An Coimisiún um Rialáil Fóntas
Commission for Regulation of Utilities

Green Source Product Verification Report 2016

Information Paper

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Executive Summary

This report presents information on the result of the CRUs and SEMOs annual verification process for 2016 of any supplier offering green source products to confirm they have sufficient green attributes to cover their sales of green source products.

All suppliers offering green source products in 2016 passed the verification process with no shortfall in GOs and REGOs.

Public/ Customer Impact Statement

Green source products are tariff plans offered by suppliers guaranteeing the source of electricity to be 100% renewable for any customer on that plan. This report provides verification of electricity supplier's green source product offerings to certify that a customer on such an offering is using electricity sourced entirely from renewable generation.

The CRU and SEMO carry out an independent verification process and publish the results of suppliers' green source products each year to validate their 100% renewable credibility. All suppliers offering green source products complete the same single verification process to make it easier for customers to understand the process and trust its accuracy. It is considered that such a verification and subsequent report upon suppliers' green source offerings by the independent regulator should provide confidence in the markets that appropriate oversight of suppliers' claims are in place.

The purpose of this paper is to verify that those suppliers offering green source products have sufficient green attributes to cover their sale. Outlined in this report is each supplier's verified fuel mix for both their green and non-green customers.

The publishing of this paper ensures that customers have reliable, accurate and easy to understand information regarding green source products. This will help customers to make informed comparisons and decisions regarding their choice of supplier and products. Based upon the findings in this paper customers can be confident in the validity of the green source products being offered.

For further information on this report, please contact fuelmix@CRU.ie

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1. Glossary of Terms and Abbreviations

Abbreviation or Term	Definition or Meaning
AIB	Association of Issuing Bodies
CRU	Commission for Regulation of Utilities
EECS	European Energy Certificate System
FMD	Fuel Mix Disclosure
GO	Guarantee of Origin
GSPV	Green Source Product Verification
I-SEM	Integrated Single Electricity Market
kWh	Kilowatt Hour
MWh	Megawatt Hour
PSO	Public Service Obligation
REFIT	Renewable Feed in Tariff
REGO	Renewable Guaranteed of Origin
ROI	Republic of Ireland
SEM	Single Electricity Market
SEMO	Single Electricity Market Operator

2. Introduction

2.1 Background

1.1.1 Introduction

The Commission for Regulation of Utilities (CRU) published its decision with regard to the regulation of green source products in the electricity retail market (CER/15/205) on 21st August 2015. This decision set out that any supplier offering green source products must go through an annual verification process to confirm that they have sufficient green attributes to cover their sale of green source products. It also set out that this verification process would be provided by SEMO and that CRU would publish a report on the outcome of the process. This information paper constitutes CRU's report on the outcome of the Green Source Verification Process for 2016.

1.1.2 Green Source Products

Green Source Products tend to take on two forms: either providing for investment in environmentally beneficial schemes (e.g. investment in a specific technology or carbon offsets); or guaranteeing that the customer's electricity is sourced from renewable generation.

The Green Source Product Verification (and subsequently any references in this paper to green source products) concerns the second form of green source product, i.e. the guarantee that a customer's electricity is sourced from renewable generation. Note that all green source product references in this document refer to this type.

For a customer to be provided with a green source product offering that customer's fuel mix must be from 100% renewable electricity sources.

1.1.3 Outcome

The CRU and SEMO carry out an independent verification process and publish the results of suppliers green source products each year to validate their 100% renewable credibility. All suppliers offering green source products complete the same single verification process to make it easier for customers to understand the process and trust its accuracy. It is considered that such a verification and subsequent report upon suppliers' green source offerings by the independent regulator should provide confidence in the markets that appropriate oversight of suppliers' claims are in place.

The publication of this paper ensures that customers have reliable, accurate and easy to understand information regarding green source products. This will help customers to make informed comparisons and decisions regarding their choice of supplier and products. Based upon the findings in this paper customers can be confident in the validity of the green source products being offered.

