

1 Introduction

Good Energy is a green electricity supplier that matches all the electricity its customers use over the course of a year with electricity sourced purely from certified renewables. It is an environmentally responsible company which is at the forefront of the green electricity supply market. Good Energy has an active policy to supply electricity that has been generated from sustainable renewable technologies. It is also sourcing a percentage of the gas it supplies from biomethane producers. This Biogeneration Procurement Policy has been produced to provide clear guidelines on responsible purchasing of sustainable biogeneration of electricity and biomethane by Good Energy.

The intention of this Policy is to set out key criteria for fuel source, transport, and combustion associated with the sourcing of biogeneration and biomethane for Good Energy's customers. Before Good Energy enters into a Power Purchase Agreement (PPA) or a Gas Purchase Agreement (GPA) with a biogenerator, the generator will need to prove that they adhere to the practices outlined in this Biogeneration Procurement Policy. Good Energy may ask for the generator to show verifiable proof which will be included in the terms of the agreement, but in any case will conduct necessary due diligence on the generator.

Unless otherwise stated, biogeneration is used to describe all fully sustainable biotechnologies and biofuel is used to describe the different biogeneration fuel sources. For the purposes of this policy document biogeneration includes biodiesel, bioethanol, biofuels, biomethane, landfill gas (LFG) and biomass.

In its procurement of bioenergy, Good Energy will apply best practice with respect to sustainability standards for bioenergy. This practice will be evolutionary in nature so as to maintain such best practice.

2 Key Principles

The five Key Principles of the stages of Biogeneration are;

- 2.1. The Biofuel must be either renewable or from waste
- 2.2. Transportation of biofuel must be minimized
- 2.3. Biofuel energy conversion needs to be efficient
- 2.4. Energy crop use must be minimized where reasonably practicable
- 2.5. Where waste is derived from animals, their physical and behavioral welfare requirements must be met to a reasonable standard

3 Environmental Reporting – All Biogenerators

Good Energy requires all Biogenerators to provide a pre-signup environmental questionnaire covering the relevant aspects of the type of biogeneration to be generated and sold to Good Energy. The structure of the report required by Good Energy is enclosed at Appendix B.

4 Type Specific Biofuel Requirements

In addition to the Key Principles of the Biogeneration Procurement Policy, various types of biofuels have separate additional criteria that must be adhered to in order for Good Energy to agree to purchase the biogeneration. These criteria are listed under the respective biofuel headings below;

4.1. Untreated Wood and Grass Type Crops

- 4.1.1. The production of the biomass crop must be in line with the following criteria;
- The biomass crop used should only be from a managed, sustainable source and be fully Forest Stewardship Council (FSC) accredited, or a similar recognised timber stewardship accreditation, or grown under the Defra Energy Crops Scheme as a sustainably managed resource, including processing and delivery to biogenerator.
 - In addition any biomass crop being removed for combustion should be replaced by the equivalent amount of the same crop or another biomass crop of the same carbon density, although this does not necessarily need to be on the same land, so as to allow for crop rotation.

4.2. Waste or By-product Biomass

- 4.2.1. The production of power from waste, or as a by-product of biomass must meet the following criteria;
- Waste biomass must be clearly identifiable from its source. The Biogenerator should be required to provide evidence of the origin of the biomass, where necessary.
 - The biomass material will be from the UK unless there is a logical and justified reason from a specific exemption. The waste biomass must be at least 95% clean (this purity is needed to obtain Ofgem's standard for obtaining ROCs).
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4.3. Biogas

4.3.1. Good Energy believes that the capture of organic decomposition by-products (biogas) and their resultant composition for heat/electricity is preferable to releasing the by-products directly into the atmosphere. The methane from landfill gas, for example, has 56 times the global warming potential of carbon dioxide over a twenty year time horizon. The production of biogas must therefore meet the following criteria;

- Fossil/petrochemical derived waste may be used only where the majority of the waste is non fossil. Such a source will be rigorously examined as part of our due diligence.
- Where possible the CO₂ and any other trace gases should be captured and neutralised during the combustion process to prevent damage to the environment.

