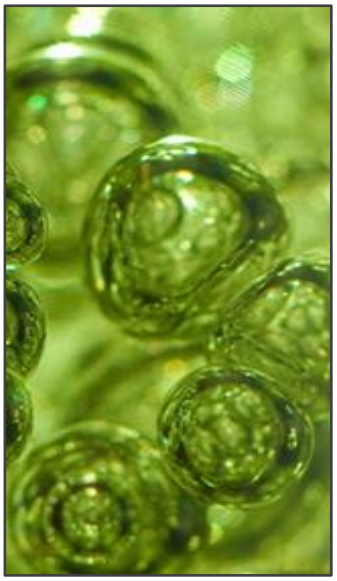
RENEWABLE ENERGY ASSURANCE LIMITED

Certification Schemes' Annual Report 2017





Compost Certification Scheme
Biofertiliser Certification Scheme
Compostable Packaging Certification Scheme
Green Gas Certification Scheme

RENEWABLE ENERGY ASSURANCE LIMITED

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Introduction

Renewable Energy Assurance Ltd (REAL) has been working with a range of partners since 2010 to deliver certification schemes in the areas of organics recycling, biogas and bioenergy. REAL can ensure that a range of sector participants are complying with the standards relevant to the products and services they produce. The schemes administered by REAL are:

- Compost Certification Scheme
- Biofertiliser Certification Scheme
- Compostable Packaging Certification Scheme
- Green Gas Certification Scheme

This report aims to share insights from data collected by the Compost Certification Scheme (CCS) and the Biofertiliser Certification Scheme (BCS) and report on the work carried out by REAL to manage and develop these schemes. REAL works to ensure the schemes are robust and work for all relevant stakeholders, and in so doing, protecting consumers of independently certified compost and digestate, and promoting the organics recycling sector.

Data was used from the beginning of January 2018 to reflect the status of the schemes at the end of 2017. The CCS and BCS sections provide an overview of the composting and anaerobic digestion processes certified through CCS and BCS and a summary of the operational data available.

This report also presents information on the other certification schemes owned and administered by REAL: the Compostable Packaging Certification Scheme and the Green Gas Certification Scheme. The Compostable Packaging Certification Scheme is run in partnership with Din Certco, a certification body in Germany, and through this partnership REAL can offer a suite of schemes for the certification of compostable and bio-based products, and products made from recycled materials.

The Green Gas Certification Scheme (GGCS) tracks biomethane through the supply chain to provide certainty for those that buy it. The GGCS assigns guarantees of origin to each unit of biomethane injected and each unit taken out and sold to households, institutions or corporate customers. This scheme has grown significantly since its inception and 2017 saw huge growth in the volume of green gas sold to consumers.

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A word from our Chair

This year [2018] has seen a dramatic increase in the awareness of both the public and politicians of the need to avoid waste and use our resources as sustainably as possible; a key factor in this is the recycling of materials wherever possible. The production of quality composts and biofertilisers from recycled organic materials is an increasingly important area of recycling.

The commercial production of compost has a relatively long history but if consumers are to have confidence that the compost used is fit for purpose and of good quality it is important to have appropriate guidelines. The CCS provides consumers with the confidence that its participants will produce compost of consistently high quality, which is safe for human, animal and plant health, and fit for purpose. PAS 100 has provided the basis of this quality control but as our experience has increased there has been a necessity to periodically revise the PAS to ensure it is appropriate to current practices. Following extensive consultation a new version will be published in 2018.

Whilst the production of biofertiliser from recycled organic materials using anaerobic digestion has a shorter history than compost production, it is a rapidly expanding area within the field of organics recycling. The BCS is more recent than the scheme for composts. The quality of the biofertiliser products and the production process is underpinned by PAS 110.

As Chair of the Joint Oversight Committee for the two Certification Schemes it is my responsibility to ensure that the rules of the schemes are applied. It is also my responsibility to draw to the attention of the Committee any concerns raised by the producers or consumers of these products and where necessary initiate actions to investigate these concerns. We expect the amount of recycling of organic materials to continue to grow and the Certification Schemes are key to ensuring that the consumers receive quality products.

Professor Stephen Nortcliff (Chair of the CCS Technical Advisory Committee/BCS Oversight Panel)

A word from our Chief Executive

I am delighted to welcome this 2017 Annual Report. It summarises a year of achievement for both the Compost and the Biofertiliser Certification Schemes. The scheme managers have worked hard over the course of the year to ensure that both schemes remain fit for purpose. As part of this they have strengthened the processes of the laboratories and the certification bodies appointed to the scheme. With British Standards Institute they have also overseen the revision process for PAS 100 for compost which is almost complete. As a result we can move into 2018 with increased confidence in the robustness of both schemes.

