



An Coimisiún
um Rialáil Fóntas
**Commission for
Regulation of Utilities**

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Commission for Regulation of Utilities

Fuel Mix Disclosure 2020

Information Paper

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CRU Mission Statement

The CRU's mission is to protect the public interest in Water, Energy and Energy Safety.

The CRU is guided by four strategic priorities that sit alongside the core activities we undertake to deliver on the public interest. These are:

- Deliver sustainable low-carbon solutions with well-regulated markets and networks
- Ensure compliance and accountability through best regulatory practice
- Develop effective communications to support customers and the regulatory process
- Foster and maintain a high-performance culture and organisation to achieve our vision

Executive Summary

This information paper from the CRU sets out the 2020 fuel mix disclosure for electricity suppliers licensed in Ireland and operating in the All-Island Single Electricity Market (SEM). In addition, the average All-Island fuel mix for 2020 and on a year-on-year basis for the whole island of Ireland (including both jurisdictions; Northern Ireland and Ireland) is presented.

Fuel mix disclosure presents reliable information regarding the sources of electricity, i.e. the fuel mix that suppliers have chosen to meet their customers' demand and the related environmental impact. It does this by disclosing the fuel mix as the percentage of a supplier's demand that is met by various electricity sources and the associated carbon dioxide (CO₂) emissions intensity (grams/kWh). Suppliers must present this data on their customer bills and in promotional material in the format detailed in Appendix 1.

The fuel mix and CO₂ emissions disclosures for 2020 allow consumers to understand the recent environmental impact of the electricity that they buy and choose between suppliers on this basis, and to show how the individual supplier's fuel mix compares with the All-Island average. **It should be noted that the fuel mix of each supplier (outlined in this report) does not necessarily represent metered generation in Ireland or Northern Ireland, as suppliers are permitted to claim the attributes of renewable electricity through electronic certificates known as Guarantees of Origin (GOs) imported from other EEA Member States, which do not need to follow the physical flow of electricity.** This mechanism allows suppliers of electricity in Ireland to purchase the renewable benefit of certain generators across Europe and include it in their total fuel mix. GOs are both exported from the SEM and imported into the SEM to/from the rest of Europe. The net outcome is that a significant volume of GOs are imported into the SEM. **This means that the fuel mix presented on a bill by a supply company generally displays a higher percentage share of electricity derived from renewable sources than would otherwise be displayed if it was solely on the basis of the actual generated-in-Ireland renewable share of the supplied electricity.** While the CRU recognises that this system is a somewhat complex system for consumers to understand, the existence of GOs, and their application across the EU, is a long-established system which has supported the addition of renewable generation across the EU.

The fuel mix and CO₂ figures – as published in Section 5 of this paper - are for a supplier's entire customer base rather than on an individual customer basis. As such, they represent a supplier's average fuel mix and not that of a specific product that the supplier is selling. There is a responsibility (refer to Section 7) on suppliers to explain the fuel mix of its individual products to customers as well as providing clear marketing information. For those suppliers operating in Ireland who offer specific "green products", but whose overall average fuel mix – to include all

offered electricity products - is not 100% renewable, the CRU carries out a verification process¹ to ensure the accuracy of the green claims. The results for 2020 of this process are published in a separate "[Green Source Product Verification Report](#)".

The publication of the fuel mix of suppliers and the provision of information regarding the environmental impact of electricity produced from that fuel mix is required by Article 3(9) of [Directive 2009/72/EC](#). It is the role of SEMO to administer and calculate the fuel mix figures from the information provided by suppliers. The supplier fuel mix and associated environmental impact information (emissions intensity) is calculated by SEMO in accordance with the SEM Committee's methodology, found in *Fuel Mix Disclosure in the Single Electricity Market: Calculation Methodology Decision Paper* ([SEM-11-095](#)). Suppliers must make a submission to SEMO in order to have their own bespoke fuel mix calculated. If they choose not to make a declaration, they will be allocated² the residual fuel mix. This residual fuel mix is that fuel mix which is left over from the All-Island fuel mix after individual supplier's fuel mixes have been calculated.

Public Impact Statement

The fuel mix disclosure shows consumers the fuels which were used in the generation of the electricity they purchase from their supplier. The main fuel-source categories used in the fuel mix disclosure are: Renewables; Gas; Coal; Biomass; and Peat. These are representative of the main fuels – or sources of energy - used in the generation of electricity in Ireland.

This disclosure by supply companies enables consumers to distinguish between suppliers based on the fuel-source of their electricity and the associated carbon emissions, and to compare it with the All-Island average.

If a supplier's fuel mix is 100% renewable, consumers can be confident that this supplier will provide them with electricity that is fully sourced from renewables. This can include offsetting the actual carbon intensity of Ireland's electricity with purchases of renewable credits (GOs) from other EEA countries.

A supplier whose average overall fuel mix is not 100% renewable can still offer Green Source electricity products to individual consumers. In these cases, the CRU's Green Source Product Verification process helps to ensure that such supply companies source enough electricity from renewables and GO credentials to meet the entire demand which corresponds to these Green Source products. The relevant paper is published alongside the Fuel Mix Disclosure [here](#).

¹ Regulation of Green Source Products in the Electricity Retail Market: [CER/15/205](#)

² In Ireland suppliers are allocated the residual mix less any PSO adjustment that they are entitled to.

