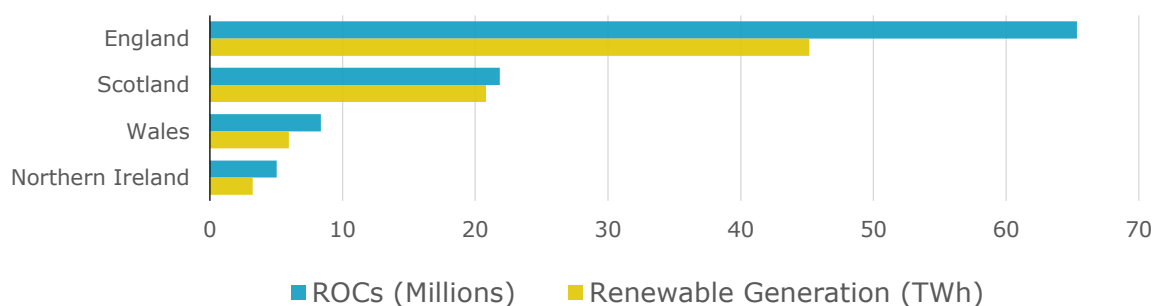


3.5 Since the introduction of banding in 2009, the increase in the number of ROCs issued has outpaced the growth in generation (ie there has been progressively higher amounts of ROCs issued per unit of generation), as shown in **Table 3.2**. In 2017-18 an average of 1.34 ROCs were issued per MWh of generation. This is due to the continued growth in capacity of technologies which are issued ROCs at a rate higher than 1 ROC/MWh. For more information on ROC rates and banding refer to Appendix 3 of the Renewables Obligation: Guidance for Generators.

Table 3.2: Average number of ROCs issued per MWh of generation since the introduction of banding

RO Obligation Year	Average number of ROCs issued per MWh of generation	Change from previous obligation year
2009-10	1.04	+4.4%
2010-11	1.07	+2.7%
2011-12	1.12	+4.4%
2012-13	1.27	+13.1%
2013-14	1.27	+0.2%
2014-15	1.28	+0.9%
2015-16	1.31	+2.4%
2016-17	1.32	+0.9%
2017-18	1.34	+1.31%

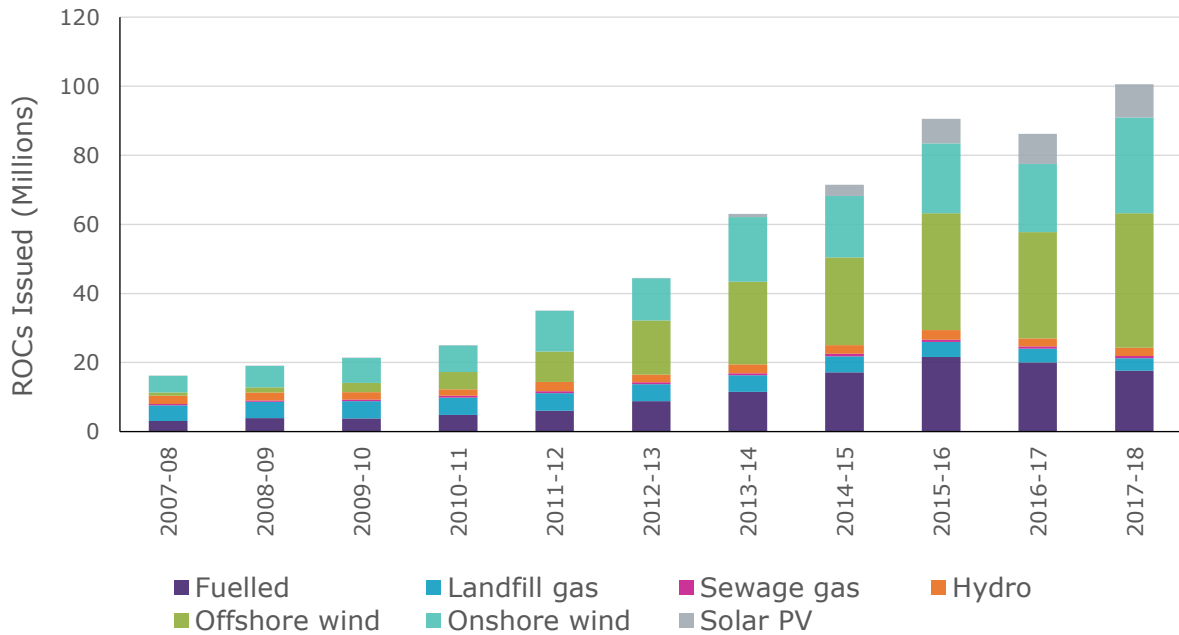
3.6 The majority of capacity accredited under these higher ROC rate technologies is located in England, while in Northern Ireland, Scotland and Wales most capacity is associated with technologies which receive lower ROC rates, as shown in **Figure 3.2**. In Northern Ireland a very large number of generators receive ROCs at a rate greater than one ROC/MWh, however the total number of ROCs issued to these generators is still small. In 2017-18, 64.7% of all ROCs, representing 60.6% of RO generation, were issued to generating stations located within England.

Figure 3.2: ROCs issued and renewable generation by country for 2017-18

Technologies

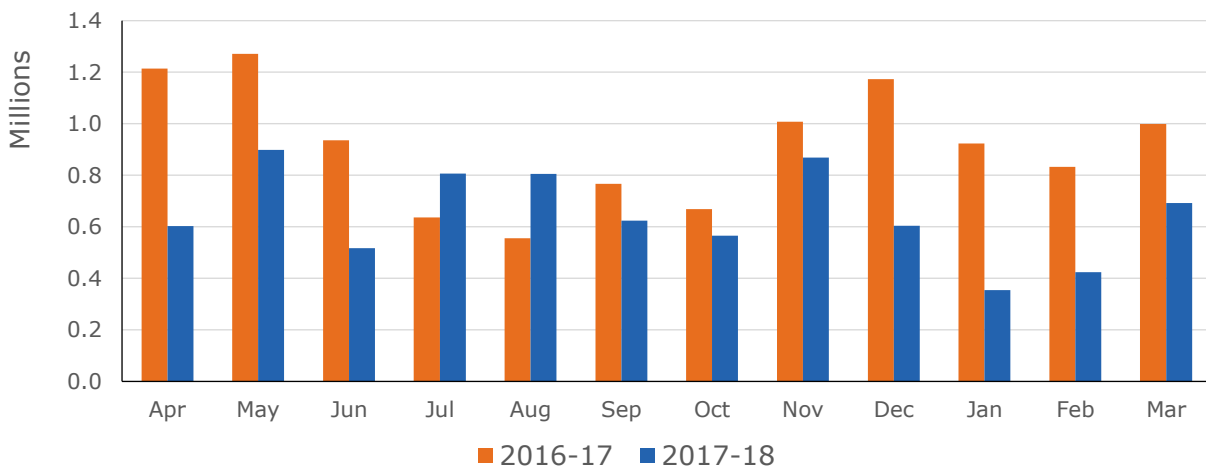
3.7 **Figure 3.3** shows the total number of ROCs issued to different technologies per obligation period since April 2007. Compared to 2016-17, the number of ROCs issued to fuelled stations fell by 12.1%, while landfill gas ROC issue decreased by 9.6%. Despite this, the total certificates issue was the highest ever recorded. This is largely due to relative increases in wind energy issue, with a 40% increase in the ROCs issued to offshore wind and a 27% increase in those issued to onshore wind.

Figure 3.3: Annual issue of ROCs by generation technology since 2007-08



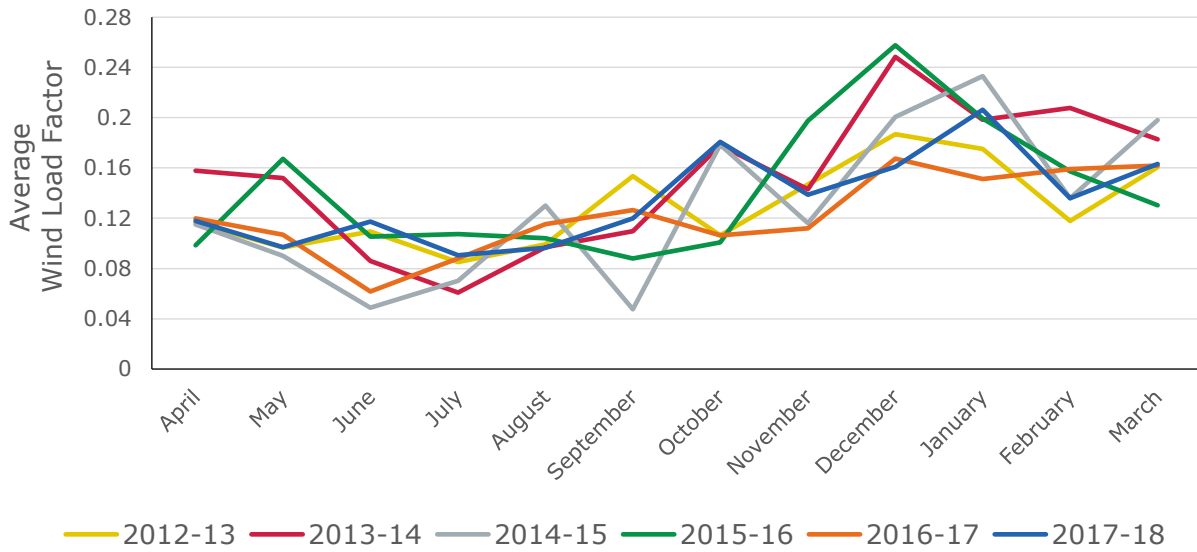
3.8 The reduction in ROCs issued to fuelled stations was primarily due to one of the largest generators accredited under the RO, Drax Power Station, being issued fewer ROCs than in 2016-17. This reduction is due to one of the generating units being transferred from the RO to the Contracts for Difference (CFD) scheme in December 2016, as well as several maintenance cycles on remaining units towards the end of 2017-18. The variations in monthly ROC issue for Drax in 2016-17 and 2017-18, are shown on **Figure 3.4** below.

Figure 3.4: Monthly ROC Issue for Drax in 2016-17 and 2017-18



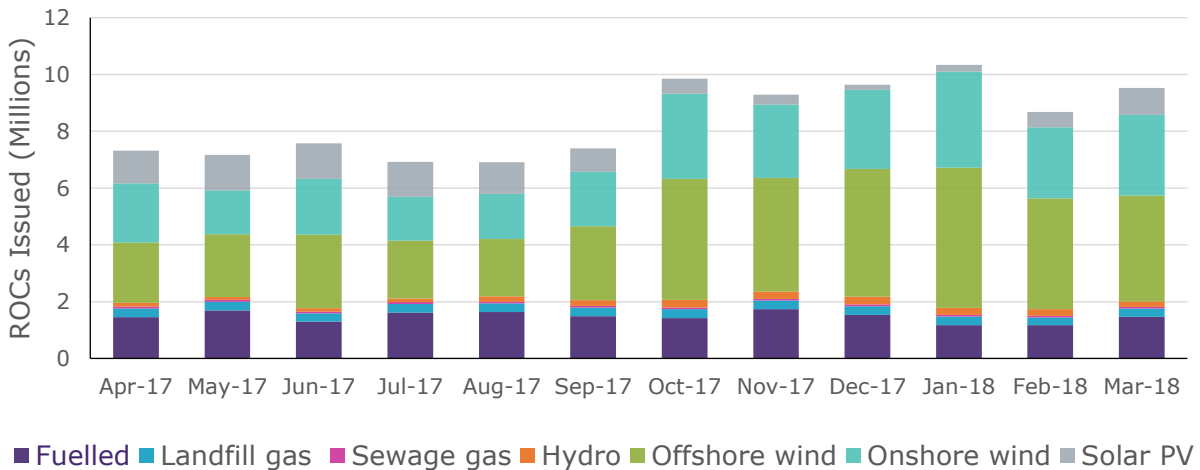
3.9 The increase in the ROC issue to onshore and offshore wind was largely due to the upward trend in the total number of accreditations. A breakdown of load factors throughout different scheme years is shown in **Figure 3.5**. Load factors looked at annually for 2017-18 were in line with average levels, but June and October 2017 had the highest load factors ever recorded in those months.

Figure 3.5: Average wind load factors by month for 2012-13 to 2017-18



3.10 **Figure 3.6** shows how wind load factors influence ROC issue across the year. The ROC issue peaks (from October through to March) match up with the wind load factor peaks seen in **Figure 3.5**, while the same is true for the lower issue and lower loading between April and September.

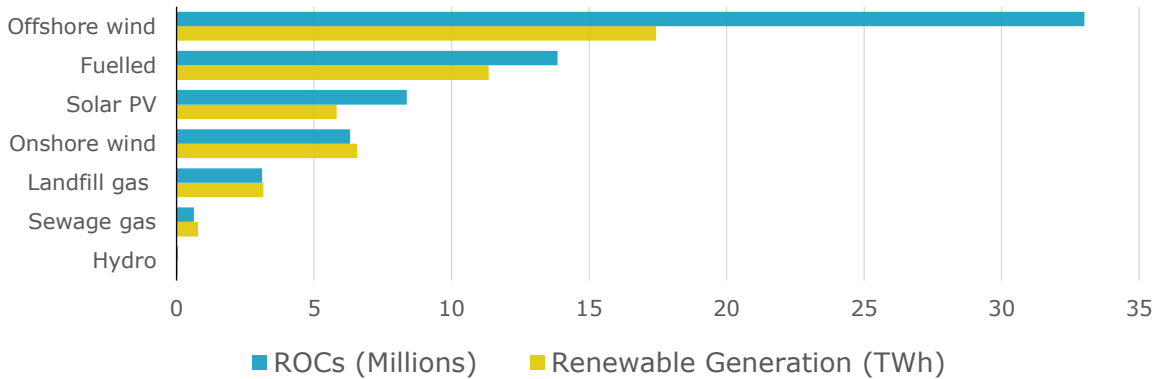
Figure 3.6: ROCs issued each month in 2017-18 by technology



England

3.11 The majority of the accredited capacity for offshore wind, fuelled and solar in the UK is situated in England. Over 75% of ROCs issued to these technologies were issued to stations located in England. **Figure 3.7** shows that both the highest amount of generation and number of ROCs were associated with offshore wind stations. Most fuelled generation comes from larger stations which receive a lower ROC rate than offshore wind. Hydro in England received a net total of 53,388 ROCs, corresponding to around 53.5 GWh of generation, which was not sufficient for a visible line on the chart below.

Figure 3.7: ROCs issued and renewable generation in England by technology type for 2017-18

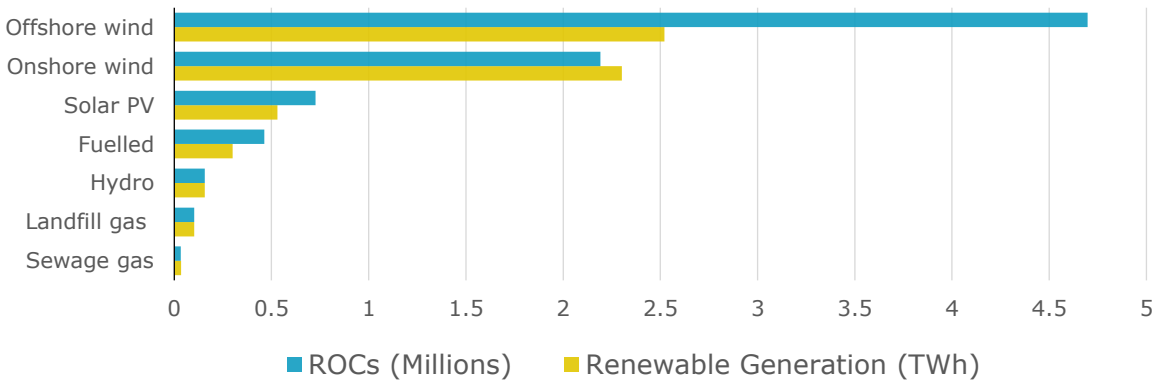


Wales

3.12 As shown in **Figure 3.8**, offshore wind was the largest technology in Wales, in terms of both ROC issue and generation in 2017-18. This was led by the Gwynt y Mor offshore wind farm, which accounted for 38% of all ROCs issued to generating stations in Wales and 25.6% of generation. The share of ROCs issued in Wales to Gwynt y Mor has actually fallen by 13% compared to 2016-17, which is due to a 62% relative increase in onshore wind ROCs.

Overall RO certificate issue for generation in Wales has gone up by around 33% compared to 2016-17 (from 6.3m to 8.4m ROCs).

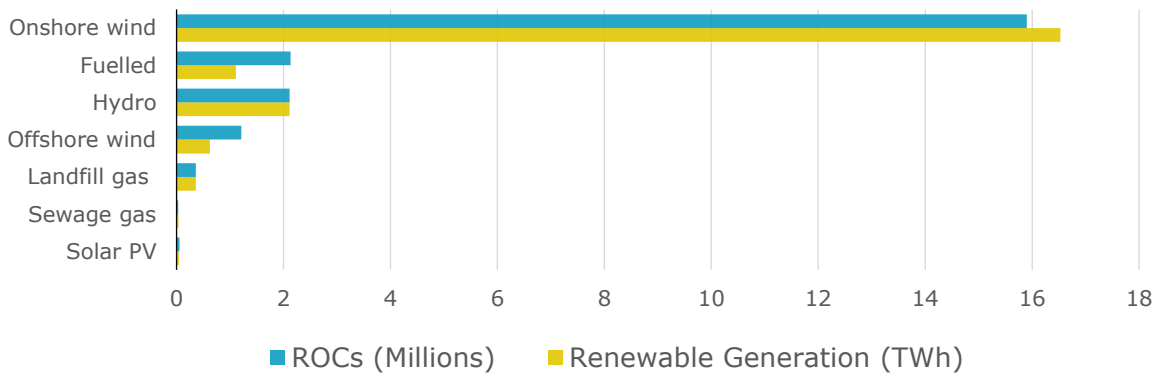
Figure 3.8: ROCs issued and renewable generation in Wales by technology type for 2017-18



Scotland

3.13 **Figure 3.9** shows that renewable generation in Scotland is dominated by onshore wind, with over a half of all Scottish ROCs issued to onshore wind stations (it should be noted that the fraction has decreased compared to 2016-17). Generation from Scottish onshore wind is the third largest contributor to UK generation, only behind fuelled and offshore wind located within England. The number of certificates issued on hydro and fuelled generation are very similar. However, generation under hydro has exceeded fuelled by 37% and has picked up significantly since 2016-17.

Figure 3.9: ROCs issued and renewable generation in Scotland by technology type for 2017-18

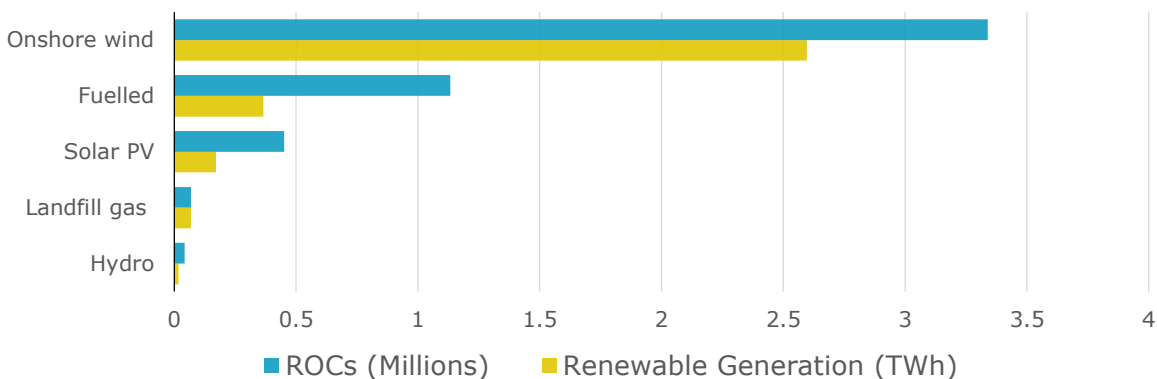


Northern Ireland

3.14 Fuelled generation in Northern Ireland rose significantly in 2017-18, with generation rising by 23% and ROC issue by 33% compared to 2016-17. **Figure 3.10** shows how, despite this rise, renewable electricity generation in Northern Ireland still predominantly comes from onshore windfarms – mostly from large conventional wind farms.

3.15 In contrast to the rest of the UK, Northern Ireland also has significant numbers of smaller generators. Wind turbines with a DNC of less than 250kW accounted for a third of onshore wind ROCs (seeing a 5% increase compared to 2016-17), anaerobic digestion stations with a DNC of less than 500kW in capacity accounted for over a half of fuelled ROCs, and 92% of all solar ROCs were issued to stations with a capacity 50kW and below.