Virginia Graham

Compost Certification Scheme

This scheme provides assurance to consumers, farmers, food producers and retailers that *quality compost* derived from source-segregated biowaste or source-segregated biodegradable materials is safe for human, animal and plant health. Compost improves soil structure and health by increasing organic matter and the soils ability to retain moisture and nutrients. Certified Quality Compost signifies that it was produced using an effective quality management, providing assurance that the materials have a consistent quality, are safe and reliable to use, and are fit for purpose.

Certified processes

There were a total of 174 processes certified under the CCS by the end of 2017. The largest portion of certified composting operators fell in the category of operators processing between 20,001 and 50,000 tonnes of organic waste per annum by the end of 2017 (31% of the total). The category with the smallest number of producers was comprised of those processing between 0 and 3000 tonnes of organic waste per annum (7% of the total).

Figure 1 presents the number of processes certified under the CCS in the UK, the change in total input tonnage, and the change in compost production over the course of 2017. Following a slight decrease in numbers during the first half of 2017, there was a positive change in the number of certified processes. Compared to the beginning of 2017, the total input tonnage processed annually and compost produced annually has both increased.

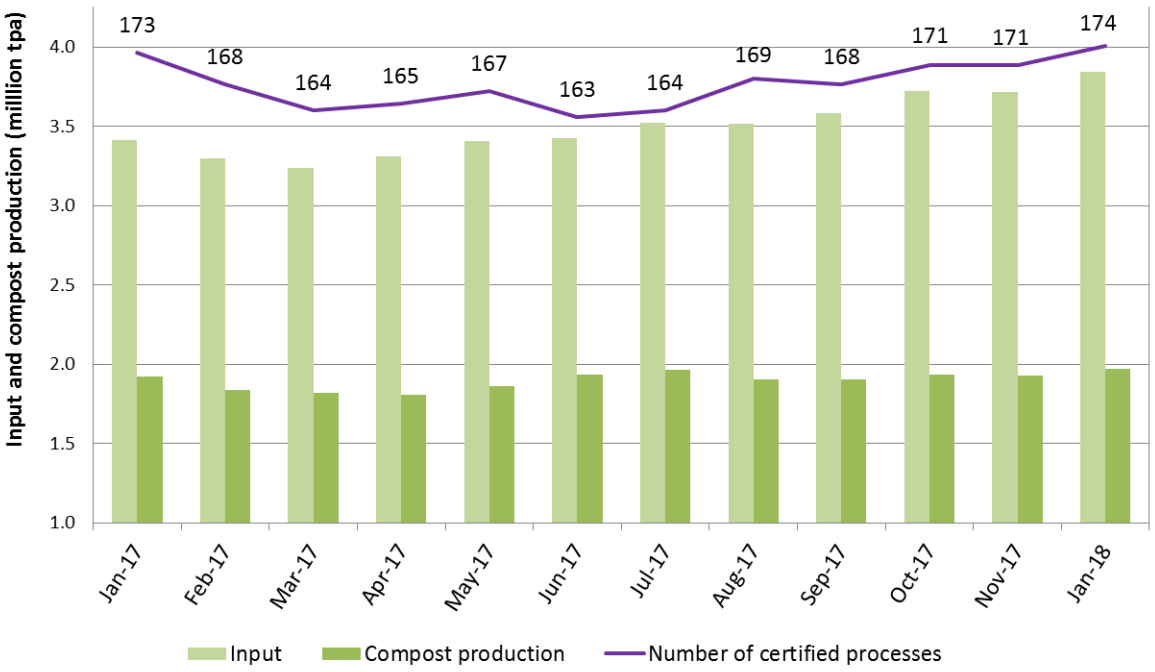


Figure 1 Total number of certified processes, input tonnage, and compost production in the UK 2017-18

Figure 2 presents the number of certified processes in each country of the UK as a percentage of the total. By the end of 2017, there were 136 processes certified in England, 22 in Scotland, 10 in Wales, and 6 in Northern Ireland. Four processes in Scotland were certified to PAS 100 and the CQP.

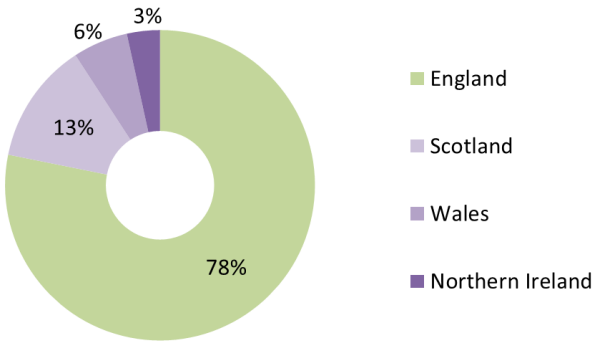


Figure 2 Percentage of certified processes in the UK

In March 2018, data was collected from the environmental regulators on the permitted/licensed compost sites in each country in the UK (excluding Wales). We used this data to calculate the proportion of certified to non-certified compost sites in the UK at that time. (Please note that a portion of sites might not have been operational and some sites did not have a valid certificate in March 2018 but had previously participated in the scheme). In Northern Ireland, 55% of compost sites were certified through CCS. In Scotland, 70% of compost sites with waste management licenses were certified. In England, 45% of all permitted compost sites were certified. We are also liaising with Natural Resources Wales to present this data in the next report.