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1. Glossary of Terms and Abbreviations

Abbreviation or Term	Definition or Meaning
FMD	Fuel Mix Disclosure
GO	Guarantee of Origin
GSPV	Green Source Product Verification
SEMO	Single Electricity Market Operator
CRU	Commission for Regulation of Utilities
ROI	Republic of Ireland
AIB	Association of Issuing Bodies
UR	Utility Regulator
SEM	Single Electricity Market
EEA	European Economic Area
EPA	Environmental Protection Agency
DAERA	Department of Agriculture, Environment and Rural Affairs
EU	European Union
EECS	European Energy Certificate System

2. Introduction

2.1 Statutory Requirement

This Information Paper sets out the electricity fuel mix and CO₂ emissions figures for 2020 on an All-Island (Ireland and Northern Ireland) basis as well as by electricity supplier licensed in Ireland and operating during 2020 in the All-Island Single Electricity Market (SEM). The fuel mix and CO₂ emissions data are taken from data provided to the CRU by the Single Electricity Market Operator (SEMO).

Fuel Mix Disclosure (FMD) is required by Article 3(9) of [Directive 2009/72/EC](#). The transposing legislation in Ireland, S.I. number 60 of 2005, requires the Commission for Regulation of Utilities (CRU) to ensure that electricity suppliers provide reliable fuel mix information on all bills and promotional materials issued to customers.

The SEM Committee Decision Paper ([SEM-11-095](#)) sets out the methodology for calculation of the fuel mix. Electricity suppliers publish their own fuel mix information, as well as the All-Island information, on all bills no later than two months from the publication of this Information Paper. This provides consumers with information on the recent environmental impact of electricity from their supplier compared with the All-Island average.

2.2 Related Documents

- *SEM All-Island Fuel Mix Disclosure for 2020* (SEM-20-068) can be found [here](#) and for the previous period can be found [here](#).
- The CRU's information paper on Fuel Mix Disclosure in Ireland for 2020 can be found [here](#).
- [SEM-11-095](#) *Fuel Mix Disclosure in the Single Electricity Market: Calculation Methodology Decision Paper*.
- The CRU Decision on *Supervisory Framework for Administration of Guarantees of Origin* [CER/11/824](#).

For further information on this paper, please send your query to 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

2.3 Structure of Paper

The structure of this information paper is as follows:

Section 3: Presents the background to the report, explaining the components that are presented in the paper;

Section 4: Presents the All-Island Fuel Mix;

Section 5: Presents the individual Fuel Mix of suppliers operating in Ireland; and

Section 6: Outlines suppliers' obligations as relates to disclosing their fuel mix.

3. Background

3.1 What is Fuel Mix Disclosure?

Fuel mix disclosure is the annual publication of the mix of fuels involved in electricity production on a per-supplier basis, following an All-Island process ([SEM-11-095](#)). Fuel Mix Disclosure calculations are carried out on a calendar year basis by SEMO on behalf of the CRU. In addition, the CRU publishes CO₂ emissions intensity data for each supplier, as calculated by SEMO. The verification of the data which forms the basis of each supplier's Fuel Mix Disclosure is carried out independently, so consumers can be confident about the validity of the published Fuel Mix Disclosure figures for each individual supply company.

The purpose of fuel mix disclosure is to provide consumers with the information necessary to distinguish between electricity supply companies based on their individual fuel mix and their emissions data and as compared with the All-Island average.

The Fuel Mix Disclosure calculation is the only way of independently verifying the source of electricity that suppliers claim to provide to their consumers, consequently enabling consumers to choose a company which is supplying low carbon-intensive energy or even zero emissions (when renewable Guarantees of Origin certificates are taken into account).

Licensed suppliers with retail customers should submit a fuel mix declaration to SEMO so that a representative fuel mix can be calculated and disclosed. Other, non-retail self-suppliers can also choose to make a declaration in order to have their individual fuel mix calculated if they wish.

All suppliers (with retail customers) are obliged to present Fuel Mix Disclosure data on their bills and promotional materials even if they did not declare fuel mix data to SEMO for Fuel Mix Disclosure calculation. Suppliers that did not submit declarations to SEMO - in accordance with SEMO's process - must disclose the residual fuel mix, less any PSO adjustment that they are entitled to. (i.e. what is left over after all the individual supplier fuel mixes are calculated).

The fuel mix presented must be updated with the 2020 figures within 2 months of the publication of this Information Paper.

3.2 All-Island Mix

The All-Island fuel mix is the mix of fuels involved in the generation of the electricity supplied to customers on the island of Ireland as a whole, to include both jurisdictions: Ireland and Northern Ireland.

Fundamentally, and in accordance with [SEM-11-095](#), the fuel mix figure for each supplier has been calculated on the basis of a combination of: non-renewable generation attributes; Guarantees of Origin (GOs); renewable generation attributes assigned to a supplier that are not included in the GO scheme; and the Residual Mix³ or EU Residual Mix. The Fuel Mix Disclosure

³ The Residual Mix is the mix of all unclaimed electricity in the system. It is calculated as the sum of: generation attributes (including exported certificates) not assigned to, and submitted by, a supplier; surplus GOs declared by suppliers; and unused certificates which were expired in the relevant Disclosure Period.

figures published in this Information Paper are representative of the operations of electricity supply companies in Ireland.⁴

3.3 Residual Mix

The Residual Mix is calculated for Ireland, for Northern Ireland, and on an All-Island basis. Fundamentally, it is the mix of all unclaimed electricity in the system. It is calculated as the sum of:

- Any generation attributes not assigned to, and submitted by, a supplier;
- Surplus Guarantees of Origin declared by suppliers; and
- Unused (deemed cancelled) certificates which expired in the relevant Disclosure Period⁵.