1.1.4 Related Documents

- The CRU Decision Paper on Regulation of Green Source Products in the Electricity Retail Market (CER/15/205) can be found here.
- The CRU Fuel Mix Disclosure Information Paper for 2016 (CRU/17/288) can be found here.

For further information on this paper, please contact fuelmix@cru.ie at the CRU.

Information on the CRU's role and relevant legislation can be found on the CRU's website at www.cru.ie

1.1.5 Structure of Paper

The structure of this information paper is as follows:

Section 3.1 sets out the methodology of the Green Source Product Verification Process.

Section 3.2 sets out the outcome of this process for 2016.

Section 3.3 sets out the fuel mix of green and non-green source product customers.

Section 3.4 sets out any shortfall in Guarantees of Origin (GOs) and Renewable Guarantees of Origin (REGOs) on an individual supplier basis.

Section 3.5 sets out how subsequent FMD and GSPV process will be carried out.

1.1.6 Obligation from Paper

As per the CRU decision on the regulation of green source products in the electricity retail market (CER/15/205) on 21st August 2015, Suppliers will have to make their green source product verification results available on their website, telephone service and by request, in hard copy. All suppliers who offer green source products will have to provide the following statement on their bills:

> ***Supplier Z now offers green source products which is likely to change your fuel mix when compared to the supplier fuel mix shown. For information on your fuel mix and on the environmental impact of your electricity supply visit www.supplierZ.ie or, for further details call 00XXX X XXX XXXX.***

In line with the obligations in the Fuel Mix Disclosure, in which suppliers must provide fuel mix information on all bills within two months of the publication of Fuel Mix Disclosure paper. The publication of this paper requires suppliers to make their green source product verification results available by the means stated above within two months of the date of publication.

3. Green Source Product Verification Process 2016

3.1 Methodology of the Green Source Verification Process

Suppliers should provide SEMO with:

- A green source submission, which details the total aggregate demand (kWh) of all the supplier's customers who are availing of green source products; and
- An independent audit of the content of the green source submission. It is the responsibility of the supplier to procure and deliver this independent audit.

From these submissions, SEMO determines and confirms to the supplier the percentage of their green source product demand that has been met from renewable generation, GOs and REGOs. SEMO also provides the fuel mix for the supplier's green and non-green customers. Note that suppliers are required to allocate any shortfall in GOs & REGOs equally across their customers who avail of green source products.

The green source submission was to be provided to SEMO at the same time as the supplier's fuel mix declaration and covers the same period.

3.2 PSO Attribution

The Public Service Obligation (PSO) levy is a government subsidy charged to all electricity customers in Ireland. It is designed by the Irish Government and consists of various schemes to support national policy objectives related to: renewable energy, security of supply and the use of indigenous fuels (peat). The proceeds of the levy are used to contribute to the additional costs incurred by PSO-supported electricity generation which are not recovered in the electricity market, typically via contracts that suppliers have in place with electricity generators.

PSO supported renewable generation has to be attributed equally across all of a supplier's customers (irrespective of which customers are on a green source product or not). This is calculated by dividing the total amount of PSO supported renewable generation that the supplier is contracted with, by the supplier's total demand for the period. Suppliers offering green source products are required to allocate PSO supported renewable generation evenly amongst all of their customers – i.e. all a supplier's customers will receive the same % of renewable sources associated with PSO renewable generation.

This is because all customers pay (and hence contribute) to the support of PSO renewable generation through the PSO levy. However, the allocation of PSO supported generation varies from supplier to supplier, as it is dependent upon the number and volume of PSO contracts that a supplier has.

3.3 Outcome of the Green Source Verification Process for 2016

The table below outlines the Irish suppliers that completed the Green Source Product Verification Process for 2016 and whether or not they passed the verification process.