Process types

Figure **3** presents the proportion in percentage of different types of composting processes in the UK. The majority of composting processes were operated as open air, turned windrows. A small number of sites were operated as in-vessel composting or as aerated static piles with no subsequent processing step. Only a fraction of processes used an Eco Pod system. There were a similar number of processes operated as a combination of in-vessel composting with subsequent aerated static piling and in-vessel composting with subsequent open air turned windrow processing. Only a small number of sites were operated as in-vessel processes or as aerated static piles as a single process.

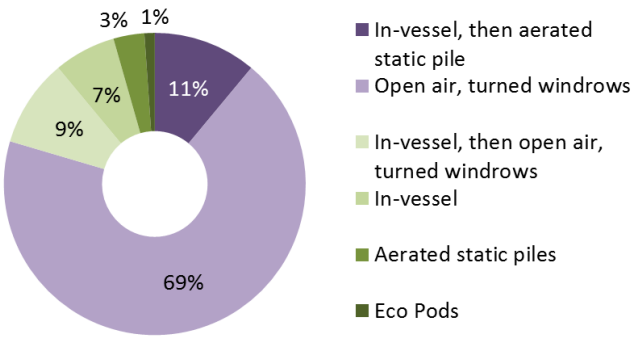


Figure 3 Percentage of certified process types in the UK

Figure **4** shows the percentage of different process types in each country of the UK. In each country, the majority of certified sites employed open air, turned windrows processing. Certified sites in Wales used only open air, turned windrows processing and in-vessel then aerated static pile processing. Eco Pod processing was only employed in England.

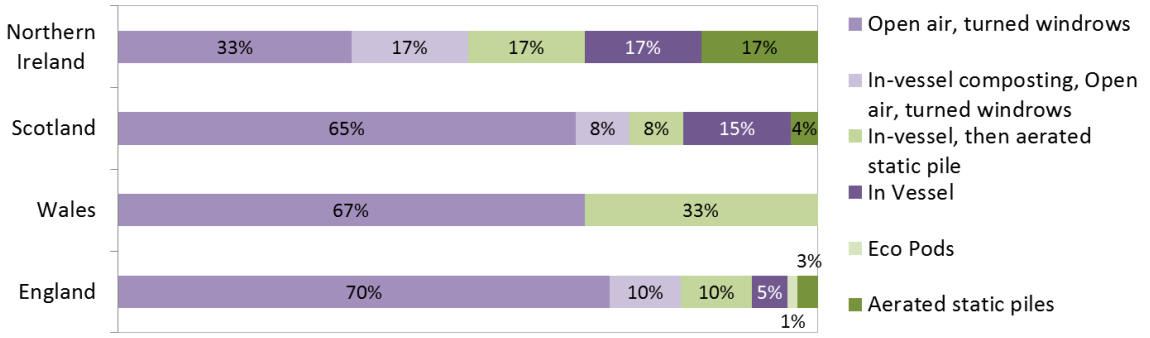


Figure 4 Percentage of certified process types per country

Input and output

Feedstock varies between sites, however are generally comprised of green wastes (e.g. grass cuttings, flowers, prunings, hedge clippings, and leaves). Permitted industrial and animal by-product (ABP) wastes like food waste are typically processed at IVC facilities. Feedstock types at certified composting sites are categorised as green waste only or green waste mixed with ABP materials.

Figure 5 shows the total number of processes and feedstock in each country. 70% of sites in Wales were processing green waste only, 73% in Scotland, and 67% in Northern Ireland. In each country, the majority of sites were processing green waste only. In total, 81% of certified sites in England were processing green waste only and 19% processing green waste and ABPs materials.