Figure 3.10: ROCs issued and renewable generation in Northern Ireland by technology type for 2017-18



Revoked and retired ROCs

3.16 ROCs can be revoked if we find that the number initially issued was incorrect. We may identify such errors through our own investigations, audits of generating stations (see Chapter 6), or where the generator notifies us themselves.

3.17 This year we revoked 13,170 ROCs which were issued during the 2017-18 obligation year. This is slightly lower than the 16,507 ROCs revoked in the 2016-17 obligation year, but in line with the number of revocations seen in previous years. Given the increased number of ROCs issued, the number of ROCs revoked ROCs as a fraction of the overall number issued has

continued to fall. This is largely due to continued improvements in our monthly ROC validation process which prevents incorrect ROC issue and therefore reduces the need for revocations.

3.18 We are unable to revoke ROCs if a supplier has already presented the ROCs to us for compliance. In this situation we must withhold an equivalent number of ROCs from being issued to the station in the future.²¹ This year we withheld 691 ROCs from being issued, compared to the 28,421 ROCs withheld in 2016-17. This reduction is also largely due to our ROC claim validation work which is detailed below.

3.19 The registered holder of a ROC may voluntarily retire it on the Register at any time, and it can no longer be used for RO compliance. A registered holder may retire a ROC for a number of reasons, for example if they can no longer use it towards their obligation because it has already expired. This year no ROCs were retired by their holders.

Monthly ROC validation

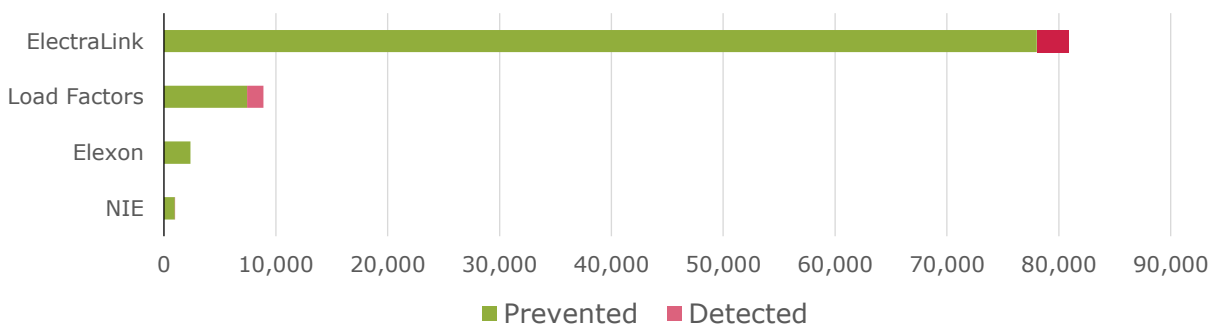
3.20 In December 2015 we implemented a method of validating the output data submitted to us on a monthly basis for export only stations. By comparing submissions against export data provided by third-parties we can identify and rectify errors prior to ROC issue and help to protect the scheme against error and fraud.

3.21 We currently use five sources of data to validate ROC claims: data from Elexon and Single Electricity Market Operator (SEMO) cover the larger generating stations in GB and Northern Ireland respectively, and data from ElectraLink and Northern Ireland Electricity networks (NIE) covers most of the smaller generators in the UK. Data from Scottish Power also covers stations settled entirely within the Scottish Power network. Together this covers the vast majority of the capacity accredited under the RO. Additionally, we review load factors of all submissions and query any which appear to be outside of what we would expect.

3.22 Through this method we identified 224 submissions in 2017-18 which had been, or were to be, over-issued ROCs, with the prevented and detected error totalling 93,120 ROCs. **Figure 3.11** shows that the majority of this error was 'prevented', meaning that the submission was corrected prior to ROC issue. In some cases, we were only able to correct the submission following ROC issue, in which case any excess ROCs issued were revoked. This is classed as 'detected' error.

3.23 It is notable that the number of ROCs prevented from over issue increased 6-fold compared to the 15,365 certificate over issue that was prevented and detected in 2016-17.

Figure 3.11: ROCs saved as a result of monthly validation checks



²¹ Article 25 of the RO, 41A of the ROS and article 37A of the NIRO

4. Biomass sustainability

Chapter summary

In the 2017-18 obligation period, 286 fuelled generating stations were required to report their biomass fuels against the land and greenhouse gas emissions criteria, collectively known as the sustainability criteria. Of these, 102 were bioliquid stations and/or solid biomass or biogas stations greater than 1MW; where the sustainability criteria were formally linked to ROC issue. Compliance with the sustainability criteria was not linked to ROC issue for the remaining 184 solid biomass and biogas stations smaller than 1MW. The analysis in this chapter is based upon the data provided by these stations as part of their monthly and annual reporting requirements.

4.1 All bioliquid stations and solid biomass and biogas stations with a DNC of more than 50kW, using biomass, must report against land and greenhouse gas criteria (known collectively as the sustainability criteria) and provide additional information annually on the fuels used (known as the profiling data).²²

4.2 There are two criteria that a fuel must satisfy to be classed as sustainable, these are:

- The land criteria – this focuses on the land from which the biomass was sourced and whether it meets the requirements of the legislation,²³ and
- The life-cycle greenhouse gas (GHG) emissions associated with the biomass. For solid biomass and biogas this is in grams of CO₂ equivalent per megajoule of electricity (gGHG/MJ electricity). For bioliquids, it is as a percentage emissions saving against the fossil fuel comparator.²⁴

4.3 All bioliquid stations and solid and gas stations with a Total Installed Capacity (TIC) greater than or equal to 1MW must report against the criteria each month on the Register as part of their ROC claim. Reporting on and meeting the sustainability criteria are formally linked to ROC issue and certificates can be postponed, revoked or withheld if the sustainability criteria are not met.

4.4 On an annual basis, this monthly information is independently verified by an auditor with a report submitted to Ofgem for review. The report is undertaken by an independent auditor in accordance with ISAE 3000 (revised) (the International Standard on Assurance Engagements)²⁵. Failure to submit by the deadline will result in future ROCs, up to the number claimed in the preceding obligation period, being withheld until the report is submitted and approved.

4.5 Operators presented 102 audit reports to us in 2017-18. Of the reports submitted, 20 were for bioliquid stations, 80 for solid biomass and biogas stations and two that include both bioliquids and solid biomass. There are 12 accredited RO stations that have not yet presented

²² Articles 82, 83 and 84 of the ROO 2015 (as amended), Articles 54A and 54B of the ROS 2009 Order (as amended) and Articles 46A and 46B of the NIRO 2009 Order (as amended).

²³ See our 'Sustainability Criteria Guidance': <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-sustainability-criteria>

²⁴ The fossil fuel comparator is specified in Paragraph 19, Annex V, Part C of the Renewable Electricity Directive as 91gCO₂e/MJ

²⁵ Or equivalent standard

an audit report and 3 reports that have not met the required standard. We have suspended the issuance of ROCs to these stations as a result.²⁶

4.6 Stations using solid biomass or biogas with a TIC of under 1MW but a DNC greater than 50kW are not required to report monthly on their fuels but are required to report against the sustainability criteria in their annual profiling data.²⁷ The RO legislation states that the information in the profiling data must be supplied to the best of the operator's knowledge and belief. It does not need to be verified by an independent auditor and is not linked to ROC issue.²⁸

4.7 There are a number of stations that have not yet been granted RO accreditation, but will be eligible to receive ROCs for generation in the 2017-18 obligation period once accredited. It is important to note that this chapter only includes the information for stations that have been granted accreditation at the time of writing.

4.8 The information in this chapter is based on the data provided by the operators of fuelled stations as part of their monthly and annual reporting requirements at the time of the writing of this chapter.²⁹ Some annual sustainability information has not yet been approved and therefore this information may be subject to change. In order for comparisons to be made, the Renewables Obligation: Annual Report 2015-16,³⁰ Renewables Obligation: Annual Report 2016-17³¹ and associated Sustainability Datasets³² were utilised, which contain the sustainability information for stations that generated in the 2015-16 and 2016-17 obligation periods.³³ The sections below segregate the stations into gasification, anaerobic digestion (AD), direct combustion of solid biomass and bioliquid stations.

Gasification stations

4.9 Sixty-eight accredited gasification stations burnt 1,094.6 million m³ of syngas in 2017-18. **Table 4.1** shows how stations reported their consignments³⁴ against the sustainability criteria. There are no instances where a consignment has not met the criteria. For stations that reported against the GHG criteria, the weighted average GHG emission figure is 10.07 gCO₂e/MJ.³⁵ This is an increase in comparison to the 2016-17 weighted average emission

²⁶ Correct as of 21 January 2019.

²⁷ Annual profiling data contains information submitted by the operator regarding the sustainability characteristics of their fuel. This includes information such as type of biomass, the form of biomass, country of origin and whether it was wood or derived from wood.

²⁸ Article 82 of the ROO 2015 (as amended), Article 54 of the ROS 2009 Order (as amended) and Article 46 of the NIRO 2009 Order (as amended).

²⁹ 21 January 2019

³⁰ See our 'Annual Report 2015-16': <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-ro-annual-report-2015-16>

³¹ See our 'Annual Report 2016-17': <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-ro-annual-report-2016-17>

³² See our '2015-16 Biomass Sustainability Dataset' and our '2016-17 Biomass Sustainability Dataset' at: <https://www.ofgem.gov.uk/publications-and-updates/biomass-sustainability-dataset-2015-16> <https://www.ofgem.gov.uk/publications-and-updates/biomass-sustainability-dataset-2016-17>

³³ The 2015-16 and 2016-17 Biomass Sustainability Datasets and Annual Reports have been utilised for comparison purposes only and may not contain information for stations that were granted accreditation after the reports were published.

³⁴ Where we refer to a consignment in the context of stations greater than or equal to 1MW, this refers to a single consignment submission for one month. For stations less than 1MW, this is just reported once in the year.

³⁵ The GHG emission threshold for biogas stations is 79.2 gCO₂e/MJ.

figure of 8.99 gCO₂e/MJ but remains lower than figure from the 2015-16 period (15.7 gCO₂e/MJ).

Table 4.1: Consignments reported by gasification stations against the sustainability criteria, split by capacity

		Gasification Stations <1MW ³⁶	Gasification Stations ≥1MW
Meets the land criteria	Yes	68	12
	No	0	0
	Exempt	0	23
	Unknown	0	0
Meets the greenhouse gas emissions criteria	Yes	55	12
	No	0	0
	Exempt	0	23
	Unknown	13	0

4.10 All consignments burnt in these 68 stations were derived from woody biomass. For consignments that were not derived from waste wood,³⁷ **Table 4.2** shows that 81.0% of syngas burnt in these stations was derived from soft wood with 17.5% derived from mixtures containing softwood and hardwood. Only 1.5% of syngas came from consignments derived solely of hardwood.

Table 4.2: Quantity of non-waste wood derived syngas based on wood type utilised in gasification stations

	m ³ of Syngas	% contribution
100% Softwood	114,824,530	81.0%
99-75% Softwood, 1-25% Hardwood	23,917,471	16.9%
25-50% Softwood, 51-75% Hardwood	852,610	0.6%
100% Hardwood	2,099,928	1.5%
Total	141,694,539	100%

4.11 Most of the non-waste wood was sourced from within the UK where the intention was to retain, restock or naturally regenerate all, or the majority of, the forest within five years. For the first time, it was reported that some wood used in gasification stations was sourced from the UK and Europe. No wood was reported as likely to be a protected or threatened species.

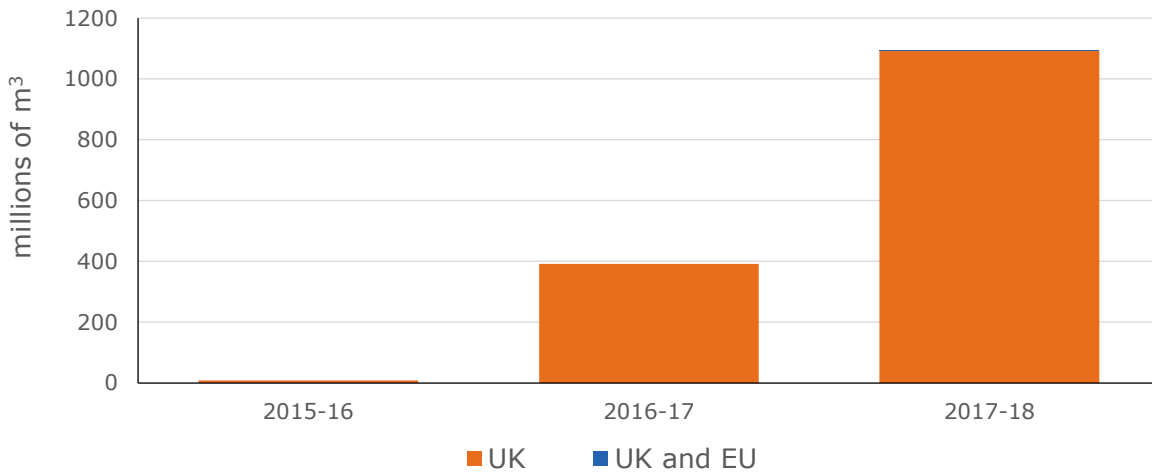
4.12 Of the total syngas, 950.4 million m³ was derived from waste wood in generating stations with a TIC greater than 1MW. All of this waste wood was sourced from within the UK. As these fuels are derived from a waste, these generating stations did not need to report against the woody biomass questions in the profiling data and so it is unknown whether the fuel was derived from softwood or hardwood.

4.13 As shown in **Figure 4.1**, the quantity of syngas burnt in gasification stations in 2017-18 was substantially higher in comparison to both 2016-17 and 2015-16. This is due to an increase in the number of accredited gasification stations where those with a TIC greater than 1MW have made the most significant contributions to the increase.

³⁶ The sustainability criteria for gasification stations less than 1MW are not formally linked to ROC issue.

³⁷ For consignments derived from waste, operators of generating stations do not need to complete the woody biomass section of the profiling data.

Figure 4.1: A comparison of the quantities of syngas burnt in gasification stations in the 2015-16, 2016-17 and 2017-18 obligation periods



Anaerobic digestion stations

4.14 **Table 4.3** shows the number of consignments reported by AD stations against the sustainability criteria. No consignments were reported as having not met the criteria. For stations that reported a figure, the weighted GHG emission figure was 39.7 gCO₂e/MJ,³⁸ which is an increase of 8.1 gCO₂e/MJ in comparison to 2016-17. This is a continuing trend, which saw a GHG emission increase of 8.4 CO₂e/MJ between 2015-16 and 2016-17 (from 23.2 gCO₂e/MJ to 31.6 gCO₂e/MJ).

Table 4.3: Consignments reported by anaerobic digestion stations against the sustainability criteria, split by capacity

		AD Stations <1MW ³⁹	AD Stations ≥1MW but <25MW	AD Stations ≥ 25MW
Meets the land criteria	Yes	111	134	0
	No	0	0	0
	Exempt	178	655	12
	Unknown	43	0	0
Meets the greenhouse gas emissions criteria	Yes	12	204	0
	No	0	0	0
	Exempt	183	585	12
	Unknown	137	0	0

4.15 There are currently 101 AD stations with a TIC less than 1MW that were required to report against the sustainability criteria. Of these, the 97 that reported fuel quantities burnt 344.1 million m³ of biogas.⁴⁰ **Figure 4.2** illustrates that the vast majority of this gas was derived from the digestion of silage, with manures and slurries also making a significant contribution. Silage represents a larger proportion of total AD gas volume in comparison to 2016-17 whereas the contribution of 'other' feedstocks represents significantly less. The 'other'

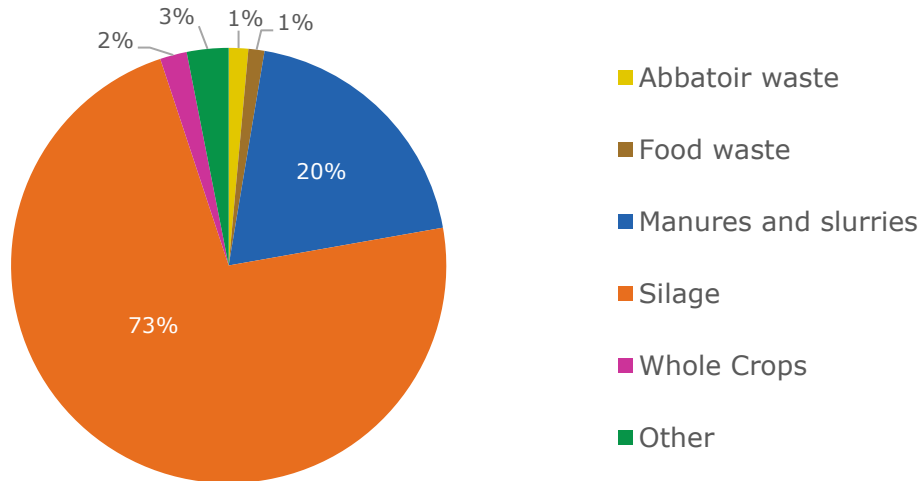
³⁸ The GHG emission threshold for biogas stations is 79.2 gCO₂e/MJ.

³⁹ The sustainability criteria for anaerobic digestion stations less than 1MW are not formally linked to ROC issue.

⁴⁰ There are a number of stations whose fuel measurement and sampling procedures do not require them to keep records of individual feedstocks and so report a mixture on their profiling data.

feedstock category consists of alcohol, glycerol, grease trap waste, used oils, vegetables (waste), vegetables (other), food waste, dairy waste, garden waste and mixtures⁴¹.

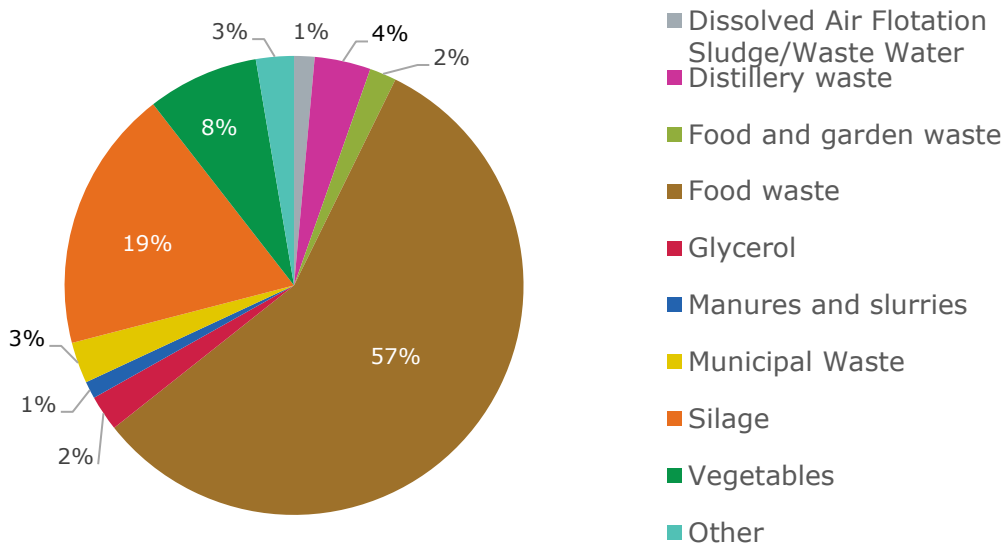
Figure 4.2: Type and proportion of feedstocks used (by volume of gas burnt) in anaerobic digestion stations less than 1MW but greater than 50kW



4.16 In 2017-18, 33 AD stations over 1MW but less than 25MW were required to report against the sustainability criteria. Collectively they burnt 246.0 million m³ of biogas, which is 66.3 million m³ less than 2016-17 despite 2 additional stations reporting. Similarly to 2016-17, the majority of this is derived from food waste as seen in **Figure 4.3**, although the proportion has dropped to 57% in comparison to over 80% last year. Silage and vegetables (waste and other) contributions to the total biogas quantity has increased significantly rising from ~5% to 25%. The 'other' feedstocks consist of biodegradable waste, straw, abattoir waste, whole crops (predominantly wheat, maize and rye) and oil wastes; all of which contribute just 2% towards the total quantity of biogas used in these stations.

⁴¹ There are a number of stations whose fuel measurement and sampling procedures do not require them to keep records of individual feedstocks and so report a mixture on their profiling data.

