Scheme Rules

This document sets out the rules for participating in the Green Gas Certification Scheme (the GGCS).

Object and benefit of the GGCS

The GGCS is a voluntary scheme run by a subsidiary of the Renewable Energy Association (REA) and supported by British Gas, Eon, Thames Water, National Grid, Bio Group, Milton Keynes Council and CNG Services Ltd , each of whom are founder participants. As well as explaining how the scheme works, this document describes the respective roles of gas producers, shippers, suppliers, traders and consumers in the Scheme. (These roles are summarised in the Appendix.)

Object and benefit of the GGCS

The GGCS provides an objective means of tracking biomethane (referred to in this document as 'green gas') through the supply chain. It tracks the green gas from its injection into the gas distribution network through to when it is sold on to an end consumer. It is important to note that the GGCS does not track the physical flows of green gas once it has been injected to the gas grid, but tracks the green gas from production to use. Each unit of green gas injected into the network displaces the need for a unit of fossil-derived natural gas giving savings in greenhouse gas emissions.

The GGCS is a reliable means of ensuring that there is no double-counting or double-selling of green gas. It eliminates from the green gas market the sorts of misleading claims that have characterised the 'green' electricity market for the past ten years. The GGCS thereby promotes confidence in the wider energy sector and encourages green gas producers to inject their gas into the gas distribution network as an alternative to using it generate electricity.

Biogas, biomethane and green gas

Biogas can be produced from a number of sources including landfill gas, biogas from anaerobic digestion and the 'syngas' from gasification. Biogas can be created predominantly from a number of different feedstocks. These include: food waste, agricultural activities, domestic or industrial waste water treatment, municipal solid waste, other feedstocks and a combination of these feedstocks.

All these gases can be converted to biomethane by removing the CO2. Biomethane is a gas mixture that is predominantly methane (>97%). It has similar thermal characteristics to natural gas. Subject to meeting gas quality requirements it is considered as pipeline quality gas and can be injected into the natural gas network and used in existing gas appliances. The raw gas is upgraded to pipeline quality by adding propane to increase the calorific value (CV), removing water vapour to safeguard pipelines and adding odorant for safety.

In the past landfill gas and biogas has principally been used to generate electricity, supported by the Renewables Obligation (RO). With a demanding EU target for renewable heat as well as renewable electricity and transport fuel, UK producers are now starting to convert the gas into biomethane (or 'green gas') and inject it directly into the gas distribution network.

The policy context – the Renewable Heat Incentive

The Government introduced the Renewable Heat Incentive (RHI) in 2011 with a view to promoting investment in a range of renewable heat technologies. Biomethane producers are required to be registered with Ofgem to qualify. Biomethane injected to grid will receive a Renewable Heat Incentive tariff 7.3p/kWh* based on the following formula: x = kWh injected - propane – heat supplied to biogas plant (except where from biogas production) – heat to biomethane 'upgrade' plant.

*tariff rate as of 1 April 2013

Start date for the GGCS

The GGCS went live in early March 2011.

Taking part in the GGCS

Producers, network operators, shippers, suppliers, traders and consumers may all participate in the GGCS. Participation is voluntary, but participants must agree not to register the same green gas in any other green gas certification schemes during that time, whether as a producer, shipper, supplier or trader.

GGCS administrator

A wholly-owned subsidiary company of the REA, Renewable Energy Assurance Ltd. (REAL), is responsible for the day-to-day running of the GGCS (www.renewableenergyassurance.org.uk) REAL agrees to set up and maintain the system (IS system), accessible to participants via a secure website, that enables the GGCS to function. Separate areas of the website allow access by producers, suppliers, traders, auditors and end consumers. Once they join the GGCS participants will be registered on the system by the scheme administrator and an account set up in their name. This will allow them access to the relevant sections of the system.

Green gas producers

Each participating green gas producer agrees to register the amount of biomethane it has injected to the grid in the previous three months, on a three-monthly basis. The amount is based on the actual volume and CV of green gas that flowed net of the propane and heat supplied to biogas plant (except where it was from the biogas production). This figure is the same one that is registered with Ofgem for RHI purposes on a three-monthly basis. Registration is based on independent meter readings. These readings, as submitted to Ofgem, must be made available to auditors on request. Meters are generally the property of the relevant gas distribution company (GDN).

Each kWh of green gas injected onto the network displaces the need for a unit of conventional gas and is assigned a unique identifier which can then be transferred to participants and eventually to end use consumers.

Producers have the option to request that we notify them of any unmet demand for green gas from suppliers or consumers. The system allows this to happen.