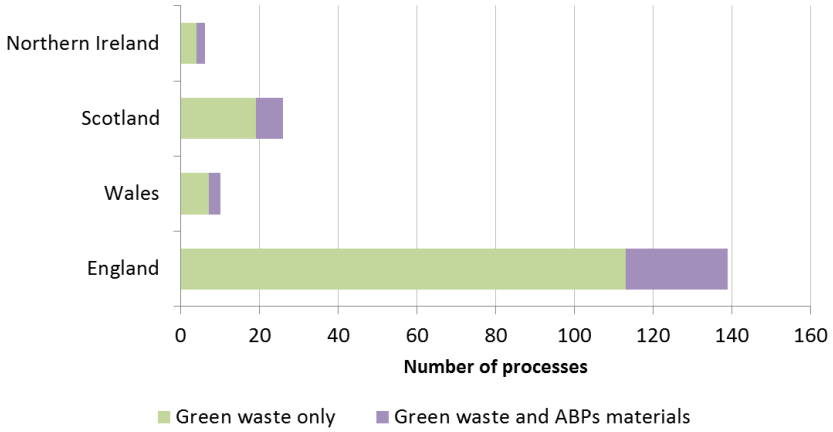


Figure 5 Number of certified processes and feedstock per country

Figure 6 shows the amount of input materials that was being processed by certified composting sites in each country on an annual basis by the end of 2017. Approximately 2,343,000 tonnes of green waste only was being processed by sites in England, 64,000 tonnes in Wales, 150,000 tonnes in Scotland and 103,000 tonnes in Northern Ireland. Approximately 872,000 tonnes of green waste and ABPs materials was being processed annually by sites in England, 55,000 tonnes in Wales, 162,000 tonnes in Scotland and 122,000 in Northern Ireland.

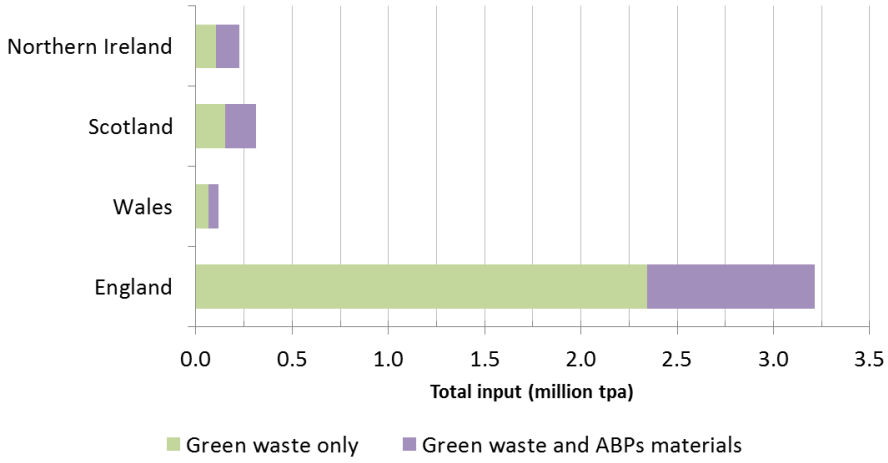


Figure 6 Annual input tonnage and input type per country

Figure 7 shows the amount of compost that was being produced by certified sites in each country on an annual basis by the end of 2017. Approximately 1.3 million tonnes of *quality compost* was being produced annually by sites in England, 48,000 tonnes in Wales, 135,000 tonnes in Scotland and 94,000 tonnes in Northern Ireland.

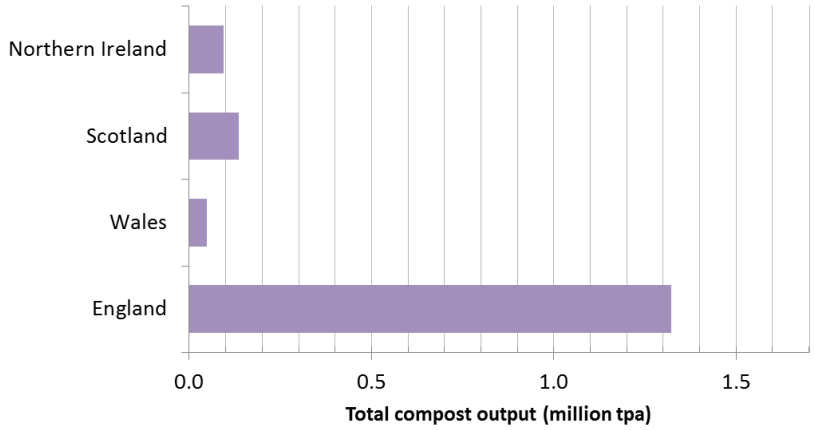


Figure 7 Annual tonnage of quality compost produced per country

Certified compost is categorised into product types; 'Soil conditioner', 'Manufactured topsoil ingredient', 'Mulch', 'Growing medium ingredient' and 'Landscape blend'. By the end of 2017, over 90% of principal grade compost was recorded as soil conditioner.

Markets

In the effort to gather more information about the end use of certified compost products, the scheme began collecting data in autumn 2017 on end markets.

This data is not representative of all certified processes but the distribution from data collected between autumn 2017 and January 2018 is shown in Figure 8. Almost half of these certified producers were supplying quality compost to the agriculture and soil-grown horticulture industries, 29% domestic or professional horticulture markets, and 23% land restoration and soft landscape operations markets. A large portion were supplying to several markets.