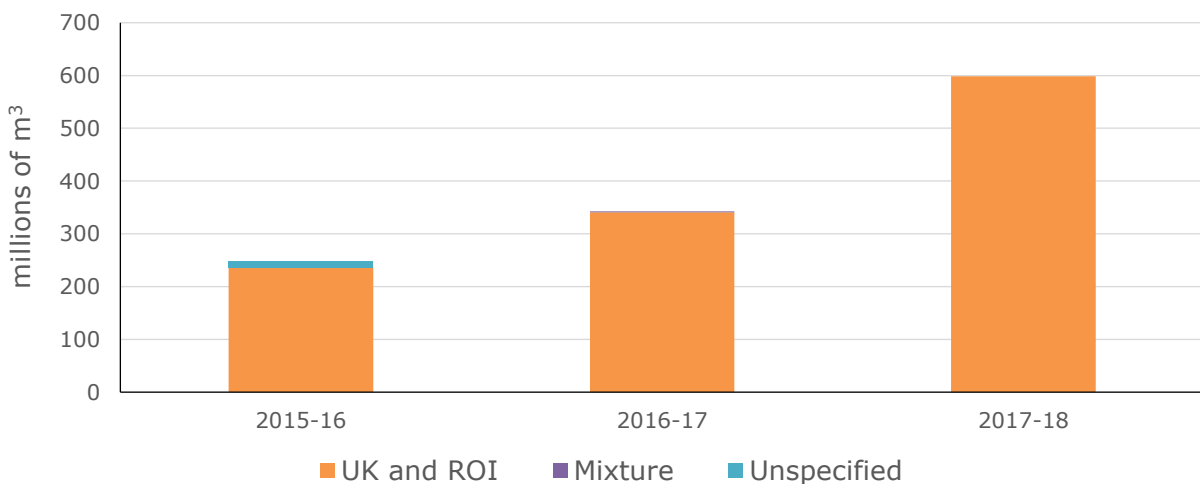
Figure 4.3: Type and proportion (by gas) of feedstocks used in anaerobic digestion stations greater than 1MW but less than 25MW



4.17 There was only one AD station with a TIC greater than 25MW that was required to report against the sustainability criteria. It burnt 8.4 million m³ of syngas. This station predominantly uses fossil fuel but is supplemented with AD gas from waste water that arises from on-site processes.

4.18 As seen in **Figure 4.4** there was an increase in accredited AD stations and therefore a significant increase in the quantity of fuel used in comparison to both the 2016-17 and 2015-16 obligation periods. The number of accredited stations required to report against the sustainability criteria rose by 26% in 2017-18 in comparison to 2016-17, however the quantity of biogas used rose by 75%. This is largely due to stations with a 2016-17 effective date that could not claim for the whole obligation period but have generated in most or all months in 2017-18. All consignments were sourced from the UK and Republic of Ireland whereas in 2016-17, a small proportion was also derived from a mixture of sources.

Figure 4.4: A comparison of the quantities of biogas used in anaerobic digestion stations in the 2015-16, 2016-17 and 2017-18 obligation periods



Solid biomass burnt in direct combustion stations

4.19 **Table 4.4** shows solid biomass consignments burnt in direct combustion stations that have reported against the sustainability criteria. There is one case of non-compliance against the GHG emissions criteria for a consignment burnt in a station greater than 1MW. As a result, ROCs have been withheld for this generating station for generation derived from this consignment of fuel. This occurrence was derived from a waste wood fuel used in a month where the GHG emission figure did not meet the relevant threshold.⁴² The weighted average GHG emission figure for stations that reported a value is 25.2 gCO₂e/MJ; a decrease of 1.7 gCO₂e/MJ compared to 2016-17.

Table 4.4: Solid biomass consignments reported by direct combustion stations against the sustainability criteria, split by capacity

		Solid Biomass Stations <1MW ⁴³	Solid Biomass Stations ≥1MW but <25MW	Solid Biomass Stations ≥ 25MW
Meets the land criteria	Yes	10	325	868
	No	0	0	0
	Exempt	15	339	219
	Unknown	0	0	0
Meets the greenhouse gas emissions criteria	Yes	13	345	912
	No	0	1	0
	Exempt	12	318	175
	Unknown	0	0	0

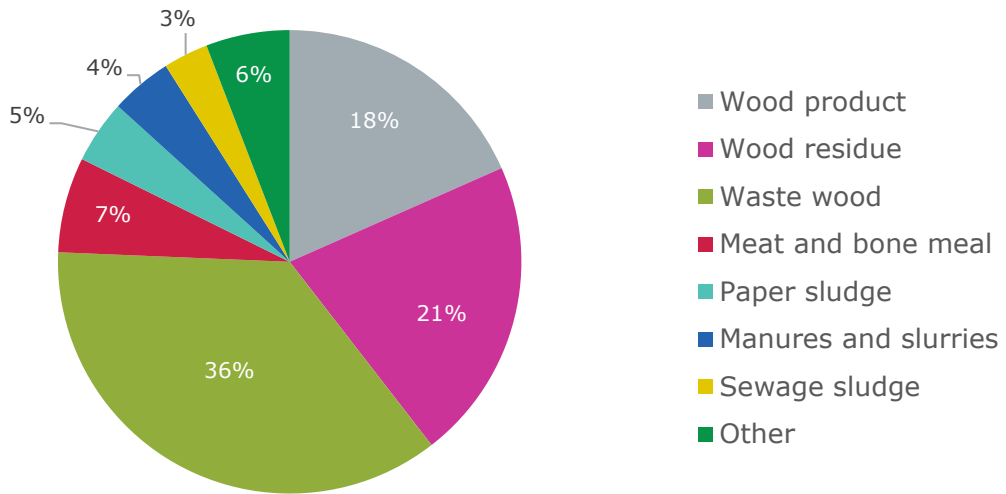
4.20 Nineteen stations with a TIC under 1MW that were required to report against the sustainability criteria burnt 85,493 tonnes of solid biomass in direct combustion stations; all of which was woody biomass. Waste wood had the greatest contribution to this total with 53%, although this is a significantly lower proportion in comparison to 2016-17. Wood residues, which include forestry residues, processing residues, arboricultural arisings and sawmill residues contributed 28%. Wood products made up the remaining 18%; this being virgin wood that hasn't been specified as one of the wood residues.

4.21 Similarly to the 2016-17 obligation period, a broader range of fuels were burnt by the 27 stations with a TIC greater than 1MW, but less than 25MW; this is illustrated in **Figure 4.5**. Of the 1.98 million tonnes of solid fuel burnt in direct combustion, wood fuels represented the majority with the greatest proportion attributed to waste wood. Meat and bone meal (MBM), paper sludge and manures/slurries also make significant contributions. The 'other' fuels used include spent wash, draff, animal bedding, plant tissue waste, husks, food waste and woodflour filter cake.

⁴² The GHG emissions threshold is 79.2 gCO₂e/MJ for solid biomass stations. Any stations classed as a 'post-2013 dedicated biomass station' have a threshold of 66.7 gCO₂e/MJ. 'Dedicated biomass' is defined in Schedule 5 of the ROO and Schedule 2 of the ROS and NIRO Orders.

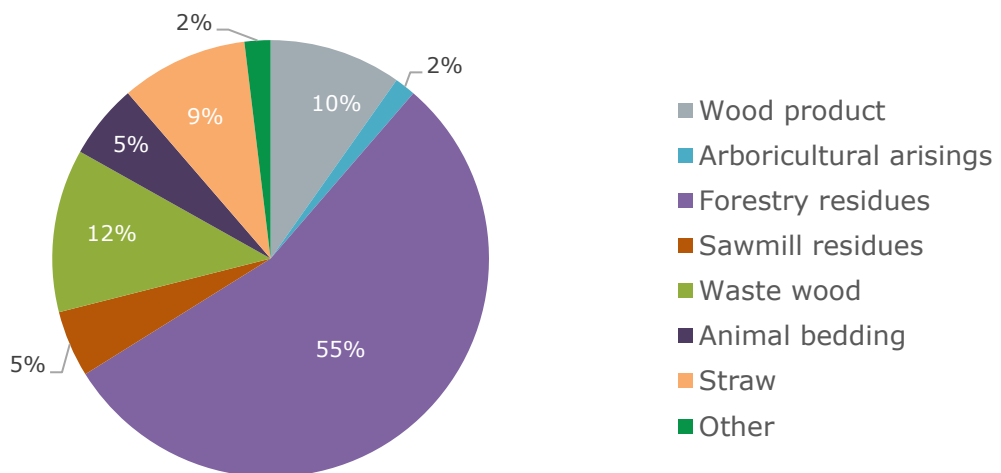
⁴³ The sustainability criteria for direct combustion stations less than 1MW that use solid biomass are not formally linked to ROC issue.

Figure 4.5: Type and proportion of solid biomass used in direct combustion stations greater than 1MW but less than 25MW



4.22 There are 15 stations with a TIC greater than 25MW that reported against the sustainability criteria. Of the 7.8 million tonnes of solid biomass burnt by these stations, once again forestry residues comprise the majority with significant contributions coming from wood products and waste wood. Straw and animal bedding are the only non-wood fuels to make notable contributions to the total as seen in **Figure 4.6**. Energy crops (miscanthus and willow), oat husks, MBM, paper sludge and olive pomace were also burnt but only contribute 2% of the total solid fuel burnt, indicated in **Figure 4.6** as 'other'.

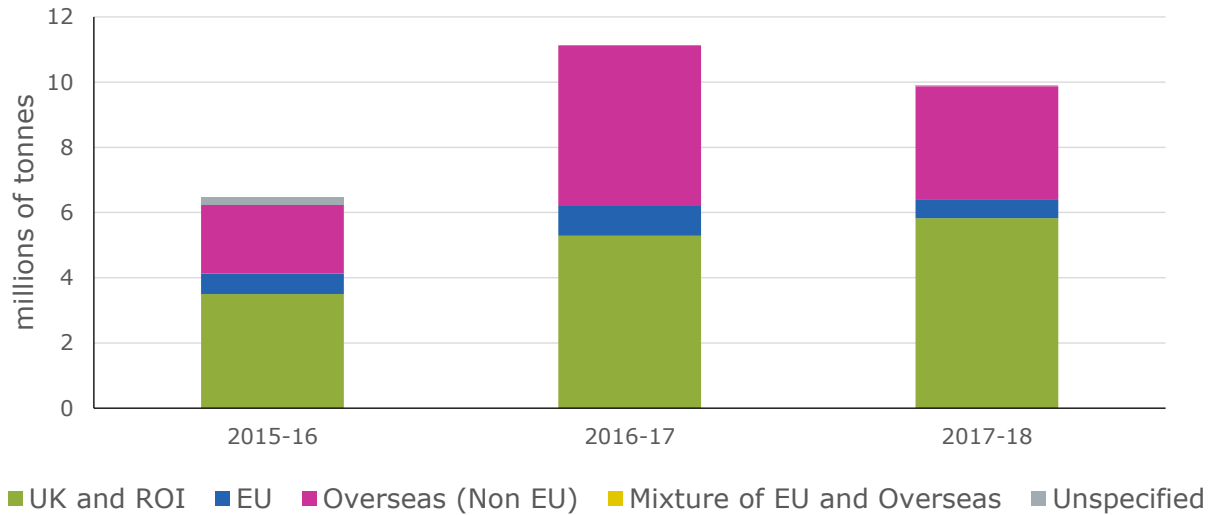
Figure 4.6: Type and proportion of solid biomass used in direct combustion stations greater than 25MW



4.23 During 2017-18 we saw a decrease in the quantity of solid biomass burnt in direct combustion despite the slight increase of generating stations required to report against the sustainability criteria, as shown in **Figure 4.7**. The majority of this decrease can be attributed to a reduction in the quantity of biomass that was grown or was obtained in non-EU overseas countries with a decrease also observed in fuel obtained from the EU. The proportion of solid

biomass obtained in the UK and ROI has increased slightly in comparison 2016-17. A small amount of fuel was obtained from a mixture of EU and non-EU overseas countries.

Figure 4.7: A comparison of the quantities of solid biomass used in direct combustion stations in the 2015-16, 2016-17 and 2017-18 obligation periods



Bioliquid stations

4.24 Although certain bioliquids are exempt from the land criteria, there are no exemptions for bioliquids in regard to the GHG emissions criteria. Wastes are exempt from the land criteria but the GHG emissions criteria still needs to be reported against as evidenced in **Table 4.5**. The weighted GHG emissions saving for bioliquid consignments was 89.9% in comparison to the fossil fuel comparator.⁴⁴ This is a significantly greater reduction than required under the current thresholds.⁴⁵

Table 4.5: Consignments of bioliquid reported against the sustainability criteria

	Yes	No	Exempt	Unknown
Meets the land criteria	43	0	403	0
Meets the greenhouse gas criteria	435	11	0	0

4.25 There were 11 cases of non-compliance of bioliquid consignments against the sustainability criteria. This is a significant reduction compared to 2016-17, which saw 81 cases where consignments did not meet the criteria or reported 'unknown'. These 11 consignments consisted of compost liquor, fish waste, tallow washings and soap waste consignments, which did not meet the GHG emissions criteria. In these circumstances, the energy content and/or quantity of fuel was very low. As a result, few or no deductions in ROC claims were made for unsustainable biomass. As with both 2016-17 and 2015-16, the low GHG emissions and gross

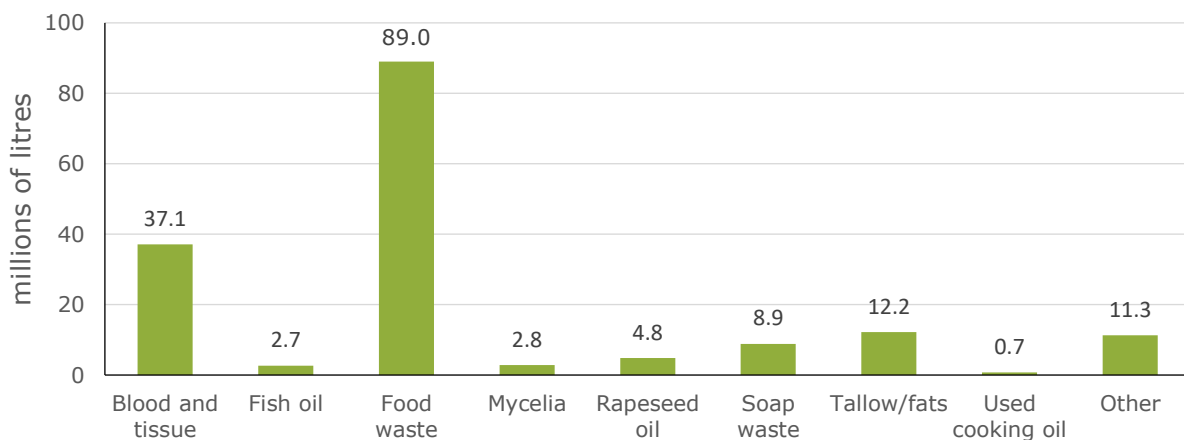
⁴⁴ The fossil fuel comparator is specified in Paragraph 19, Annex V, Part C of the Renewable Electricity Directive as 91gCO₂e/MJ.

⁴⁵ From 1 January 2018, any consignment of bioliquid produced by an installation that first started producing liquid fuel from biomaterial before 6 October 2015 is required to meet the current GHG threshold of 50%. Any consignment of bioliquid produced by an installation that first started producing liquid fuel from biomaterial on or after 6 October 2015 is required to meet a GHG threshold of 60%. For bioliquids used before 1 January 2018, the current GHG threshold of 50% must be met.

calorific values could be an indication that these consignments were burnt as a method of waste disposal rather than electricity production.

4.26 The 22 stations that reported against the sustainability criteria burnt 120.3 million litres of bioliquid consignments in 2017-18; a 10.8 million litre decrease compared to 2016-17. This can be attributed to the decrease in bioliquid generating stations claiming ROCs in the 2017-18 obligation period. Bioliquid use followed the 2016-17 trends where food waste was the most significant contributor to total bioliquid use at 52.5%. Blood and tissue, soap waste and tallows/fats made contributions of 21.9%, 5.23% and 7.17% respectively, as shown in **Figure 4.8**. 'Other' consignments consist of fish waste, liquid wood flour, dairy waste, spent bleaching earth and fatty acid methyl esters (FAME).

Figure 4.8: The total volumes of bioliquid reported by consignment



4.27 From 1 January 2018, generating stations that used bioliquids from starch-rich crops, sugars, oil crops or any other crops grown as a main crop primarily for energy purposes on agricultural land are required to report the energy content of the fuel in their profiling information.⁴⁶ Only four fuels were identified as meeting one of the four definitions, all of which were bioliquids derived from oil crops. The weighted average energy content of these fuels was 36.4 MJ/litre.

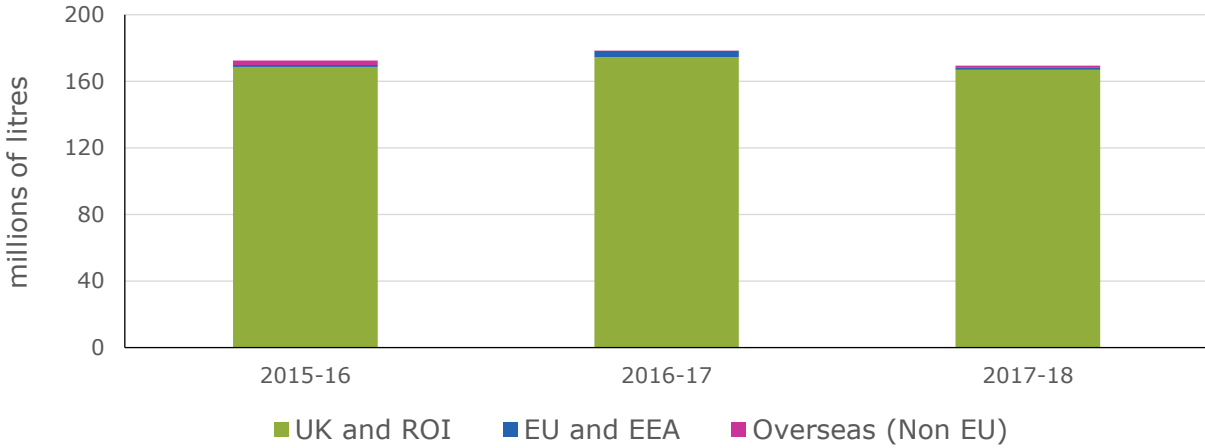
4.28 Additionally, stations using bioliquid consignments were required, from 1 January 2018, to report the date that the installation producing the bioliquid first started producing liquid fuels from biomaterial. This is used to determine the relevant GHG emissions savings threshold. Of the 122 consignments of fuel used after 1 January 2018, 118 were produced in installations that first started producing liquid fuels before 6 October 2018; which sets a GHG emissions savings threshold of 50%. The remaining four consignments were produced in installations that first started producing liquid fuels on or after 6 October 2018, which requires a GHG emissions saving of at least 60%.

4.29 The vast majority of bioliquids, used in stations that reported against country of biomass origin, were sourced from within the UK and ROI; this is shown in **Figure 4.9**. This is consistent with the 2016-17 and 2015-16 obligation periods. Despite the overall reduction in bioliquid use, the quantity of bioliquids sourced from overseas (non EU) rose substantially. Despite this increase, it still represents a minor proportion of bioliquid use where consignments

⁴⁶ Article 82 of the ROO 2015 (as amended), Article 82 of the ROS 2009 (as amended) and Article 46 of the NIRO 2009 (as amended)

sourced from the EU and the European Economic Area (EEA),⁴⁷ and overseas (non EU) contribute just 1%.

Figure 4.9: A comparison of the quantities of bioliquid used in the 2015-16, 2016-17 and 2017-18 obligation periods



⁴⁷ Some bioliquid was sourced from Norway, which is a member of the EEA and has the rights to free movement of goods across EU member states.

5. Compliance by licensed suppliers

Chapter summary

In 2017-18, suppliers presented 103.22 million ROCs towards the total UK obligation of 117.84 million ROCs.⁴⁸ This resulted in the largest buy-out fund since the beginning of the scheme in 2002. The combined sum redistributed to eligible suppliers from the buy-out and late payment funds was £604.1million for the 2017-18 obligation period (by way of comparison, the previous largest buy-out fund was in 2016-17, whereby Ofgem redistributed a total of £460m to eligible suppliers). Each ROC was notionally worth £51.43, giving a scheme value of approximately £5.3 billion. There were 111 suppliers with an obligation in the UK – 14 of which did not meet their obligation. This resulted in mutualisation being triggered for the first time in RO history. Further details about this are included in sections 5.35 to 5.40.

5.1 The obligation level (expressed as ROCs/MWh) is set by the Secretary of State and published by BEIS six months before each obligation period begins.⁴⁹ The 2017-18 obligation level was announced by BEIS on 1 October 2016.⁵⁰ This required suppliers in England, Wales and Scotland to present 0.409 ROCs per MWh of electricity that they supplied to their customers. Suppliers in NI had to present 0.167 ROCs per MWh. The obligation level by RO jurisdiction⁵¹ is used by Ofgem to calculate the total UK obligation (ie: actual total electricity supplied x relevant obligation level by RO jurisdiction). In 2017-18 the total supply was 284.9TWh to customers in GB and 7.9 TWh in NI. Using the 2017-18 obligation level and the 2017-18 total electricity supplied figures gave a total UK obligation of 117.84 million ROCs. This is an increase of 17.1 million ROCs (17.0%) from the total UK obligation level of 100.74 million ROCs in 2016-17.

