

Fuel Mix Disclosure & CO₂ Emissions 2017

September 2018



About the Utility Regulator

The Utility Regulator is the independent non-ministerial government department responsible for regulating Northern Ireland's electricity, gas, water and sewerage industries, to promote the short and long-term interests of consumers.

We are not a policy-making department of government, but we make sure that the energy and water utility industries in Northern Ireland are regulated and developed within ministerial policy as set out in our statutory duties.

We are governed by a Board of Directors and are accountable to the Northern Ireland Assembly through financial and annual reporting obligations.

We are based at Queens House in the centre of Belfast. The Chief Executive leads a management team of directors representing each of the key functional areas in the organisation: Corporate Affairs; Electricity; Gas; Retail and Social; and Water. The staff team includes economists, engineers, accountants, utility specialists, legal advisors and administration professionals.

Our Mission

Value and sustainability in energy and water.

Our Vision

We will make a difference for consumers by listening, innovating and leading.

Our Values

Be a best practice regulator: transparent, consistent, proportional, accountable, and targeted.

Be a united team.

Be collaborative and co-operative.

Be professional.

Listen and explain.

Make a difference.

Act with integrity.

Abstract

The purpose of this paper is to set out the 2017 calendar year fuel-mix and CO₂ emissions figures for Northern Ireland suppliers operating in the SEM. The disclosures are based on 2017 calendar year data and must be published on bills no later than two months from the publication of this paper.

Audience

Electricity Suppliers, Generators & Consumers

Consumer impact

The Utility Regulator is required under legislation to ensure that all suppliers provide (on bills and promotional materials) reliable information regarding the contribution of each energy source to their overall fuel mix and related environmental impact information over the preceding year. The information in this report is used by suppliers to provide information on their websites and on customer bills regarding this fuel mix and environmental impact.

Executive Summary

Under Article 3(9) of the Electricity Directive (2009/72/EC), the Utility Regulator is required to ensure that all suppliers provide reliable information on bills and promotional materials sent to customers regarding the contribution of each energy source to the overall fuel mix of the supplier concerned and the associated environmental impacts in the preceding year.

This document sets out the 2017 fuel mixes and CO₂ emissions factors for suppliers licensed in Northern Ireland and operating in the Single Electricity Market (SEM). The figures are calculated in accordance with SEM-11-095 Fuel Mix Disclosure in the Single Electricity Market: Calculation Methodology Decision Paper. The disclosures are based on the 2017 calendar year data and must be published on bills no later than two months from publication of this paper. Suppliers must make a submission to SEMO; any supplier who chooses not to make a declaration will be allocated the residual mix.

[FMD Decision Paper](#)

Related Documents:

- The SEM All-Island Fuel Mix Disclosure for previous periods can be found [here](#).
- [SEM-09-081](#) Interim Arrangements: Fuel Mix Disclosure in the SEM. Decision paper on the methodology and principals for the calculation of fuel mix disclosure in the SEM.
- [SEM-11-095](#) Fuel Mix Disclosure in the Single Electricity Market: Calculation Methodology Decision Paper

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1 Background and Introduction

The purpose of this paper is to set out the updated fuel mix and CO₂ emissions figures for suppliers licensed in Northern Ireland and operating in the SEM. The fuel mix and CO₂ emissions data is taken from data provided to the Utility Regulator (UR) by SEMO. The disclosures are based on the 2017 calendar year data and must be published on bills no later than two months from the publication of this paper.

2 Fuel Mix & CO₂ Emissions Disclosure 2017

There are two parts to this paper:

1. Section 2.2 sets out the All Island Fuel Mix and All Island Average CO₂ Emissions. The All-Island Fuel Mix is also presented yearly for comparison.
2. Section 2.3 sets out the Suppliers' Fuel Mix and CO₂ Emissions

All the figures in the report are derived from the methodology described in SEM-11-095.

2.1 Presentation of Information

The fuel mix information should be presented on bills in accordance with SEM/11/095 and a template for this purpose is reproduced in the Appendix 1 to this paper. In particular the UR would like to remind suppliers of the following:

- While radioactive waste information is required by the Directive, this figure is 0.000 t/MWh for all suppliers in 2017 and therefore need not be included with the 2017 fuel mix disclosure information on bills.
- To ensure consistency across suppliers, percentages should be rounded to one decimal place.
- CO₂ information should be given in the units tonnes of CO₂ per MWh (t/MWh).
- Where separate products associated with a particular fuel mix are offered to certain customers, all the supplier's customers should receive information (on request) regarding the fuel mix associated with their

electricity (not simply the supplier's average fuel mix) in accordance with SEM-11-095.