ROI Supplier	GSPV passed
Bord Gáis Energy	YES
BRI Green Energy Limited	YES
Electric Ireland	YES
Flogas Natural Gas Limited	YES
LCC Power (ROI) Limited	YES
Panda Power Limited	YES
SSE Airtricity	YES
Vayu Limited	YES
Viridian Energy Limited	YES

3.4 Fuel Mix of Green and Non-Green Source Product Customers for 2016

The following tables outline each supplier's fuel mix for both their green source and non-green source product customers.

This is divided out to show the fuel mix for providing the electricity to a suppliers 'green' and 'non-green' customers. Included for reference is the annual fuel mix disclosure (FMD) provided by the supplier for their overall fuel mix across all their customers alongside the average all-Island fuel mix for comparison. At the bottom of each table the environmental impact of each kWh of electricity used by the various customer groups is provided in the form of CO_2 Emissions in grams per kWh.

Suppliers with an Annual FMD of 100% renewable fuel sources effectively only have Green Customers. Therefore, in this section it is only the PSO and Non-PSO split that is of concern to those suppliers.

It should be noted that the Average All Island Market fuel mix provided covers Ireland and Northern Ireland. The overall Annual FMD Supplier Mix and the mix for each cohort of customers applies to Ireland only.

The share of renewable electricity fuel sources is subdivided into that obtained via the Public Service Obligation (PSO) Levy and those renewable sources purchased without PSO support. The PSO levy compensates electricity suppliers for the additional costs they may incur by purchasing electricity generated by renewable sources. This is usually via contracts that suppliers have in place with electricity generators and Renewable Energy Feed in Tariff (REFIT) schemes/supports.

3.4.1 Suppliers with Green and Non Green Source Customers

Bord Gáis Energy

Electricity Source	Green Customers	Non-Green Customers	Annual FMD Supplier Mix	Average All-Island Market
Coal	0.00%	0.00%	0.00%	13.76%
Gas	0.00%	83.06%	74.51%	39.66%
Peat	0.00%	0.00%	0.00%	5.35%
Renewable	100.00%	16.94%	25.49.%	40.09%
PSO	*15.02%*	*88.70%*	-	-
Non PSO	*84.98%*	*11.30%*	-	-
Environmental Impact				
CO2 Emissions	0 g per kWh	359 g per kWh	322 g per kWh	366 g per kWh

Electric Ireland

Electricity Source	Green Customers	Non-Green Customers	Annual FMD Supplier Mix	Average All-Island Market
Coal	0.00%	15.89%	13.54%	13.76%
Gas	0.00%	59.96%	51.10%	39.66%
Peat	0.00%	6.18%	5.26%	5.35%
Renewable	100.00%	16.66%	28.98%	40.09%
PSO	7.02%	42.16%	-	-
Non PSO	92.98%	57.84%	-	-
Environmental Impact				
CO2 Emissions	0 g per kWh	484 g per kWh	413 g per kWh	366 per kWh

3.4.2 Suppliers with 100% Renewable Fuel Mix

BRIGreen Energy Limited

Electricity Source	Annual FMD Supplier Mix	Average All-Island Market
Coal	0.00%	13.76%
Gas	0.00%	39.66%
Peat	0.00%	5.35%
Renewable	100.0%	40.09%
PSO	*100.00%*	-
Non PSO	*0.00%*	-
Environmental Impact		
CO2 Emissions	0 g per kWh	366 g per kWh

Flogas Natural Gas Limited

Electricity Source	Annual FMD Supplier Mix	Average All-Island Market
Coal	0.00%	13.76%
Gas	0.00%	39.66%
Peat	0.00%	5.35%
Renewable	100.00%	40.09%
PSO	*3.99%*	-
Non PSO	*96.01%*	-
Environmental Impact		
CO2 Emissions	0 g per kWh	366 g per kWh