Gas Distribution Network Operators

Though a very important element of the GGCS, participating Gas Distribution Network Operators (GDNs) are not required to register on the system. So long as producers can show the auditor acknowledgement from the GDN that the registered biomethane has been injected into the distribution network, no further confirmation on the system is required in real time.

Gas shippers

Gas shippers underpin the GGCS since they facilitate the physical flow of the gas. Biomethane cannot be injected into the distribution network unless the producer has also arranged for it to be 'shipped' (that is, introduced into, moved through or taken out of the system). Licensed gas suppliers and most traders are also gas shippers. They will arrange to ship any gas they buy.

Gas suppliers or traders that participate in the GGCS can contract directly with a green gas producer to purchase the gas. (They must also arrange for a shipper to 'move' the gas as outlined above but this need not be the same shipper that ships the conventional gas they purchase.)

Gas suppliers, shippers or traders

Gas suppliers or traders participate directly in the GGCS if they are also responsible for selling the gas on to a third party. (For example, this might be the gas grid settlement agency.) The gas supplier or trader must confirm that a contract to purchase gas from the relevant producer is in place, and they must specify the volume of green gas contracted for.

Each participating gas supplier or trader then has two choices.

- They can register that a contract is in place for the gas with an end-use consumer. In doing this they will generate a certificate that lists the RGGOs that underpin the gas. As soon as the sale is registered the RGGOs will be retired out of the system. (See below for more details about retiring the RGGOs.) OR
- They can register a sale of some or all of the gas on to another supplier / trader. In this case, the recipient supplier / trader must confirm the contract to purchase the gas is in place, and then continue in the same way.

Suppliers and other traders have the option to request that we notify them of any unsold green gas being injected into the grid by producers. The system allows this to happen.

Consumers

Consumers may be domestic households or a group of households who have signed up to a particular 'green tariff'. They may also be commercial or not-for-profit entities, or they may be housing associations or other housing associations. Alternatively, such bodies may decide to purchase the green gas on behalf of all its residents even if each of the residents has a different gas supplier. In this case the housing association or provider is considered the end-consumer and will hold the Certificates on behalf of the residents.

Once the supplier has registered a sale to a commercial or domestic consumer / group of consumers / association, the GGCS IS system automatically generates a certificate in the consumer's name, listing the relevant RGGOs. The GGCS system then retires the relevant RGGOs from the system and logs them as having been sold to that consumer.

Gas suppliers may decide to offer domestic or non-domestic consumers a tariff that is made up of a proportion of green gas only. In such a case only the green gas element supplied would be registered on the system. In practice, suppliers would be likely to estimate in advance the amount of green gas that would be supplied, and purchase green gas to match this. Then, at the end of the year, they would ensure that the sales were registered to the relevant consumers in the relevant quantities.

Green gas unique identifiers (RGGOs)

The GGCS IS system labels electronically each kWh of green gas with a unique identifier known as a Renewable Gas Guarantee of Origin (RGGO), rounded to the nearest kWh. This identifier contains, for each kWh of gas, information in code form about:

- the technology by which it was produced (biogas from AD, ‘syngas’ from gasification)
- in the case of biogas, the predominant feedstock from which it was derived (food waste, agricultural activities, domestic or industrial waste water treatment, municipal solid waste, other feedstocks and a combination of these feedstocks)
- the month and year in which it was produced (MM/YY)
- the part f the UK in which it was produced (England, Wales, Scotland, N. Ireland)
- the registered producer
- the kWh number, or sequence or range of kWhs relating to that producer’s green gas injected into the grid that month.

The relevant technology and feedstock codes in the identifiers are:

BA	Biogas from agricultural activities
BF	Biogas from food waste
BM	Biogas from municipal solid waste
BS	Biogas from domestic waste water treatment
BW	Biogas from industrial waste water treatment
BC	Biogas from a combination of these feedstocks
BX	Biogas from other feedstocks
SG	Syngas

The RGGO is in the following format (an example): G 0001 BF 00000001 E 0211

Where:

G denotes that it is green gas
0001 identifies the registered producer plant meter point
BF denotes that the green gas was derived from biogas and that the feedstock was food waste
00000001 denotes the kWh number registered by that plant during the month
E denotes that the plant is in England
0211 denotes that the gas was injected during February 2011.

Issuing certificates

Once a consumer contract has been registered, the GGCS IS system issues an electronic Green Gas Certificate in the consumer’s name. The electronic Certificate is the guarantee of the authenticity and origin of the equivalent amount of green gas injected into the network as it cites the relevant range of RGGO numbers attached to it. It can be downloaded as a pdf. The end-use consumer, in making any claims concerning the green gas purchased, whether for regulatory or commercial purposes, must back up the claim with the relevant RGGOs listed on the certificate.

