Biogeneration Procurement Policy

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 "deep green" renewable technologies. This Biogeneration Procurement Policy has been produced to provide clear guidelines on responsible purchasing of sustainable biogeneration electricity by Good Energy.

In principle, Good Energy will buy the power from any biogenerator that meets key criteria for fuel source, transport, and combustion (as laid out in 1.1). Before Good Energy will enter into a Power Purchase Agreement (PPA) with a biogenerator, the generator may need to prove that they adhere to the practices outlined in this Biogeneration Procurement Policy. Good Energy may ask for the generator to show quantifiable proof which will be included in the terms of the agreement.

Good Energy seeks to empower as many people and businesses as possible to be part of the solution to Climate Change. On occasions, if a biogenerator does not meet all the criteria laid out in the Biogeneration Procurement Policy but can demonstrate a shared vision to tackle Climate Change, Good Energy may enter into a relationship.

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, biogas, landfill gas (LFG) and biomass.

Good Energy will endeavor to follow the WWF Sustainability Standards for Bioenergy[1] and update its approach as thinking in this area develops.

Key Principles

1.1. The three Key Principles of the stages of Biogeneration are:

Fuel Source	1. 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-natural 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. Any animal waste used should respect animal welfare issues and not be produced from feedlot type facilities. 2. 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.
Transport	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.
Combustion	The biofuel energy conversion process should be as efficient as possible whilst minimizing the emission of harmful gases and residues.

[1] http://biofuelstp.eu/downloads/WWF_Sustainable_Bioenergy_final_version.pdf

2. Environmental Reporting — All Biogenerators

Good Energy will require all biogenerators to provide a pre-signup environmental questionnaire covering the relevant aspects of the type of generation that is intended to be generated and the electrical energy sold to Good Energy. The structure of the report required by Good Energy is enclosed at the end of this document. If any material changes are made to the manner in which the biogenerator operates their plant, and the biogenerator does not inform Good Energy of this by email or letter within 20 business days of any alterations made, Good Energy reserves the right to terminate any agreement which has been put in place.

3. 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;

3.1. Untreated Wood and Grass Type Crops

3.1.1. 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 should ideally be fully Forest Stewardship Council (FSC) accredited 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.

3.1.2. Untreated Wood Crops Concession;

- Per the key Principles Good Energy should aim to minimize the transportation associated with pellet sourcing, but beyond that the carbon footprint associated with any transportation will be neutralized under the GE commitment to carbon neutrality.

3.2. Waste or By-product Biomass

3.2.1. The production of the waste/by-product biomass must meet the following criteria;

- Only non-fossil/petrochemical derived waste biomass may be used, with possible exception of section 3.3, subject to our due diligence.
- Waste biomass must be from a clear, repeatable source. Evidence of the origin of the biomass will be required.
- The biomass material should be from the UK unless there is a logical reason for a specific exception. The waste biomass must be at least 95% clean (this purity is needed to obtain Ofgem's standard for obtaining ROCs).

3.3. Biogas

3.3.1. Good Energy believes that the capture of organic decomposition by-products (biogas) and their resultant combustion 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.[2] The production of biogas must therefore meet the following criteria;

- The process must only be through the decomposition by anaerobic digestion (AD), gasification, and / or pyrolysis, using mostly organic, non-fossil derived matter.
- Where possible the CO_2 and any other trace gases should be captured and neutralised during the combustion process to prevent damage to the environment.

[2] http://unfccc.int/ghg_data/items/3825.php

3.4. Biodiesel

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

- Ideally there will be no use of fertilizers during growth, although natural waste organic fertilizers such as manure are an exception to this rule.
- 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.

3.4.2. Biodiesel Concessions;

Where the biodiesel oil has been used previously for the purpose of cooking (of any kind) a concession can be made.

Good Energy will aim to minimize the transportation associated with biodiesel sourcing but beyond that the carbon footprint associated with any transportation will be neutralized under the GE commitment to carbon neutrality.

4. Biogeneration Combustion Requirements

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

4.2. The biofuel may be co-fired with another biofuel as long as the combustion boiler and process is certified for the process.

4.3. 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.

4.4. 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).

5. Variable Requirements

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

5.1. The biofuel material must be from the UK unless there are strong, environmentally justifiable reasons, for sourcing from further afield.

5.2. The land used for growing biofuel crops must not be created by destroying natural habitat or reducing natural biodiversity.

5.3. The biogenerator must be accredited by Ofgem as a renewable generator and so should be receiving either ROCs or the Feed-in Tariff along with REGO's.

5.4. 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.

5.5. 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.

5.6. 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.

5.7. Where the organic matter used for combustion 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.

6. Additional Points to Note

Good Energy will look more favourably at purchasing the power from biogeneration sites that pay special attention to the following, if applicable;

6.1. Energy used during the biogeneration cycle (including biofuel transport) is from renewable sources.

6.2. Biogenerators that combine heat and power (CHP) production where there is a heat demand in the near vicinity.

6.3. Biofuel supplies that are from within a 25 mile radius and are transported in bulk.

6.4. Biofuels that are minimally processed before combustion.

6.5. Biogeneration sites that provide benefit(s) to the local community.

6.6. A biofuel transportation route that is less than the original disposal route, this only applies if the biofuel is from a waste product.

6.7. Biogenerators located on Brownfield sites, regenerated areas, redundant farmsteads or that are built into or supply new build energy efficient developments.

7. Appendix

7.1. Country Land & Business Association (CLA), **www.cla.org.uk**

7.2. Department for Environment Food and Rural Affairs (DEFRA), **www.defra.gov.uk**

7.3. Department of Trade and Industry (DTI), **www.dti.gov.uk**

7.4. Forest Stewardship Council (FSC), **www.fsc.org**

7.5. Linking Environment And Farming (LEAF), **www.leafuk.org**

7.6. Office of Gas and Electricity Markets (OFGEM), **www.ofgem.gov.uk**

7.7. Renewable Energy Association (REA), **www.r-p-a.org.uk**

7.8. Royal Agricultural College (RAC), **www.royagcol.ac.uk**

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 Technology

Biogenerator Biofuel Type(s)

Original Use of Biofuel if Waste Product

Previous Land Use if grown onsite

Is the Biofuel Grown Replaced with a New (Carbon Matched) Fuel Source?

Maximum Distance of Biofuel Supplied (miles)

Method of waste transport

Generator Site Postcode

Additional Information

7. Good Energy provision

By signing this document I the undersigned agree that all the information provided in this Pre-Sign Up Biogenerator 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.

Date

Signed

Name