- The 2017 fuel mix information must be on all bills within two months of the publication of this paper.

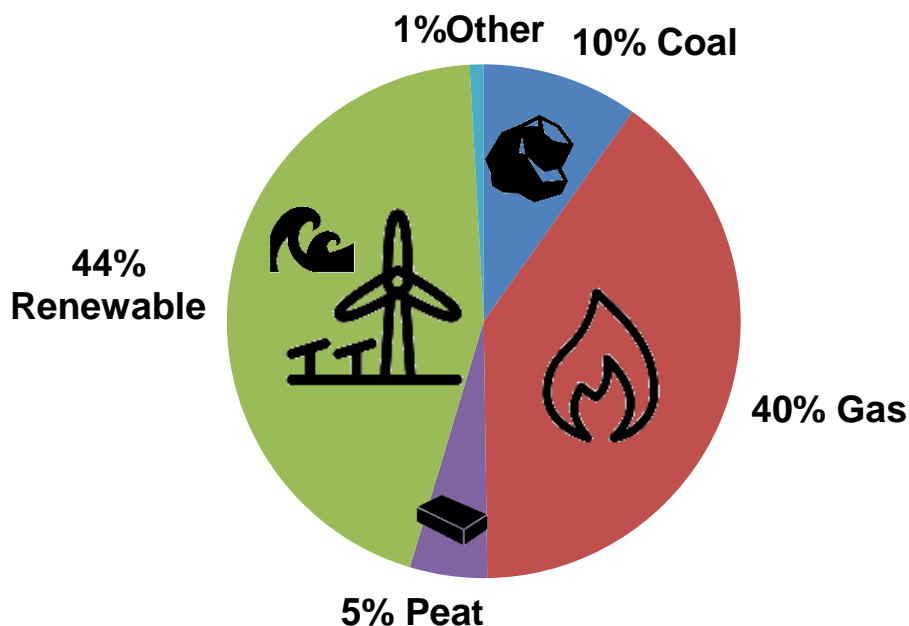
2.2 All-Island Fuel Mix 2017 and CO₂ Emissions











When considering the fuel mix and emissions in this paper, it is important to note that:

1. The Guarantee of Origin scheme permits transfer of Renewable Energy Guarantee of Origin certificate (REGOs) between EU Member States which, depending on the quantity of REGOs imported or exported from the island of Ireland in a given period, has the potential to vary significantly from the actual renewable generation produced within the jurisdiction.
2. In the event that there is a deficit of generation attributes to meet overall all-Island demand, the European Residual will be used to meet the deficit. This to a lesser extent has the ability to lead to a fuel mix that differs from actual metered generation.

All-Island Fuel Mix

Figure 1 sets out the all-island fuel mix for 2017



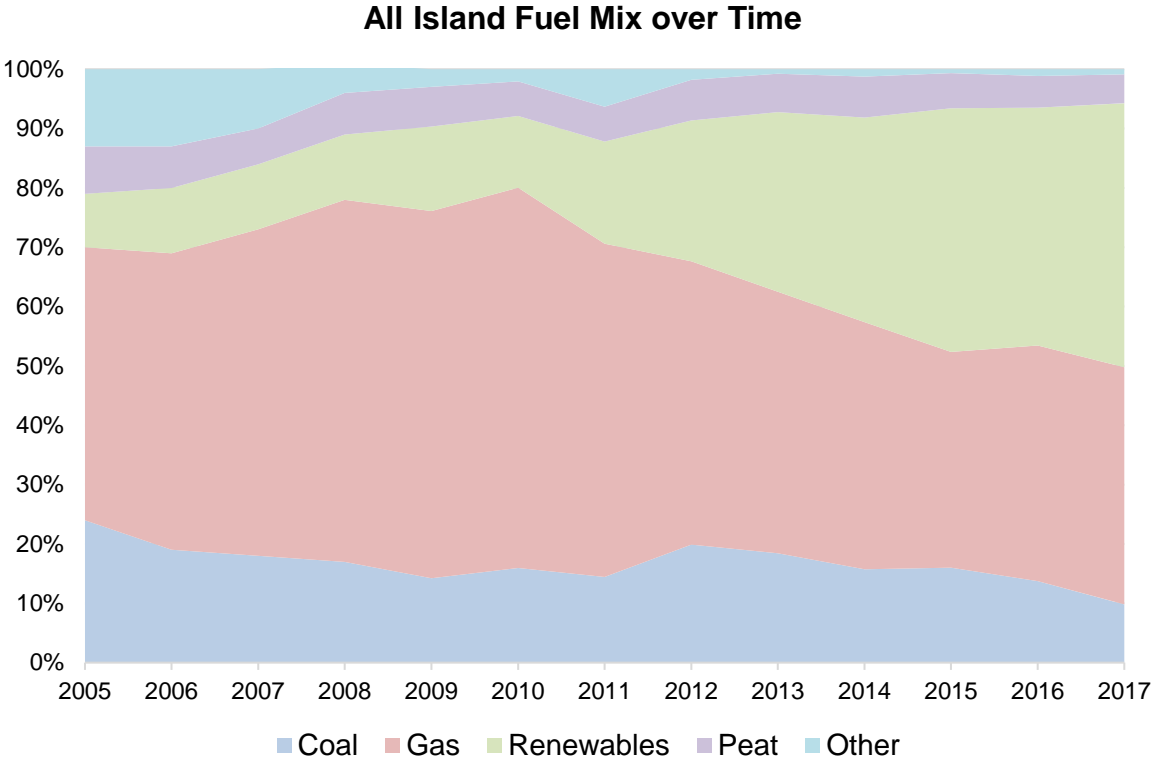
Physical Sources				
Coal	Gas	Peat	Renewable	Other
 	 	 	 	 