4.3.2. Where the production of biogas is injected into the national grid gas network;

- The biogenerator must be accredited under the RHI.
- The plant must also be certified on either the Green Gas Certification Scheme (www.greengas.org.uk) or the biomethane Certification Scheme (www.greengas.org.uk).
- Where achievable, coded certificates documenting the type of feedstock and the producer will be provided.

4.4. Biodiesel

4.4.1. The production of the biodiesel must meet the following criteria;

- There will be no excessive use of fertilizers during growth and care must be taken in the due diligence process to establish there is minimal discharge of nutrients in adjacent waterways containing runoff.
- The oil used must be thoroughly cleaned of any contaminants to the UK legislative standard of 95% natural organic matter (this purity is needed to obtain Ofgem's standard for obtaining ROCs or the Feed in Tariff), using the most efficient, minimally polluting technology available at the time.
- Ideally a pure, pressed oil would be used with no fuel additives, although to facilitate this (if necessary) a starting mixture of etherified biodiesel would be allowed to get the generator up to running temperatures.
- The biodiesel must not contain any mineral or fossil produced diesel.
- Ethanol or methanol should be used in the esterification process.
- Biodiesel oil used previously for the purpose of cooking (of any kind) is acceptable, so long as it is not mixed with anything other than a minimal amount of fossil fuel, which must be accounted for.

4.5. Energy crops

4.5.1. Good Energy recognises the impact that food shortages have across the world and does not endorse the growing of energy crops in areas where food shortages are prevalent.

4.5.2. While observing 3.5.1, Good Energy recognises that for several reasons, the use of energy crop in feedstock is often unavoidable. Energy Crop will therefore be accepted if it is grown in areas not affected by food shortages, is sourced locally and minimised where reasonably practicable to do so.

4.5.3. Where maize is used in the production of feedstock the guidance stated in appendix B should be followed.

5 Biogas Combustion Requirements

The biofuel can be co-fired with fossil fuels during start-up, but this should be minimised and detailed in the environmental report.

- 5.1.** The biofuel may be co-fired with another biofuel as long as the combustion boiler and process is certified for the process.
 - 5.2.** Where small quantities of dangerous gaseous emissions are produced, all reasonable steps should be taken to minimise the release of these emissions into the environment, and details should be entered in to the environmental report.
 - 5.3.** Any byproducts such as residues or powders left over from the combustion process should be either carefully disposed of, or ideally made further use of (i.e. Fertilizer).
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6 Variable Requirements

The following criteria should generally be adhered to, but may vary depending on the type of biogeneration fuel;

- 6.1.** The biofuel material should be from the UK unless there are strong, environmentally justifiable reasons, for sourcing from further afield.
- 6.2.** The land used for growing biofuel crops must not be created by destroying natural habitat or reducing natural biodiversity.
- 6.3.** The biogenerator must be accredited by Ofgem as a renewable generator and so should be receiving REGO's.
- 6.4.** The biogeneration site should have the minimum impact on the environment in terms of machine plant construction, and should be reversible as far as possible to its pre-build state after the functional life of the plant has come to an end. Ideally the site should be located on a brown field site.
- 6.5.** For any biogeneration installation greater than 500kW installed capacity, the generator should take part in a proper stakeholder consultation with the community and the planning before the plant was commissioned, to look at factors such as; visual impact, traffic, likely emissions, and any benefits that could be brought to the local community.
- 6.6.** Any by-products or waste produced during the combustion stage should be disposed of in an environmentally sensitive manner, or used in an appropriate manner. Details of the disposal should be included in the Environmental Report.
- 6.7.** Where the organic matter used for combustion or for producing biogas has been sourced from a commercial operation involving livestock (such as farmyard manure/slurry), then the welfare standards of said livestock (of which the organic matter is a by-product) will be taken into consideration. Good Energy encourages and will favour those generators that source their organic matter from farming practices certified by the Soil Association.

