



Non-Domestic RHI Annual Report 2021-2022

ofgem

Making a positive difference
for energy consumers

21,982

Accredited installations

In total, 21,982 installations have now been accredited to the scheme with a combined capacity of 5,481 MW.

£4.1 bn

Payments made

£4.1 bn in payments have been made since the start of the scheme. £798 million of this was paid during 2021-22.

56 TWh

Heat generated

56 TWh of heat has been generated under the scheme to date. 10.5 TWh of this was in relation to payments made in 2021-22.

1.7 bn m³

Green gas injected

1.7 bn m³ of green gas has been injected into the gas grid over the life of the scheme with 360 million m³ in relation to payments made in 2021-22.

1.2 m

Homes

Heat generation and green gas injection during 2021-22 would be enough to heat almost 1.2 million UK homes or 5.3 bn hot baths.

Executive Summary

The Non-Domestic Renewable Heat Incentive (NDRHI) scheme is a government environmental programme that provides financial incentives to increase the uptake of renewable heat by businesses, the public sector and non-profit organisations in Great Britain. Switching to heating systems that use eligible low carbon energy sources can help the UK reduce its carbon emissions and work towards the net zero target. Eligible installations receive quarterly payments over 20 years based on the amount of heat generated, or in the case of biomethane, the volume of green gas injected into the gas grid. This report summarises activity during the eleventh year of the scheme, covering the period 01 April 2021 to 31 March 2022.

The scheme closed to most new applicants on 31 March 2021. However, some applications such as those for replacement plant and extension applications were still accepted. In total we received 387 applications in 2021-22. This represents a decrease in applications received of 82% compared to 2020-21, which given closure was expected.

We accredited 1,328 additional installations to the scheme in 2021-22, bringing the total number of accredited scheme participants to 21,982. Most of these applications were received ahead of scheme closure on 31 March 2021. Solid biomass boilers are the most common technology type, making up nearly 79% of all accredited installations. However since 2014, tariff depressions have led to changes in the make up of applications being received. In 2021-22, solid biomass boilers accounted for just over 64% of newly accredited capacity compared to over 95% in the first year of the scheme. Meanwhile, ground source heat pumps made up over 10% of newly accredited capacity over the same period, compared to around 3.5% in the first year of the scheme.

Since the NDRHI scheme began in 2011, a total of £4.1 bn has been paid out to participants. £798 million in payments were made in 2021-22. Participants who continue to meet scheme rules will receive payments for a period of up to 20 years.

In 2021-22, we conducted 493 targeted and statistical audits. We also closed 521 compliance investigations where we protected or expect to recover nearly £1.5 million of public funds. The estimated level of error on the scheme was 0.4% of payments in 2021-22, an improvement from the 0.6% for 2020-21. For those cases where material non-compliance was identified, more than 37% were due to 'no evidence of sustainable fuel', meaning that these generators could not provide evidence that the fuels used met sustainability requirements.

The impact of the NDRHI scheme since it started has been significant. The scheme has supported 21,982 renewable heating systems to become fully operational across Great Britain.

Nearly 56 TWh of heat generation has been subsidised by the scheme so far, with around 10.5 TWh in relation to payments made during 2021-22 alone. Additionally, almost 1.7 bn m³ of green gas has been injected into the grid since the start of the scheme with 360 million m³ of this in relation to payments made in 2020-21.

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Please note: a spreadsheet containing the data used in the production of this report is published alongside the report on our website.

Feedback

We value your feedback on this report. Please contact us at SchemesReportingFeedback@ofgem.gov.uk with any comments or suggestions.

About the scheme

The Non-Domestic Renewable Heat Incentive (NDRHI) scheme was introduced in England, Scotland and Wales in November 2011 by the Department for Energy and Climate Change (DECC)¹ and is a financial incentive designed to encourage the uptake of renewable heating systems. Its aim is to cut carbon emissions in Great Britain and to help the United Kingdom meet its renewable energy targets.

The Gas and Electricity Markets Authority (the Authority) is the statutory body responsible for administering the NDRHI scheme in Great Britain (GB). The Authority's functions are performed by Ofgem, the office of the Authority. As administrator, Ofgem performs a number of functions including:

- publishing guidance,
- the review of applications to join the scheme,
- ensuring scheme participants continue to meet their ongoing obligations,
- receiving and checking participants' periodic data submissions before making periodic support payments, and
- ensuring the scheme is guarded against fraud and error.

The Renewable Heat Incentive Scheme Regulations 2018 (as amended) (the Regulations)² require us to produce and publish an annual report on the scheme by 31 July following the end of a scheme year. Each scheme year covers the period 01 April to 31 March with this report covering 01 April 2021 to 31 March 2022. The Regulations set out what should be reported on in this annual report. However, we also include additional information that we believe is of interest to stakeholders and the general public.

Changes to the scheme

On 19 January 2022, The Department for Business, Energy and Industrial Strategy (BEIS) announced they would implement a 12-month extension to the Non-Domestic Renewable Heat Incentive (NDRHI) commissioning deadline, from 31 March 2022 to 31 March 2023.

Regulations effecting this extension have been made and took effect on 01 April 2022. The extension will only apply to NDRHI technologies with eligible Tariff Guarantee 2, Tariff Guarantee 3 or extension applications, including to biomethane projects that could not become

¹ From July 2016 the new Department for Business, Energy and Industrial Strategy (BEIS) assumed the roles and responsibilities of the Department of Energy and Climate Change (DECC)

² [Link to Renewable Heat Incentive Scheme Regulations 2018:](https://www.legislation.gov.uk/uksi/2018/611/contents/made)
<<https://www.legislation.gov.uk/uksi/2018/611/contents/made>>

eligible for the Green Gas Support Scheme (GGSS). Please refer to the NDRHI Guide to Tariff Guarantees for further details.³

In addition, the criteria for woodfuel quality, which were introduced on 01 April 2021, came into force on 01 April 2022.⁴ This means that from 01 April 2022, solid biomass which is wood and is used to generate heat in an accredited RHI installation, must meet the woodfuel quality criteria set out in Schedule 4A of the Regulations.

New reporting requirement for biomethane producers

In June 2021 we published a consultation seeking stakeholder views on proposed changes to our administration of the NDRHI scheme that would provide us with further assurance from registered biomethane producers about their interaction with the Department for Transport's Renewable Transport Fuel Obligation (RTFO).⁵

It followed amendments to the Renewable Heat Incentive (RHI) Scheme Regulations, laid on 25 January 2021, which came into force on 1 April 2021 and introduced a new legal obligation for Ofgem to ensure payment is not made where the same biomethane claimed for under the NDRHI has also received support through the RTFO.

In November we published our decision⁶ within final guidance requiring that from 1 April 2022 all biomethane producers must submit an independent annual report on their NDRHI/RTFO interaction with their annual sustainability audit. This further validation is in addition to the ongoing requirement, since 1 April 2021, for producers to provide a self-declaration with their quarterly NDRHI claims about their interaction with the RTFO.

We continue to work closely with BEIS to ensure the scheme is being delivered effectively and in accordance with policy, and to implement changes made to the legislation.

³ [Link to February 2022 amendments to the RHI regulations:](https://www.legislation.gov.uk/ukxi/2022/159/contents/made)
<https://www.legislation.gov.uk/ukxi/2022/159/contents/made>

⁴ [Link to 25 January 2021 amendments of the RHI Regulations:](https://www.legislation.gov.uk/ukxi/2021/76/made)
<https://www.legislation.gov.uk/ukxi/2021/76/made>

⁵ [Link to consultation call on validation of NDRHI/RTFO interactions:](https://www.ofgem.gov.uk/publications/ndrhi-consultation-and-draft-guidance-proposed-further-validation-ndrhi-rtfo-interaction-biomethane-producers) <https://www.ofgem.gov.uk/publications/ndrhi-consultation-and-draft-guidance-proposed-further-validation-ndrhi-rtfo-interaction-biomethane-producers>