5.2 We set the buy-out price before each obligation period by taking the buy-out price from the previous obligation period and adjusting it in line with the change in the Retail Price Index (RPI)⁵² during the previous calendar year. For the obligation period 2017-18 the price was set at £45.58 per ROC – an increase of just under two percent from the 2016-17 value of £44.77.

5.3 The obligation for all 111 suppliers that supplied electricity during the obligation period was set based on their overall supply volumes by RO jurisdiction. Some licensed suppliers did not supply electricity in 2017-18 and so did not have an obligation. A breakdown by individual supply licence is provided in Appendix 4. Suppliers with an obligation under the RO are not the complete group of licensed suppliers in the UK. A full list of all electricity supply licences in GB is available from the Electronic Public Register on our Licensing website.⁵³ An equivalent list for NI is on the Northern Ireland Authority for Utility Regulation (UR) website.⁵⁴

⁴⁸ <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-total-obligation-201718>

⁴⁹ Articles 12 of the NIRO and ROS 2009 Orders and article 13 of the RO 2015 Order define these calculations to set the obligation.

⁵⁰ <https://www.gov.uk/government/publications/renewables-obligation-level-calculations-201718>
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/560421/RO_settin_g_2017-18_explanatory_note_-_1_October_2016_-_typos_corrected.pdf

⁵¹ Breakdown of RO jurisdiction is as follows: RO (England & Wales), ROS (Scotland), and NIRO (Northern Ireland)

⁵² RPI from the Office of National Statistics <https://www.ons.gov.uk>

⁵³ <https://epr.ofgem.gov.uk/Document>

⁵⁴ <https://www.uregni.gov.uk/electricity-licences>

Information required by suppliers

5.4 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 as of the first day of the late payment period.⁵⁵

Validation and submission of supply volumes

5.5 Appendix 5 of the Renewables Obligation: Guidance for Licensed Electricity Suppliers⁵⁶ 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 Elexon⁵⁷ for supply in GB, and from Northern Ireland Electricity Networks (NIE)⁵⁸ for supply in NI.

5.6 Since 2015, when the new process was firstly introduced, settlement reports from Elexon and NIE are obtained by Ofgem before suppliers submit their figures. An extract of the report is sent to each supplier for validation of their supply volumes and, at that stage, suppliers can either accept the figures or justify any variance before submitting their figures.

5.7 There were three suppliers⁵⁹ that submitted their estimated figures to us after the 1 June deadline, and five that submitted their final supply figures after the 1 July deadline. There were also three suppliers that did not submit any estimated data, and two that did not submit any final supply data (this includes one supplier which did not submit any supply data because it went into administration during the 2017-18 RO year). Each of these incidents of non-compliance will be added to the Supplier Performance Report (SPR).⁶⁰

Share of obligation by suppliers

5.8 **Figure 5.1** shows how the total UK obligation was split between suppliers. Each supplier with a share of the obligation of 3% or above is shown individually, those with share below 3% are grouped together under 'Other'.

⁵⁵ 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.

⁵⁶ <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-suppliers-march-2018>

⁵⁷ <https://www.elexon.co.uk/>

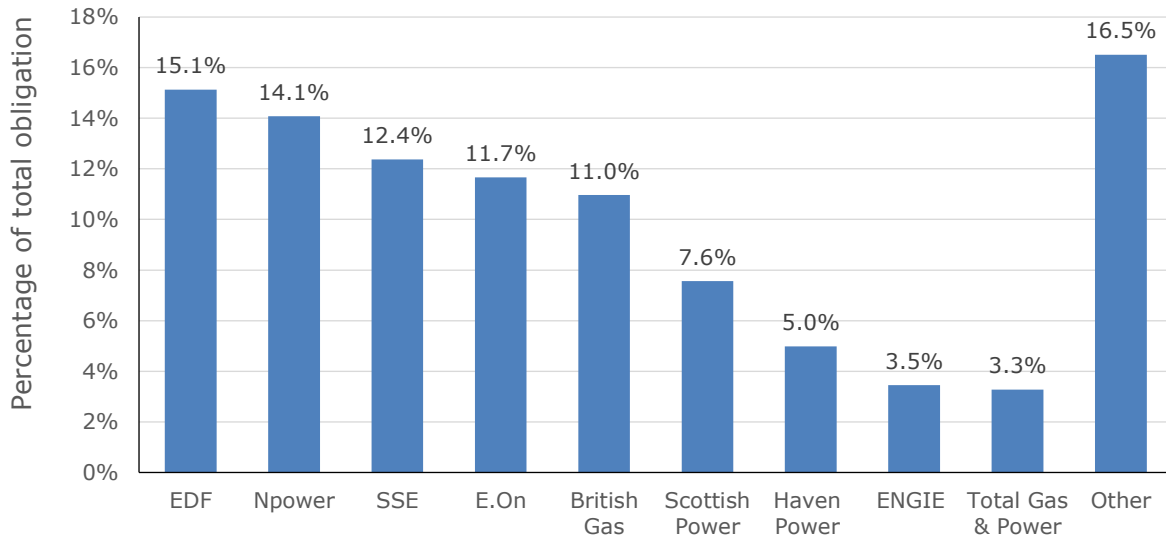
⁵⁸ <https://www.nienetworks.co.uk/home>

⁵⁹ A list of suppliers is provided in Appendix 4.

⁶⁰ <https://www.ofgem.gov.uk/environmental-programmes/environmental-programmes-ofgem-s-role-and-delivery-performance/environmental-programmes-supplier-performance-report>

5.9 The 'big six' suppliers (British Gas, E.ON, EDF, Npower, Scottish Power and SSE) shared 71.77% of the obligation between them. This is down from 74.95% last year. Full details of suppliers' obligations are included in Appendix 4.

Figure 5.1: Proportion of total obligation (RO, ROS, and NIRO combined) by supplier group in 2017-18



Compliance with obligations

5.10 Suppliers had a total of 213 obligations across the three Orders, 191 obligations of which were met.

- Suppliers met 64 of the 213 obligations by presenting ROCs alone. Of these, 25 were on the RO, 35 on the ROS, and four on the NIRO,
- Suppliers met 92 obligations entirely through either buy-out or late payments or a combination of both. Of these, 46 were on the RO, 45 were on the ROS and one was on the NIRO,
- Suppliers met 35 obligations through a combination of buyout/late payments and ROCs. Of these 28 were on the RO, five were on the ROS and two were NIRO.

ROCs presented by Suppliers

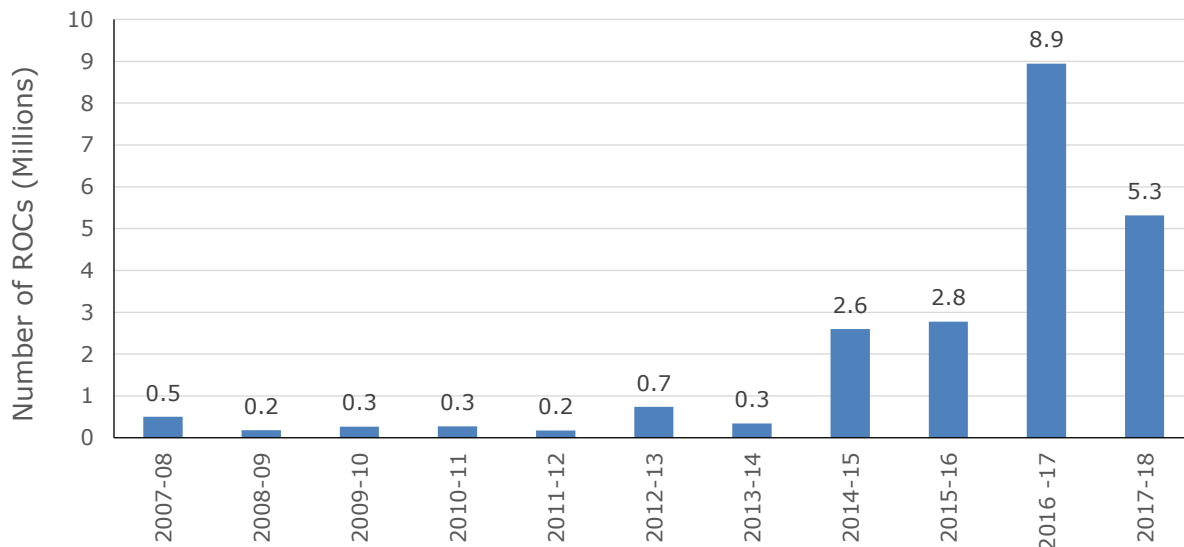
5.11 **Table 5.1** summarises the obligation and ROCs presented by suppliers across the Orders. This shows that suppliers presented 103.22 million ROCs to us for compliance in 2017-18. This is an increase of 13.1 million ROCs, or 14.4%, on the 90.21 million they presented in 2016-17

5.12 Suppliers met 87.59% of the total obligation (117.8m ROCs) by presenting ROCs (103.2m) to us. The remaining proportion of the obligation (14.6m ROCs) – the highest since the RO began in 2002-03 – was largely met by suppliers through making a buyout payment and/or late payment. Consequently, this resulted in the highest total of such payments being made (totalling over £608.05 million) to date.

Table 5.1: Summary of ROCs presented towards each UK obligation in 2017-18

	RO	ROS	NIRO	UK total
Electricity supplied (MWh)	258,393,651	26,499,926	7,908,068	292,801,646
Obligation (ROCs)	105,683,001	10,838,475	1,320,647	117,842,123
ROCs presented	92,054,861	10,100,262	1,065,756	103,220,879
Total number of obligations	111	94	8	213
Percentage of obligation met with ROCs	87.10%	93.19%	80.70%	87.59%

5.13 Suppliers are allowed to meet up to 25% of an obligation by presenting unused ROCs from the previous obligation period (banked ROCs)⁶¹. They presented around 5.3 million banked ROCs, down from the 8.9 million presented last year. **Figure 5.2** shows that the number of banked ROCs presented in 2017-18 obligation period was significantly higher than previous obligation periods with the exception of 2016-17 obligation year. The reason for this is attributed to large volume of ROCs issued in 2016-17. This resulted in large number of banked ROCs being available for suppliers to present to us towards their 2017-18 obligation.

Figure 5.2: Number of banked ROCs presented each obligation period since 2007-08

5.14 The relatively high volume of ROCs we issued in 2017-18 and the relatively large number of banked ROCs from 2017-18 that suppliers presented will have a consequential effect into the 2018-19 compliance period. Of the 100.6 million ROCs we issued in 2017-18, around 2.7 million were not presented by suppliers. These will be available as banked ROCs for the 2018-19 compliance period.

5.15 There is a cap 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 Guidance for Suppliers.⁶²

⁶¹ Defined in article 14(2) of the 2015 RO Order and articles 13(2) of the 2009 ROS and NIRO Orders

⁶² <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-suppliers-march-2018>

5.16 In 2017-18 suppliers presented 181,429 bioliquid ROCs to us, across the obligations, which qualified under the cap. This is 0.15% of the total obligation, well below the 4% cap. However, this is more than double the 87,290 qualifying bioliquid ROCs presented by suppliers last year. Suppliers also presented 2,180,927 bioliquid ROCs towards their 2017-18 obligation that were exempt from the cap. This represents around a 32% increase on those presented by suppliers in the 2016-17 obligation period.

5.17 **Table 5.2** summarises all bioliquid ROCs presented by suppliers towards their obligations by RO year. This is effective from the 2013-14 RO year, when the cap on the number of bioliquid ROCs a supplier can present towards its obligation was first introduced.

Table 5.2: Summary of qualifying and non-qualifying bioliquid ROCs presented by suppliers towards their obligations since 2013-14 RO year

Compliance Period/ RO Year	No. of biofuel ROCs submitted by suppliers which are <u>exempt</u> from the 4% cap	No. of biofuel ROCs submitted by suppliers which are included in the 4% cap	Total qualifying and non-qualifying BL ROCs presented non-qualifying BL ROCs presented
CP12 – 2013-14	851,836	143,498	995,334
CP13 – 2014-15	874,999	29,301	904,300
CP14 – 2015-16	1,352,131	58,973	1,411,104
CP15 – 2016-17	1,707,067	87,290	1,794,357
CP16 – 2017-18	2,180,927	181,429	2,362,356

Payments made

5.18 Suppliers who chose to make buy-out payments paid a total of £563,533,237 into the buy-out funds by the legislative deadline of 31 August.

5.19 Across the schemes, 34 suppliers covering 56 obligations did not meet the deadline for making buy-out payments. All but 14 suppliers (as noted in section 5.22) complied with their obligations by making late payments by 31 October, totalling £44,520,127.10.

5.20 **Table 5.3** summarises the payments suppliers made towards each UK obligation in 2017-18. Full tables of how all suppliers met their obligations are in Appendix 4.

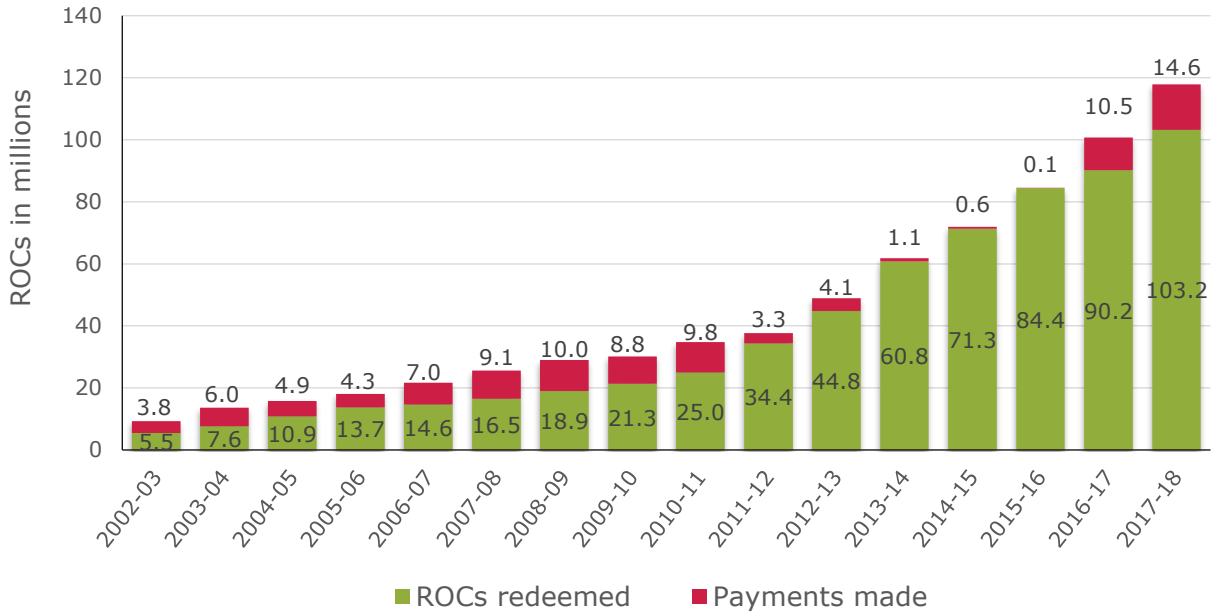
Table 5.3: Payments made towards each UK obligation in 2017-18

	RO	ROS	NIRO	UK total
Buy-out payments made	£526,038,495.67	£26,693,512.80	£10,801,229.34	£563,533,237.81
Late payments made	£40,199,848.52	£4,320,278.58	£0.00	£44,520,127.10
Total	£566,238,344.19	£31,013,791.38	£10,801,229.34	£608,053,364.91

5.21 **Figure 5.3** 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 that suppliers met by presenting ROCs; the red sections represent the remaining

proportion⁶³ of the obligation suppliers largely met by making buyout-payments. This shows a significant drop in the proportion met by ROCs in 2016-17 and 2017-18 when compared to the corresponding proportion for each of the last five pre-2016-17 RO years.

Figure 5.3: Trend in UK obligation and proportion met through ROCs and payments since 2002-03



Non-Compliance with Obligations

5.22 As reported on our website,⁶⁴ 14 suppliers with a total obligation of 1,488,209 ROCs did not comply with their obligations:

- Four suppliers (Future Energy Utilities Limited, Electraphase Limited, Iresa Limited and GEN4U), with a total obligation of 226,932 ROCs, ceased trading during the 2017-18 Compliance Round. Electraphase presented 389 ROCs towards offsetting a small portion of its total ROC obligation whereas the other three suppliers did not make payments or present ROCs towards their obligations.
- Three suppliers (Spark Energy Limited, Extra Energy Limited and Economy Energy Trading Limited), with a total of obligation of 1,212,966 ROCs, ceased trading after the 2017-18 Compliance Round. While these suppliers failed to discharge their obligations, we recovered £4m from what was owed by Economy Energy Trading Limited through Enforcement action, as detailed below.
- Four suppliers (Click Energy Limited, Eversmart Energy Ltd, Snowdrop Energy Supply Limited and Faraday Energy Supply Limited (URE Energy Limited)), with

⁶³ In some RO years, a very small fraction of this remaining proportion of the obligation was not fulfilled by suppliers making buyout and/or late payments, and thus will have been left undischarged. For 2017-18 RO year, however, this was more significant (around ~1.3% of the total obligation equating to ~1.49m ROCs), and thereby triggering the mutualisation process for the first time in the RO's history.

⁶⁴ <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-late-payment-distribution-2017-2018>

a total obligation of 35,117 ROCs, failed to make a late payment by the 31 October legislative deadline.

- Three suppliers (Ampoweruk Limited, Brilliant Energy Supply Ltd and Planet 9 Energy Limited), with a total obligation of 13,194 ROCs, failed to make a late payment in full by 31 October and so did not comply with their obligations for 2017-18. They did, however, make payment in full very shortly after the late payment period had closed. This non-compliance will be entered on to the SPR.

5.23 As a result of the above non-compliances, Ofgem's Enforcement team launched investigations into Economy Energy Trading Limited and Spark Energy Limited over their non-payment. The Enforcement team also gave notice to URE Energy Limited and Eversmart that they must deliver all outstanding payments by 31 March 2019 through monthly instalments. On 13 February 2019, Ofgem published a notice of proposal to issue a Final Order on URE Energy Ltd in respect of their outstanding payment. The draft Final Order requires URE to make payment in full by 31 March 2019.

5.24 The investigations into Spark Energy Limited and Economy Energy Trading Limited have been closed as these suppliers ceased trading on 23 November 2018 and 8 January 2019 respectively. Our action recovered £4m of Economy Energy Trading Limited's outstanding payment balance.

5.25 We are pursuing outstanding balances for suppliers who have ceased trading, or are in the process of exiting the market, through their administrators. This includes Future Energy Utilities Limited, Electraphase Limited, Iresa Limited, Extra Energy Limited, GEN4U, Spark Energy Limited, Economy Energy Trading Limited and Snowdrop Energy Supply Limited. Any funds received through this process will be redistributed as if they were received as part of the late payment fund for this compliance period.

5.26 In the case of Click Energy, as this is a Northern Ireland supplier, we referred the instance of non-compliance to the Northern Ireland Authority for Utility Regulation. They have opened an Enforcement investigation and this is currently being progressed.