At a European level a residual mix is also calculated. The European Residual Mix is a combination of the residual fuel mixes from all the Member States and EEA Member States, such as Norway, which do not need to follow the physical flow of electricity.

If the All-Island demand is greater than the sum of all the suppliers' declarations plus the Residual Mix, the European Residual Mix would be applied to the remaining demand and included in the All-Island Residual Mix. In the case that demand is less than the sum of all the suppliers' declarations the surplus claimed generation attributes will be included in the European Residual Mix.

3.4 Fuel Sources

The electricity that is provided to homes and businesses to meet demand using a number of different fuel sources. It is these different fuel sources that make up the Fuel Mix.

The main fuel sources for electricity generation in Ireland are:

- Natural Gas;
- Renewables;
- Coal;
- Oil;
- Waste-to-Energy; and
- Peat.

In the case of electricity generated from waste, the renewable portion (as is derived from the biomass content of the waste) is included under the "*Renewables*" fuel mix category. The non-renewable portion of electricity generated from burning municipal waste is categorised as "Non-Biodegradable Fraction of Waste". However, in 2020, the contribution of both oil and waste to the

⁴ The Fuel Mix Disclosure for supply companies operating in Northern Ireland is published separately and can be found in the *Fuel Mix & CO₂ Emissions* 2019 report, as published by the Utility Regulator in Northern Ireland.

⁵ See Section 3.5 entitled "GOs" for details.

All-Island Mix are each below 1%, so for the purposes of this report they are grouped in the category labelled as “*Other*”.

Fuels categorised as “*Renewables*” are all those that comply with the list of fuels defined under the term “Energy from Renewable Sources” in [S.I. no.147 of 2011](#). These consist of: wind; solar; aerothermal; geothermal; hydrothermal and ocean energy; hydropower; biomass; landfill gas; sewage treatment plant gas; and biogases.

However, Ireland’s renewable electricity is predominantly sourced from onshore wind.

3.5 GOs

As part of the fuel mix, suppliers may claim the attributes of renewable electricity generated outside of Ireland through electronic certificates known as Guarantees of Origin (GOs), which may be imported from other EEA Member States. The Association of Issuing Bodies ([AIB](#))⁶ operates a hub which tracks certificates traded between countries. AIB also ensures that electricity tracking does not lead to double-counting. The hub allows suppliers to purchase (or sell) the renewable benefit of certain generators across Europe and include it in their total fuel mix. GOs are both exported from SEM and imported to SEM to/from the rest of Europe - a clear majority are currently imported to SEM (see Appendix 3 for details).

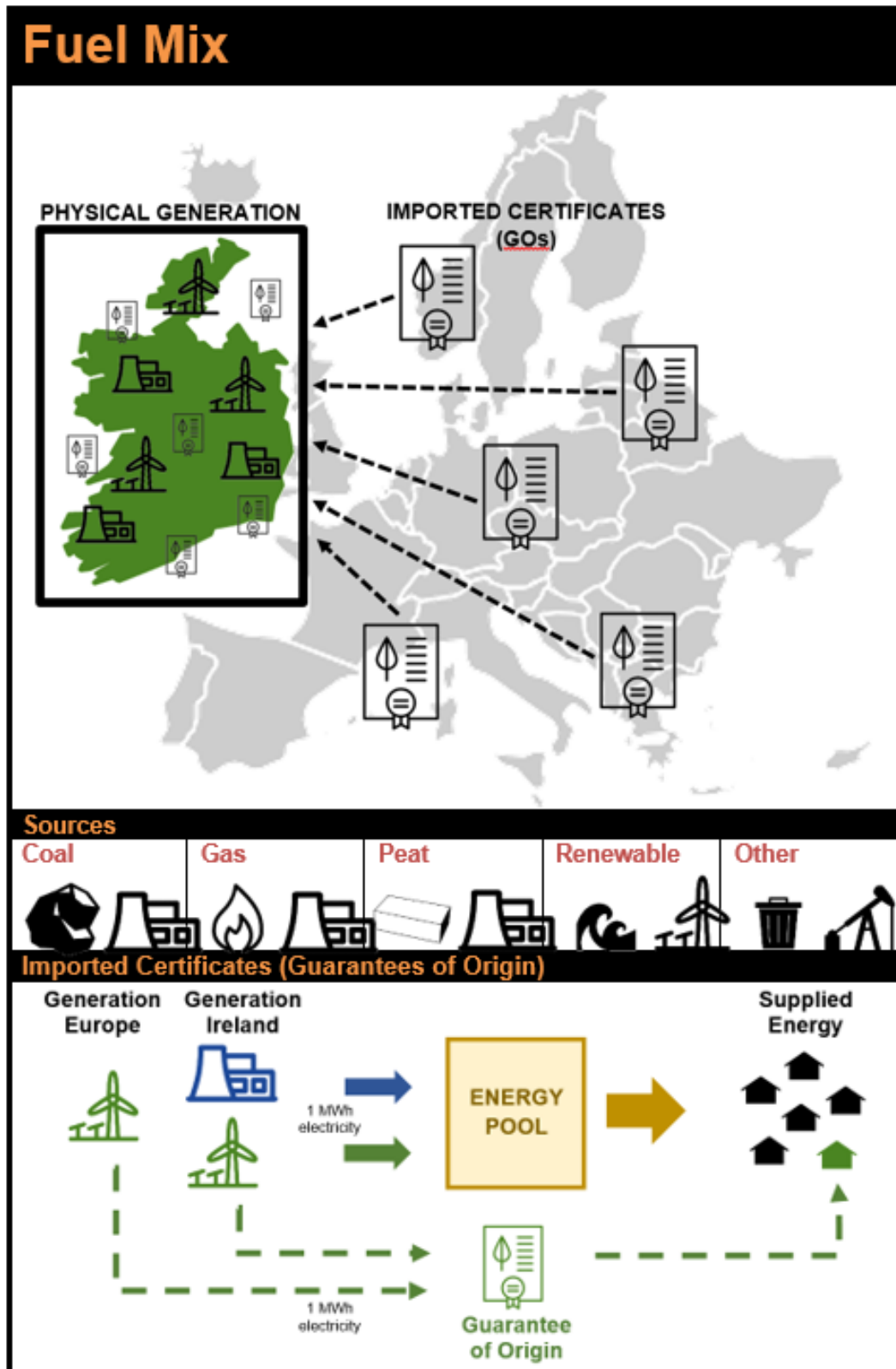
GOs are electronic certificates issued for energy generated from renewable sources and are issued to renewable generators that are not in support schemes (such as the PSO in Ireland). Each GO unit represents one MWh of generated electricity. These are financial certificates and rarely reflect the actual flow of the electricity which they represent. In Ireland, SEMO is the body that issues GOs to generators and operates the registry which tracks the status of GOs. The inclusion of GOs means that the renewable share indicated in the Fuel Mix Disclosure - of individual supply companies or nationally - does not only represent metered generation in Ireland but also includes GOs, which can be for renewable generation in Ireland or can be imported.