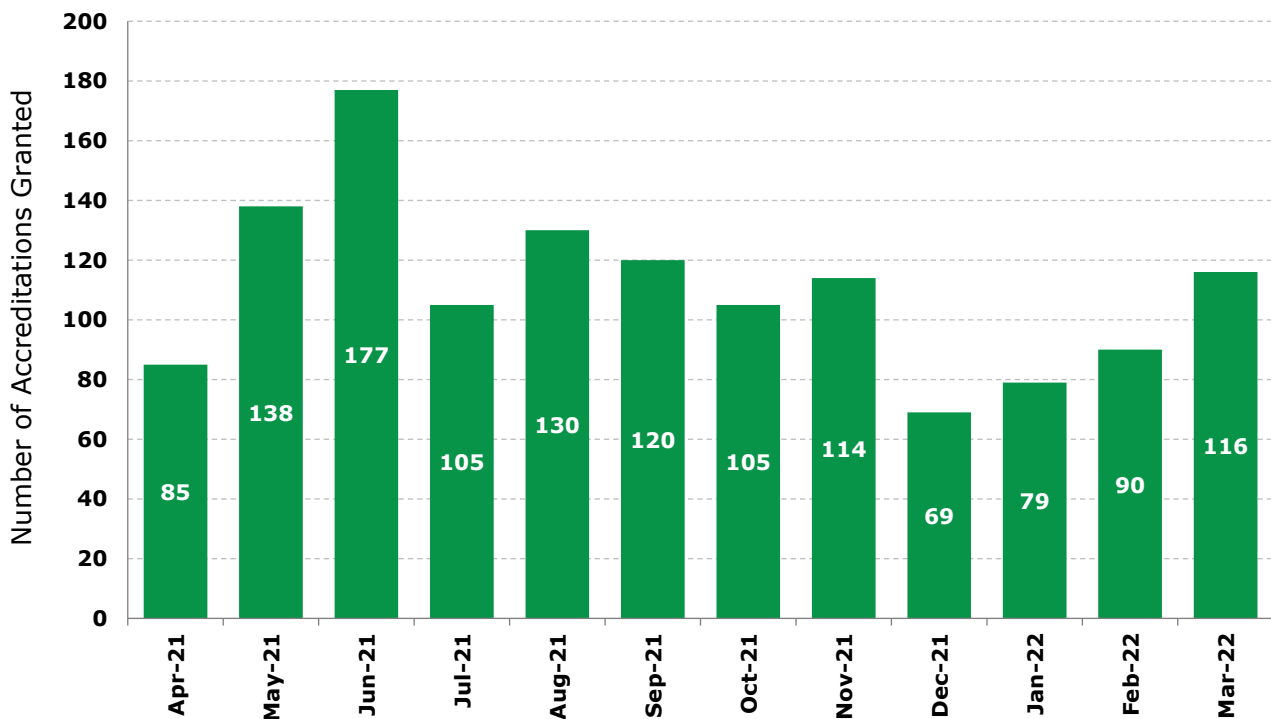
⁶ [Link to our decision on further validation of NDRHI/RTFO interactions:](https://www.ofgem.gov.uk/publications/decision-final-guidance-further-validation-ndrhirtfo-interaction-biomethane-producers-when-submitting-biomethane-claims)
<https://www.ofgem.gov.uk/publications/decision-final-guidance-further-validation-ndrhirtfo-interaction-biomethane-producers-when-submitting-biomethane-claims>

1. Accreditations

- 1.1 One of our key functions administering the NDRHI scheme is to assess the eligibility of those wishing to join the scheme. This helps to ensure that only those eligible to receive support do so, thereby ensuring effective and fair use of public funds. If, following our assessment, we determine that an applicant is eligible to receive payments, they are granted accreditation and can receive payments for up to 20 years.
- 1.2 In 2021-22, 1,328 new installations⁷ were accredited on to the scheme, the majority being received in advance of the application deadline of 31 March 2021. This is a significant increase on the 941 accreditations granted during 2020-21 and the highest number accredited since 2017-18. The total number of accreditations granted each month during 2021-22 are detailed below in **Figure 1.1**.

Figure 1.1: Full applications accredited during 2021-22

The chart below shows the number of applications accredited each month from April 2021 to March 2022. Applications accredited range from a low of 69 in December to a high of 177 in June. The average number of applications accredited each month for the year is 110.

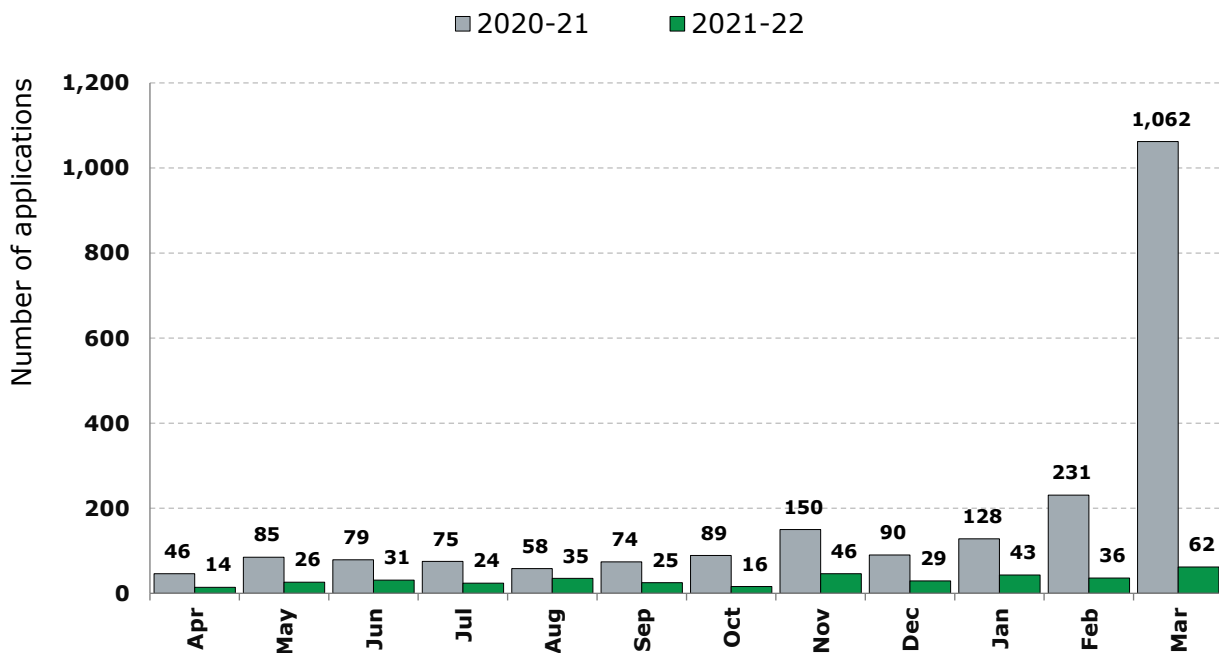


⁷ The numbers in this section relate to full applications for accreditation/biomethane registration and do not include Tariff Guarantee (TG) applications or extension applications. For further information on TG applications or extension applications please refer to the relevant sections later in this chapter.

1.3 The scheme closed to most new applicants on 31 March 2021. However, some applications such as extension applications were still accepted. As shown in **Figure 1.2** below, we received a total of 387 applications in 2021-22. This represents a decrease of 82% in applications received compared to 2020-21, which given closure was expected. An increased volume of applications in the run up to closure can be clearly seen with 49% of all 2020-21 applications submitted in March 2021 alone.

Figure 1.2: Number of applications received, by month

The chart below shows the number of applications received each month during the 2020-21 and 2021-22 scheme years. Scheme closure at the end of March 2021 led to the abnormally high number of applications (1,062) that month.



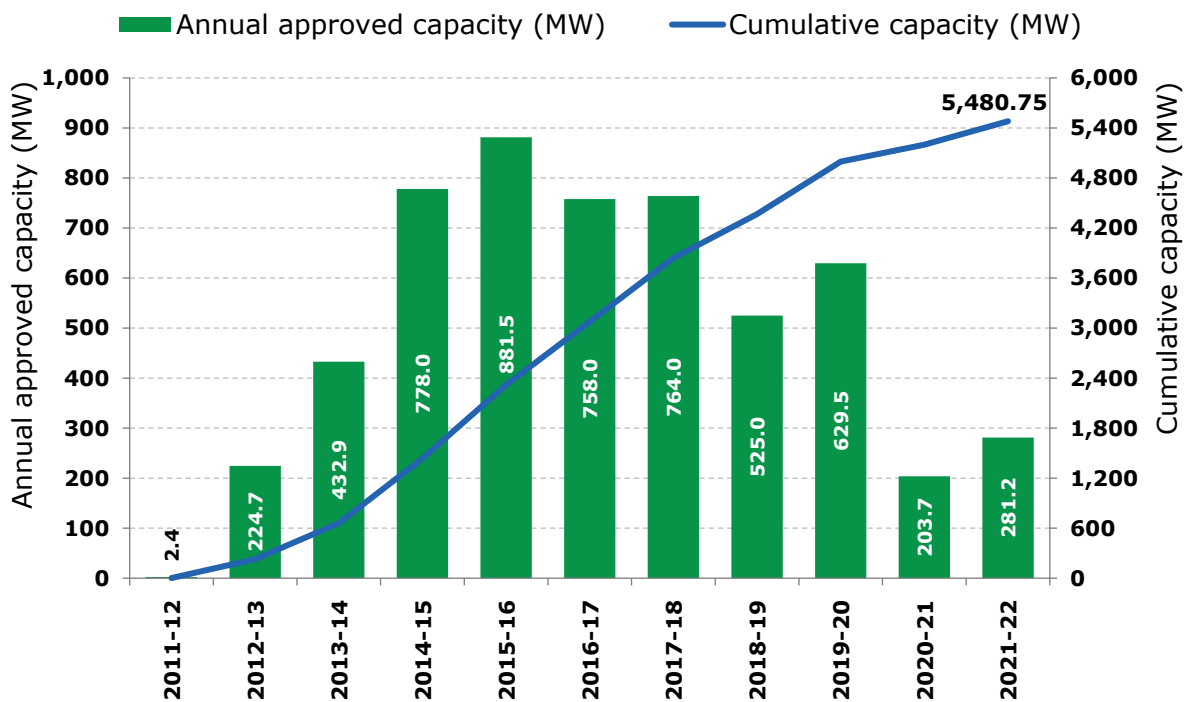
1.4 The total approved capacity⁸ on the scheme as of 31 March 2021 stands at 5,481 MW. This means in 2021-22, an additional 281.3 MW of capacity was approved. Despite the scheme closing to most new applicants on 31 March 2021, the total capacity on the scheme will continue to rise as outstanding applications are granted approval during 2022-23.