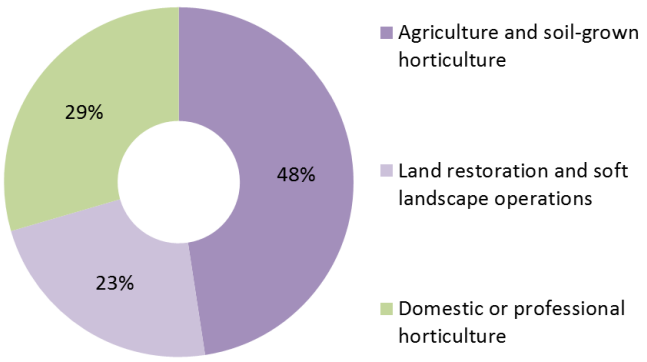


Figure 8 End markets of a portion of certified compost producers

Figure 9 shows the end markets of quality compost in each country of the UK. The percentage values are based on the total number of processes that we had collected market data for in each country.

In Northern Ireland, all of these certified sites were supplying to the agriculture and soil-grown horticulture markets only. In Scotland, Wales, and England, certified sites were supplying to all three markets listed above. None of these sites (with data collected by the scheme) were supplying quality compost to the forestry market (also listed in the Compost Quality Protocol).

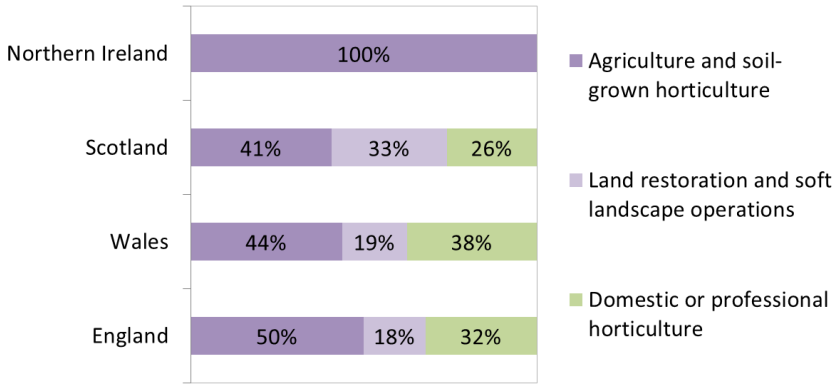


Figure 9 End markets of compost producers per country

Figure 10 shows the percentage of certified processes that were supplying to specific end markets and the process type employed. Based on the available data, the majority of producers were supplying to the agriculture and soil-grown horticulture market regardless of the processing technique used, with the exception of in-vessel then open air, turned windrow processes. All producers that we had market data for were supplying to the land restoration and soft landscape operations market, with the exception of producers employing aerated static piles processing.

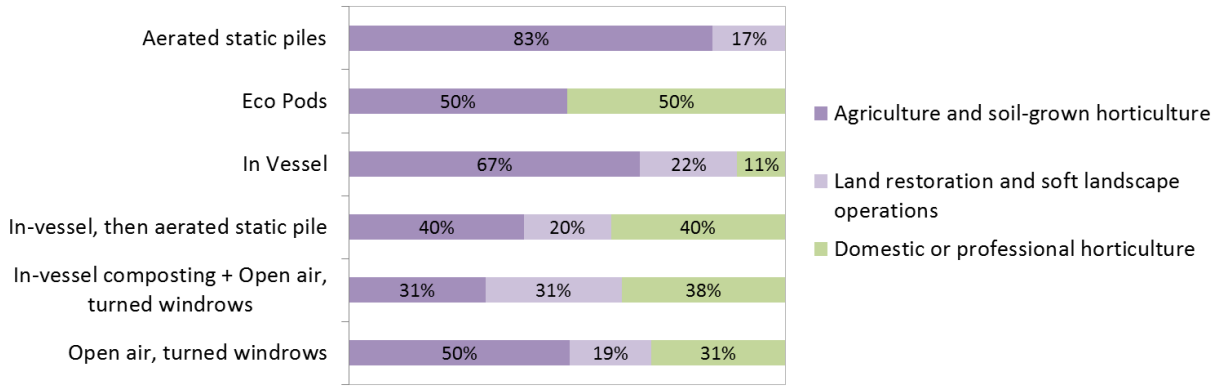


Figure 10 End markets by process type

Biofertiliser Certification Scheme

This scheme provides assurance to consumers, farmers, food producers and retailers that *biofertiliser* produced from anaerobic digestion is safe for human, animal and plant health. Biofertiliser is the name adopted for the quality digestate that meets the PAS 110 & ADQP or ASRS specification. Digestate is a nutrient-rich organic fertiliser that can be spread to land to confer agronomic benefit to soil and improve its physical quality. Certified digestate (Biofertiliser) signifies that it was produced using an effective quality management, which provides assurance that the materials have a consistent quality and are safe and reliable to use.