References

- Country Land & Business Association (CLA), www.cla.org.uk
- Department for Environment Food and Rural Affairs (DEFRA), www.defra.gov.uk
- Department of Trade and Industry (DTI), www.dti.gov.uk
- Forest Stewardship Council (FSC), www.fsc.org
- Linking Environment and Farming (LEAF), www.leafuk.org
- Office of Gas and Electricity Markets (OFGEM), www.ofgem.gov.uk
- Renewable Energy Association (REA), www.r-p-a.org.uk
- Royal Agricultural College (RAC), www.royacol.ac.uk
- Green Gas certification scheme (GGCS), www.greengas.org.uk/certificates
- Soil management standard (DEFRA), www.gov.uk/guidance/soil-management-standards-for-farmers
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A. Note to the principles

Fuel Source	<p>The biofuel to be used during the combustion process is grown, produced, and/or processed in an environmentally-sensitive manner, in order to prevent non-native biodiversity, damage to the environment, and excessive use of energy. The biogeneration fuel is grown, produced, and/or processed with minimal use of chemical additives including; fertilizers, pesticides, herbicides, fungicides, petrochemicals and their derivatives, as these will pollute the air during the combustion stage and also the surrounding environment during the growing, production and/or processing stage.</p> <p>Good Energy must assure itself that any biofuel produced is not at the expense of important food supply. Therefore cultivating energy crops to the disadvantage of food crops should be avoided.</p>
Transport	<p>The transportation of the biofuel needs to be minimised in relation to the energy/carbon dioxide emissions required to move the biogeneration fuel between growing, production and / or processing to the combustion stage. As part of Good Energy's carbon neutrality policy, emissions from transport will be accounted for fully in the footprint calculation with a view to being neutralised.</p>
Combustion	<p>The biofuel energy conversion process should be as efficient as possible whilst minimizing the emission of harmful gases and residues. The CO₂e element of such gases will be accounted for fully in the footprint calculation with a view to being neutralised.</p>

Appendix B

B. Guidance for maize and forage crops

1	Maintain land drainage. Heavy and medium soils that are regularly cultivated often require land drainage to increase opportunities for working the land without damage.
2	On fields that are vulnerable to compaction, runoff and soil erosion, choose early maturing varieties to allow an early harvest.
3	Undersow maize.
4	Manage the grazing of forage crops and crop residues to minimise poaching and runoff. This can be done by limiting periods of access, providing run-back areas, strip grazing, cultivating strips across the slope to reduce runoff and by avoiding slopes vulnerable to erosion and runoff.
5	Where necessary, cultivate as soon as conditions are suitable after harvest or grazing to remove wheelings and compaction.
6	Rough plough sandy and silty soils following harvest to produce a cloddy coarse surface that is less likely to cap and slump.
7	Following harvest, sow the next crop within 10 days of having been prepared as a seedbed where weather conditions allow.
8	The field is sown with a temporary cover crop throughout winter.
9	Crop rotation should be rotated

Biogenerator Pre-Sign up Environmental Report

Please fill in all relevant sections within this Environmental report.

Site Name**Export MPAN****Expected Generator Export (MWh)**

Biogenerator Biofuel Type(s)

Feedstock %

Feedstock 1

Feedstock 2

Feedstock 3

Feedstock 4

If feedstock include any animal waste, please confirm where this is sourced and how the animals are kept

If Biomass is grown on site, how was the land previously used?

Is harvested biofuel replaced

Maximum distance of biofuel supplied (miles)

Method of waste transport

Additional Information

Good Energy Provision

By signing this document I the undersigned agree that all the information provided in the Pre-Sign Up Biogeneration Environmental Report is true and correct as of the date below, and that I am aware that any incorrect information could lead to any Power Purchase Agreement held with Good Energy to be terminated unless Good Energy is informed by writing within two weeks of any changes to those documented here and Good Energy accepts the changes made.

Name**Signed****Date**