⁸ The capacity figures shown represent all technology types on the scheme except for biomethane. Biomethane installations are awarded payments based on the amount of gas injected into the gas grid, instead of the amount of heat generated.

1.5 The growth in cumulative approved capacity since the start of the scheme can be seen in further detail in **Figure 1.3** below. Despite an increase in the number of approved applications, the average capacity of those installations fell from 221.7 kW in 2020-21 to 211.8 kW in 2021-22.

Figure 1.3: NDRHI annual and cumulative approved capacity

The chart below shows that the capacity approved each year has grown steadily over the life of the scheme, but the rate of growth fell after 2019-20. The highest amount of capacity approved was in 2015-16 (881.5 MW) and the lowest (aside from 2011-12 when the scheme launched) was 2020-21 with 203.7 MW accredited.



1.6 As indicated below in **Figure 1.4** and **Table 1.1**, biomass boilers are the most installed technology under the NDRHI scheme. However, as shown in **Figure 1.5**, the share of capacity being accredited for biomass boilers has been decreasing from the high levels seen at the start of the scheme.

Figure 1.4: Proportion of accredited installations by technology type since the start of the scheme

The pie chart below shows that of all accredited installations since the start of the scheme: 78.72% are solid biomass boilers; 10.56% are ground source heat pumps; 3.95% are air source heat pumps; 3.51% are biogas; 1.55% are solar thermal; and all other technology types represent less than 1% each.

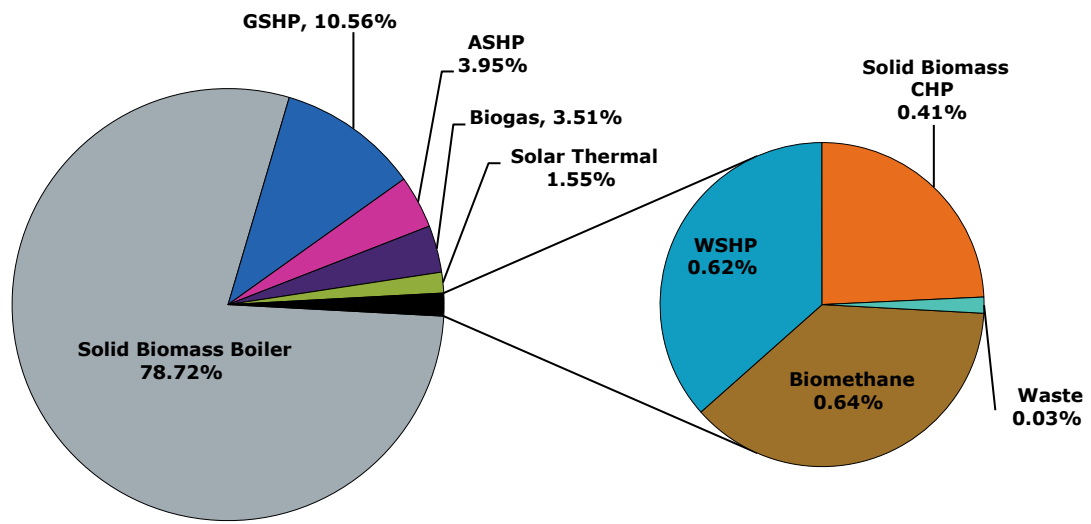
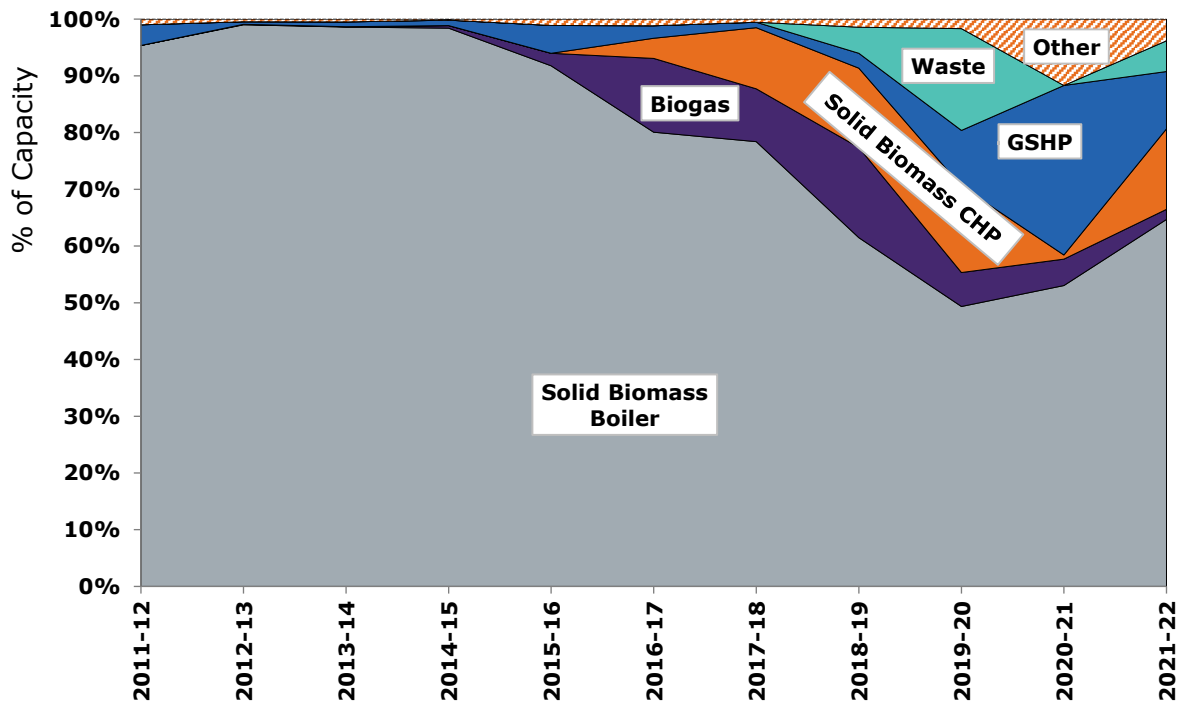


Table 1.1 Accredited installations by technology type, 2021-22 and cumulative

Technology type	2021-22 accreditations	Total accreditations	% of total accreditations
Solid Biomass Boiler	457	17,304	78.72%
Ground Source Heat Pump (GSHP)	603	2,322	10.56%
Air Source Heat Pump (ASHP)	167	868	3.95%
Biogas	17	772	3.51%
Solar Thermal	11	341	1.55%
Biomethane	42	141	0.64%
Water Source Heat Pump (WSHP)	20	137	0.62%
Solid Biomass CHP	9	91	0.41%
Waste	2	6	0.03%
Grand Total	1,328	21,982	100%

Figure 1.5 Accredited capacity by technology and scheme year

The chart below shows the proportion of capacity accredited annually by technology type, over the life of the scheme. Solid biomass boilers have consistently contributed the highest proportion of capacity accredited each year, but from 2016-17 onwards biogas, solid biomass CHP, GSHPs and waste plants have been playing a significant part.



1.7 Solid biomass boilers made up more than 95% of newly accredited capacity for the first four years of the scheme. However, the proportion of solid biomass boiler capacity being accredited each year dropped as low as 48.3% in 2019-20 before increasing again to 64.7% in 2021-22.

1.8 Ground source heat pumps, which made up only 2.04% of newly accredited capacity from 2011-12 to 2017-18, made up 10.1% of newly accredited capacity in 2021-22 – although this is a drop from 31.1% in 2020-21.

1.9 This reduction in the proportion of newly accredited biomass capacity was in part driven by tariff reductions as a result of the degression mechanism.⁹ The increasing proportion

⁹ The degression mechanism is an automatic tariff reduction to help control budgeting of the scheme. This is determined by the projected growth rates of eligible technologies. More information on degression is available on the UK government’s website: [Link to NDRHI Degression Factsheet](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/936528/ndrhi-factsheet-degression-mechanism.pdf)

of capacity derived from other technology types followed scheme changes implemented in May 2014.¹⁰ These changes saw increased financial support for biomass CHP, large biomass boilers (over 1MW), deep geothermal, ground source heat pumps, solar-thermal and biogas combustion. These changes also introduced support for air source heat pumps and commercial and industrial energy from waste.