Certified processes

There were 70 plants certified under the BCS by the end of 2017 with a total registered annual throughput of approximately 3.4 million tonnes. The largest portion of certified producers fell in the category of operators processing between 25,001 and 50,000 tonnes of organic waste per annum in (37% of the total). The category with the least number of producers was comprised of those processing between 0 and 6000 tonnes of organic waste per annum (4% of the total).

As shown in Figure 11, the vast majority of certified plants were located in England. Of the 70 certified plants, nine were located in Scotland, eight in Wales and two in Northern Ireland.

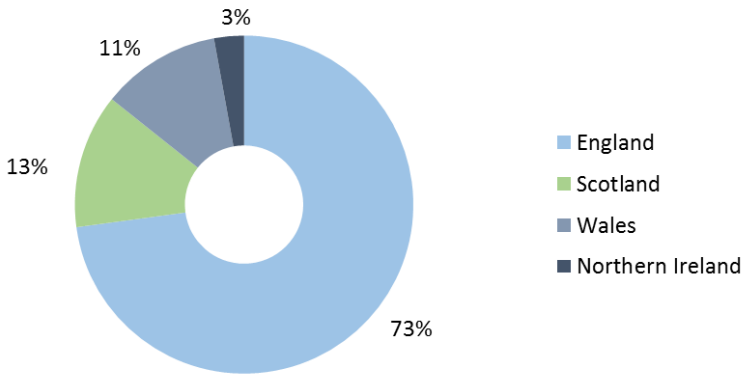


Figure 11 Percentage of certified plants per country

Feedstock and output

Feedstock materials processed by certified AD plants vary, however, data recorded in the BCS database shows that all facilities accept input from either agriculture, horticulture, food preparation and processing or municipal, commercial and industrial sources, or a combination of these.

Figure 12 shows the total annual feedstock throughput per country. Approximately 2,438,000 tonnes of organic waste was being processed annually by certified plants in England, 186,000 in Wales, 68,000 in Scotland and 90,000 in Northern Ireland.

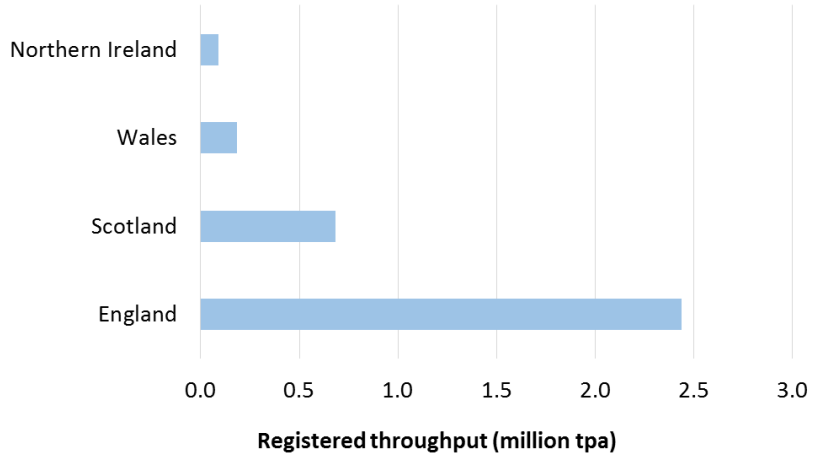


Figure 12 Registered annual throughput per country

Figure 13 shows the percentage of certified plants producing certified digestate outputs. The majority of certified facilities produced certified whole digestate only; however, 17 plants produced more than one type of certified output. In total, 52 plants were producing certified whole digestate, 24 certified separated liquor and 12 certified separated fibre.

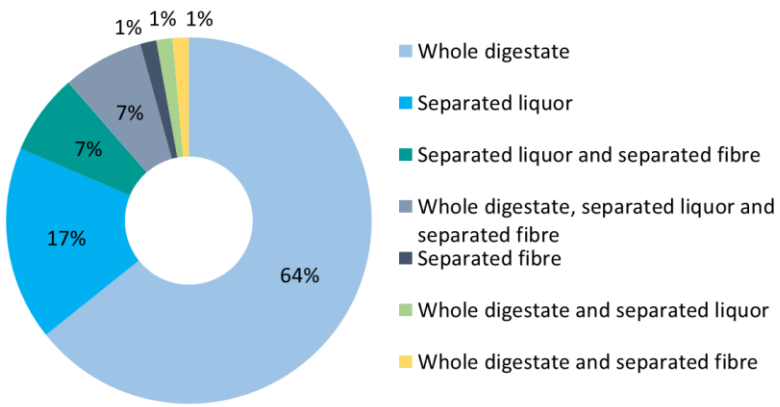


Figure 13 Percentage of certified plants producing different certified digestates