LCC Power ROI Limited

Electricity Source	Annual FMD Supplier Mix	Average All-Island Market
Coal	0.00%	13.76%
Gas	0.00%	39.66%
Peat	0.00%	5.35%
Renewable	100.0%	40.09%
PSO	*3.99%*	-
Non PSO	*96.01%*	-
Environmental Impact		
CO2 Emissions	0 g per kWh	366 g per kWh

Panda Power Limited

Electricity Source	Annual FMD Supplier Mix	Average All-Island Market
Coal	0.00%	13.76%
Gas	0.00%	39.66%
Peat	0.00%	5.35%
Renewable	100.0%	40.09%
PSO	*3.99%*	-
Non PSO	*96.01%*	-
Environmental Impact		
CO2 Emissions	0 g per kWh	366 g per kWh

SSE Airtricity

Electricity Source	Annual FMD Supplier Mix	Average All-Island Market
Coal	0.00%	13.76%
Gas	0.00%	39.66%
Peat	0.00%	5.35%
Renewable	100.00%	40.09%
PSO	*22.17%*	-
Non PSO	*77.83%*	-
Environmental Impact		
CO2 Emissions	0 g per kWh	366 g per kWh

Vayu Limited

Electricity Source	Annual FMD Supplier Mix	Average All-Island Market
Coal	0.00%	13.76%
Gas	0.00%	39.66%
Peat	0.00%	5.35%
Renewable	100.00%	40.09%
PSO	*32.73%*	-
Non PSO	*67.27%*	-
Environmental Impact		
CO2 Emissions	0 g per kWh	366 g per kWh

Viridian Energy Limited (Energia)

Electricity Source	Annual FMD Supplier Mix	Average All-Island Market
Coal	0.00%	13.76%
Gas	0.00%	39.66%
Peat	0.00%	5.35%
Renewable	100.00%	40.09%
PSO	-	-
Non PSO	-	-
Environmental Impact		
CO2 Emissions	0 g per kWh	366 g per kWh

3.5 Shortfall in GOs and REGOs on an Individual Supplier Basis for 2016

As per section 3.2, all suppliers passed the 2016 green source product verification process with no shortfall in GOs and REGOs.

3.6 Subsequent GSPV Processes

It has been decided that from hence forth, suppliers with an Annual FMD of 100% renewable fuel sources do not have to partake in the GSPV process.

Suppliers with an Annual FMD of 100% renewable fuel sources effectively only provide green source products to all their customers. Through the Annual FMD calculation, they have already proved (with appropriate checks by SEMO) that their green customers are served by 100% renewable sources. To partake in this process again for GSPV is considered by the CRU to be an unnecessary use of resources. It is for this reason that the CRU has decided to exempt Suppliers with an Annual FMD of 100% renewable fuel sources from subsequent GSPV processes. The Annual FMD calculation from hence forth will provide the PSO/Non PSO split for suppliers with 100% renewable fuel mix.

In line with this decision, the date for suppliers GSPV submission has been revised. Previously, suppliers were required to provide their GSPV submission at the same time as their FMD submission (by the end of March each year). However, the CRU recognises that until SEMO has confirmed a suppliers FMD (in June each year), a supplier cannot be fully confident on whether they are obliged to provide a submission for the GSPV process (i.e. whether their Annual FMD is 100% renewable fuel sources or not). To account for this, the CRU has decided that suppliers will provide their GSPV submission (if required) one month after confirmation of their **final** FMD mix.

In 2018, the 2017 FMD and GSPV timeline is as follows:

- Supplier FMD Declaration Deadline 29/03/2018
- Final Supplier FMD Confirmed 21/06/2018
- Supplier GSPV Submission Deadline 20/07/2018
- Supplier GSPV Confirmed 31/08/2018

Note: subsequent to the Confirmation of FMD Mixes and GSPV, the CRU will publish an associated paper detailing the results. From the date of publish of each paper suppliers will have two months to publish their results on the appropriate channels outlined in each paper.