Redistribution of the buy-out and late payment funds

5.27 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 5.4: Summary of redistribution payments

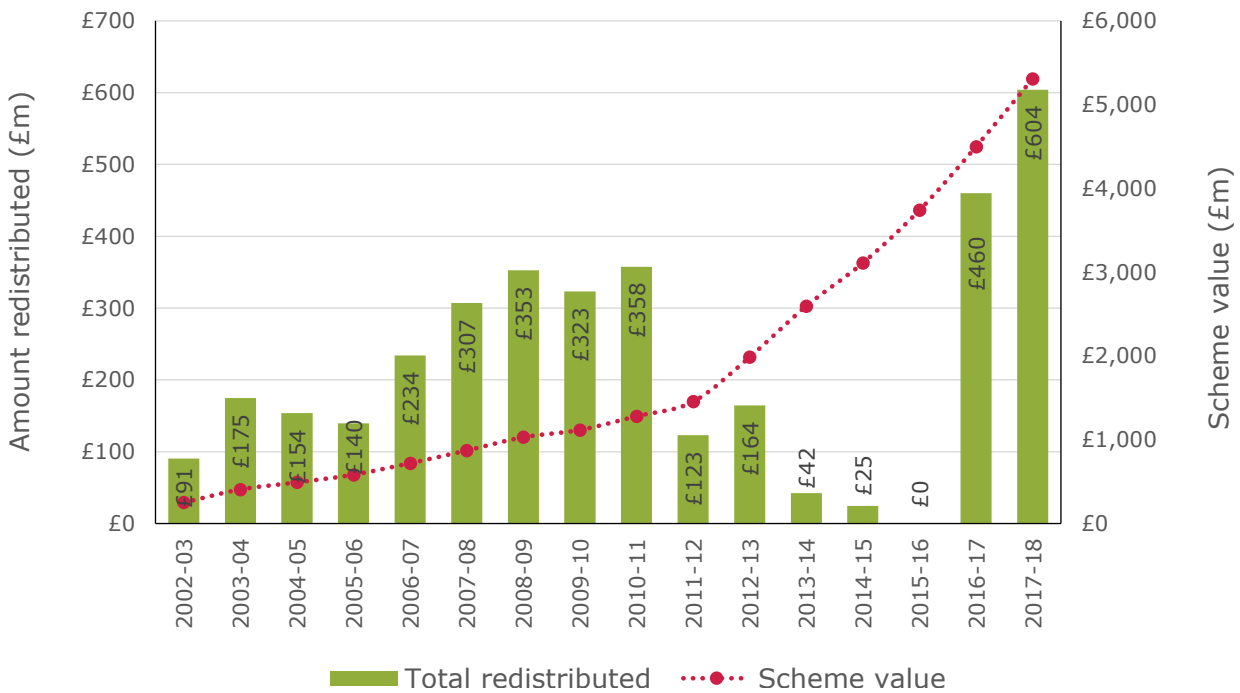
	RO	ROS	NIRO	UK total
Buy-out payments	£524,074,401	£24,746,854	£10,724,439	£559,545,694
Late payments	£40,228,428	£4,342,824	£0	£44,571,252
Totals	£564,302,829	£29,089,678	£10,724,439	£604,116,946

5.28 As **Table 5.4** summarises, the combined sum redistributed to suppliers from the buy-out and late payment funds was approximately £604.1 million. Full information on payments made to individual supply licences is included in Appendix 4. We redistributed £559.5 million from the buy-out funds. We withdrew £4.4 million (almost the same as that withdrawn last year) for our scheme administration costs⁶⁵ (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 2018⁶⁶, in advance of the legislative deadline of 1 November.

5.29 We redistributed £44.6 million in late payments, on the same basis as the buy-out funds (though without the withdrawal of administration costs) on 30 November 2018.⁶⁷ This was in advance of the legislative deadline of 1 January 2019.

5.30 **Figure 5.4** shows the amounts we have redistributed each year, and the growth in value of the scheme, since its introduction in 2002.

Figure 5.4: Total redistributed to suppliers and scheme value since 2002-03



ROC recycle value

5.31 As suppliers presented 103.2m ROCs, this means the ROC recycle value (the amount that suppliers received back for each ROC they presented) for the 2017-18 obligation period was £5.85. When added to the buy-out price of £45.58 for each ROCs they presented, the total notional worth of a ROC for this obligation period was £51.43. Suppliers will receive a further mutualisation recycle value once the mutualisation process for this compliance period is complete⁶⁸.

⁶⁵ This includes UR’s costs (£891,035) and Ofgem’s costs (£3,544,697).

⁶⁶ <https://www.ofgem.gov.uk/publications-and-updates/renewable-obligation-number-rocs-presented-towards-201718-uk-obligation>

⁶⁷ <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-late-payment-distribution-2017-2018>

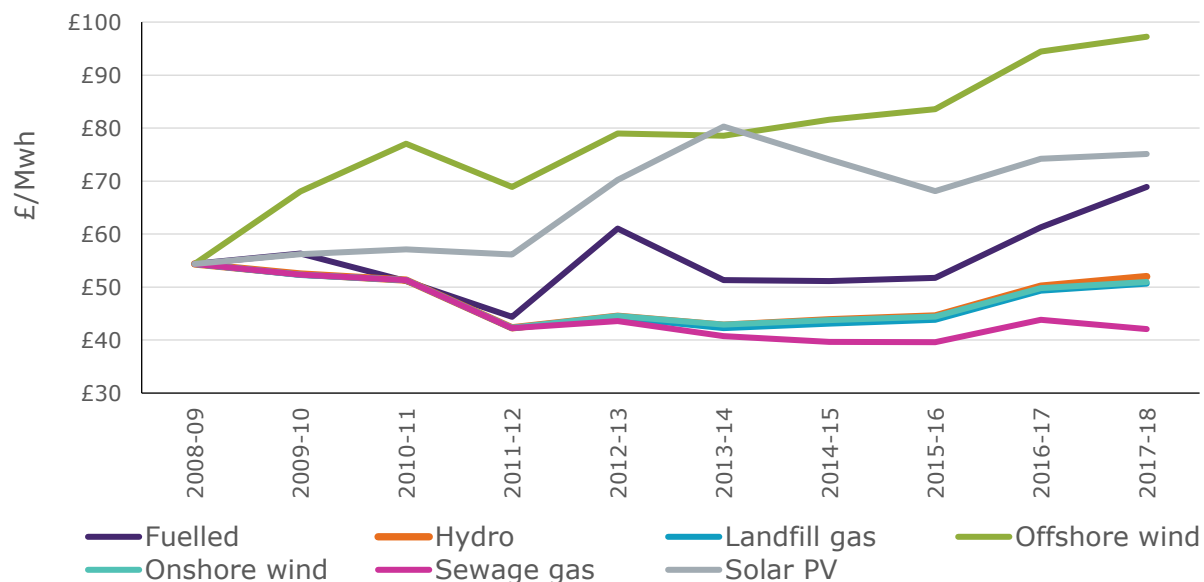
⁶⁸ Further details on mutualisation are given in sections 5.35 – 5.40

Table 5.5: Determination of ROC recycle value since 2008-09

	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18
Total of buy-out and late payments redistributed	£353m	£324m	£358m	£123m	£164m	£42m	£25m	£0m	£460m	£604m
Total ROCs presented	18.9m	21.3m	25.0m	34.4m	44.8m	60.8m	71.3m	84.4m	90.2m	103.2m
Recycle value per ROC presented	£18.61	£15.17	£14.35	£3.58	£3.67	£0.70	£0.35	£0.00	£5.10	£5.85
Worth of a ROC to a supplier	£54.37	£52.36	£51.34	£42.27	£44.38	£42.72	£43.65	£44.33	£49.87	£51.43
Average ROCs issued/MWh	1.00	1.04	1.07	1.12	1.27	1.27	1.28	1.31	1.32	1.34
Support per MWh supplied	£54.37	£54.45	£54.93	£47.34	£56.36	£54.25	£55.87	£58.07	£65.88	£68.82

5.32 **Table 5.5** 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 2017-18 suppliers presented 103.2 million ROCs each worth £51.43, giving a scheme value of £5.3 billion.

5.33 The average number of ROCs issued per MWh (from **Table 5.5**) 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 5.5**.

Figure 5.5: Cost 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 5.5** 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 one ROC per MWh generated. The most obvious change from last year is the increase in the cost of support per MWh for each technology type with the notable exception of sewage gas.

Mutualisation

5.35 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 provisions in RO legislation⁶⁹ are designed to account for this. Mutualisation is triggered above a certain threshold, known as relevant shortfall.⁷⁰ Mutualisation does not apply in Northern Ireland.

5.36 If mutualisation is triggered, suppliers which fully or partially discharged their obligation under the RO and/RO 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.

5.37 The mutualisation ceilings for 2017-18 were £274,560,620.96 in England and Wales and £27,456,062.09 in Scotland.

5.38 Mutualisation payments are 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.

5.39 As noted above, 14 suppliers did not meet their obligations in full. This resulted in a total shortfall of £58.6m, distributed across the schemes, as follows:

- RO: £53,411,386.49
- ROS: £4,418,135.49
- NIRO: £816,702.44

5.40 The resulting shortfall triggered mutualisation for both RO and ROS for the first time ever. In line with the RO Orders, suppliers who discharged all or part of their obligation have been contacted to make quarterly payments to make up the shortfall, in proportion to their obligation. Further information on mutualisation can be found within chapter 7 of our Renewables Obligation: Guidance for Suppliers.⁷¹

⁶⁹ Mutualisation is described in articles 72 – 77 of the 2015 RO Order and articles 48 – 52 of the 2009 ROS Order.

⁷⁰ Article 72 in the 2015 RO Order and Schedule 3 in the 2009 ROS Order define the amount of relevant shortfall.

⁷¹ <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-suppliers-march-2018>

6. Audits and Counter Fraud under the RO

Chapter summary

Our auditors carried out targeted audits of 140 large generators across a range of technology types and 66 Northern Ireland micro generators. Our auditors also audited four licensed suppliers on their supply volume submission processes and three Northern Ireland Agent or 'Rent-a-roof' companies in relation to their obligations under the NIRO. We rated 56% of the large generator and all supplier audits as "weak" or "unsatisfactory".

Audits of generating stations

6.1 We expect all generating stations accredited under the Renewables Obligation (RO) to submit correct information to us when applying for accreditation. They also need to inform us of any changes that might affect their accreditation and to submit accurate, non-fraudulent data when claiming Renewables Obligation Certificates (ROCs). As set out in our published guidance, each year we carry out a programme of audits of generating stations to verify this.

The objectives of our generator audit programme are to:

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

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), and
- **Unsatisfactory** (major instances of non-compliance or suspected fraud identified).

6.2 We receive a full report of the auditor's findings after 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 to rectify all problems. We only close an audit once we are sure that all corrective action has been taken to address all problems identified. Corrective action may include the provision of appropriate additional information and supporting evidence. It may involve amendments to the accreditation application or FMS procedures or the inclusion of additional conditions of accreditation. In some cases, we temporarily suspend the issue of ROCs while we wait for a station to provide outstanding information or take corrective actions.

2017-18 generator audits

6.3 In 2017-18 we contracted Black and Veatch to carry out technical audits of 140 large-scale (>50kW) generating stations. Ninety-one of these generators are situated in England or Wales, 13 in Scotland and 36 in Northern Ireland. The generating stations that we selected for audit consisted almost entirely of those about which we had specific concerns, with a small number which were targeted as representative examples of a particular class of generator (for example of technology type). Table 6.1 shows the breakdown of the audits by generating technology type and the rating given by the auditor.

6.4 As in previous years, these audits were of two main types. Pre-accreditation audits focus on verifying key information (eg. commissioning date and capacity) provided in applications for accreditation which we have yet to approve. Standard audits additionally checked the appropriateness of metering arrangements, the accuracy of ROC claims and, for fuelled generators, adherence to agreed FMS procedures and sustainability requirements.

Table 6.1: Technologies audited in 2017-18

Technology (Audit type)	Stations audited	Rating awarded by auditor			
		Good	Satisfactory	Weak	Unsatisfactory
Fuelled	19	0	8	11	0
Fuelled (pre-accreditation)	27	0	15	6	6
Hydro (pre-accreditation)	1	0	0	0	1
Landfill gas	1	0	1	0	0
Offshore wind	1	0	0	1	0
Onshore wind	4	0	2	2	0
Onshore wind (pre-accreditation)	16	3	7	4	2
Sewage gas	1	0	0	1	0
Sewage gas (pre-accreditation)	1	0	1	0	0
Solar PV	39	0	6	16	17
Solar PV (pre-accreditation)	30	0	19	4	7
Totals	140	3 (2%)	59 (42%)	45 (32%)	33 (24%)

6.5 Comparing the percentage audit ratings figures with those for 2016-17, there were a lower proportion of "satisfactory" audits in 2017-18 (42% vs. 57%) and a correspondingly higher proportion of "weak" audits (32% vs. 17%). The frequency of "good" and "unsatisfactory" audits remained almost the same. A total of 75 (54%) audits were of the pre-accreditation type, reflecting our concern to ensure that the accuracy of applications for accreditation submitted around the RO closure date of 31 March 2017.

6.6 A notable observation is the concentration of "unsatisfactory" audits in England and Wales. Here, 33% were rated "unsatisfactory" compared to 6% in Northern Ireland and Scotland – see **Table 6.2**. Twenty-four of these 30 "unsatisfactory" audits related to solar PV generators which we had selected on the basis of concerns about the commissioning date stated in their accreditation applications, in particular if this fell after a relevant RO banding drop or the scheme closure date. To date, nine of these 24 audits have been closed, with the stated commissioning date having been accepted following receipt of further detailed

supporting evidence. Decisions have yet to be made in the other 15 “unsatisfactory” solar PV audits.

6.7 Of the remaining six unsatisfactory audits in England and Wales and the three from NI, six were of fuelled generators, two of onshore wind and one a hydro generator. The main concern arising from these audits was whether the commissioning date fell after scheme closure. In the case of one fuelled generator, we have accepted the stated date and approved the accreditation; in another we have not and the application has been declined. We are still reviewing further evidence provided following the remaining seven audits and final decisions on accreditation have yet to be made.

Table 6.2: Audit ratings by country in 2017-18

Country	Stations audited	Rating awarded by auditor			
		Good	Satisfactory	Weak	Unsatisfactory
England & Wales	91	0	34	27	30
Northern Ireland	36	2	21	10	3
Scotland	13	1	4	8	0
Totals	140	3 (2%)	59 (42%)	45 (32%)	33 (24%)

6.8 The types of findings which contributed to the “weak” rated audits included one or more of the following: significant information requested by the auditor not provided, generating station possibly not separate from another, metering arrangements inadequate for accurate ROC claims, meter(s) not calibrated, off-grid status unclear and, for fuelled generators FMS procedures not being followed or sustainability criteria not met. Such findings were not common; no more than five instances of each type were recorded.

6.9 “Weak” audit ratings were also frequently attributed in cases where eight or more minor non-compliances were found. The more commonly observed minor non-compliances across all audits included: non-material commissioning date discrepancy or meter details incorrect in the accreditation application, DNC and/or TIC incorrect, incomplete or inaccurate Single Line Diagram and failure to provide some requested information.

6.10 Only five of the 65 standard audits identified instances of ROC over claims. In each case these were minor and all have been resolved.

2017-18 audits of Northern Ireland micro generators

6.11 Under the NIRO, solar PV generators with capacities below 50kW who commissioned and applied for accreditation in the period 1 October 2015 to 30 September 2016 receive three ROCs/MWh, whereas those commissioned 1 October 2016 – 31 March 2017 receive two ROCs/MWh. The NIRO closed to new generation capacity from 1 April 2017. In view of the significance of the banding drop and closure dates, we asked Black and Veatch to visit a sample of 66 solar PV micro generators during February 2018, to verify commissioning and metering information provided to us. Thirty-four of these micro generators were already accredited; the rest were awaiting accreditation.

6.12 The majority of site audits (46) showed no or only minor discrepancies in information provided to us, which required correction but did not affect accreditation status. However, 20 audits highlighted significant discrepancies or lack of key evidence potentially impacting ROC

issue or accreditation status. Follow-up work by us has resulted in three applications being cancelled.

Audits of Northern Ireland Agents and 'Rent-a-roof' companies

6.13 The NIRO allows the operator of a micro NIRO generating station 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.

6.14 Although the number of ROCs issued to individual micro NIRO generators is small, due to the large number of such generators represented by agents, their overall ROC claims are significant so we decided to audit two agents in 2017-18. We also audited one 'rent-a-roof' (RAR) company. RARs have the status of a generator under the NIRO, since they both own and operate the generating stations at the sites which it leases. We appointed Grant Thornton UK LLP conduct these audits.

6.15 Micro NIRO generators make annual, rather than monthly, certificate claims for NIROCs. As the audits took place before the annual claims for the 2017-18 obligation period, the audits examined how the companies concerned planned to ensure the accuracy of their NIROC claims as well as general compliance with legislative requirements. Specifically, they checked:

- that the agent or RAR had appropriate procedures in place to ensure accreditation data provided for generating stations is accurate and valid, and that these procedures are being followed;
- the level and extent of scrutiny and checks the agent or RAR applies to generation data and meter readings to ensure that accurate and reliable data is submitted to Ofgem; and
- in the case of the agents, that the company had permission to fully act as an agent on behalf of the generating stations they represented.

6.16 The same assurance ratings used for our generator and supplier audits were applied to the NI agent audits. The two agent audits were assigned an assurance rating of "satisfactory" while the RAR audit was rated "weak". The most serious finding which contributed to this "weak" rating was that for a high proportion of generating stations, the RAR had used the generator's commissioning date, rather than its accreditation date for the purposes of its opening meter reading, thus having the effect of inflating the respective ROC claims slightly.

6.17 Other weaknesses not directly impacting ROC issue, but identified across all three organisations, included some of the processes associated with obtaining and checking generators' accreditation information, ensuring the accuracy of generation data, and for making annual declarations were deficient or absent. In addition, in some cases, the terms and conditions of agents' agreements with microgenerators were insufficient.

6.18 As with the generator audits, we provided copies of the audit reports to the respective parties, along with letters summarising the corrective actions required. We received responses to each audit which addressed the deficiencies identified. The audits currently remain open.

Audits of suppliers

6.19 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 audits of licensed suppliers. These take place in July and early August, soon after suppliers have submitted their annual electricity supply figures for the purposes of RO compliance.

6.20 The objectives of our supplier audit programme are to gain assurance on the accuracy of electricity supply figures submitted to us, to deter the fraudulent or careless submission of inaccurate data and to detect departures from good practice.

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 2017-18 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.
- Any suppliers whose figures had given cause for concern in the present or previous obligation periods, including follow-up audits from the previous year.

2017-18 supplier audits

6.21 Before suppliers submit their annual supply figures by 1 July, we receive dataflows from Elexon and NIE which enable us to estimate likely supply figures for most 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.

6.22 Following our analysis of dataflows, we decided to audit four suppliers in 2017-18, the same number as in 2016-17, although fewer than in earlier years. As previously, we contracted Grant Thornton UK LLP to carry out the audits for 2017-18. We apply the same audit ratings to the supplier audits as we do to the generator audits.

6.23 We rated three of the suppliers as "good" and one as "satisfactory". The chief issue identified in the "satisfactory" audit was that of registered users sharing passwords to their Renewables & CHP account. For data security and counter fraud reasons we strongly discourage this practice – this is included within the terms and conditions of use of the Renewables & CHP Register. If we identify that personal login details have been shared with another party, we may lock the account(s) in question.

6.24 All four suppliers have now addressed the respective audit findings to our satisfaction and we have closed all the audits.

Counter Fraud on the RO

6.25 Ofgem has a dedicated Counter Fraud team which provides fraud prevention, detection and investigation support to all schemes we administer. During the 2017-18 obligation period

the team received six referrals of possible suspected fraud on the RO scheme and seven on the NIRO scheme. In total over 30 sites were implicated. These concerns were raised by our operational staff and other sources. There remain on-going investigations into a number of RO installations.

7. Changes in legislation

Chapter Summary

BEIS and the devolved administrations in Scotland and Northern Ireland introduced a number of amendments in 2017 and 2018. The amendments have affected costs related the scheme, how to deal with additional capacity post-closure and preparations for EU Exit.

RO amendments in 2017

RO exemption for energy intensive industries

7.1 The Renewables Obligation (Amendment) (Energy Intensive Industries) Order 2017 exempts eligible energy intensive industries from some of the indirect costs of the RO and ROS, starting from the 2018-19 obligation year. We have published updated guidance⁷² for suppliers which explains how they should comply with the additional reporting requirements and how this changes the way suppliers' obligation levels are set.

RO amendments in 2018

Indirect Land Use Change Directive

7.2 The Renewables Obligation (Amendment) Regulations 2017 introduced new rules across the UK with effect from 1 January 2018 for bioliquids, wastes and residues under the Renewables Obligation in response to the European Union (EU) Directive on reducing indirect land-use change.

7.3 We published a cover letter⁷³ which provided an overview of the changes to our guidance as a result of these new rules.

Biomass Cost Control

7.4 In January 2018, BEIS published a government response to their consultation on controlling the costs of biomass conversion and co-firing under the Renewables Obligation for England and Wales. BEIS opted for an amended version of the proposed generator cap which provides increased flexibility – an “annual ROC cap”.

7.5 The Renewables Obligation (Amendment) Order 2018 applied the cap with effect from the 2018/19 obligation year. We have updated our guidance for generators⁷⁴ on the annual ROC cap.

Scottish Hydro additional capacity

7.6 In March 2018 Scottish Government consulted on enabling hydro-electric generating stations in Scotland to increase their declared net capacity (DNC) above 20MW, whilst

⁷² <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-suppliers-march-2018>

⁷³ <https://www.ofgem.gov.uk/publications-and-updates/final-guidance-changes-bioliquids-wastes-and-residues-under-ro>

⁷⁴ <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-generators>

retaining eligibility for Scottish Renewables Obligation Certificates (SROCs). In September 2018 they published their decision to go ahead with this amendment.

7.7 The Renewables Obligation (Scotland) Amendment Order 2018 came into force on 20 November 2018. We have updated our guidance⁷⁵ to explain how these stations can successfully add capacity.