9.83%	39.96%	4.86%	44.47%	0.88%
% Change from 2016				
-28.60%	+0.75%	-9.11%	+10.94%	-22.85%

2.2.

There are a number of contributing factors to the increase in renewable contribution.

The amount of REGO certificates used by suppliers for their fuel mix figures increased from 2016 to 2017. Secondly, there was an increase in installed capacity of wind.

The use of fossil fuels as a fuel source has decreased from 2016 to 2017. Correspondingly the share of renewable fuel sources has increased by approximately 11% between 2016 and 2017. This has been a continuous trend over the past number of years (as outlined in the graph below).



Fuel-Mix 2009-2016									
	2009	2010	2011	2012	2013	2014	2015	2016	2017
Coal	14.24%	15.98%	14.44%	19.89%	18.42%	15.71%	16.02%	13.76%	9.83%
EU Fossil	0.00%	0.00%	3.12%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Gas	61.85%	64.06%	56.16%	47.74%	44.09%	41.66%	36.36%	39.66%	39.96%
Oil	2.53%	1.59%	0.00%	0.00%	0.00%	1.06%	0.00%	0.00%	0.00%
Renewables	14.23%	12.11%	17.21%	23.74%	30.24%	34.46%	41.06%	40.09%	44.47%
Peat	6.70%	5.78%	5.88%	6.86%	6.49%	6.95%	5.90%	5.35%	4.86%
Other	0.45%	0.48%	3.18%	1.77%	0.75%	0.17%	0.65%	1.14%	0.88%

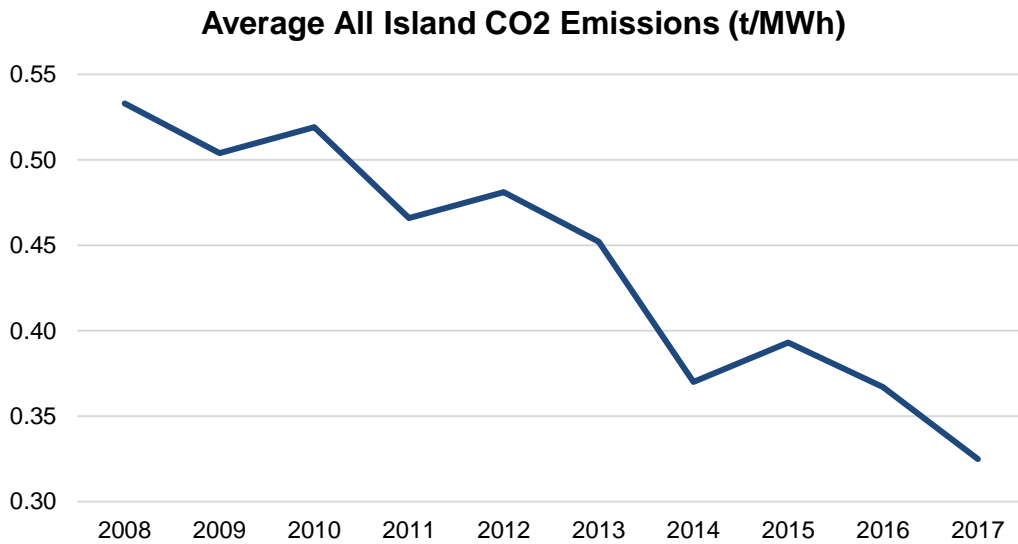
Note:

- Figures for 2009 and 2010 are based on the Interim Arrangements methodology referenced in this paper.
- Figures for 2011 onwards are based on the SEM Committee Decision Paper Fuel Mix Disclosure in the Single Electricity Market: Calculation Methodology Decision Paper (SEM-11-095) referenced in this paper.
- The “Other” category consists of all fuels which normally represent less than 1% of the final overall generation in the calculation.

CO₂ Emissions

The average carbon dioxide emissions per MWh of electricity decreased by 13% from 0.367 t/MWh in 2016 to 0.325 t/MWh in 2017 for the island.

Emissions figures are supplied by DAERA and the EPA annually to the SEMO for each conventional generator in the SEM for this calculation. These 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 to calculate the All Island and each supplier's emissions factor.



2.3 Suppliers' Fuel Mix by Fuel Type in 2017

Supplier Fuel Mix by type 2017						
Supplier	Coal	Gas	Peat	Oil	Renewable	Other
All-Island	9.8	40.0	4.9	0.9	44.5	0.0
Budget Energy	20.4	30.8	10.1	1.2	36.9	0.6
Click Energy	22.6	34.1	11.2	1.4	30.1	0.6
Electric Ireland	0.0	73.7	0.0	0.0	26.3	0.0
Electric Ireland(All-Island)	7.7	55.9	3.8	0.5	31.9	0.2
Energia	0.0	91.0	0.0	0.0	9.0	0.0
Energia (All-Island)	0.0	14.8	0.0	0.0	85.2	0.0
Go Power	22.7	34.3	11.2	1.4	29.8	0.6
Power NI	2.5	81.4	1.3	0.2	14.6	0.0
SSE Airtricity	0.0	63.9	0.0	0.0	36.1	0.0
Vayu	0.0	0.0	0.0	0.0	100.0	0.0
Vayu (All-Island)	0.0	0.0	0.0	0.0	100.0	0.0

Note: The fuel mix calculation is carried out on an individual licence basis. When calculating the fuel mix, where a supplier operates as a single company but holds separate licences (such as a supplier that operates in both jurisdictions) those licences that have excess generation attributes are distributed among the licences with excess demand within the single company prior to using the Residual Mix.

Suppliers in Northern Ireland who did not make declarations for the purposes of fuel mix disclosure are assigned the All Island Residual Mix.

All-Island Residual Mix	
Coal	24.8%
Gas	37.4%
Oil	1.5%
Peat	12.3%
Renewable	23.3%
Other	0.7%

2.4 Suppliers' CO₂ Emissions for 2017

Supplier	tCO ₂ /MWh
All-island	0.325
Budget Energy (Northern Ireland)	0.449
Electric Ireland (Northern Ireland)	0.318
Electric Ireland (All-Island)	0.365
Energia (Northern Ireland)	0.393
Energia (All-Island)	0.064
Go Power (Northern Ireland)	0.500
Power NI (Northern Ireland)	0.390
SSE Airtricity (Northern Ireland)	0.276
Vayu (Northern Ireland)	0.000
Vayu (All-Island)	0.000
Suppliers who did not submit a declaration	0.526

**Appendix: Bill Layout
Default Presentation of Information¹**

Supplier Z Disclosure Label		
Applicable Period: January 2017 to December 2017		
Electricity supplied has been sourced from the following fuels:	% of total	
	Electricity Supplied by Supplier Z	Average for All Island Market (for comparison)
Coal	X %	X %
Natural Gas	X %	X %
Nuclear	X %	X %
Renewable	X %	X %
Peat	X %	X %
Oil	X %	X %
EU Fossil	X %	X %
Other	X %	X %
Total	100 %	100 %
Environmental Impact		
CO ₂ Emissions	X t/MWh	X t/MWh
<p>For more information on the environmental impact of your electricity supply visit www.SupplierZ.co.uk or call 00XXX X XXX XXXX</p>		

¹ Please refer to SEM-11-095 for further detail on presentation requirements. Note that the fuel categories used each year can vary.