Unsold gas

If, three years after green gas has been registered on the system, there are any units that have not been sold to a consumer, the scheme operator will notify the supplier or trader, and give them a further period of three months to register the gas as sold to (a) consumer(s). If, at the end of this period, no registration has been received, the relevant RGGOs will be retired out of the system, and marked as unsold.

Producers have the option to request that we notify them of any unmet demand for green gas from suppliers or consumers. Equally, suppliers and other traders have the option to request that we notify them of any unsold green gas

being injected into the grid by producers. The system allows both of these to happen as well as for any unmet supply or demand to be auctioned to the highest or lowest bidder.

Validating certificates

A consumer may wish to check the validity of the certificate they have received. This will be important if, for example, the certificate is being used for compliance purposes. To validate the certificate, consumers can go to the unprotected part of the website and put in the RGGO numbers and the pin number (shown on the certificate). The system will then confirm the name to which those RGGOs have been registered.

Back-up and security

The Green Gas Certification Scheme IS system is very secure. The following are the security attributes of the system:

- all data transmitted to and from the GGCS system is protected by high-grade encryption (AES-128 128 bit)
- digital Certificates are AES-128 bit encrypted and are edit-restricted
- digital Certificates contain checksums and unique identifiers to ensure they can be traced and verified
- all data is stored in four geographic locations to ensure continuity and minimum server down-time
- the validity of certificates can be confirmed online using an individual Pin Number www.greengas.org.uk/validate
- the data stored on the Green Gas primary server will be considered the primary source in the case of any dispute.
- servers sit behind multiple firewalls. Only Ports 80 and 443 are publicly accessible.
- snapshot data is kept at 3 hour intervals for a minimum of 3 months
- primary servers are managed by AWS and SAV London Ltd
- IP addresses are explicitly tracked throughout the GGCS members functions, including injection, sale & certification
- member accounts log out automatically after 20 minutes of inactivity
- all data is stored in accordance with the Data Protection Act 1998.

Confidentiality

REAL guarantees that it will not divulge information regarding any gas transactions to third parties without the express permission of the participants concerned.

Auditing the GGCS

REAL will set up and maintain arrangements for auditing a representative sample of transactions covered by the GGCS. In particular, the accuracy of the meter readings on which the injection is based will be carefully audited, and the green gas registered on the GGCS system will be compared with the green gas notified to Ofgem for RHI purposes. Audits will take place regularly and additionally on a spot check basis from time to time.

Fees

The GGCS is designed to be simple and low cost to operate. Fees are calculated so as to cover the running costs of the GGCS. As well as the administration costs of overseeing the Scheme and system maintenance, these running costs include the costs of auditing scheme participants. The scheme operator does not aim to produce a material surplus of income over running costs. The fees payable for taking part in it are broken down into the two categories outlined below.

The fees are set annually by the Oversight Panel which is run by Scheme participants and independent members and reflect the costs of running the Scheme. In reaching a decision, the Panel takes into account the volume of gas flowing and the running costs of the GGCS. A detailed budget is prepared by the scheme administrator for this purpose. In the first year, the scheme administrator aims to recover in total an amount in the region of £5,000 through the fees.

- **Annual membership fee**
  Participants in the Scheme are required to pay an annual membership fee. The annual membership fee will be £500 per annum, and will be invoiced at the start of the calendar year or pro rata for those who join during the year.

- **Gas volume fee**
  Participating gas suppliers are required to pay the scheme administrator an annual gas volume fee. This was initially set at 0.01p per kWh levied on its aggregate sales of green gas to consumers in a given three-month period. The system automatically reports on these purchases so that an invoice can be raised for each participating gas supplier or trader at the end of each three-month period during which gas is registered as having been sold. Suppliers will have 30 days to settle the invoice.

Additionality

The fees payable by participants are designed to cover the costs of setting up, administering and auditing the GGCS. They are not intended to confer any 'value' on the green gas in addition to any incentive or other benefit the green gas producer may already have received under any existing or future Government incentive scheme such as the RHI. Participants in the GGCS must agree not to make any claims of 'additionality' in respect of the green gas simply on the strength of its inclusion within the GGCS. Additional value may of course accrue to the certificates on the basis of their ability to fulfil compliance requirements in various sectors.

Reporting

The GGCS IS System allows for a full range of reports to be run on the system. A number of reports are publicly available while others are restricted to the registered user for commercial reasons.