GO certificates automatically expire 12 months from the end of the month of production of electricity. Suppliers must cancel (i.e. use) GO certificates before they expire and declare what disclosure year the certificates are going to be used for. Certificates can only be used for Fuel Mix Disclosure for the year they were issued or the following disclosure year. For example, GOs corresponding to production in January 2019 could have been used for the 2019 or 2020 Fuel Mix Disclosure. Once a GO has been declared for a disclosure year, it is cancelled and cannot be used again. Any GOs which were not used/cancelled would have expired by the end of January 2020 and would have been included in the deemed cancelled GOs figures.

In Ireland, suppliers buy a significant quantity of GOs from other European countries: therefore, the calculated overall Fuel Mix Disclosure for Ireland has a higher percentage share of the *Renewable* fuel source category than the share which would otherwise be indicated by the actual physical generation of renewable electricity in Ireland. The following graph depicts how the GO

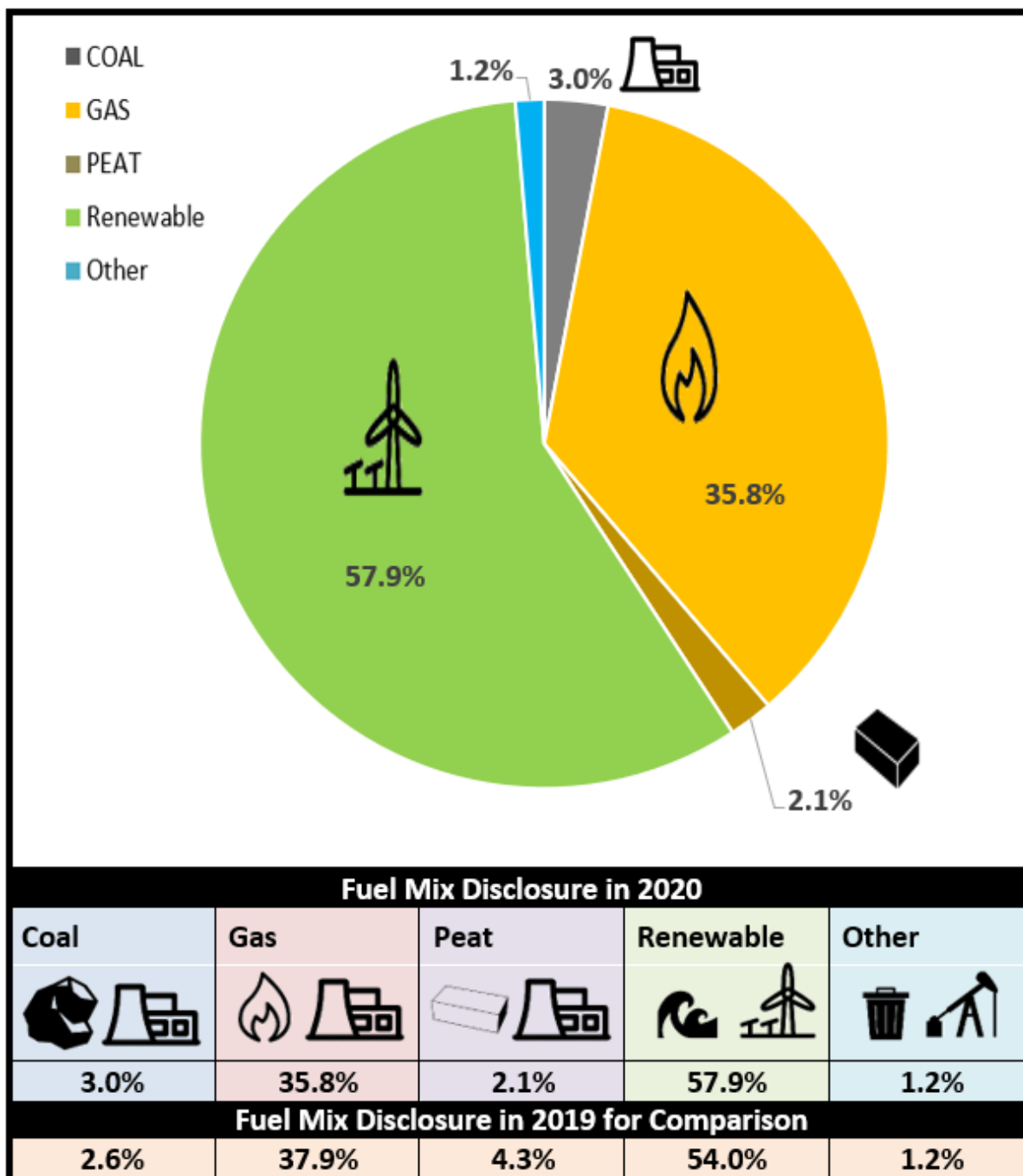
⁶ The AIB promotes the use of a standardised system, known as the European Energy Certificate System (EECS) which is based on harmonised environment, structures and procedures in order to ensure the reliable operation of international energy certificate systems.