Figure 14 shows the percentage of certified plants producing certified digestates in each country of the UK. The majority of plants in each country were producing certified whole digestate only, with the exception of Northern Ireland. The vast majority of certified plants in Wales were producing whole digestate only with 13% producing certified separated liquor only. The vast majority of certified plants in Scotland were producing whole digestate only with 11% producing certified separated liquor and separated fibre fractions. Certified plants in England were producing the most varied combination of certified digestate outputs with 8% producing certified whole digestate, separated liquor, and separated fibre.

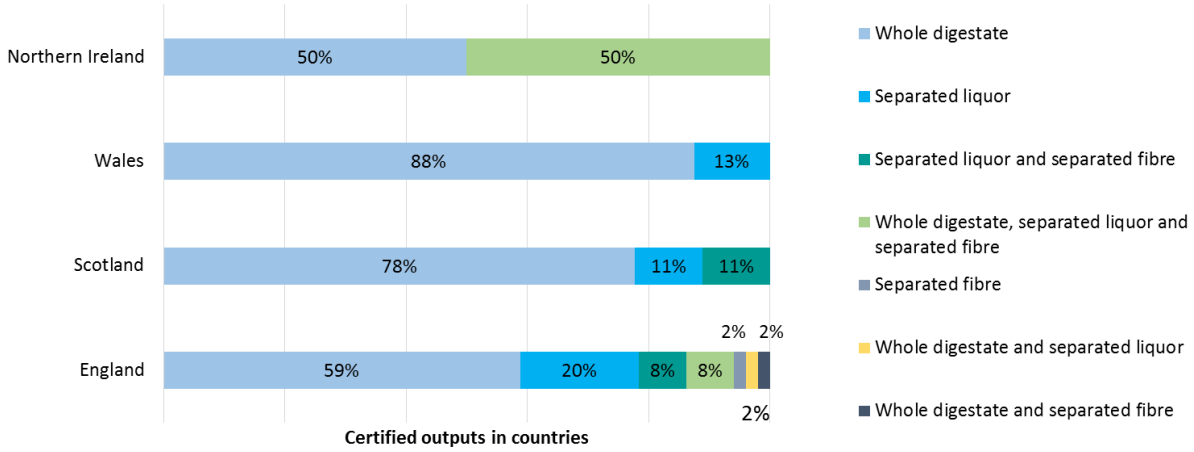


Figure 14 Percentage of certified plants producing certified digestates per country

Scheme developments

REAL is continuously working on the development of the schemes to ensure that they are robust and fit for purpose. The success of the schemes benefits all stakeholders including scheme participants and consumers. We developed several aspects of CCS and BCS in 2017 which are summarised below.

PAS 100 revision

REAL took over from WRAP as sponsor for the review and revision of PAS 100 in 2016. The project was initiated with the British Standards Institute (BSI) in May 2017 and during the period up to October 2017 we formally consulted with a large variety of industry stakeholders. A Producers' Forum meeting was held for Compost Certification Scheme participants to contribute to the revision process before a revised draft was submitted to the BSI at the end of 2017 for public consultation.

UKAS accreditation progress

We are working with UKAS with a view to set up specific accreditation for the schemes. In 2017 we began addressing UKAS' comments on PAS 100 which involved setting up and participating in a HACCP Working Group. We processed their comments in the context of the PAS 100 revision and incorporated a portion of their suggestions for revision to the base document.

Reappointment of BCS certification bodies

Certification bodies were invited to tender to provide services for the Biofertiliser Certification Scheme (BCS) in 2016 and we received three very strong tender responses. Organic Farmers & Growers (OF&G) and NSF were successfully reappointed as certification bodies under the BCS in 2017. The third tender response was submitted by Aardvark. We worked with them to address any issues or queries raised during the tender evaluation and we were waiting to receive their pre-assessment accreditation report from UKAS before deciding on their appointment.

Appointment of BCS Operators' Representative

Jo Chapman from Shropshire Biogas was appointed as the Operators' Representative for BCS. Jo represents certified digestate producers at the BCS Operators' Forum and BCS Oversight Panel. Jo is our main point of contact for digestate producers and provides producers with a voice to raise any issues they might be experiencing in relation to certification through the Scheme. The CCS Producers' Representative, Gregor Keenan, continued with his role throughout 2017.

Appointment of ACL

Aardvark Certification Ltd (ACL) was appointed as the third certification body by REAL to provide independent certification services for the CCS and BCS. Their tender responses were evaluated thoroughly and UKAS carried out a pre-assessment for future accreditation to CCS and BCS.