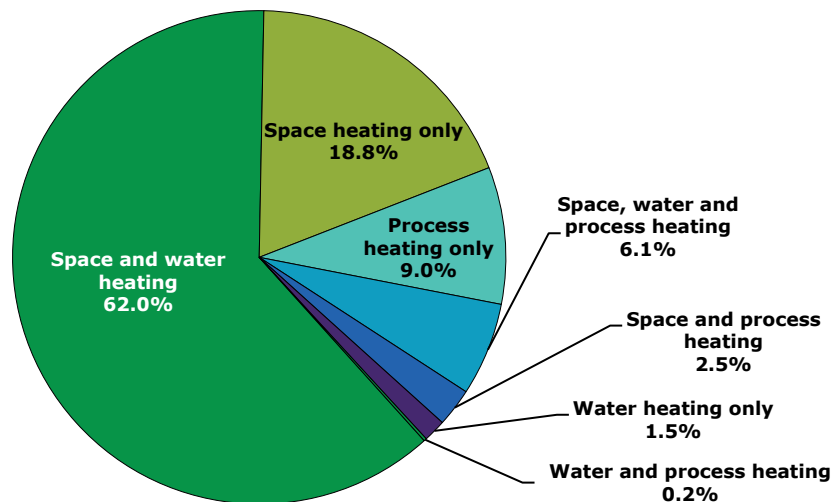
Eligible heat use

1.10 To gain accreditation onto the NDRHI scheme, heat generated by installations must be used for an eligible purpose. This can be space heating in a building, heating water for direct use, or heat for use in a process (excluding for the generation of electricity). In

Figure 1.6 you can see the breakdown of heat uses for all heat generating installations.

Figure 1.6 Eligible heat uses for accredited installations

The pie chart below shows the stated eligible heat use for accredited installations: Space and water heating account of 61.6% of installations; space heating only (18.7%); process heating only (9.6%); space, water and process heating (6.1%); space and process heating (2.5%); water heating only (1.5%); and water and process heating (0.2%).



¹⁰ The summary of changes implemented in May 2014 can be viewed on the government’s website at the following link: [Link to Summary of changes to the NDRHI:](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/265853/Summary_of_changes_to_the_non-domestic_RHI_-_December_2013.pdf) <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/265853/Summary_of_changes_to_the_non-domestic_RHI_-_December_2013.pdf>

System type replaced

1.11 When applying for accreditation on the NDRHI scheme, we ask applicants for information on the heating system being replaced by the NDRHI installation. **Figure 1.7** shows this information for all installations granted accreditation since the start of the scheme. **Table 1.2** shows the same information for installations granted accreditation during 2021-22.

1.12 It should be noted that applicants were not required to respond to this question and those who did described their replaced heating systems in free text form. We performed analysis on these descriptions to produce the simplified categories depicted below. Where several heating systems of different types were replaced, we have categorised these as *Complex*. Where we have been unable to determine the replaced technology type, we have categorised these as *Other*.

Figure 1.7: System type replaced for all accredited installations

The chart below shows the system type replaced for all accredited installations. The largest proportion is None or not specified with 9,972 installations and second to this is Oil, accounting for 5,204.

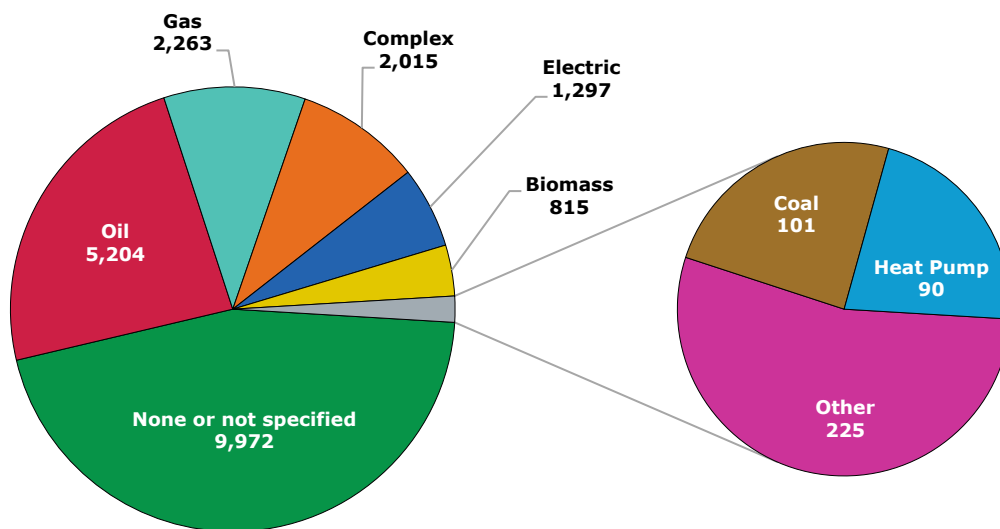


Table 1.2: System type replaced, 2021-22 accreditations

None or not specified	Electric	Oil	Gas	Biomass	Complex	Heat pump	Other	Coal	Total
621	273	201	89	74	37	12	18	3	1,328

- 1.13 The most common category is *None or not specified*, which for all accredited applications accounts for 45% of the total. As applicants were not required to respond to this question this could mean that the NDRHI heating system was not replacing any previous heating system, or it could be that the applicant did not provide a response to the question.
- 1.14 Based on this data we can say that at least 34% (or 7,568) of all replaced systems were fossil fuel (oil, gas or coal) heating systems.

UK Standard Industrial Classification

- 1.15 We also collect information on the industry sectors within which the heat is used. To do this we use the UK Standard Industrial Classification (UK SIC)¹¹ to categorise the area of economic activity. The top ten sectors by the total number of accredited installations are shown in **Figure 1.8**. The same information for 2021-22 accreditations is shown in **Table 1.3**. The complete dataset of installations by UK SIC can be found in the spreadsheet published alongside this report.

¹¹ [Link to UK SIC 2007:](https://www.ons.gov.uk/methodology/classificationsandstandards/ukstandardindustrialclassificationofeconomicactivities/uksic2007)

<<https://www.ons.gov.uk/methodology/classificationsandstandards/ukstandardindustrialclassificationofeconomicactivities/uksic2007>>

Figure 1.8 UK SIC for accredited installations

The chart below shows installations with a SIC for 'Accommodation' are the most frequent (6,966). However, the 'Crop and animal production, hunting and related activities' SIC has a greater total installed capacity of (1,778.8 MW).

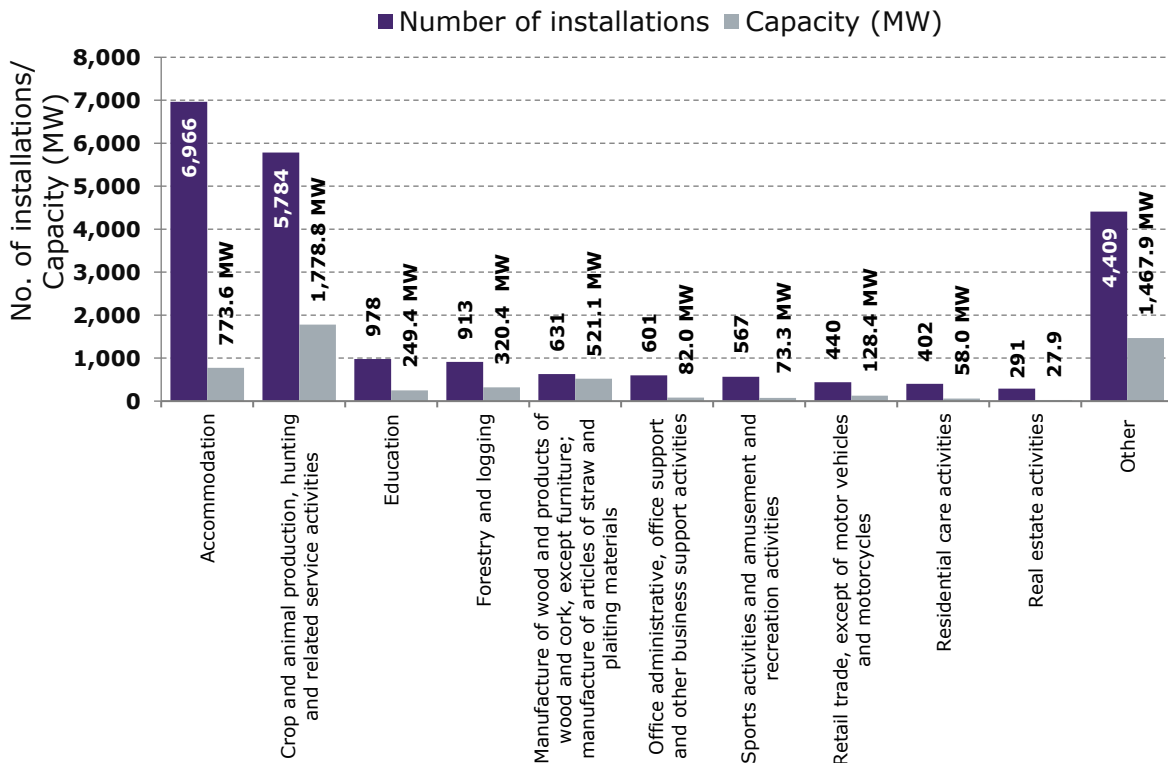


Table 1.3: UK SIC for installations accredited during 2021-22

Industry sector	Number of installations	Capacity (MW)
Accommodation	560	34.4
Crop and animal production, hunting and related service activities	157	74.3
Education	87	18.7
Residential care activities	55	6.8
Electricity, gas, steam and air conditioning supply	53	31.6
Manufacture of wood and products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	41	30.7
Real estate activities	37	1.5
Sports activities and amusement and recreation activities	33	1.7
Office administrative, office support and other business support activities	28	17.7
Forestry and logging	24	6.1
All other industry sectors	253	57.7

Geographic distribution of accredited installations

1.16 **Figure 1.9** below shows the split in both the number of accreditations and the installed capacity across Great Britain.