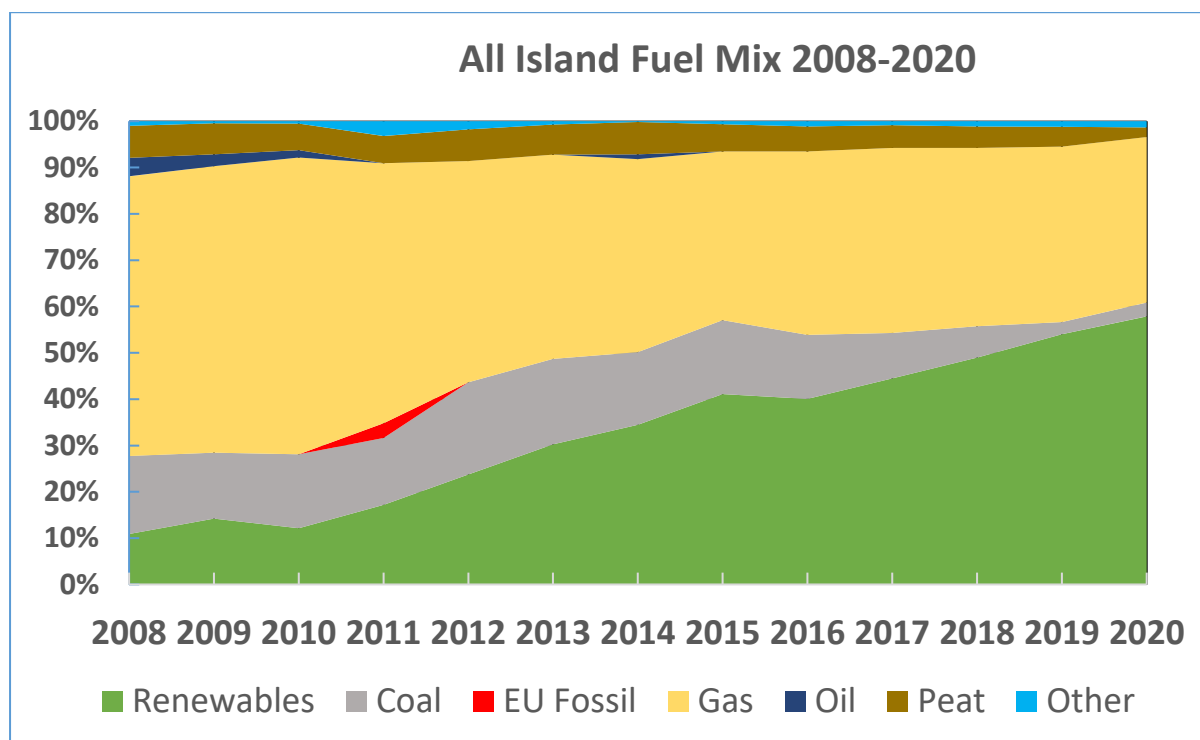
scheme works in Ireland and Europe. GOs can be freely traded between European countries in the EEA.



4. All-Island Mix

This section sets out the 2020 and year-on-year fuel mix for the All-Island SEM, i.e. on average across the island. The SEM Committee decision paper [SEM-11-095](#) outlines the calculation methodology used to calculate the fuel mix and CO₂ emissions each year. **Please note, all figures here include GOs and not only the metered electricity produced by generators in Ireland (see Section 3.5 for details).** The figure below shows the average All-Island 2020 fuel mix and how these compare with 2019. The use of fossil fuels (including gas, coal, peat and oil) in the generation of electricity to meet demand has decreased from 2019 to 2020. Correspondingly the share of *Renewable* fuel sources has increased from circa 54.0% in 2019 to 57.9% in 2020.