The purpose of this paper (GSPV 2016) is to provide clarification to customers that suppliers have adequate renewable energy sources to cover all their green product offerings through GSPV. Therefore, only suppliers serving domestic customers with a green product are required to provide a submission to this report. Submissions received from self-suppliers have been accepted and included in this report due to the low volumes of such submissions received. However, if the number of these increase in subsequent reports, then their inclusion may be reviewed as it is considered that they may not be best placed for inclusion in this report, and may detract from the intended aim of the report.

4. Appendix

3.1 Guarantees of Origin (GO)

A Guarantee of Origin (GO) certificate is an instrument defined in European legislation that certifies that electricity generated is from renewable energy sources. The GO guarantees that one MWh of electricity has been produced from renewable energy sources. Electricity suppliers buy GOs to certify that their electricity demand is covered by certified renewable sources.

In Ireland, SEMO is a member of the Association of Issuing Bodies (AIB) since May 2015. AIB is a European body that provides a standardised system for European Energy Certificate System – (EECS)- and GOs are part of this European certification system. In Ireland, SEMO is the body that issues GOs to generators.

GOs are electronic certificates issued for energy generated from renewable sources and are issued to renewable generators that are not in support schemes (such as the PSO in Ireland) per MWh of generation. These are tradeable instruments and do not need to follow the flow of energy. GOs are traded at a European level. The AIB operates a hub where such certificates can be traded between countries. Suppliers can purchase GOs to use as proof of the share or quantity of energy from renewable sources in their Fuel Mix. GOs can be imported and exported between Ireland and the rest of Europe.

Renewable generators that are signed up to the GO scheme are issued GOs per MWh of generation which can then be transferred to suppliers to use in their fuel mix disclosure. Each year, suppliers submit a fuel mix declaration form to SEMO, which performs the fuel mix calculation on behalf of the Regulatory Authorities. This declaration outlines all of a supplier's claims on electricity, broken down into GOs held by the supplier on SEMO's registry, Renewable Energy GOs (which are held on Ofgem's registry) and the attributes of specific generators, some of which may be supported by the Public Service Obligation levy. A Supplier can also include non-renewable Generator Attributes in its fuel mix declaration.

3.2 Public Service Obligation (PSO) Levy

The Public Service Obligation (PSO) levy is a government subsidy charged to all electricity customers in Ireland. It is designed by the Irish Government and consists of various schemes to support national policy objectives related to: renewable energy, security of supply and the use of indigenous fuels (peat). The proceeds of the levy are used to contribute to the additional costs incurred by PSO-supported electricity generation which are not recovered in the electricity market, typically via contracts that suppliers have in place with electricity generators.

For the purpose of green source product verification, the share of each suppliers electricity fuel sources obtained via the PSO Levy, is equally attributed amongst both their 'Green' and 'Non-Green' customers. This is because all customers contribute to the PSO Levy in their electricity charges, so are considered to have that proportion of PSO renewable electricity attributable to their usage.

This is calculated by dividing the total amount of PSO supported renewable generation that the supplier is contracted with by the supplier's total demand for the period. The PSO is then allocated to the green and non-green customers based on their percentage shares.

Whilst supplier's customers are all provided the same allocation of PSO support generation, the allocation of PSO supported generation varies from supplier to supplier. This is because it is dependent upon the number and volume of PSO contracts that a supplier has. The proceeds from the PSO levy are paid to suppliers who have contracted with PSO supported electricity generators; who in turn pay for the electricity generated in line with the contract that it struck with the generator. Suppliers are free to compete for 15 year contracts with generators that qualify for PSO support. With this open competition, suppliers have entered into varying numbers of PSO supported contracts. In the calculation of a supplier fuel mix, the fuel mix considers:

- the PSO supported renewable contracts that the supplier has entered into;
- the number of Guarantees of Origin (GOs) / Renewable Energy Guarantee of Origins (REGOs) that the supplier is declaring for the period in question; and
- any non-renewable generation that the supplier is declaring.