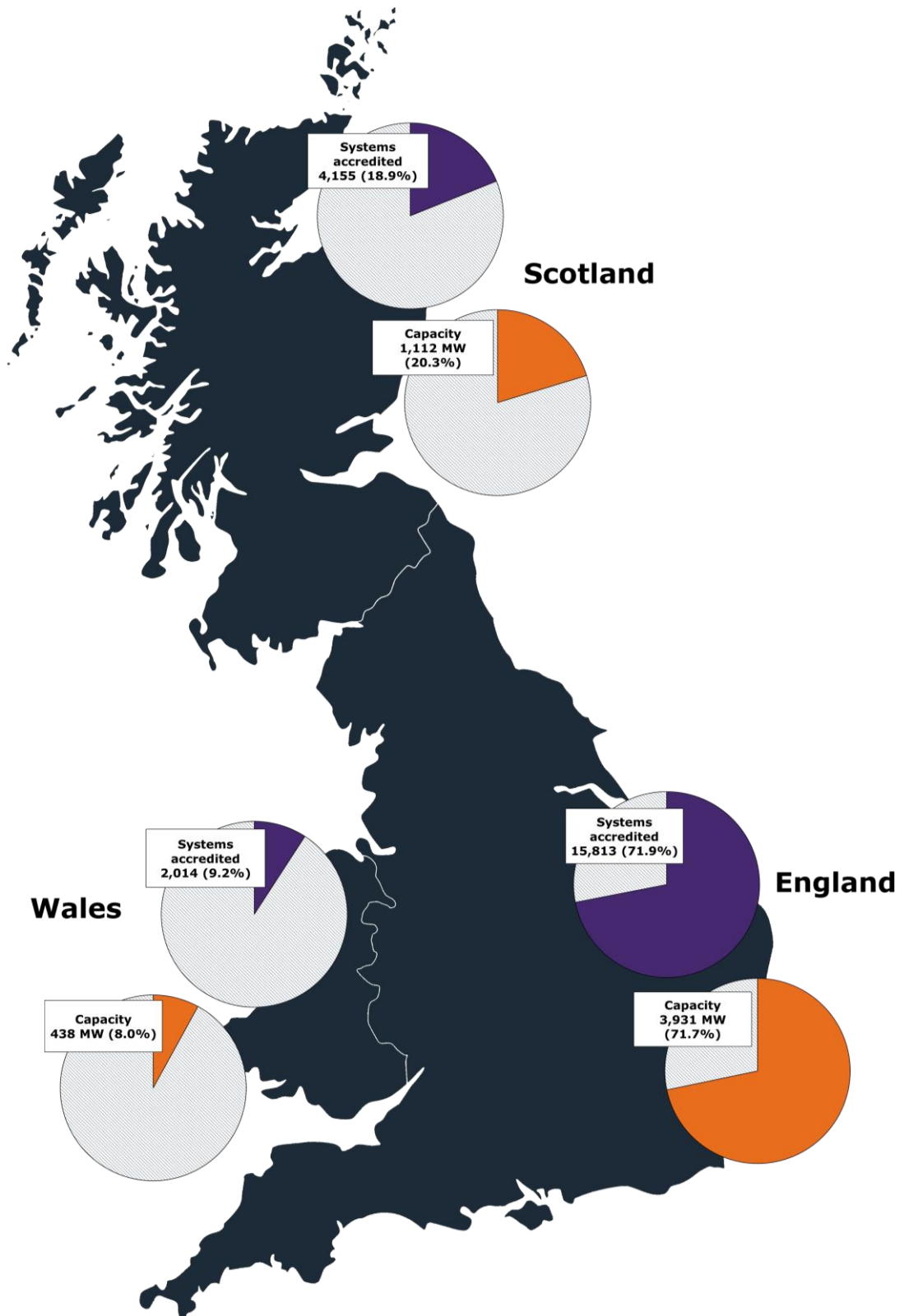
1.17 It should be noted that as biomethane plants do not generate heat, the capacity figures shown do not include biomethane. The accredited systems figures do, however, include biomethane.

1.18 The figures show that by some margin the majority of NDRHI accreditations, as well as the majority of installed capacity, are located in England.

1.19 A full regional breakdown by technology type can be found in **Appendix 1**.

Figure 1.9: Total number of accredited systems and capacity by country

The map below shows that systems have been accredited across Great Britain as follows; England – Installations 15,813 (71.9%), Capacity 3,931 MW (71.7%); Scotland - Installations 4,155 (18.9%), Capacity 1,112 MW (20.3%) and Wales - Installations 2,014 (9.2%), Capacity 438 MW (8.0%).



Tariff Guarantees

- 1.20 A Tariff Guarantee (TG)¹² allows applicants to the scheme to secure a tariff rate (a “guaranteed tariff” that will apply if the plant becomes accredited or registered) before their installation is commissioned and fully accredited. This provides a level of investment certainty for larger installations.
- 1.21 Since TG applications were introduced to the scheme in May 2018, we have received 715 of these applications in total.
- 1.22 Following our assessment, we granted a total of 333 TG applications with a committed spend of £152.76m. We rejected 271 applications for not meeting eligibility requirements and a further 92 were cancelled by applicants.
- 1.23 The NDRHI scheme closed to new TG applications on 31 March 2021. Certain applicants who have been granted a TG have until midnight at the end of 31 March 2023 to commission their plant, commence injection (biomethane applications only) and submit a correct application for accreditation or registration.

Extension applications

- 1.24 As a result of the COVID-19 pandemic, in November 2020 the government announced a new extension mechanism for applications that were not eligible for TGs.¹³ This new mechanism allowed eligible installations the opportunity to apply for a 12-month extension by submitting a properly-made extension application.¹⁴ The extension application route closed on 31 March 2021.
- 1.25 On 19 January 2022 due to the continued difficulties being faced by some applicants, a further 12-months to commission were provided to those that had submitted a properly-made extension application by the 31 March 2021.
- 1.26 When an extension application is accredited and the site is commissioned, the application is then converted to a full application. In total, 197 extension applications were converted in 2021-22.

¹² [Link to information on Tariff Guarantees:](https://www.ofgem.gov.uk/sites/default/files/docs/2020/07/guide_to_tariff_guarantees_july_2020.pdf)

<https://www.ofgem.gov.uk/sites/default/files/docs/2020/07/guide_to_tariff_guarantees_july_2020.pdf>

¹³ [Link to details on changes made to the scheme in response to COVID-19:](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/933108/changes-to-rhi-support-covid19-response-further-govt-response.pdf)

<https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/933108/changes-to-rhi-support-covid19-response-further-govt-response.pdf>

¹⁴ Only plants which are not eligible for TGs, and are not expected to be commissioned before scheme closure and can demonstrate that significant capital, or significant human or material resource has been invested in the into development of a plant on or before 17 August 2020, are eligible to make an extension application. More information can be found in the extension application guidance on Ofgem’s website. [Link to Non-Tariff Guarantee Extension Applications:](https://www.ofgem.gov.uk/publications-and-updates/non-tariff-guarantee-extension-applications) <<https://www.ofgem.gov.uk/publications-and-updates/non-tariff-guarantee-extension-applications>>