The increase in renewable fuel contribution in 2020 is accounted by the following:

- The increasing volume of installed renewable capacity, mainly wind, on the island of Ireland;
- The increased import of GOs related to renewable sources in 2020. In 2019, 10.5 million renewable GO certificates were imported. This increased by 56% to 16.4 million for 2020. This increase was driven by a large increase in the importation of GOs sourced from hydropower. See Appendix 3 for more details.

In accordance with SEM-11-095, the category labelled as “*Other*” consists of all fuels in a given year that individually represent less than 1% of the final overall electricity demand. For the 2020 disclosure period, both *Oil* (0.4%) and *Non-Biodegradable Waste* (0.8%) are the fuel types which fall under the category labelled as “*Other*” and together account for 1.2% of the total fuel mix.

The category labelled *EU Fossil* is related to the European Residual Mix. The EU Residual Mix is calculated based on the electricity that is generated within the EU but has not been claimed by suppliers or used to meet demand within a member state. It includes the categories of *EU fossil*, *Nuclear* and *Renewable*. The EU Residual Mix is used in the Fuel Mix Disclosure for those particular years where the electricity demand on the island of Ireland has not been met by the combination of supplier claims (i.e. generation attributes, GOs/REGOs, PSO-supported generation) and indigenous generation. 2011 was the last time that the EU Residual Mix was required to meet demand in the All-Island Fuel Mix. In 2020 there was no deficit hence the EU Residual Mix was not required for the All-Island Fuel Mix in 2020.

On account of Brexit, from 1 January 2021 UK REGOs are not accepted for import or cancellation by suppliers for fuel mix disclosure in Ireland.

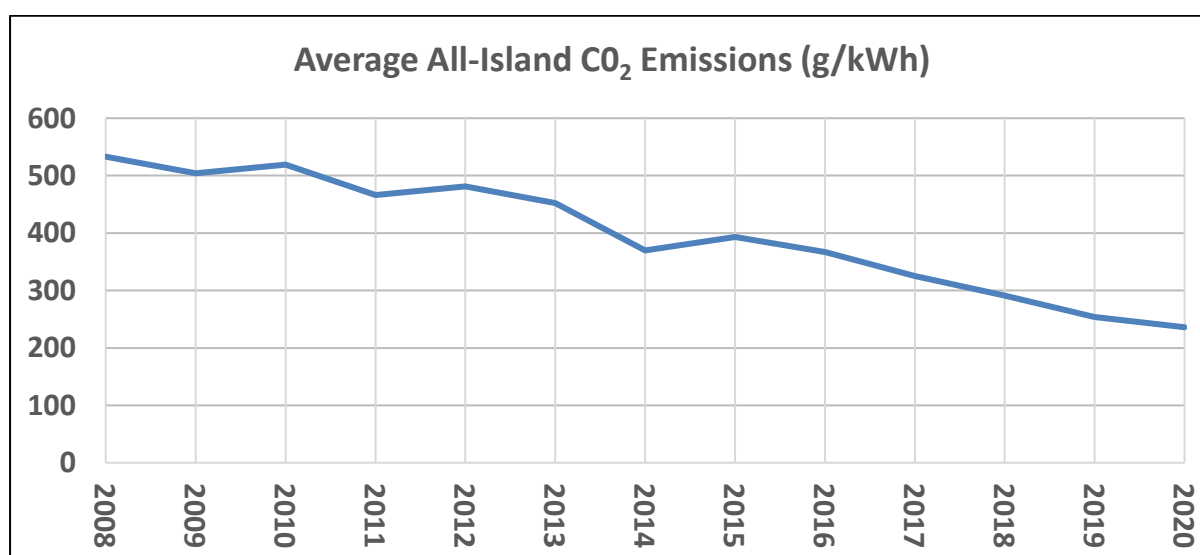
5. CO₂ Emissions

Emissions data for each generator in the Single Electricity Market is supplied annually to SEMO by the EPA (Environmental Protection Agency) for Ireland and the DAERA (Department of Agriculture, Environment and Rural Affairs) for Northern Ireland.

The emission figures are grouped according to fuel type and divided by metered generation to give specific emission factors for each fuel. These values are then used in the calculation of the average All-Island CO₂ emissions intensity and in each individual supplier's CO₂ emissions intensity which take into account both indigenous generation in the SEM and supplier claims (i.e. generation attributes, GOs/REGOs and PSO-supported generation).

Note: *The unit of measure for emissions intensity in this paper is g/kWh. The use of g/kWh is consistent with the reporting of emissions intensity by other authorities and the unit kWh is the unit used on customers' bills. To calculate the emissions (measured in grams of CO₂), multiply the emissions intensity (in g/kWh) by the electricity supplied (in kWh). This is also the Unit shown in the table "Default Presentation of Information" in Appendix 1.*

The average all-island CO₂ emissions (per kWh of electricity generated) decreased by 7% between 2019 and 2020, from 254 g/kWh to 236 g/kWh. This is in line with a longer-term downward trend in average CO₂ emissions, having fallen by 56% from 533 g/kWh in 2008, related to the increase in the share of renewable fuel sources, as shown in the graph below.