In addition, REAL undertakes to produce a report on an annual basis at the end of March each year. The report details the amount of green gas that has been registered on the GGCS during the preceding calendar year. It breaks down the gas by technology, country and category of consumer that purchased it. However, no actual names of producers, suppliers or traders will be included without the express permission of the participant concerned. All participants will have the chance to see the report in draft form before it is published, and to suggest amendments to it.

Governance

Founder participants are members of the Oversight Panel which advises on the day-to-day running of the GGCS. In addition, the Panel comprises independent members and consumer /user and environmental group representatives. The Panel has an independent Chair. The Panel meets three times a year. It considers the results of the audits, agrees on all rule changes and resolves any disputes among the parties. It also discusses the budget for the GGCS and agrees the fee level on an annual basis in line. It adopts its own Terms of Reference at the outset.

Links to other schemes

Renewable Energy Assurance Ltd. administers various consumer codes and certification schemes including the Biofertiliser Certification Scheme. A full list is available on the website: (www.renewableenergyassurance.org.uk).

The Biofertiliser Certification Scheme provides assurance to consumers, farmers, food producers and retailers that digestate produced from anaerobic digestion is safe for human, animal and plant health. Biofertiliser is the name adopted for the quality digestate that meets the PAS110 & ADQP or ASRS specification, and thus meets an end of waste status and is no longer a controlled waste.

There is no obligation on GGCS participants to participate in any other scheme operated by Renewable Energy Assurance Limited or to be members of the Renewable Energy Association.

The GGCS is also linked to a number of gas certification schemes operating in other EU Member States, for example

Vertogas in the Netherlands and Bio Erd Gas Handel in Germany. The GGCS is a participant in the GreenGasGrids project which as one of it's aims, a process to allow Green Gas Certificates to be traded across borders with mutual recognition of certificates in participating countries.

Appendix: Roles and responsibilities of scheme participants

Green gas producer:

- elects and agrees to take part in the GGCS
- arranges for green gas to be injected into the grid
- notifies the GGCS system of injection to grid and quantity of gas to the GGCS system
- provides proof of RHI documentation to the GGCS system
- receives unique identifiers for each kWh equivalent of green gas injected
- notifies the GGCS system of sale of green gas to gas supplier or trader
- agrees for processes to be audited annually on a random and spot check basis
- agrees not to make claims that cannot be substantiated in relation to the green gas.

Green gas shipper, supplier, trader or equivalent body:

- elects and agrees to take part in the GGCS
- confirms agreement to purchase and ship green gas from producer or from another supplier/trader
- if a non-shipper body, arranges appropriate shipping arrangement
- notifies the GGCS system of agreement to sell green gas to another supplier or consumer(s) if appropriate
- sends out certificate(s) of green gas to consumer(s)
- agrees to pay REAL invoices on a three-monthly basis in respect of each kWh sold to consumers
- agrees for processes to be audited on a random basis
- agrees not to make claims that cannot be substantiated in relation to the green gas.

Green gas shipper:

- licensed gas suppliers and most traders are also gas shippers
- in the case of a non-shipper body purchasing the gas, agrees to 'move' the gas on behalf of the body
- a shipper may decide to sell the green gas to the gas grid settlement agency or equivalent in which case they are effectively the supplier for the purposes of this scheme.

Green gas end-use consumer:

- receives certificate of authenticity from relevant green gas supplier
- can validate certificate by using the on-line secure facility
- agrees not to make claims that cannot be substantiated in relation to the green gas purchased.

Green Gas Certification Scheme administrator:

- contracts with all participants of the GGCS
- contracts with independent auditor(s)
- maintains and updates IS system to register transactions and unique identifiers
- registers participants on the IS system and provides them with a user name and secure password
- issues invoices for membership fee on an annual basis

- issues invoices for gas volume fee on a three-monthly basis
- maintains appropriate governance arrangements to ensure an open, transparent scheme
- promotes the GGCS
- reports regularly on the GGCS.

Green Gas Certification Scheme auditor:

- sets up and implements programme of independent audits to inspect and verify the processes of producers, suppliers, traders and equivalent.
- audits Scheme administrator
- recommends improvements to the Scheme.

Green Gas Certification Scheme Oversight Panel

- agrees its Terms of Reference
- meets three times a year to oversee the GGCS and propose changes to it
- considers the results of the audits
- agrees rule changes and resolves any disputes among the parties
- discusses the budget for the GGCS
- agrees the fee levels on an annual basis
- ensures that the GGCS is an open and transparent scheme.