Annual Report 2016

We published the first Annual Report for the Compost Certification Scheme. The report provided an overview of the Compost Certification Scheme in 2016 using data collected in January 2017.

CCS database update

The certification bodies started collecting data on end markets for quality compost. The scheme now holds data on the specific markets that each certified process supplies to.

Pilot inter-laboratory trials

The CCS and BCS Appointed Laboratories participated in pilot inter-laboratory trials for physical contaminant testing of compost and digestate. Together with information obtained through independent auditing, the pilot trials aimed to provide further insight into laboratory performance and highlight areas for improvement. The pilot trials could be used in the future for the development of proficiency testing schemes and inter-laboratory trials for other test parameters.

First round of BCS audits

The first round of independent laboratory audits began in 2017 for the BCS Appointed Laboratories. NRM and ATL were audited by the independent audit team from Heriot Watt University according to the BCS Laboratory Terms & Conditions. Their appointments were successfully renewed.

Newsletters

We published the first newsletters for CCS and BCS presenting our highlights from the year and an overview of our strengthened relationships with different stakeholders. We provided a summary of industry-related news and events accompanied by various Scheme developments.

Future of the schemes

In the long term, it is evident that the future of the schemes depends not only on effective administration but also on the development of technical aspects affecting the schemes such as standards, laboratory test methods and thresholds for compliance. Developing strong relationships with the environmental regulators to influence the regulatory environment and existing markets for certified compost and digestate is also very important.

To be able to support the development of certain technical aspects it is often necessary to gather new evidence to support the changes. REAL is setting up a Research Hub which would be used as a tool to generate new evidence through funding new research projects.

We are also developing our data management to enable us to analyse and share more insights from industry as well as monitor the participants, certification bodies, and laboratories more closely. Efforts are being made to expand and develop the CCS and BCS databases to be able to gather more data from producers, including data on specific end use or end users.

Promotion of quality compost and digestate is important to increase market confidence and ensure consumers are aware of the positive impacts. We will be promoting the schemes further afield and engaging with markets to retain market confidence. We will also explore how we can contribute to the development of new markets for quality compost and digestate.

We are also looking to provide training for scheme participants and other stakeholders, including the environmental regulators, on the schemes and compliance with certain aspects. We will continue to work hard to ensure that our certification schemes are robust and prepared for future challenges.

Compostable Packaging Certification Scheme

This scheme provides assurance to consumers and the supply chain that compostable products have been independently certified according to international standards and can harmlessly be decomposed through either industrial or home composting processes. This scheme operates in partnership with German certification body Din Certco of Berlin and through this partnership; we can also certify bio-based products and products made from recycled materials.

Certified products

There were 14 products with valid certificates by the end of 2017 that had been independently certified through the REAL-Din partnership. There were a range of products comprised of different materials that had been certified through the DIN-Geprüft industrial compostable products scheme (four certificates) and the Seedling industrial compostable products scheme (13 certificates). These products included food packaging, waste bags, cups, moulded fibre trays, and plant pots.

Green Gas Certification Scheme

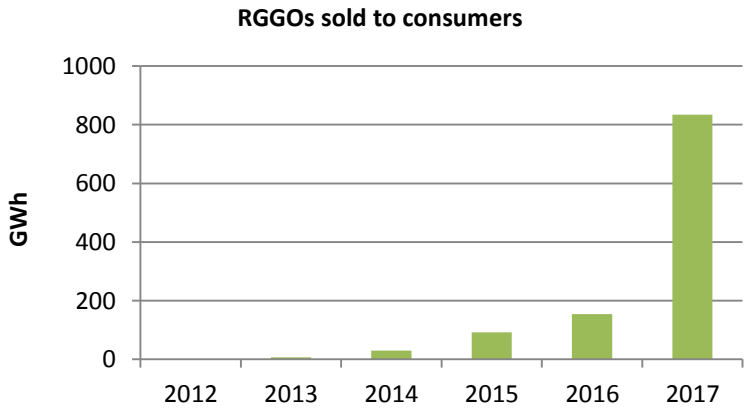
This scheme issues, tracks and retires Renewable Gas Guarantees of Origin (RGGOs). By purchasing RGGOs gas consumers can show that they are using green gas and report significant GHG savings in comparison to the use of natural gas.

Members

At year end, the scheme had 44 biomethane producers participating, accounting for approximately 75% of UK biomethane production. The 34 supplier members included the majority of suppliers with the largest market shares of gas supply to small and large business customers, and nine suppliers with approximately 400,000 household customers on green gas tariffs.

RGGOs sold

The year 2017 saw strong growth in the volume of green gas sold to consumers, which were up over 500% from 2016 and in November went past 1TWh of sales to date.



For more information about the Green Gas Certification Scheme: www.greengas.org.uk
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