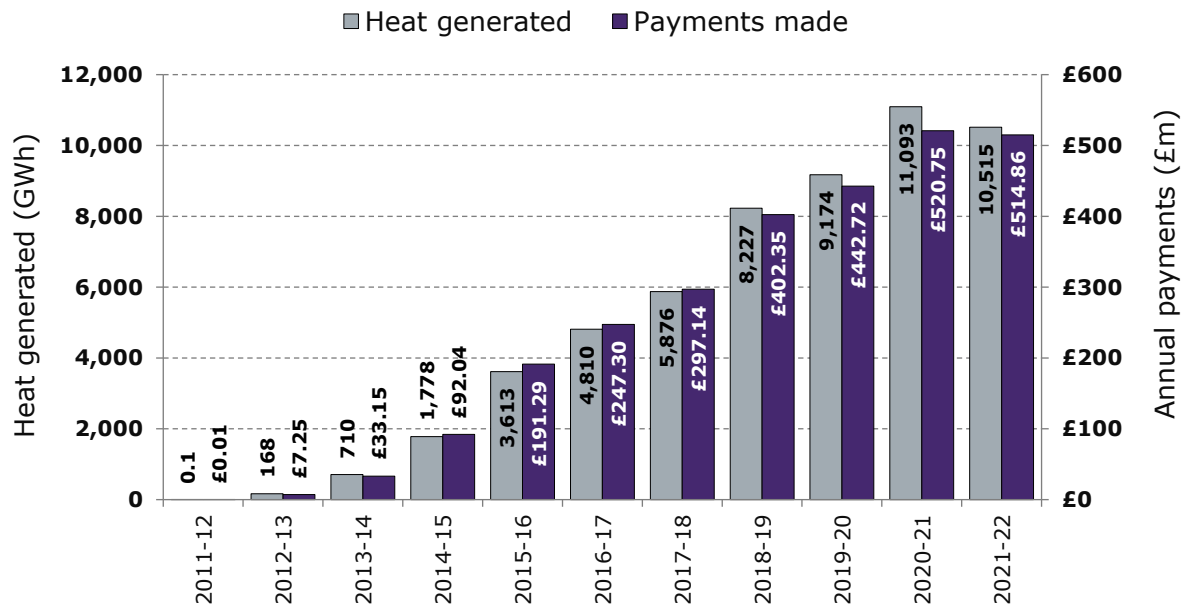
2. Payments & Heat Generation

- 2.1 RHI payments are made quarterly for up to 20 years and are based on the eligible heat output of installations. Payments made to biomethane producers follow a separate calculation formula because heat is not generated in the process; instead payments are based on the amount of biomethane injected directly into the gas grid. For this reason, from paragraph 2.4 onwards details of biomethane payments are discussed separately.
- 2.2 Payments are only made to accredited installations that continue to meet the scheme rules. The tariff rates are set by the Department for Business, Energy and Industrial Strategy (BEIS) and are adjusted annually to account for inflation.¹⁵
- 2.3 Since the NDRHI scheme began in 2011, a total of £4.1 bn has been paid out to participants. £798 million in payments were made in 2021-22 alone.
- 2.4 **Figure 2.1** below shows that nearly £515 million in payments were made during 2021-22 to heat generating installations. These payments were made against heat generation of 10,515 GWh. This brings total payments made to heat generating installations over the lifetime of the scheme to £2.7 bn, corresponding to 56,000 GWh of heat generation.
- 2.5 The amount paid to participants and the associated heat generated during 2021-22 dropped by 5.2% from the previous year. This is the first reduction in payments and heat generated since the scheme started in 2011-12. We believe that there are a number of factors contributing to this including well publicised supply chain and workforce issues in the economy. These issues may have impacted the ability of some participants to carry out their usual activities, thereby reducing the amount of heat required. Additionally, there may have been an impact on the ability of participants to operate and maintain their plant effectively.

¹⁵ [Link to information on NDRHI payments and tariffs](https://www.ofgem.gov.uk/environmental-programmes/non-domestic-rhi/contacts-guidance-and-resources/non-domestic-rhi-tariffs-and-payments): <https://www.ofgem.gov.uk/environmental-programmes/non-domestic-rhi/contacts-guidance-and-resources/non-domestic-rhi-tariffs-and-payments>

Figure 2.1 NDRHI heat generated and payments made (ex. Biomethane production)

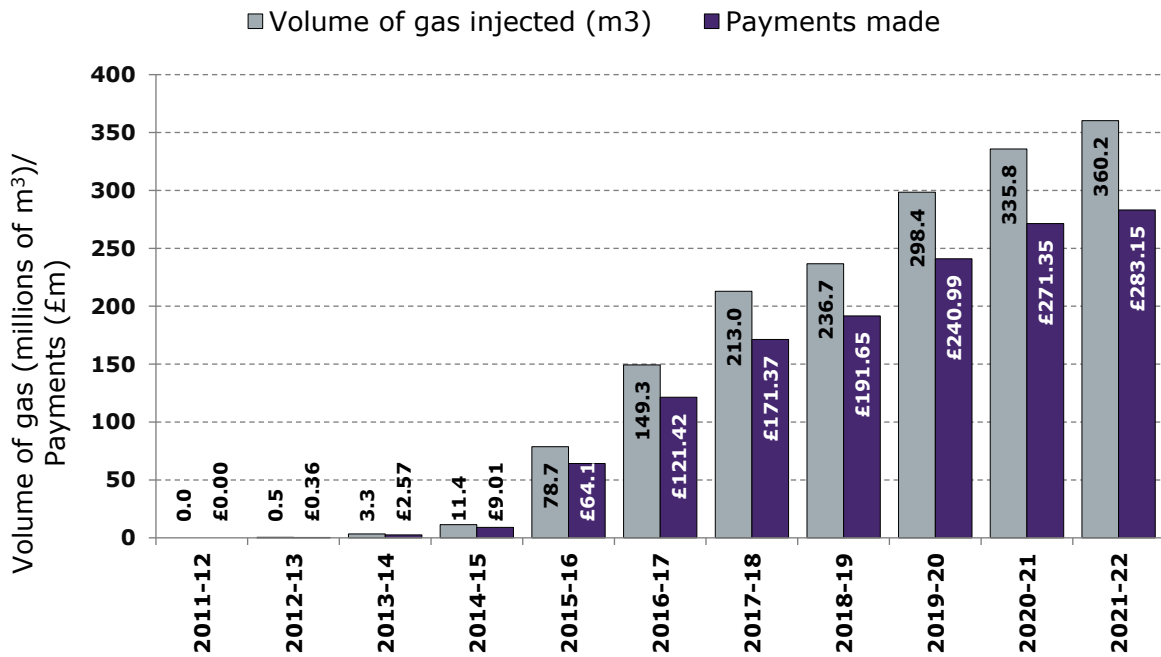
The chart below shows payments and the associated heat generated under the scheme since launch. Both have grown significantly, from around £100,000 and 0.1 GWh in 2011-12, to a peak of over £520 million and 11,000 GWh in 2020-21.



2.6 Information on the volume of gas injected into the grid and payments made to biomethane producers (which started in 2012-13) can be seen in **Figure 2.2** below. More than 360 million m³ of gas was injected into the grid in relation to the more than £283 million of payments made during 2021-22. The volume of gas increased by around 6.8%, and payment figures increased by 4.2% from 2020-21. The total gas injected over the lifetime of the scheme amounts to nearly 1.7 bn m³, resulting in nearly £1.36 bn in payments being made.

Figure 2.2 NDRHI biomethane - volume of gas injected and payments made

The chart below shows both the volume of gas injected and associated payments under the scheme since launch. Both have grown significantly, from around 500,000 m³ and £360,000 in 2012-13 to a peak of over 360 million m³ and £283 million in 2021-22.



2.7 In **Table 2.1** below you can see the payments and heat generated or gas injected by technology type since the scheme launched. This shows that 86.6% of payments went to two technology types. Solid biomass boiler installations accounted for 53.6%, and a further 33.0% went to biomethane installations. These two technology types account for 79.4% of accredited installations.

Table 2.1 NDRHI lifetime payments made, heat generated and gas injected - by technology type

Technology Type	Payments (£m)	Payments (% of total)	Associated heat generation (GWh)	Associated volume of gas injected (m ³)
Air Source Heat Pump (ASHP)	£3.36	0.1%	123.1	-
Biogas	£274.68	6.7%	5,177.0	-
Biomethane	£1,356.05	33.0%	-	1,687,221,897
Ground Source Heat Pump (GSHP)	£102.60	2.5%	1,269.6	-
Solar Thermal	£1.20	0.03%	11.4	-
Solid Biomass Boiler	£2,198.55	53.6%	45,149.1	-
Solid Biomass CHP	£133.82	3.3%	3,150.4	-
Waste	£13.26	0.3%	818.1	-
Water Source Heat Pump (WSHP)	£21.39	0.5%	265.1	-
Total	£4,104.90	100%	55,963.8	1,687,221,897

3. Audit & Assurance

- 3.1 The aim of our audit programme is to check compliance with the scheme regulations. This is to ensure payments are only made against eligible heat generation, thereby protecting the public purse. Our audit strategy has been developed in line with best practice from the National Audit Office (NAO) and we review and update it annually.
- 3.2 Ofgem opens a compliance investigation when we suspect a scheme participant is non-compliant, for instance after completion of an audit. Non-compliance can be either material or non-material. Material non-compliance can have a financial impact and may lead to funds being paid out in error, while non-material non-compliance has no financial impact.
- 3.3 Where we found instances of non-material non-compliance, we advised participants what actions they needed to take to rectify the situation. Where we confirmed instances of material non-compliance, we took enforcement action, such as recovering overpaid payments and permanently withholding payments.

Audit Activity

- 3.4 We undertake both statistical and targeted audit programmes. Our statistical audits for 2021-22 were chosen via a simple random sampling of the scheme population. The statistical audit programme is designed to be delivered with a 95% confidence level, which provides us with assurance that the results of audits will reflect the level and types of non-compliance within the scheme population.
- 3.5 Targeted audits are used where we identify sites that may have an increased risk of non-compliance with the scheme. We primarily identified installations for targeted audits during the course of performing our administrative duties. We also used data analytics to identify sites at higher risk of non-compliance.
- 3.6 We conducted 493 audits throughout the year. **Table 3.1** and **Table 3.2** below provide a summary of audit activity undertaken during 2021-22 and 2020-21. As a number of investigations are ongoing at time of writing, this data is correct as of May 2022. These open audits are due to be closed by July 2022.
- 3.7 It should be noted that material non-compliances identified during audit are subject to further compliance investigation. It is often the case that after further investigation it is determined that there is no financial impact. As such the audit non-compliance rates below should not be viewed as final.