EU Exit Regulations

7.8 The Renewables Obligation (Amendment) (EU Exit) Regulations 2019 amend the UK-wide RO Orders to ensure that the scheme continues to operate in line with EU Regulation that will be retained in UK Law. The changes come into force on the day the UK leaves the European Union. We will update our guidance accordingly in due course.

Co-location of electricity storage with RO installations

7.9 There have been no legislative changes to address the interaction of storage technologies with generating stations accredited under the RO. However, to clarify the treatment of storage facilities within the framework of existing scheme legislation, in June 2018 we published 'Guidance for generators: Co-location of electricity storage facilities with renewable generation supported under the Renewables Obligation or Feed-in Tariff schemes (Version 1)'.⁷⁶ This was done as part of Ofgem and BEIS' joint 'Smart Systems and Flexibility Plan'. The guidance covers the requirements for co-locating storage, and presents a number of common examples of metering setups which allow for ROCs to continue to be claimed on generating station output.

⁷⁵ <https://www.ofgem.gov.uk/publications-and-updates/renewables-obligation-guidance-generators>

⁷⁶ <https://www.ofgem.gov.uk/publications-and-updates/guidance-generators-co-location-electricity-storage-facilities-renewable-generation-supported-under-renewables-obligation-or-feed-tariff-schemes-version-1>

8. Implementation and improvement update

Chapter summary

In 2017-18, we made changes to the Renewables and CHP Register to reflect changes to legislation and to our internal procedures. Guidance documents were published or updated and our Operational Excellence programme continued to make improvements to our internal processes and for external stakeholders.

Renewables and CHP Register

8.1 During 2017-18, we made minimal changes to the Register, following the scheme closure the previous year. Key legislative changes included amending the greenhouse gas threshold for bioliquid fuels to align with the updated EU Renewable Energy Directive. Other changes included adding new renewable technology categories to the accreditation flow (ie tidal barrage), improvements to the internal RO compliance process, and the release of a new register homepage. This updated homepage, which is visible immediately when account holders log in, provides information on next steps, likely timescales, links to guidance documentation and contact details.

Furthermore, we also saw the first accreditation of a fuelled generator that uses both anaerobic digestion and dedicated biomass. As such, changes were made to allow ROCs to be issued to stations generating using this combination of fuels.

8.2 Analysis conducted during 2017-18, along with feedback from our customer satisfaction surveys, highlighted a number of limitations and issues with the existing Register. Consequentially a decision was taken to develop a replacement for this legacy system. This project is currently underway, with requirements being gathered to shape the design and scope of the new Register system. User research will be scheduled in due course, and as part of this analysis, we'll be actively seeking views from Register users and other scheme stakeholders. The redeveloped system aims to be more intuitive and include greater functionality for scheme participants and internal users, and is scheduled for deployment in 2019-20.

Guidance documents

Guidance

- Renewables Obligation Certificate (ROC) Issue Schedule 2018/2019 (March 2018),⁷⁷
- Renewable electricity schemes privacy notice (May 2018),⁷⁸
- Guidance for generators: Co-location of electricity storage facilities with renewable generation supported under the Renewables Obligation or Feed-in Tariff schemes (Version 1) (June 2018),⁷⁹

⁷⁷ <https://www.ofgem.gov.uk/publications-and-updates/renewable-obligation-certificate-roc-issue-schedule-20182019>

⁷⁸ <https://www.ofgem.gov.uk/publications-and-updates/renewable-electricity-schemes-privacy-notice>

⁷⁹ <https://www.ofgem.gov.uk/publications-and-updates/guidance-generators-co-location-electricity-storage-facilities-renewable-generation-supported-under-renewables-obligation-or-feed-tariff-schemes-version-1>

- Guidance for generators: Co-location of electricity storage facilities with renewable generation supported under the Renewables Obligation or Feed-in Tariff schemes (Version 2) (December 2018),⁸⁰
- Declaration templates for the Energy Efficiency Requirement (June 2018).⁸¹

Consultations and requests for comment

- Draft Renewables Obligation: Guidance for Generators – request for comment (June 2018),⁸²
- Draft Guidance for co-location of storage with RO and FIT generation – request for comment (December 2018).⁸³

Frequently asked questions and factsheets

- Banked ROCs FAQ (June 2018).⁸⁴

⁸⁰ <https://www.ofgem.gov.uk/publications-and-updates/guidance-generators-co-location-electricity-storage-facilities-renewable-generation-supported-under-renewables-obligation-or-feed-tariff-schemes-version-2>

⁸¹ <https://www.ofgem.gov.uk/publications-and-updates/declaration-templates-energy-efficiency-requirement-0>

⁸² <https://www.ofgem.gov.uk/publications-and-updates/draft-renewables-obligation-guidance-generators>

⁸³ <https://www.ofgem.gov.uk/publications-and-updates/guidance-generators-co-location-electricity-storage-facilities-renewable-generation-supported-under-renewables-obligation-or-feed-tariff-schemes>

⁸⁴ <https://www.ofgem.gov.uk/publications-and-updates/banked-rocs-faq>

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>

The Renewables Obligation (Amendment) (Energy Intensive Industries) Order 2017

<http://www.legislation.gov.uk/uksi/2017/1289/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>

Renewables Obligation (Scotland) Amendment Order 2017

<http://www.legislation.gov.uk/ssi/2017/432/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

<http://www.legislation.gov.uk/uksi/2016/457/contents/made>

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 (Amendment) Order (Northern Ireland) 2015

<http://www.legislation.gov.uk/nisr/2015/287/contents/made>

The Renewables Obligation Closure Order (Northern Ireland) 2015

<http://www.legislation.gov.uk/nisr/2015/346/contents/made>

Renewables Obligation (Amendment) Order (Northern Ireland) 2016

<http://www.legislation.gov.uk/nisr/2016/84/made>

Renewables Obligation Closure Order (Northern Ireland) 2016

<http://www.legislation.gov.uk/nisr/2016/174/contents/made>

Renewables Obligation Closure (No.2) Order (Northern Ireland) 2016

<http://www.legislation.gov.uk/nisr/2016/252/contents/made>

United Kingdom

The Renewables Obligation (Amendment) Regulations 2017

<http://www.legislation.gov.uk/uksi/2017/1234/made>

The Renewables Obligation (Amendment) (EU Exit) Regulations 2019

<http://www.legislation.gov.uk/uksi/2019/35/contents/made>

Appendix 2: Accredited stations

Table A2.1 – Accreditation and capacity of renewable technologies across the UK at the end of 2017-18

Generation Technology	England		Scotland		Wales		Northern Ireland		Total	
	Quantity	Capacity (MW)	Quantity	Capacity (MW)	Quantity	Capacity (MW)	Quantity	Capacity (MW)	Quantity	Capacity (MW)
Fuelled	371	5,861	80	253	48	81	107	606	606	6,801
Hydro	49	22	147	615	31	77	85	6	312	721
Landfill gas	380	753	39	84	17	26	8	11	444	874
Offshore wind	27	5,422	5	219	3	720	0	0	35	6,360
Onshore wind	237	2,581	245	7,088	56	958	1,217	1,147	1,755	11,774
Sewage gas	153	191	6	7	16	12	0	0	175	210
Solar PV	787	5,136	15	41	80	488	22,199	236	23,081	5,901
Tidal stream	0	0	7	12	1	0	1	1	9	13
Wave Power	0	0	5	3	0	0	0	0	5	3
Total	2,004	19,966	549	8,322	252	2,363	23,617	2,008	26,422	32,659

Table A2.2 – Number of accreditations in 2017-18 by country and technology (excluding micro NIRO)

Countries	Fuelled	Hydro	Offshore wind	Onshore wind	Solar PV	Total
England	6	0	3	1	0	10
Scotland	1	0	1	9	0	11
Wales	0	0	0	2	0	2
Northern Ireland	10	1	0	104	3	118
Total	17	1	4	116	3	141

Table A2.3 – Number of generating stations (excluding micro NIRO) with accreditations effective from RO years 2013-14 to 2017-18

Month-Year	Monthly totals (ex. Micro NIRO)	Cumulative totals (ex. Micro NIRO)
Apr-13	15	1628
May-13	16	1644
Jun-13	12	1656
Jul-13	11	1667
Aug-13	12	1679
Sep-13	23	1702
Oct-13	7	1709
Nov-13	10	1719
Dec-13	15	1734
Jan-14	18	1752
Feb-14	18	1770
Mar-14	130	1900
Apr-14	21	1921
May-14	14	1935
Jun-14	16	1951
Jul-14	29	1980
Aug-14	17	1997
Sep-14	33	2030
Oct-14	33	2063
Nov-14	20	2083
Dec-14	29	2112
Jan-15	27	2139
Feb-15	23	2162
Mar-15	183	2345
Apr-15	21	2366
May-15	9	2375
Jun-15	13	2388
Jul-15	15	2403
Aug-15	18	2421
Sep-15	12	2433
Oct-15	29	2462
Nov-15	22	2484
Dec-15	47	2531
Jan-16	26	2557
Feb-16	32	2589
Mar-16	210	2799

Month-Year	Monthly totals (ex. Micro NIRO)	Cumulative totals (ex. Micro NIRO)
Apr-16	19	2818
May-16	21	2839
Jun-16	42	2881
Jul-16	25	2906
Aug-16	25	2931
Sep-16	39	2970
Oct-16	39	3009
Nov-16	42	3051
Dec-16	49	3100
Jan-17	41	3141
Feb-17	57	3198
Mar-17	418	3616
Apr-17	11	3627
May-17	11	3638
Jun-17	24	3662
Jul-17	10	3672
Aug-17	7	3679
Sep-17	13	3692
Oct-17	14	3706
Nov-17	9	3715
Dec-17	11	3726
Jan-18	4	3730
Feb-18	7	3737
Mar-18	20	3757

Table A2.4 – Number of micro NIRO generation stations with accreditations effective from RO years 2013-14 to 2017-18

Month-Year	Monthly totals (Micro NIRO)	Cumulative totals (Micro NIRO)
Apr-13	175	1742
May-13	59	1801
Jun-13	262	2063
Jul-13	251	2314
Aug-13	203	2517
Sep-13	201	2718
Oct-13	253	2971
Nov-13	328	3299
Dec-13	327	3626
Jan-14	444	4070
Feb-14	534	4604
Mar-14	850	5454
Apr-14	192	5646
May-14	223	5869
Jun-14	587	6456
Jul-14	326	6782
Aug-14	449	7231
Sep-14	311	7542
Oct-14	854	8396
Nov-14	920	9316
Dec-14	568	9884
Jan-15	576	10460
Feb-15	610	11070
Mar-15	624	11694
Apr-15	286	11980
May-15	294	12274
Jun-15	904	13178
Jul-15	573	13751
Aug-15	568	14319
Sep-15	2487	16806
Oct-15	116	16922
Nov-15	333	17255
Dec-15	214	17469
Jan-16	236	17705
Feb-16	424	18129
Mar-16	257	18386

Month-Year	Monthly totals (Micro NIRO)	Cumulative totals (Micro NIRO)
Apr-16	426	18812
May-16	477	19289
Jun-16	294	19583
Jul-16	438	20021
Aug-16	442	20463
Sep-16	1415	21878
Oct-16	14	21892
Nov-16	20	21912
Dec-16	31	21943
Jan-17	56	21999
Feb-17	60	22059
Mar-17	605	22664
Apr-17	0	22664
May-17	0	22664
Jun-17	0	22664
Jul-17	0	22664
Aug-17	0	22664
Sep-17	0	22664
Oct-17	0	22664
Nov-17	0	22664
Dec-17	0	22664
Jan-18	0	22664
Feb-18	0	22664
Mar-18	1	22665

Table A2.5 – Capacity of generators accredited by obligation year and country since 2013-14 (MW)

Technology	2013-14	2014-15	2015-16	2016-17	2017-18
England	1862	3026	1521	1144	1441
Scotland	575	138	460	1451	298
Wales	625	241	135	455	76
Northern Ireland	61	156	98	443	168

Table A2.6 – Total capacity accredited by generation technology and obligation period since 2013-14 (MW)

Technology	2013-14	2014-15	2015-16	2016-17	2017-18
Fuelled	75	247	205	309	130
Landfill gas	0.5	4	0	1	0
Offshore wind	1024	420	50	0	1341
Onshore wind	853	390	727	2436	494
Sewage gas	10	14	2	18	0
Solar PV	1160	2486	1229	716	19
Other	0.2	0.6	0.7	13	0.2

Table A2.7 – Total capacity accredited under the RO by generation technology (MW)

Technology	Total capacity
Fuelled	6801
Hydro	721
Landfill gas	874
Offshore wind	6360
Onshore wind	11774
Sewage gas	210
Solar PV	5901
Tidal stream	13
Wave Power	3

Table A2.8 – Capacity amendments in 2017-18 (MW)

Technology	Net capacity change	No of capacity increases	No of capacity decreases	Total No of capacity changes
Fuelled	18.8	14	5	19
Hydro	-0.1	0	6	6
Landfill gas	-11.5	10	24	34
Onshore wind	167.8	7	8	15
Sewage gas	4.1	15	0	15
Solar PV	-0.5	28	12	40

Table A2.9 - Number of off grid and zero export stations by country and generation technology accredited to the end of 2017-18

Country	OE/ZE	Fuelled	Onshore wind	Solar PV
England	Off Grid	39	0	0
	Zero export	12	0	0
Northern Ireland	Off Grid	14	27	0
	Zero export	6	9	4
Scotland	Off Grid	5	0	0
	Zero export	3	0	0
Wales	Off Grid	1	0	0

Table A2.10 - Capacity of off grid and zero export generating stations by country and generation technology accredited to the end of 2017-18 (MW)

Country	OE/ZE	Fuelled	Onshore wind	Solar PV
England	Off Grid	83.0	0	0
	Zero export	5.1	0	0
Northern Ireland	Off Grid	5.9	6.0	0
	Zero export	6.2	1.6	1.5
Scotland	Off Grid	18.8	0	0
	Zero export	17.9	0	0
Wales	Off Grid	3.6	0	0

Appendix 3: ROCs issued

Technology	ROCs Issued				
	England	Scotland	Wales	Northern Ireland	Total
Fuelled	13,855,343	2,133,747	463,098	1,132,570	17,584,758
Hydro	53,388	2,111,918	156,263	42,427	2,363,996
Landfill gas	3,104,244	357,384	102,803	68,724	3,633,155
Sewage gas	626,929	32,949	34,116	0	693,994
Offshore wind	33,016,581	1,210,107	4,697,301	0	38,923,989
Onshore wind	6,312,659	15,902,691	2,192,309	3,338,796	27,746,455
Solar PV	8,367,550	5,4367	727,193	450,786	9,599,896
Tidal power	0	35,060	0	0	35,060
Total	65,336,694	21,838,223	8,373,083	5,033,303	100,581,303

Appendix 4: Compliance by licensed suppliers

Table A4.1: Supplier groups and their licences

Company (Supplier Group)	Licence
1st Direct Utilities Limited	1st Direct Utilities Limited
Affect Energy Limited	Affect Energy Limited
Alabama Energy Limited	Alabama Energy Limited
Alaska Energy Limited	Alaska Energy Limited
Albuquerque Energy Limited	Albuquerque Energy Limited
Alfa Smart Energy Ltd	Alfa Smart Energy Ltd
Ampoweruk Limited	Ampoweruk Limited
AMRECS LLC	AMRECS LLC
Arto.Energy Limited	Arto.Energy Limited
Avid Energy Limited	Avid Energy Limited
Avro Energy Limited	Avro Energy Limited
Axis Telecom Limited	Axis Telecom Limited
AXPO UK Limited	AXPO UK Limited
BES Commercial Electricity Limited	BES Commercial Electricity Limited
Better Business Energy Limited	Better Business Energy Limited
Better Energy Supply Limited	Better Energy Supply Limited
Blizzard Utilities Limited	Blizzard Utilities Limited
BP Energy Europe Limited	BP Energy Europe Limited
BP Gas Marketing Limited	BP Gas Marketing Limited
Breeze Energy Supply Limited	Breeze Energy Supply Limited
Brilliant Energy Limited	Brilliant Energy Limited
Bristol Energy Technology & Services (Supply) Limited	Bristol Energy Technology & Services (Supply) Limited
British Gas Trading Limited	British Gas Trading Limited
	Electricity Direct (UK) Limited
British Solar Renewables	Halogen Power Ltd
Brits Energy Limited	Brits Energy Limited
Brook Green Trading Limited	Brook Green Trading Limited
Bruntwood Energy Services Limited	Bruntwood Energy Services Limited
Bryt Energy Limited	Bryt Energy Limited (prev. Bullion Energy Limited)
Bulb Energy Ltd	Bulb Energy Ltd
Business Power and Gas Limited	Business Power and Gas Limited
C/O Harrison Clark Rickerbys Limited	Texas Energy Limited
	Arizona Energy Limited
	Maine Energy Limited
Cardiff Energy Supply Limited	Cardiff Energy Supply Limited
Celesto Enterprises Limited	Celesto Enterprises Limited
Cleanreturns Limited	Cleanreturns Limited
CNG Electricity Limited	CNG Electricity Limited
Colorado Energy Limited	Colorado Energy Limited

Company (Supplier Group)	Licence
Co-Operative Energy Limited	Co-Operative Energy Limited
	Energy COOP Limited
Corona Energy Retail 5 Limited	Corona Energy Retail 5 Limited
Coulomb Energy Supply Limited	Coulomb Energy Supply Limited
Crown Oil Limited	Crown Oil Limited
Culzean Power Ltd	Holborn Energy Limited
	Barbican Power Limited
	Paddington Power Limited
Danske Commodities A/S	Danske Commodities A/S
Dong Energy Power Sales UK Limited	Dong Energy Power Sales UK Limited
DONG Energy Sales (UK) Limited	DONG Energy Sales (UK) Limited
Dual Energy Direct Limited	Dual Energy Direct Limited
Dyball Associates	Hartree Partners Supply (UK) Limited
Dyce Energy Limited (prev. Prozana up to 11/07/2017)	Dyce Energy Limited (prev. Prozana up to 11/07/2017)
E (Gas and Electricity) Limited	E (Gas and Electricity) Limited
E.ON UK Plc	E.ON Energy Solutions Limited
	E.ON UK Plc
Earl Power Supply Limited	Earl Power Supply Limited
Easy Energy Supply Limited	Easy Energy Supply Limited
Eco Green Management Ltd	Eco Green Management Ltd
Economy Energy	VAVU Power Ltd
	Economy Energy Trading Limited
	Economy Energy Supply Limited
Ecotricity Group Limited	The Renewable Energy Company Limited
EDF Energy plc	British Energy Direct Limited
	EDF Energy Customers Plc
	SEEBOARD Energy Limited
Effortless Energy Ltd	Effortless Energy Ltd
Electraphase Ltd	Electraphase Ltd
Emexconsult Limited	Emexconsult Limited
Eneco energy Trade BV	Eneco energy Trade BV
Energy Data Company Limited	Energy Data Company Limited
ENGIE Power Limited	ENGIE Power Limited
	IPM Energy Retail Limited
ENSCO Energy Services Company (UK) Ltd	ENSCO Energy Services Company (UK) Ltd
ENSEK Ltd	Saphir Energy Limited
	Satus Energy Limited
	Spalt Energy Limited
Enstroga Limited	Enstroga Ltd
Envy Energy Limited	Envy Energy Limited
EPG Energy Limited	EPG Energy Limited
ETUL Limited	ETUL Limited
Euston Energy Limited	Euston Energy Limited
Everergi UK Ltd	Everergi UK Ltd
Eversmart Energy Ltd	Eversmart Energy Limited
Exelon Generation Limited	Exelon Generation Limited