6. Individual Supplier's Fuel Mix

Following the description in Section 4 of average fuel mix and CO₂ emissions across the island, this section sets out the fuel mix and CO₂ emissions for each individual electricity supply company to meet demand in Ireland. These are divided into three groups:

1. Supply companies which made a declaration⁷ of the data needed for the calculation of fuel mix;
2. Supply companies which did not make a declaration by March 2021 for the 2020 fuel mix disclosure period;
3. Self-suppliers who chose to make declarations for the purposes of fuel mix disclosure.

Two self-suppliers⁸ made declarations for the purposes of fuel mix disclosure. Their fuel mix has been included at the end of the table. However, it should be noted that the purpose of this paper is to provide information to customers on the fuel mix of their electricity supply. Therefore, only suppliers serving customers are required to disclose their assigned fuel mix. Submissions received from self-suppliers have been accepted and included in this report due to the low volumes of such submissions received for the 2020 disclosure period. 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.

The fuel mix calculation is carried out on an individual supplier licence basis. Where a supplier operates as a single company but holds separate licences (such as a supplier that operates in Ireland and Northern Ireland) any excess generation attributes from one licence can be allocated to the other licence. This paper is only displaying the Fuel Mix Disclosures for suppliers licenced in Ireland.⁹



⁷ Declarations were required to be submitted to SEMO by March 2020 for the 2019 disclosure period.

⁸ A self-supplier is a supplier which supplies electricity only to its own site which does not compete to supply energy to any third party and which does not use Market Messages to support their operations.

⁹ The Fuel Mix Disclosure information for suppliers operating in Northern Ireland is published separately and can be found in the Utility Regulator's report "*All Island Fuel Mix and CO₂ Emissions 2019*".

Suppliers making declarations	Coal	Gas	Peat	Renewable	Other	Total	gCO ₂ /kWh
 All-Island Fuel Mix	3.0%	35.8%	2.1%	57.9%	1.2%	100%	236
 Bord Gáis Energy	0.4%	63.8%	0.5%	34.6%	0.7%	100%	328
 electric Ireland	0.5%	34.3%	0.6%	63.7%	0.9%	100%	179
 enÉrgia <small>Switched on</small>	0.0%	0.0%	0.0%	100.0%	0.0%	100%	0
 just energy See Footnote ¹⁰	0.0%	0.0%	0.0%	100.0%	0.0%	100%	0
 GO POWER	0.0%	0.0%	0.0%	100.0%	0.0%	100%	0
 Panda POWER <small>GREEN IS NOW</small>	0.0%	0.0%	0.0%	100.0%	0.0%	100%	0
 sse Airtricity	0.0%	0.0%	0.0%	100.0%	0.0%	100%	0
 Naturgy	0.0%	0.0%	0.0%	100.0%	0.0%	100%	0
 PINERGY <small>ELECTRICITY YOU CONTROL</small>	0.0%	0.0%	0.0%	100.0%	0.0%	100%	0
 IBERDROLA	0.0%	0.0%	0.0%	100.0%	0.0%	100%	0
 FLO GAS	0.0%	0.0%	0.0%	100.0%	0.0%	100%	0
 GLOW POWER	4.2%	45.3%	5.3%	37.7%	7.5%	100%	406
ElectroRoute	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0
Arden Energy	0.0%	0.0%	0.0%	100.0%	0.0%	100%	0
Ever Energy (Bright)	0.0%	0.0%	0.0%	100.0%	0.0%	100%	0
BRI Green Energy Supply	0.0%	0.0%	0.0%	100.0%	0.0%	100%	0

¹⁰ Just Energy exited the market in 2020 and no longer supply energy in Ireland.

Suppliers not making declarations	Coal	Gas	Peat	Renewable	Other	Total	gCO ₂ /kWh
 See footnote ¹¹	6.8%	47.7%	4.6%	31.7%	9.2%	100%	407
	6.8%	47.7%	4.6%	31.7%	9.2%	100%	407

Self-Supplier	Coal	Gas	Peat	Renewable	Other	Total	gCO ₂ /kWh
Killowen Biogas	0.0%	0.0%	0.0%	100.0%	0.0%	100%	0

¹¹ Flogas acquired Budget Energy, including BE Energy, in May 2021. The transfer of BE Energy customers' accounts to Flogas commenced 4 December 2020.

7. Disclosure of Fuel Mix

A supplier's fuel mix information must be presented on bills in accordance with SEM-11-095 (see default presentation in Appendix 1). This must observe the following points:

- Where fuel mix information is presented on the back of a consumer bill, reference must be made to it on the front of the bill;
- Radioactive waste information is required by Directive 2009/72/EC and S.I. No. 60 of 2005. This figure is 0.000 g/kWh for all suppliers in 2020 and therefore need not be included with the 2020 fuel mix disclosure information on bills (See Appendix 1);
- To ensure consistency across suppliers, percentages should be rounded to one decimal place;
- CO₂ information should be given in the units of grams of CO₂ per kWh (g/kWh);
- In addition to the fuel mix disclosure requirements, section 3.5.3 of the CRU's decision paper on the Regulation of Green Source Products in the Electricity Retail Market, [CER/15/205](#), governs the display of fuel mix information for suppliers who offer green source products.