Table 3.1: NDRHI statistical audit activity 2021-22 and 2020-21

Audit Type	Site Visits	Closed Audits	Open Audits	Compliant audits	Non-compliant audits	Non-compliance rate	Material non-compliances	Material non-compliance Rate
2021-22: Statistical	168	168	0	70	98	58.3%	59	35.1%
2020-21: Statistical	249	249	0	69	180	72.3%	111	44.6%

Table 3.2: NDRHI targeted audit activity 2021-22 and 2020-21

Audit Type	Site Visits	Closed Audits	Open Audits	Compliant audits	Non-compliant audits	Non-compliance rate	Material non-compliances	Material non-compliance Rate
2021-22: Targeted*	325	279	46	91	188	67.4%	98	35.1%
2020-21: Targeted	240	240	0	55	185	77.1%	110	45.8%

*Figures accurate as of 31/05/2022, with remaining audits expected to be closed by July 2022

3.8 As applicants sought to benefit from the scheme prior to closure there was an increased risk of non-compliance. As such, as part of our targeted audit programme we carried out audits on installations that applied to the scheme shortly before the closure. This included full applications and extension applications and has provided us with additional assurance that those applications are eligible for support. Where it is determined that applications are ineligible, they are rejected.

Compliance

3.9 We closed 521 compliance investigations during the year. Where a compliance investigation confirms that a material non-compliance has occurred, the financial impact on payments is quantified. We then use this information to recover those funds, thereby protecting the public purse.

3.10 Ofgem's enforcement actions from the investigations closed during 2021-22 resulted in almost £1.5 million of public funds being either protected or expected to be recovered. Further details can be found in **Table 3.3** below.

Table 3.3: Compliance cases 2021-22

Referral Source	Cases closed since April	Non-Compliant: Material	Non-Compliant: Non-Material	Value of public funds protected or recoverable
Audit	324	19	305	£143,911.64
Operational	191	175	16	£1,297,350.00
Counter fraud/ External investigation	6	3	3	£38,165.87
Total	521	197	324	£1,479,427.51

- 3.11 When measuring material non-compliance levels for compliance investigations, we use 'error rate'. This is the estimated level of error across the scheme population, expressed as a percentage of all payments. To calculate this we focus on compliance investigations that originated as statistical audits. Statistical audit sites are used as they are selected to be representative of the scheme population as a whole.
- 3.12 Based on the compliance investigations closed during 2021-22 the error rate improved compared to the previous year. The estimated level of error on the scheme was 0.4% of payments. Last year the error rate was 0.6% of payments.
- 3.13 To provide further information on the nature of the material non-compliances being identified, we have included information on the five most common in **Figure 3.1** and **Table 3.4** below. The most common reason for material non-compliance was 'no evidence of sustainable fuel', accounting for 37.4% of all material non-compliances. Where this issue has been identified the generator has been unable to provide evidence that the fuel used in their plant met sustainability requirements.
- 3.14 It should be noted that a materially non-compliant case can have one or more reasons for material non-compliance listed against it.

Figure 3.1: Top five reasons for material non-compliance 2021-22

The chart below shows the top five reasons for material non-compliance during 2021-22. The most common reason being 'no evidence of sustainable fuel', accounting for 37.4% of all material non-compliances. Collectively the top five reasons shown account for 72.3% of all material non-compliance confirmed during the year.

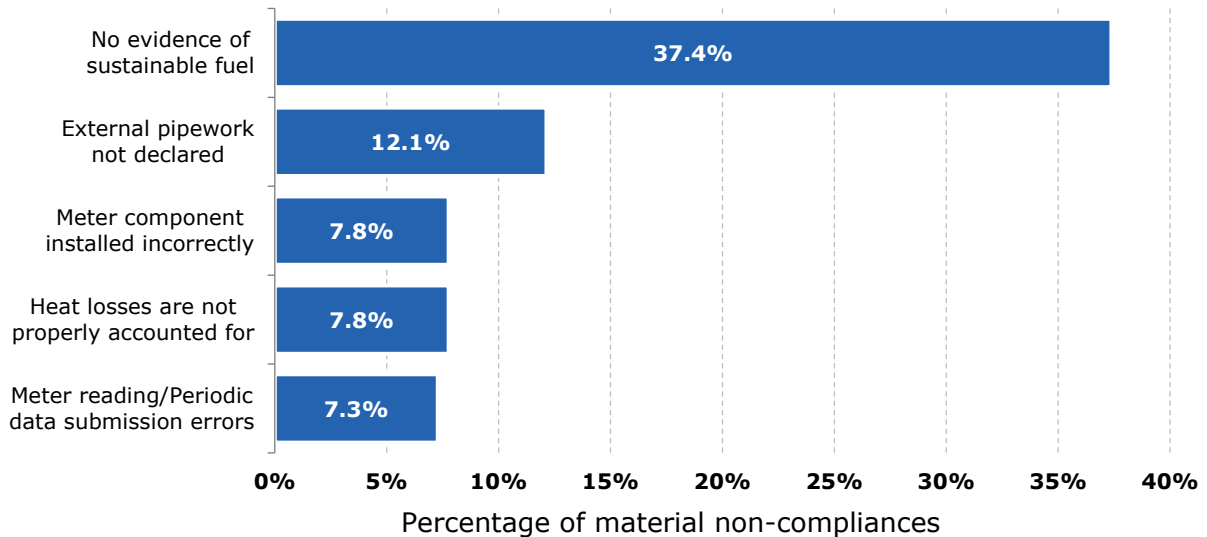


Table 3.4: Top reasons for material non-compliance 2021-22

Reason for non-compliance	Instances of material non-compliance 2021-22	% of material non-compliances	% of all non-compliances (both material and non-material)
Sustainability - no evidence of sustainable fuel	77	37.4%	14.0%
External pipework not declared	25	12.1%	4.5%
Heat losses are not properly accounted for	16	7.8%	2.9%
Meter component installed incorrectly	16	7.8%	2.9%
Meter reading/Periodic data submission errors	15	7.3%	2.7%
Other material non-compliance	57	27.7%	10.3%
Total	206	100%	37.4%

3.15 To maintain and further reduce the low levels of non-compliance on the scheme, we continue to analyse the causes behind the non-compliances being identified. We use this information to proactively look for ways to adapt our procedures and guidance to reduce the likelihood of non-compliances occurring.

4. Our Administration

- 4.1 As administrators of the scheme, we perform a number of functions, such as the review of applications and amendments, calculating and making payments, responding to enquiries and ensuring participants' ongoing compliance with the scheme regulations.
- 4.2 In order to ensure that we are providing a good service, we track our performance monthly and publish details on our website.¹⁶
- 4.3 As detailed in **Table 4.1** below, we made application decisions within six months on 47.9% of applications. This was a decline from last year when 76.6% of application decisions were made within six months. This drop is attributed to the high volume of applications received ahead of the scheme's closure on 31 March 2021. As we process applications in the order in which they are received, it took longer than previously to start our assessment of these applications.
- 4.4 Ofgem made 96.9% of payments within 40 working days from submission. This is an increase from last year, which saw 94.5% of payments made within 40 working days. The total number of payments made was very similar to the previous year, down slightly to 76,054 compared to 76,134 in 2020-21.

Table 4.1: Ofgem NDRHI Delivery Performance

	2021-22	2020-21
No. of application decisions	1,536	1,196
Application decisions within 6 months	47.9%	76.6%
No. of Tariff Guarantee (TG) application decisions	32	411
TG application decisions within 6 months	96.9%	94.9%
No. of amendment decisions	2,471	2,182
Amendment decisions within 6 months	94.0%	88.8%
No. of payments made	76,054	76,134
Payments made within 40 WD	96.9%	94.5%
Emails received	4,249	8,180
Emails responded to within 10 WD	98.7%	95.8%
Calls received	15,262	14,900
Abandoned call rate	3.3%	9.5%

- 4.5 Accredited applicants are eligible to receive support for up to 20 years, meaning that we will continue to administer and make payments under the scheme until 31 March 2041.

¹⁶ [Link to Environmental programmes: Ofgem's role and delivery performance:](https://www.ofgem.gov.uk/environmental-programmes/environmental-programmes-ofgem-s-role-and-delivery-performance)
<<https://www.ofgem.gov.uk/environmental-programmes/environmental-programmes-ofgem-s-role-and-delivery-performance>>

5. Looking Forward

- 5.1 The government closed the NDRHI to new applications on 31 March 2021. Post closure, the scheme will still be accepting modified capacity applications and full accreditation/registration applications where the applicant has been granted an extension application or a tariff guarantee. No applications will be accepted beyond 31 March 2023.
- 5.2 The NDRHI provides payments for up to 20-years meaning that the scheme will still be servicing participants up until 31 March 2041. This will include processing amendments such as relocations of installations, changes of ownership or transfer of producer and replacement plant.
- 5.3 From 1 April 2022 all biomethane producers must submit an independent annual report on their NDRHI/RTFO interaction with their annual sustainability audit¹⁷. This is in response to a new legal obligation for Ofgem to ensure payment is not made where the same biomethane claimed for under the NDRHI has also received support through the RTFO.
- 5.4 We will continue to actively monitor participant compliance, to ensure that only those that continue to meet scheme rules receive payments. In part, this is achieved through a requirement for declarations to be submitted by participants and our extensive audit programme. This, along with the counter fraud measures that we continue to implement, ensures that we only pay subsidies on eligible heat generation, thereby ensuring fair and effective use of public funds.
- 5.5 Whilst the NDRHI has closed to the majority of new applications, the government has introduced a scheme to provide continued support for biomethane installations. The Green Gas Support Scheme (GGSS) launched on 30 November 2021 and is due to remain open for applications until November 2025.¹⁸