Company (Supplier Group)	Licence
Extra Energy Supply Limited	Addito Supply Limited
	Extra Energy Supply Limited
F & S Energy Limited	F & S Energy Limited
First Utility Limited	First Utility Limited
Fischer Energy	Foxglove Energy Supply Limited (T/A Fischer Energy)
Flexitricity Limited	Flexitricity Limited
Flow Energy Limited	Flow Energy Limited
Future Energy Utilities Ltd	Future Energy Utilities Ltd
Gazprom Marketing & Trading Retail Limited	Gazprom Marketing & Trading Retail Limited
GB Energy Supply Limited	GB Energy Supply Limited
GEN4U Ltd	GEN4U Ltd
I Supply Energy Limited	I Supply Electricity 2 Limited
	I Supply Electricity Limited
	Simply Electricity Limited
	Supply Energy Limited
Girl Power Supply Limited	Girl Power Supply Limited
Gnergy Limited	Gnergy Limited
Good Energy Limited	Good Energy Limited
Great Western Energy Ltd	Great Western Energy Ltd
Greater London Authority	Greater London Authority
Green Energy (UK) plc	Green Energy (UK) plc
Green Network Energy Limited	Green Network Energy Limited
Green Network Power and Gas Limited	Green Network Power and Gas Limited
Greengem Direct Limited	Greengem Direct Limited
Gulf Gas and Power UK	Rose Energy Supply Limited
Hartlepower C.I.C.	Hartlepower C.I.C.
Haven Power Limited	Haven Power Limited
Hawking Energy Supply Limited	Hawking Energy Supply Limited
Highclare Trading Limited	Highclare Trading Limited
Home Counties Energy Plc	Home Counties Energy Plc
Huddle Energy Limited	Huddle Energy Limited
Hudson Energy Supply UK Limited	Hudson Energy Supply UK Limited
I Supply Energy Limited	I Supply Energy Limited
I.A.Z.F.S. Limited	I.A.Z.F.S. Limited
ICS Energy Ltd	ICS Energy Ltd
Iresa Limited	Iresa Limited
KAL-Energy Limited	KAL-Energy Limited
KG Insulation Ltd	KG Insulation Ltd
Krave Management Limited	United Gas & Power Ltd
Labrador Ltd	Labrador Ltd
LCC Group Limited	LCC Group Limited
Lily Energy Supply Limited	Lily Energy Supply Limited
Limejump Energy Ltd	Limejump Energy Ltd
Logicor Energy	Marigold Energy Supply Limited
Lourdes Associates Limited	Lourdes Associates Limited
MA Energy Limited	MA Energy Limited

Company (Supplier Group)	Licence
Marble Power Limited	Marble Power Limited
Mattina Limited	Mattina Limited
Mississippi Energy Limited	Mississippi Energy Limited
Mongoose Energy	Mongoose Energy
Morgan Stanley Capital Group Inc	Morgan Stanley Capital Group Inc
MVV Environment Services Limited	MVV Environment Services Limited
MyLife Home Energy Limited	MyLife Home Energy Limited
Nabuh Energy Ltd	Nabuh Energy Ltd
National Gas and Power Limited	National Gas and Power Limited
Nationwide Electricity Limited	Nationwide Electricity Limited
NEAS Energy Limited	NEAS Energy Limited
Nevada Energy Limited	Nevada Energy Limited
Nickel Energy Supply Limited	Brilliant Energy Supply Ltd
Nilo Energy Limited	Nilo Energy Limited
npower group plc	Electricity Plus Supply Limited
	Npower Direct Limited
	Npower Limited
	Npower Northern Limited
	Npower Northern Supply Limited
	Npower Yorkshire Limited
Octopus Energy Limited	Octopus Energy Limited
One Wales Energy	One Wales Energy
Oneselect Limited	Oneselect Limited
Open4Energy Limited	Open4Energy Limited
Opus Energy Limited	Opus Energy Renewables Limited
	Donnington Energy Limited
	Farmoor Energy Limited
	Opus Energy (Corporate) Limited
	Opus Energy Limited
Orbit Energy Limited	Orbit Energy Limited
Oregon Energy Limited	Oregon Energy Limited
Our Power Energy Supply Limited	Our Power Energy Supply Limited
OVO Electricity Limited	OVO Electricity Limited
	ONI Electricity Ltd
Palladium Energy Supply Limited	Palladium Energy Supply Limited
Pan-Utility Limited	Pan-Utility Limited
People's Energy Supply Limited	People's Energy Supply Limited
PFP Energy Supplies Limited	PFP Energy Supplies Limited
Pioneer Energy Limited	Igloo Energy Supply Limited
	Pioneer Energy Limited
Planet 9 Energy Limited	Planet 9 Energy Limited
Power4All Limited	Power4All Limited
Pozitive Energy Ltd	Pozitive Energy Ltd
Pure Planet Limited	Pure Planet Limited
Putney Energy Limited	Putney Energy Limited

Renewables Obligation (RO)

Company (Supplier Group)	Licence
PX Supply Limited	PX Supply Limited
Queensbury Energy Limited	Queensbury Energy Limited
R Electrics Limited	R Electrics Limited
Rayleigh Energy Supply Limited	Rayleigh Energy Supply Limited
Regent Power Limited	Regent Power Limited
RMA Dorex UK Ltd	RMA Dorex UK Ltd
Robin Hood Energy Limited	Robin Hood Energy Limited
S. C. Isramart SRL	S. C. Isramart SRL
Santana Energy Limited	Santana Energy Limited
Scottish Power Energy Retail Limited	Scottish Power Energy Retail Limited
Sembcorp Utilities (UK) Limited	Wilton Energy Limited
Shell Energy Europe Limited	Shell Energy Europe Limited
Shell Energy Supply UK Limited	Shell Energy Supply UK Limited
Simple Energy Scotland Limited	Simple Energy Scotland Limited
Singola Limited	Singola Limited
Smart Electricity Limited	Smart Electricity Limited
Smarter Eco Energy Limited	Smarter Eco Energy Limited
SmartestEnergy Limited	SmartestEnergy Limited
Snowdrop Energy Supply Limited	Snowdrop Energy Supply Limited
SO Energy Trading Limited	SO Energy Trading Limited
Solarplicity Supply Limited	Solarplicity Supply Limited
Spark Energy Supply Limited	Spark Energy Supply Limited
Squeaky Clean Energy Limited	Squeaky Clean Energy Limited
SSE Energy Supply Limited	South Wales Electricity Limited
	SSE Energy Supply Limited
	SSE Airtricity Energy Supply Limited
Statkraft Markets GmbH	Statkraft Markets GmbH
Switch Business Gas and Power Ltd	Switch Business Gas and Power Ltd
Symbio Energy Limited	Symbio Energy LLP (TA Symbio Energy Ltd)
Temple Energy Limited	Temple Energy Limited
Tempus Energy Supply Limited	Tempus Energy Supply Limited
The Energy Support Bureau Limited	The Energy Support Bureau Limited
The Nuclear Decommissioning Authority	The Nuclear Decommissioning Authority
Together Energy Supply Limited	Eddington Energy Supply Limited
	Together Energy Supply Limited
Tonik Energy Limited	Tonik Energy Limited
Total Gas & Power Limited	Total Gas & Power Limited
TOTO Energy Limited	TOTO Energy Limited
Tradelink Solutions Limited	Tradelink Solutions Limited
Trio Utilities Ltd	Trio Utilities Ltd
UK Healthcare Corporation Limited	UK Healthcare Corporation Limited
UK Power Reserve Limited	UK Power Reserve Limited
Universal Bioenergy Limited	Universal Bioenergy Limited
URE Energy Limited	Faraday Energy Supply Limited
ESB Energy Limited	ESB Energy Limited

Company (Supplier Group)	Licence
Utilisoft Ltd	Dirac Energy Supply Limited
	Rutherford Energy Supply Limited
	Daisy Energy Supply Limited
	Rockfire Energy Limited
	Sunflower Energy Supply Limited
	Bluebell Energy Supply Limited
	Arruzzi Energy Supply Limited
	Cilleni Energy Supply Limited
	Colgano Energy Supply Limited
	Pirranello Energy Supply Limited
	Oreba Energy Supply Limited
	Callesti Energy Supply Limited
	Camaro Energy Supply Limited
	Venga Energy Supply Limited
	Cabra Energy Supply Limited
	Viper Energy Supply Limited
	Emzo Energy Supply Limited
	Skylane Energy Supply Limited
	Vanquist Energy Supply Limited
	Tailwind Energy Supply Limited
Tornado Energy Supply Limited	
Daisy Energy Supply Limited	
Lavender Energy Supply Limited	
Mint Energy Supply Limited	
Tulip Energy Supply Limited	
Utilita Energy Limited	Utilita Energy Limited
Utiliteam	Edgware Energy Limited
	Farringdon Energy Limited
	Covent Energy Limited
Utility Point UK Limited	Utility Point UK Limited
Utility Zone Limited	Utility Zone Limited
UTTILY plc	UTTILY plc
Vattenfall Energy Trading GmbH	Vattenfall Energy Trading GmbH
Verastar Limited	Sinq Power Limited
	Verastar Limited
Virginia Energy Limited	Virginia Energy Limited
World Fuel Commodities Services (Ireland) Limited	World Fuel Commodities Services (Ireland) Limited
XLN Energy Limited	XLN Energy Limited
Yu Energy	Kensington Power Limited
Zebra Power Limited (previously Bor Energy)	Zebra Power Limited (previously Bor Energy)
ZOG Energy Ltd	ZOG Energy Ltd
Usio Energy Supply Limited	Usio Energy Supply Limited
Azacca Energy Limited	Azacca Energy Limited
Santiam Energy Limited	Santiam Energy Limited
Bord Gais Energy Limited	Bord Gais Energy Limited
Budget Energy Ltd	Budget Energy Ltd

Company (Supplier Group)	Licence
Click Energy	Click Energy
Electricity Supply Board (ESB)	Electricity Supply Board
ESB Independent Energy (NI) Ltd	Electric Ireland
Firmus Energy Supply Ltd	Firmus Energy Supply Limited
Gaelectric Green Energy Limited	Gaelectric Green Energy Limited
LCC Power Limited	Go Power
Open Electric Limited	Open Electric Limited
Power NI Energy Ltd	Power NI
Premier Power Ltd	AES Ballylumford Limited
Quinn Energy Supply Limited	Quinn Energy Supply Limited
Vayu Ltd	Vayu Energy
Viridian Energy Supply Ltd	Energia

Table A4.2: Summary of compliance by supplier group in 2017-18 (all schemes)

Supplier Group	Total Obligation (ROCs)	Total ROCs presented	Total Payments	Total Redistributed
Affect Energy Limited	49,033	0	£2,234,924.14	£0.00
Ampoweruk Limited	702	0	£32,232.80	£0.00
Avid Energy Limited	348	0	£15,861.84	£0.00
Avro Energy Limited	185,023	0	£8,433,348.34	£0.00
Axis Telecom Limited	13,649	0	£622,121.42	£0.00
AXPO UK Limited	472,321	472,321	£0.00	£2,764,334.00
BES Commercial Electricity Limited	194,921	194,921	£0.00	£1,140,803.00
BP Energy Europe Limited	5,691	0	£259,395.78	£0.00
Breeze Energy Supply Limited	9,058	0	£416,722.53	£0.00
Bristol Energy Technology & Services (Supply) Limited	97,012	19,477	£3,534,045.30	£113,989.00
British Gas Trading Limited	12,922,958	10,913,268	£91,601,670.20	£63,871,686.00
Brook Green Trading Limited	48,827	14,000	£1,587,417.66	£81,938.00
Bruntwood Energy Services Limited	3,261	0	£148,636.38	£0.00
Bryt Energy Limited	158,601	158,601	£0.00	£928,236.00
Bulb Energy Ltd	293,975	5,788	£13,135,563.46	£33,872.00
Business Power and Gas Limited	36,020	0	£1,641,791.60	£0.00
CNG Electricity Limited	43	43	£0.00	£249.00
Co-Operative Energy Limited	666,588	666,588	£0.00	£3,901,313.00
Corona Energy Retail 5 Limited	136,428	4,836	£5,997,963.36	£28,301.00
Coulomb Energy Supply Limited	28,596	0	£1,303,405.68	£0.00
Dong Energy Power Sales UK Limited	1,214,224	1,170,255	£2,004,107.02	£6,849,106.00
Dual Energy Direct Limited	323,889	323,889	£0.00	£1,895,611.00
E (Gas and Electricity) Limited	189,258	174,444	£675,222.17	£1,020,960.00
E.ON UK Plc	13,747,376	13,089,408	£29,990,181.44	£76,607,898.00
Eco Green Management Ltd	3,495	3,495	£0.00	£20,453.00
Economy Energy	370,818	0	£0.00	£0.00
Ecotricity Group Limited	305,309	305,309	£0.00	£1,786,868.00
EDF Energy plc	17,823,557	14,745,714	£140,288,083.94	£86,301,704.00
Effortless Energy Ltd	2,900	0	£132,182.00	£0.00
Electraphase Ltd	4,728	389	£0.00	£2,275.00
Eneco energy Trade BV	151,908	151,908	£0.00	£889,064.00
ENGIE Power Limited	4,066,443	3,910,948	£7,087,462.10	£22,889,461.00
Enstroga Limited	7,454	0	£340,301.26	£0.00
EPG Energy Limited	10,527	0	£484,431.53	£0.00
Eversmart Energy Ltd	9,543	0	£72,000.00	£0.00
Extra Energy Supply Limited	528,584	0	£8,593,104.00	£0.00
F & S Energy Limited	38,890	14,097	£1,130,064.94	£82,503.00
First Utility Limited	1,205,552	1,205,552	£0.00	£7,055,687.00
Fischer Energy	27,580	0	£1,257,096.40	£0.00
Flow Energy Limited	237,928	74,631	£7,443,077.26	£436,788.00
Future Energy Utilities Ltd	13,851	0	£0.00	£0.00
Gazprom Marketing & Trading Retail Limited	513,585	513,585	£0.00	£3,005,838.00

Renewables Obligation (RO)

Supplier Group	Total Obligation (ROCs)	Total ROCs presented	Total Payments	Total Redistributed
GEN4U Ltd	433	0	£0.00	£0.00
Gnergy Limited	18,236	0	£836,456.63	£0.00
Good Energy Limited	197,994	197,994	£0.00	£1,158,790.00
Greater London Authority	520	0	£23,701.60	£0.00
Green Energy (UK) plc	41,950	41,950	£0.00	£245,517.00
Green Network Energy Limited	118,393	80,000	£1,749,952.94	£468,210.00
Gulf Gas and Power UK	4	0	£182.32	£0.00
Haven Power Limited	5,875,458	5,875,458	£0.00	£34,387,077.00
Huddle Energy Limited	2,941	479	£112,431.13	£2,800.00
Hudson Energy Supply UK Limited	970,804	763,026	£9,470,521.00	£4,465,733.00
I Supply Energy Limited	254,774	0	£11,663,672.03	£0.00
Iresa Limited	207,920	0	£0.00	£0.00
Limejump Energy Ltd	5,887	3,313	£117,322.92	£19,388.00
Logicor Energy	5	0	£227.90	£0.00
MA Energy Limited	44,646	0	£2,043,599.23	£0.00
Marble Power Limited	164,848	0	£7,585,976.10	£0.00
MVV Environment Services Limited	5,319	710	£210,078.20	£4,152.00
Nabuh Energy Ltd	2,698	0	£124,138.15	£0.00
Nickel Energy Supply Limited	9,841	0	£452,440.68	£0.00
npower group plc	16,588,594	14,187,601	£109,437,260.93	£83,035,248.00
Octopus Energy Limited	198,212	9,927	£8,582,030.30	£58,096.00
Oneselect Limited	28,848	0	£1,322,722.62	£0.00
Opus Energy Limited	1,875,412	1,875,412	£0.00	£10,976,149.00
Orbit Energy Limited	207	0	£9,435.06	£0.00
Our Power Energy Supply Limited	14,687	0	£675,655.52	£0.00
OVO Electricity Limited	1,252,338	688,571	£25,696,499.86	£4,029,972.00
People's Energy Supply Limited	3,478	0	£158,527.24	£0.00
PFP Energy Supplies Limited	139,747	0	£6,390,915.60	£0.00
Pioneer Energy Limited	3,667	0	£167,141.86	£0.00
Planet 9 Energy Limited	3,345	0	£153,213.07	£0.00
Power4All Limited	479,531	0	£21,857,022.98	£0.00
Pozitive Energy Ltd	46,520	0	£2,131,936.31	£0.00
Pure Planet Limited	11,041	0	£505,470.42	£0.00
Robin Hood Energy Limited	125,748	0	£5,731,593.84	£0.00
Scottish Power Energy Retail Limited	8,912,507	8,347,564	£25,750,101.94	£48,855,483.00
Sembcorp Utilities (UK) Limited	60,759	0	£2,769,395.22	£0.00
Shell Energy Supply UK Limited	10	10	£0.00	£56.00
SmartestEnergy Limited	2,883,659	2,883,659	£0.00	£16,877,085.00
Snowdrop Energy Supply Limited	3,550	0	£0.00	£0.00
SO Energy Trading Limited	69,141	34,171	£1,593,932.60	£199,989.00
Solarplicity Supply Limited	43,579	1,688	£1,918,415.62	£9,877.00
Spark Energy Supply Limited	313,564	0	£0.00	£0.00
Squeaky Clean Energy Limited	9,165	9,165	£0.00	£53,637.00
SSE Energy Supply Limited	14,581,357	14,581,357	£0.00	£85,339,775.00
Statkraft Markets GmbH	295	0	£13,446.10	£0.00

Renewables Obligation (RO)

Supplier Group	Total Obligation (ROCs)	Total ROCs presented	Total Payments	Total Redistributed
Switch Business Gas and Power Ltd	615	0	£28,031.70	£0.00
Symbio Energy Limited	270	0	£12,306.60	£0.00
Together Energy Supply Limited	40,655	0	£1,854,222.58	£0.00
Tonik Energy Limited	37,671	37,671	£0.00	£220,472.00
Total Gas & Power Limited	3,862,748	3,862,748	£0.00	£22,607,362.00
TOTO Energy Limited	79,657	0	£3,665,656.23	£0.00
Tradelink Solutions Limited	258	258	£0.00	£1,506.00
UK Power Reserve Limited	2,787	0	£127,031.46	£0.00
URE Energy Limited	4,542	0	£0.00	£0.00
ESB Energy Limited	3,797	0	£173,067.26	£0.00
Utilita Energy Limited	875,725	694,999	£8,267,822.39	£4,067,594.00
Utility Point UK Limited	774	0	£35,278.92	£0.00
Verastar Limited	32,401	0	£1,476,837.58	£0.00
Yu Energy	144,551	105,549	£1,777,711.16	£617,740.00
Zebra Power Limited (previously Bor Energy)	4,315	0	£196,677.70	£0.00
Usio Energy Supply Limited	198	0	£9,024.84	£0.00
Vattenfall Energy Trading GmbH	50	0	£2,287.98	£0.00
Budget Energy Ltd	38,670	21,565	£779,645.90	£126,211.00
Click Energy	17,918	0	£0.00	£0.00
ESB Independent Energy (NI) Ltd	157,505	157,505	£0.00	£921,821.00
LCC Power Limited	271,595	54,831	£9,880,103.12	£320,904.00
Power NI Energy Ltd	416,768	416,768	£0.00	£2,439,200.00
Vayu Ltd	3,104	0	£141,480.32	£0.00
Viridian Energy Supply Ltd	153,463	153,463	£0.00	£898,165.00
	117,842,123	103,220,879	£608,145,018.22	£604,116,946.00

Table A4.3: Compliance by licensee with an obligation in England & Wales

Licence	RO Obligation (ROCs)	Total ROCs presented	Bioliqid ROCs presented	Banked ROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier
Affect Energy Limited	48,952	0	0	0	£2,231,232.16	£0.00
Ampoweruk Limited	694	0	0	0	£0.00	£31,864.66
Avid Energy Limited	348	0	0	0	£15,861.84	£0.00
Avro Energy Limited	177,642	0	0	0	£8,096,922.36	£0.00
Axis Telecom Limited	12,837	0	0	0	£585,110.46	£0.00
AXPO UK Limited	445,124	445,124	7	18,074	£0.00	£0.00
BES Commercial Electricity Limited	176,344	176,344	0	0	£0.00	£0.00
BP Energy Europe Limited	5,691	0	0	0	£259,395.78	£0.00
Breeze Energy Supply Limited	8,933	0	0	0	£0.00	£410,971.18
Bristol Energy Technology & Services (Supply) Limited	92,994	19,477	0	12	£3,350,904.86	£0.00
British Gas Trading Limited	11,879,273	10,031,890	118,917	366,511	£84,203,717.14	£0.00
Brook Green Trading Limited	45,191	12,964	0	0	£1,468,909.66	£0.00
Bruntwood Energy Services Limited	3,230	0	0	0	£147,223.40	£0.00
Bryt Energy Limited (prev. Bullion Energy Limited)	139,837	139,837	2,269	2,269	£0.00	£0.00
Bulb Energy Ltd	256,996	0	0	0	£11,713,877.68	£0.00
Business Power and Gas Limited	34,444	0	0	0	£1,569,957.52	£0.00
CNG Electricity Limited	43	43	0	0	£0.00	£0.00
Co-Operative Energy Limited	630,441	630,441	432	9,837	£0.00	£0.00
Corona Energy Retail 5 Limited	127,351	4,836	0	2,086	£5,584,233.70	£0.00
Coulomb Energy Supply Limited	28,596	0	0	0	£1,303,405.68	£0.00
Dong Energy Power Sales UK Limited	1,129,533	1,129,533	1,089	257,099	£0.00	£0.00
Dual Energy Direct Limited	287,841	287,841	0	1	£0.00	£0.00
E (Gas and Electricity) Limited	177,475	162,662	0	0	£675,176.54	£0.00
E.ON Energy Solutions Limited	7,307,066	6,937,589	0	0	£16,840,761.66	£0.00
E.ON UK Plc	5,733,511	5,445,020	0	0	£13,149,419.78	£0.00
Eco Green Management Ltd	3,240	3,240	0	0	£0.00	£0.00
Economy Energy Trading Limited	340,106	0	0	0	£0.00	£0.00
The Renewable Energy Company Limited	293,498	293,498	0	0	£0.00	£0.00
EDF Energy Customers Plc	15,888,566	12,810,723	2,094	70,296	£140,288,083.94	£0.00
Effortless Energy Ltd	2,827	0	0	0	£128,854.66	£0.00
Electraphase Ltd	4,581	389	0	0	£0.00	£0.00
Eneco energy Trade BV	149,584	149,584	0	532	£0.00	£0.00
ENGIE Power Limited	3,705,055	3,549,560	0	27,620	£7,087,462.10	£0.00
Enstroga Ltd	6,750	0	0	0	£0.00	£308,155.67
EPG Energy Limited	10,417	0	0	0	£0.00	£479,369.56
Eversmart Energy Limited	9,107	0	0	0	£0.00	£51,936.15
Extra Energy Supply Limited	482,402	0	0	0	£7,842,330.75	£0.00
F & S Energy Limited	37,115	14,097	0	2,279	£1,049,160.44	£0.00