In relation to advertising and promotion of products, suppliers should also follow the *Code of Practice on Marketing and Advertising* from the Supplier Handbook and General Clarifications as may be published from time to time by the CRU, including the following:

- [CRU/20083](#) – General Clarification on the Advertisement of Green Products;
- [CRU/19071](#) - General Clarification on the Code of Practice on Marketing and Advertising; and
- SEMO's internal business process for Interim Green Source Product Verification¹².

The 2020 fuel mix information must be presented on all customer bills within two months of the publication of this paper.

¹² For information refer to Interim Process on SEMO's GSPV webpage: <https://www.semo.com/markets/green-source-product-veri/>

Appendix 1: Presentation of Information on Bills

Default Presentation¹³ of Information: For the purpose of illustration, the supply company is given the name “SUPPLIER Z”

SUPPLIER Z Fuel Mix Disclosure		
Applicable Period: January 2020 to December 2020		
Electricity supplied has been sourced from the following fuels:	% of total	
	Electricity Supplied by SUPPLIER Z	Average for All-Island Market (for comparison)
Renewable	X %	X %
Natural Gas	X %	X %
Peat	X %	X %
Coal	X %	X %
Oil ¹⁴	X %	X %
Nuclear ¹⁵	X %	X %
EU Fossil ¹⁶	X %	X %
Other	X %	X %
Total	100 %	100 %
Environmental Impact		
CO ₂ Emissions	X g/kWh	X g/kWh
Your specific fuel mix may differ to the fuel mix shown because SUPPLIER Z offers green source products. 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 XXXXX ¹⁷		

¹³ Please refer to SEM-11-095 for further detail on presentation requirements. Note that the fuel categories used can vary from year to year. In the disclosure period 2019, the contribution of Oil, Non-Biodegradable Waste, Nuclear and EU Fossil to the All-Island Mix are each below 1%, so they are collectively accounted for in the category labelled as “Other”.

¹⁴ See footnote 14

¹⁵ See footnote 14

¹⁶ See footnote 14

¹⁷ Please see section 3.5.3 from the CRU’s decision paper on the *Regulation of Green Source Products in the Electricity Retail Market*, [CER/15/205](#), as applies to suppliers who offer green source electricity products.

Appendix 2: All-Island Fuel Mix 2005 - 2020

Fuel Mix 2005-2020 (Percentage share of total)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Coal %	24.00	19.00	18.00	17.00	14.24	15.98	14.44	19.89	18.42	15.71	16.02	13.76	9.83	6.77	2.63	2.98
EU Fossil %	0.00	0.00	0.00	0.00	0.00	0.00	3.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gas %	46.00	50.00	55.00	61.00	61.85	64.06	56.16	47.74	44.09	41.6	36.36	39.66	39.9	38.51	37.86	35.75
Oil %	12.00	9.00	6.00	4.00	2.53	1.59	0.00	0.00	0.00	1.06	0.00	0.00	0.00	0.00	0.00	0.00
Renewables %	9.00	11.00	11.00	11.00	14.23	12.11	17.21	23.74	30.24	34.46	41.06	40.09	44.47	48.95	54.04	57.86
Peat %	8.00	7.00	6.00	7.00	6.70	5.78	5.88	6.86	6.49	6.95	5.90	5.35	4.86	4.63	4.25	2.07
Other %	1.00	4.00	4.00	1.00	0.45	0.48	3.18	1.77	0.75	0.17	0.65	1.14	0.88	1.15	1.22	1.34

Note:

- Figures from 2005 to 2007 relate to Ireland-only and calculations are based on a pre-SEM methodology.
- Figures for 2008, 2009 and 2010 relate to ROI and NI and are based on the Interim Arrangements Methodology ([SEM-09-081](#)) referenced in the Related Documents section of this paper.
- Figures for 2011 onwards relate to ROI and NI and are based on the SEM Committee's decision paper: *Fuel Mix Disclosure in the Single Electricity Market: Calculation Methodology* Decision Paper (SEM-11-095) referenced in the Related Documents section of this paper.

The "Other" category consists of: Oil (for those years which it is below the 1% threshold); the Non-Biodegradable Fraction of Waste (NBDFW) and EU Fossil (only for 2011).

Appendix 3: GOs Imported/Exported

Note: Each GO unit corresponds to one MWh of electricity generated from a renewable source.

GO imports to Ireland by country of origin (2017-2020)

	2017	2018	2019	2020
UK	7,209,276	6,499,980	4,590,300	3,059,134
Norway	300,681	2,702,943	1,802,970	12,703,498
Italy	109,778	15,000	1,637,040	0
Spain	200,000	-	907,181	0
Belgium				203,912
Greece				200,000
Other¹⁸	454,688	307,001	1,533,201	226,651
TOTAL IMPORTS	8,274,423	9,524,924	10,470,692	16,393,195

GO exports from Ireland by country of destination (2017-2020)

	2017	2018	2019	2020
Norway	493,606	612,401	349,018	1,303,951
Belgium	-	9,140	-	3,912
Netherlands	-	13,115	-	47,123
TOTAL EXPORTS	493,606	634,656	349,018	1,354,986

¹⁸ Sum of imported GOs where import from a country is less than 200,000