¹⁷ [Link to our decision on further validation of NDRHI/RTFO interactions:](https://www.ofgem.gov.uk/publications/decision-final-guidance-further-validation-ndrhirtfo-interaction-biomethane-producers-when-submitting-biomethane-claims)

<<https://www.ofgem.gov.uk/publications/decision-final-guidance-further-validation-ndrhirtfo-interaction-biomethane-producers-when-submitting-biomethane-claims>>

¹⁸ [Link to information on The Green Gas Support Scheme:](https://www.ofgem.gov.uk/environmental-and-social-schemes/green-gas-support-scheme-and-green-gas-levy) <<https://www.ofgem.gov.uk/environmental-and-social-schemes/green-gas-support-scheme-and-green-gas-levy>>

Appendix 1 – Accredited installations by region

Table A1.1: Accredited installations by region and technology

Region	ASHP	Biogas	Bio-methane	GSHP	Solar Thermal	Solid Biomass Boiler	Solid Biomass CHP	Waste	WSHP	Total
South West	140	72	20	320	68	2,339	6		12	2,977
West Midlands	42	138	8	365	31	1,750	22		12	2,368
Yorkshire and The Humber	106	67	11	277	35	1,784	6	2	15	2,303
Wales	52	66	1	123	37	1,744	18		9	2,050
North West	87	93	4	189	28	1,594	9	1	12	2,017
East Midlands	77	92	10	160	13	1,577	2		8	1,939
East of England	110	62	13	217	27	1,149	6		11	1,595
South East	74	29	39	292	42	1,062	8		29	1,575
Southern Scotland	13	46	3	59	5	1,290	7		8	1,431
East Scotland	36	38	9	54	11	804	1	1	8	962
Highlands and Islands	49	25	13	35	19	705	2		3	851
North East	39	14	3	79	12	681	2	2	1	833
North East Scotland	6	17	2	19	4	507			1	556
West Central Scotland	18	12	2	81	5	238	1		1	358
London	19	1	3	52	4	80	1		7	167
Total	868	772	141	2,322	341	17,304	91	6	137	21,982

Table A1.2: Installation capacity (MW) by region and technology

Region	ASHP	Biogas	GSHP	Solar Thermal	Solid Biomass Boiler	Solid Biomass CHP	Waste	WSHP	Total
West Midlands	2.26	44.30	46.40	0.92	524.36	39.18		1.59	659.01
East Midlands	2.47	43.11	15.86	0.48	512.86	69.47		9.66	653.92
Yorkshire and The Humber	2.39	29.94	15.58	0.81	472.87	7.38	25.21	2.13	556.29
North West	3.59	23.11	17.81	0.41	385.11	24.76	24.10	1.83	480.72
South West	5.40	31.17	16.39	0.98	389.42	17.27		0.77	461.40
Wales	2.24	22.74	5.79	0.46	381.93	34.60		1.10	448.85
East of England	3.30	60.66	16.56	0.81	306.52	10.44		1.47	399.77
South East	5.67	20.41	34.57	0.61	248.33	43.11		2.41	355.10
Southern Scotland	0.56	11.18	19.52	0.06	299.44	16.19		6.75	353.69
North East	0.93	13.64	17.72	0.17	146.32	31.65	88.00	0.02	298.43
East Scotland	0.56	11.10	13.00	0.27	217.90	1.80	15.03	2.51	262.17
Highlands and Islands	1.49	8.46	2.85	0.24	205.87	13.16		2.35	234.41
North East Scotland	0.09	4.10	7.71	0.04	179.44			0.06	191.44
West Central Scotland	3.15	2.92	4.56	0.15	61.75	2.86		0.06	75.45
London	3.51	1.60	10.46	0.04	23.36	7.84		3.30	50.12
Total	37.62	328.44	244.76	6.43	4,355.47	319.71	152.33	35.99	5,480.75

N.B. biomethane plants are not included as they do not have a heat output.

Appendix 2 – Glossary of terms

A

Air source heat pump – see Heat pump.

Anaerobic digestion – A natural process in which micro-organisms break down organic matter (e.g., animal manure or waste food) within a contained environment. This produces biogas.

Authority - The Gas and Electricity Markets Authority (GEMA) (the Authority) is the statutory body responsible for administering the NDRHI in Great Britain (GB). The Authority's day-to-day functions are performed by Ofgem, the office of the Authority.

B

BEIS - Department for Business, Energy and Industrial Strategy.

Biogas – Biogas is a renewable fuel produced by the breakdown of organic matter.

Biomass – organic matter used as fuel.

Biomethane – Biomethane is a gas (biogas) produced from organic matter through anaerobic digestion and then purified.

C

Combined Heat and Power (CHP) – A plant that captures and uses heat which is created as a by-product of electricity generation.

D

DECC – Department of Energy and Climate Change. From July 2016 the new Department for Business, Energy and Industrial Strategy assumed the roles and responsibilities of DECC.

E

Error rate – A measure of non-compliance. This is the estimated level of error across the scheme population, expressed as a percentage of all payments.

Extension application – A type of application introduced by BEIS in response to the COVID-19 pandemic. Extension applications allow those who's projects had been delayed but were not eligible to submit a tariff guarantee application additional time to commission and submit a full accreditation application.

G

GEMA – The Gas and Electricity Markets Authority (GEMA) (the Authority) is the statutory body responsible for administering the NDRHI in Great Britain (GB). The Authority’s day-to-day functions are performed by Ofgem, the office of the Authority.

Green Gas Support Scheme (GGSS) – The GGSS is a government environmental scheme that provides financial incentives for new anaerobic digestion biomethane plants to increase the proportion of green gas in the gas grid. The scheme is open to applicants in England, Scotland and Wales for four years from 30 November 2021.

Ground source heat pump – see Heat pump.

GW – Gigawatt, equal to one billion watts.

GWh – Gigawatt hour, equivalent to one billion watt hours of heat output.

H

Heat pump – A heat pump is a device that extracts ambient heat from the air, ground or water and increases it to use for heating.

K

kW – Kilowatt, equal to one thousand watts.

kWh – Kilowatt hour, equivalent to one thousand watt hours of heat output.

M

MW – Megawatt, equal to one million watts.

MWh – Megawatt hour, equivalent to one million watt hours of heat output.

S

Solar thermal – A system that uses energy from the sun to heat water.

Solid biomass boiler – A boiler fuelled by solid biomass such as wood.

Solid biomass CHP – A plant fuelled by solid biomass such as wood that produces both heat and electricity.

T

Tariff guarantee – A process that allows certain applicants to the NDRHI to secure a tariff rate before their installation is commissioned and fully accredited on the RHI.

TW – Terawatt, equal to one trillion watts.

TWh – Terawatt hour, equivalent to one trillion watt hours of heat output.

W

Water source heat pump – See Heat pump.

Appendix 3 - Associated Documents

- The Renewable Heat Incentive Scheme Regulations 2018 (as amended) can be viewed on the legislation.gov.uk website:
[Link to Renewable Heat Incentive Scheme Regulations:](https://www.legislation.gov.uk/primary+secondary?title=Renewable%20Heat%20Incentive)
<https://www.legislation.gov.uk/primary+secondary?title=Renewable%20Heat%20Incentive>
- Ofgem has published guidance documents on the NDRHI scheme, which can be viewed on the Ofgem website linked below:
[Link to Ofgem's NDRHI main guidance:](https://www.ofgem.gov.uk/publications-and-updates/non-domestic-rhi-main-guidance)
<https://www.ofgem.gov.uk/publications-and-updates/non-domestic-rhi-main-guidance>
- For more information on the NDRHI scheme, visit the Ofgem website using the following link: Guidance and Resources
[Link to Ofgem contacts, guidance and resources about the NDRHI scheme:](https://www.ofgem.gov.uk/environmental-programmes/non-domestic-rhi/contacts-guidance-and-resources)
<https://www.ofgem.gov.uk/environmental-programmes/non-domestic-rhi/contacts-guidance-and-resources>
- For more information on NDRHI Tariffs and Payments, including information on how payments are calculated, visit the Ofgem website here:
[Link to NDRHI tariffs and payments:](https://www.ofgem.gov.uk/environmental-programmes/non-domestic-rhi/contacts-guidance-and-resources/non-domestic-rhi-tariffs-and-payments)
<https://www.ofgem.gov.uk/environmental-programmes/non-domestic-rhi/contacts-guidance-and-resources/non-domestic-rhi-tariffs-and-payments>
- Public reports and data about the NDRHI scheme can be viewed our website:
[Link to Ofgem's public reports and data on the NDRHI scheme:](https://www.ofgem.gov.uk/environmental-programmes/non-domestic-rhi/contacts-guidance-and-resources/public-reports-and-data)
<https://www.ofgem.gov.uk/environmental-programmes/non-domestic-rhi/contacts-guidance-and-resources/public-reports-and-data>