Renewables Obligation (RO)

Licence	RO Obligation (ROCs)	Total ROCs presented	Bioliqid ROCs presented	Banked ROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier
First Utility Limited	1,140,434	1,140,434	7,832	102,438	£0.00	£0.00
Foxglove Energy Supply Limited (T/A Fischer Energy)	24,070	0	0	0	£1,097,110.60	£0.00
Flow Energy Limited	214,649	51,352	695	0	£7,443,077.26	£0.00
Future Energy Utilities Ltd	13,844	0	0	0	£0.00	£0.00
Gazprom Marketing & Trading Retail Limited	492,681	492,681	0	77,719	£0.00	£0.00
GEN4U Ltd	416	0	0	0	£0.00	£0.00
Gnergy Limited	17,766	0	0	0	£115,317.40	£699,716.63
Good Energy Limited	185,912	185,912	0	9,786	£0.00	£0.00
Greater London Authority	520	0	0	0	£23,701.60	£0.00
Green Energy (UK) plc	40,348	40,348	0	93	£0.00	£0.00
Green Network Energy Limited	109,057	80,000	0	0	£1,324,418.06	£0.00
Rose Energy Supply Limited	3	0	0	0	£136.74	£0.00
Haven Power Limited	5,430,745	5,430,745	670	41,862	£0.00	£0.00
Huddle Energy Limited	2,941	479	0	0	£80,000.00	£32,431.13
Hudson Energy Supply UK Limited	882,081	763,026	6,280	190,953	£5,426,527.00	£0.00
I Supply Energy Limited	237,520	0	0	0	£31,615.66	£10,842,160.24
Iresa Limited	193,989	0	0	0	£0.00	£0.00
Limejump Energy Ltd	5,887	3,313	235	958	£117,322.92	£0.00
Marigold Energy Supply Limited	5	0	0	0	£227.90	£0.00
MA Energy Limited	42,600	0	0	0	£522,000.00	£1,428,342.55
Marble Power Limited	115,949	0	0	0	£0.00	£5,335,741.67
MVV Environment Services Limited	5,319	710	0	710	£210,078.20	£0.00
Nabuh Energy Ltd	2,501	0	0	0	£0.00	£115,075.44
Brilliant Energy Supply Ltd	9,841	0	0	0	£0.00	£452,440.68
Electricity Plus Supply Limited	825,910	698,227	0	0	£0.00	£0.00
Npower Direct Limited	544,120	460,001	0	0	£3,834,139.36	£0.00
Npower Limited	11,198,865	9,467,563	7,628	58,284	£84,732,528.07	£0.00
Npower Northern Supply Limited	2,647,205	2,237,957	0	0	£18,653,519.25	£0.00
Npower Yorkshire Supply Limited	314,635	265,994	0	0	£2,217,074.25	£0.00
Octopus Energy Limited	183,292	9,927	0	0	£7,901,976.70	£0.00
Oneselect Limited	28,848	0	0	0	£500,000.00	£822,722.62
Farmoor Energy Limited	65,006	65,006	0	8	£0.00	£0.00
Opus Energy (Corporate) Limited	834,447	834,447	31	145,976	£0.00	£0.00
Opus Energy Limited	833,752	833,752	1,031	160,117	£0.00	£0.00
Orbit Energy Limited	161	0	0	0	£7,338.38	£0.00
Our Power Energy Supply Limited	1	0	0	0	£0.00	£46.00
OVO Electricity Limited	1,194,919	688,571	967	0	£23,079,341.84	£0.00
People's Energy Supply Limited	2,344	0	0	0	£106,839.52	£0.00
PFP Energy Supplies Limited	132,040	0	0	0	£3,148,714.94	£2,890,915.60
Igloo Energy Supply Limited	3,665	0	0	0	£167,050.70	£0.00
Planet 9 Energy Limited	3,345	0	0	0	£0.00	£153,213.07
Power4All Limited	422,384	0	0	0	£19,252,262.72	£0.00

Renewables Obligation (RO)

Licence	RO Obligation (ROCs)	Total ROCs presented	Bioliq ROCs presented	Banked ROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier
Pozitive Energy Ltd	44,239	0	0	0	£516,413.60	£1,511,554.73
Pure Planet Limited	10,173	0	0	0	£0.00	£465,776.10
Robin Hood Energy Limited	119,664	0	0	0	£5,454,285.12	£0.00
Scottish Power Energy Retail Limited	7,176,437	6,611,494	0	236,905	£25,750,101.94	£0.00
Wilton Energy Limited	60,759	0	0	0	£2,769,395.22	£0.00
Shell Energy Supply UK Limited	10	10	0	0	£0.00	£0.00
SmartestEnergy Limited	2,760,685	2,760,685	11,912	507,392	£0.00	£0.00
Snowdrop Energy Supply Limited	3,534	0	0	0	£0.00	£0.00
SO Energy Trading Limited	64,642	29,672	269	3,220	£1,593,932.60	£0.00
Solarplicity Supply Limited	40,818	1,688	0	51	£828,849.47	£963,719.77
Spark Energy Supply Limited	291,181	0	0	0	£0.00	£0.00
Squeaky Clean Energy Limited	9,046	9,046	0	899	£0.00	£0.00
SSE Energy Supply Limited	12,276,914	12,276,914	0	1,057,307	£0.00	£0.00
Statkraft Markets GmbH	8	0	0	0	£364.64	£0.00
Switch Business Gas and Power Ltd	586	0	0	0	£26,709.88	£0.00
Symbio Energy LLP (TA Symbio Energy Ltd)	270	0	0	0	£12,306.60	£0.00
Eddington Energy Supply Limited	15,444	0	0	0	£0.00	£704,381.10
Together Energy Supply Limited	16,629	0	0	0	£0.00	£758,427.43
Tonik Energy Limited	36,025	36,025	0	57	£0.00	£0.00
Total Gas & Power Limited	3,610,934	3,610,934	0	338,778	£0.00	£0.00
TOTO Energy Limited	77,031	0	0	0	£0.00	£3,544,812.95
Tradelink Solutions Limited	258	258	0	0	£0.00	£0.00
UK Power Reserve Limited	2,787	0	0	0	£127,031.46	£0.00
Faraday Energy Supply Limited	4,542	0	0	0	£0.00	£0.00
ESB Energy Limited	3,642	0	0	0	£173,067.26	£0.00
Utilita Energy Limited	804,354	623,628	0	22,157	£0.00	£8,267,822.39
Utility Point UK Limited	713	0	0	0	£32,498.54	£0.00
Sinq Power Limited	21,576	0	0	0	£983,434.08	£0.00
Kensington Power Limited	138,372	99,370	0	0	£0.00	£0.00
Zebra Power Limited (previously Bor Energy)	3,895	0	0	0	£177,534.10	£0.00
Usio Energy Supply Limited	181	0	0	0	£8,249.98	£0.00
Totals	105,683,001	92,054,861	162,358	3,712,286	£526,038,495.67	£40,271,597.30

Table A4.4: Compliance by licensee with an obligation in Scotland

Licence	ROS Obligation (ROCs)	Total ROCs presented	Bioliqid ROCs presented	Banked ROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier
Affect Energy Limited	81	0	0	0	£3,691.98	£0.00
Ampoweruk Limited	8	0	0	0	£0.00	£368.14
Avro Energy Limited	7,381	0	0	0	£336,425.98	£0.00
Axis Telecom Limited	812	0	0	0	£37,010.96	£0.00
AXPO UK Limited	27,197	27,197	0	0	£0.00	£0.00
BES Commercial Electricity Limited	18,577	18,577	0	0	£0.00	£0.00
Breeze Energy Supply Limited	125	0	0	0	£0.00	£5,751.36
Bristol Energy Technology & Services (Supply) Limited	4,018	0	0	0	£183,140.44	£0.00
British Gas Trading Limited	1,043,685	881,378	14,408	0	£7,397,953.06	£0.00
Brook Green Trading Limited	3,636	1,036	0	0	£118,508.00	£0.00
Bruntwood Energy Services Limited	31	0	0	0	£1,412.98	£0.00
Bryt Energy Limited (prev. Bullion Energy Limited)	18,764	18,764	103	103	£0.00	£0.00
Bulb Energy Ltd	36,979	5,788	0	0	£1,421,685.78	£0.00
Business Power and Gas Limited	1,576	0	0	0	£71,834.08	£0.00
Co-Operative Energy Limited	36,147	36,147	0	1,322	£0.00	£0.00
Corona Energy Retail 5 Limited	9,077	0	0	0	£413,729.66	£0.00
Dong Energy Power Sales UK Limited	84,691	40,722	0	0	£2,004,107.02	£0.00
Dual Energy Direct Limited	36,048	36,048	0	0	£0.00	£0.00
E (Gas and Electricity) Limited	11,783	11,782	0	0	£0.00	£0.00
E.ON Energy Solutions Limited	412,671	412,671	0	50,492	£0.00	£0.00
E.ON UK Plc	294,128	294,128	0	0	£0.00	£0.00
Eco Green Management Ltd	255	255	0	0	£0.00	£0.00
Economy Energy Trading Limited	30,712	0	0	0	£0.00	£0.00
The Renewable Energy Company Limited	11,811	11,811	0	0	£0.00	£0.00
EDF Energy Customers Plc	1,934,991	1,934,991	1,869	483,747	£0.00	£0.00
Effortless Energy Ltd	73	0	0	0	£3,327.34	£0.00
Electraphase Ltd	147	0	0	0	£0.00	£0.00
Eneco energy Trade BV	2,324	2,324	0	0	£0.00	£0.00
ENGIE Power Limited	361,388	361,388	0	7,829	£0.00	£0.00
Enstroga Ltd	704	0	0	0	£0.00	£0.00
EPG Energy Limited	110	0	0	0	£0.00	£5,061.98
Eversmart Energy Limited	436	0	0	0	£0.00	£0.00
Extra Energy Supply Limited	46,182	0	0	0	£750,773.25	£0.00
F & S Energy Limited	1,775	0	0	0	£80,904.50	£0.00
First Utility Limited	65,118	65,118	0	16,279	£0.00	£0.00
Foxglove Energy Supply Limited (T/A Fischer Energy)	3,510	0	0	0	£159,985.80	£0.00
Flow Energy Limited	23,279	23,279	0	0	£0.00	£0.00
Future Energy Utilities Ltd	7	0	0	0	£0.00	£0.00

Renewables Obligation (RO)

Licence	ROS Obligation (ROCs)	Total ROCs presented	Bioliq ROCs presented	Banked ROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier
Gazprom Marketing & Trading Retail Limited	20,904	20,904	0	0	£0.00	£0.00
GEN4U Ltd	17	0	0	0	£0.00	£0.00
Gnergy Limited	470	0	0	0	£21,422.60	£0.00
Good Energy Limited	12,082	12,082	0	0	£0.00	£0.00
Green Energy (UK) plc	1,602	1,602	0	0	£0.00	£0.00
Green Network Energy Limited	9,336	0	0	0	£425,534.88	£0.00
Rose Energy Supply Limited	1	0	0	0	£45.58	£0.00
Haven Power Limited	444,713	444,713	0	0	£0.00	£0.00
Hudson Energy Supply UK Limited	88,723	0	0	0	£4,043,994.00	£0.00
I Supply Energy Limited	17,254	0	0	0	£2,295.87	£787,600.26
Iresa Limited	13,931	0	0	0	£0.00	£0.00
MA Energy Limited	2,046	0	0	0	£93,256.68	£0.00
Marble Power Limited	48,899	0	0	0	£0.00	£2,250,234.43
Nabuh Energy Ltd	197	0	0	0	£0.00	£9,062.72
Electricity Plus Supply Limited	38,590	38,590	0	0	£0.00	£0.00
Npower Direct Limited	33,493	33,493	0	0	£0.00	£0.00
Npower Limited	853,798	853,798	524	0	£0.00	£0.00
Npower Northern Supply Limited	131,922	131,922	0	0	£0.00	£0.00
Npower Yorkshire Supply Limited	56	56	0	0	£0.00	£0.00
Octopus Energy Limited	14,920	0	0	0	£680,053.60	£0.00
Farmoor Energy Limited	10,637	10,637	0	0	£0.00	£0.00
Opus Energy (Corporate) Limited	55,060	55,060	0	6,035	£0.00	£0.00
Opus Energy Limited	76,510	76,510	0	12,603	£0.00	£0.00
Orbit Energy Limited	46	0	0	0	£2,096.68	£0.00
Our Power Energy Supply Limited	14,686	0	0	0	£0.00	£675,609.52
OVO Electricity Limited	57,419	0	0	0	£2,617,158.02	£0.00
People's Energy Supply Limited	1,134	0	0	0	£51,687.72	£0.00
PFP Energy Supplies Limited	7,707	0	0	0	£351,285.06	£0.00
Igloo Energy Supply Limited	2	0	0	0	£91.16	£0.00
Power4All Limited	57,147	0	0	0	£2,604,760.26	£0.00
Pozitive Energy Ltd	2,281	0	0	0	£103,967.98	£0.00
Pure Planet Limited	868	0	0	0	£0.00	£39,694.32
Robin Hood Energy Limited	6,084	0	0	0	£277,308.72	£0.00
Scottish Power Energy Retail Limited	1,736,070	1,736,070	0	434,017	£0.00	£0.00
SmartestEnergy Limited	122,974	122,974	2,167	3,918	£0.00	£0.00
Snowdrop Energy Supply Limited	16	0	0	0	£0.00	£0.00
SO Energy Trading Limited	4,499	4,499	0	951	£0.00	£0.00
Solarplicity Supply Limited	2,761	0	0	0	£125,846.38	£0.00
Spark Energy Supply Limited	22,383	0	0	0	£0.00	£0.00
Squeaky Clean Energy Limited	119	119	0	0	£0.00	£0.00
SSE Energy Supply Limited	2,042,819	2,042,819	0	506,961	£0.00	£0.00
Statkraft Markets GmbH	287	0	0	0	£13,081.46	£0.00

Renewables Obligation (RO)

Licence	ROS Obligation (ROCs)	Total ROCs presented	Bioliq ROCs presented	Banked ROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier
Switch Business Gas and Power Ltd	29	0	0	0	£1,321.82	£0.00
Eddington Energy Supply Limited	2,471	0	0	0	£0.00	£112,699.15
Together Energy Supply Limited	6,111	0	0	0	£0.00	£278,714.90
Tonik Energy Limited	1,646	1,646	0	0	£0.00	£0.00
Total Gas & Power Limited	251,814	251,814	0	0	£0.00	£0.00
TOTO Energy Limited	2,626	0	0	0	£0.00	£120,843.28
Utilita Energy Limited	71,371	71,371	0	17,842	£0.00	£0.00
Utility Point UK Limited	61	0	0	0	£2,780.38	£0.00
Vattenfall Energy Trading GmbH	50	0	0	0	£0.00	£0.00
Sinq Power Limited	10,825	0	0	0	£493,403.50	£0.00
Kensington Power Limited	6,179	6,179	0	0	£1,777,711.16	£0.00
Zebra Power Limited (previously Bor Energy)	420	0	0	0	£19,143.60	£0.00
ESB Energy Limited	155	0	0	0	£0.00	£0.00
Usio Energy Supply Limited	17	0	0	0	£774.86	£0.00
Totals	10,838,475	10,100,262	19,071	1,542,099	£26,693,512.80	£4,285,640.06

Table A4.5: Compliance by supplier with the RO (Northern Ireland)

Licence	NIRO Obligation (ROCs)	Total ROCs presented	Bioliq ROCs presented	Banked ROCs presented	Buy-out Payment Made by Supplier	Late Payment Made by Supplier
Budget Energy Ltd	38,670	21,565	0	572	£779,645.90	£0.00
Click Energy	17,918	0	0	0	£0.00	£0.00
Electric Ireland	157,505	157,505	0	0	£0.00	£0.00
Go Power	271,595	54,831	0	3,494	£9,880,103.12	£0.00
Open Electric Limited	0	0	0	0	£0.00	£0.00
Power NI	416,768	416,768	0	47,870	£0.00	£0.00
SSE Airtricity Energy Supply Limited	261,624	261,624	0	10,752	£0.00	£0.00
Vayu Energy	3,104	0	0	0	£141,480.32	£0.00
Energia	153,463	153,463	0	1,030	£0.00	£0.00
Totals	1,320,647	1,065,756	0	63,718	£10,801,229.34	£0.00

Table A4.6: Suppliers with an obligation who did not meet the 1 June 2018 deadline to submit estimated supply volumes

Supplier Group
Solarplicity Supply Limited
Future Energy Utilities Ltd
Greater London Authority
Logicor Energy
Orbit Energy Limited
Vayu Ltd

Notes:

Three suppliers (Solarplicity Supply Limited, Greater London Authority and Future Energy Utilities Ltd) did not submit any estimated supply data. In the case of Future Energy Utilities Ltd, this is because it went into receivership in 2018.

Table A4.7: Suppliers with an obligation who did not meet the 1 July 2018 deadline to submit final supply volumes

Supplier Group
Breeze Energy Supply Limited
Business Power and Gas Limited
Enstroga Limited
Fischer Energy
Future Energy Utilities Ltd
Gnergy Limited
Greater London Authority

Notes:

Two suppliers (Future Energy Utilities Ltd and Greater London Authority) with an obligation in 2017-18 did not submit any final supply data. In the case of: Future Energy, it went into Receivership in 2018; Greater London Authority - its data was submitted by Npower Group on its behalf under its Supplier Licence Lite arrangement

Appendix 5: Associated documents

The annual reports for all previous obligation periods are published on the Publications library: RO page within the RO section of our website:

<https://www.ofgem.gov.uk/environmental-programmes/ro/contacts-publications-and-data/publications-library-renewables-obligation-ro>

More up-to-date data on scheme activity is published on the Public reports and data: RO page within the RO section of our website:

<https://www.ofgem.gov.uk/environmental-programmes/ro/contacts-publications-and-data/public-reports-and-data-ro>

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 is available here:

<https://www.ofgem.gov.uk/environmental-programmes/ro/applicants>

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>

Appendix 6: Glossary of terms

A

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

B

BEIS - Department for Business, Energy and Industrial Strategy

C

CHP - Combined Heat and Power
CfD - Contracts for Difference
CO_{2e} - Carbon Dioxide equivalent

D

DNC - Declared Net Capacity
DNO - Distribution Network Operator

E

EU - European Union

F

FIT - Feed-in-Tariffs
FMS - Fuel Measurement and Sampling

G

GB - Great Britain
GHG - Greenhouse Gas
GW - Gigawatt
GWh - Gigawatt hour

I

ISAE - International Standard on Assurance Engagements
ITAR - Independent Technical Assurance Report

K

kW - Kilowatt

M

MW - Megawatt
MWh - Megawatt hour

N

NFFO - Non-Fossil Fuel Obligation

NFPA - Non-Fossil Fuel Purchasing Agency
NI - Northern Ireland
NIE - Northern Ireland Electricity Networks
NIRO - Northern Ireland Renewables Obligation
NIROC - Northern Ireland Renewables Obligation Certificate

O

Ofgem - Office of Gas and Electricity Markets
OG - Off Grid

P

PES - Public Electricity Suppliers
PV - Photovoltaic

R

Register - Renewables and CHP Register
RO - Renewables Obligation
ROC - Renewables Obligation Certificate
ROO - Renewables Obligation Order
ROS - Renewables Obligation Scotland
RPI - Retail Price Index

S

SEMO - Single Electricity Market Operator
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

Z

ZE - Zero Export