

Single Electricity Market

2011 All-Island Fuel Mix Disclosure

Information Note

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Table of contents

1	Introduction	3
1.1	Purpose	3
1.2	Background Information	3
2	Fuel-Mix and CO ₂ Emissions Disclosure 2011	4
2.1	Presentation of Information	4
2.2	All-Island Fuel-Mix 2011.....	5
2.3	Suppliers' Fuel-Mix by Fuel Type in 2011	9
2.4	Suppliers' CO ₂ Emissions for 2011	10
	Appendix: Bill Layout.....	12

1 Introduction

1.1 Purpose

The purpose of this paper is to set out the 2011 calendar year fuel-mix and CO₂ emissions figures for suppliers operating in the SEM. The disclosures are based on 2011 calendar year data.

1.2 Background Information

The fuel-mix of suppliers in the SEM is currently calculated as required by Article 3(9) of Directive 2009/72/EC. In addition, the provision of information regarding the environmental impact of electricity produced from that fuel-mix is also required.

The methodology used to calculate the fuel-mix disclosure figures for 2008, 2009 and 2010 can be found in the SEM Committee¹ Decision Paper *Interim Arrangements: Fuel-Mix Disclosure in the SEM* ([SEM-09-081](#)).

This has now been superseded in 2011 by the following methodology and can be found in the SEM Committee Decision Paper *Fuel-Mix Disclosure in the Single Electricity Market: Calculation Methodology Decision Paper* ([SEM-11-095](#)).

¹ The SEM Committee is a Committee of the CER, the UR and an independent member which, on behalf of the Regulatory Authorities, takes decisions on SEM matters.

2 Fuel-Mix and CO₂ Emissions Disclosure 2011

In section 2.3 below each supplier's fuel-mix figures are listed by fuel type for 2011. These figures derive from the methodology described in SEM-11-095. The all-island fuel-mix is also indicated for comparison. In section 2.4, the tonnes of CO₂ per MWh of electricity supplied are given for each supplier as well as an overall figure representative of the all-island electricity market.

2.1 Presentation of Information

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

- Where fuel-mix information is on the back of bills reference must be made to it on the front of the bill.
- While radioactive waste information is required by the Directive this figure is 0.000t/MWh for all suppliers in 2011 and therefore need not be included with the 2011 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.

2.2 All-Island Fuel-Mix 2011

As can be seen from the graphs below, based on the methodology set out in SEM/11/095 in 2011 gas made the largest contribution to the island's electricity supply at 56% (down from 64% in 2010) while renewable energy made up 17% of the total **[Figure 1]**.

Relative to 2010, renewables contributed more to the fuel mix in 2011 **[Figure 2]**. There was an increase in both wind and hydro-power generation. The wind capacity factor for 2010 was low relative to preceding years and rainfall fell below ten year averages also². 2011 saw a return to the expected range for both rainfall and wind capacity factor³. This combined with an increase in wind's installed capacity saw an increase from 12% in 2010 to 17% in 2011⁴.

Coal and oil's share of the fuel mix has declined in 2011 consistent with previous years while peat has stabilized. Gas has decreased in 2011 predominately due to the renewables increase **[Figure 2]**.

The Other contribution to the fuel mix has increased in 2011 **[Figure 2]**. This is due to (1) the transfer of generation attributes within Europe as outlined in the SEM Committee Decision Paper, [SEM-11-095](#) and (2) oil has reduced below the threshold for the 'other' category and so is included.

Note that the threshold for 'other' has been increased from 1% for the 2011 fuel mix (SEM Committee Decision Paper [SEM-11-095](#)) to 2.5% in the context of the introduction of the new methodology for the calculation of the fuel mix.

EU Fossil⁵ is included on the 2011 fuel-mix information for the first time due to the transfer of generation attributes within Europe and its inclusion as a category in the RE-DISS project methodology.

The average carbon dioxide emissions per MWh of electricity fell approximately 10% (0.053t/MWh) in 2011 for the island **[Table 1]**. This was mainly a result of the increase in renewable generation and the subsequent relative reduced share of coal and gas in the final mix.

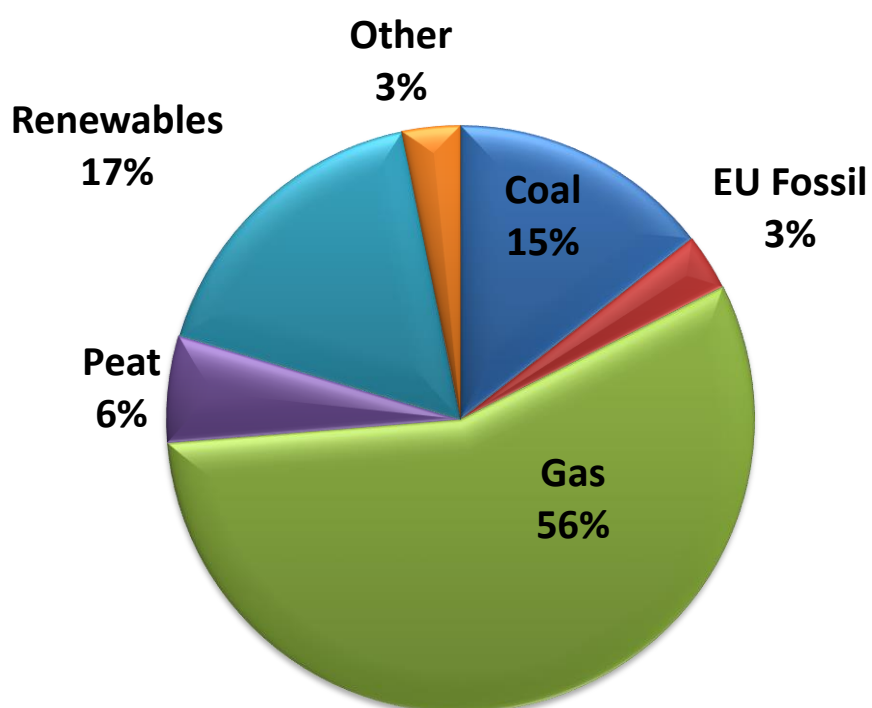
² http://www.met.ie/climate/monthly_summaries/year10sum.pdf and <http://www.metoffice.gov.uk/climate/uk/2010/annual.html>

³ <http://www.met.ie/climate/MonthlyWeather/clim-2011-ann.pdf> and <http://www.metoffice.gov.uk/climate/uk/2011/annual.html>

⁴ The methodology outlined in the SEM Committee Decision Paper (SEM-11-095) allows for transfer of GOs within Europe and can potentially alter the renewable contribution for Ireland when compared to actual generation figures.

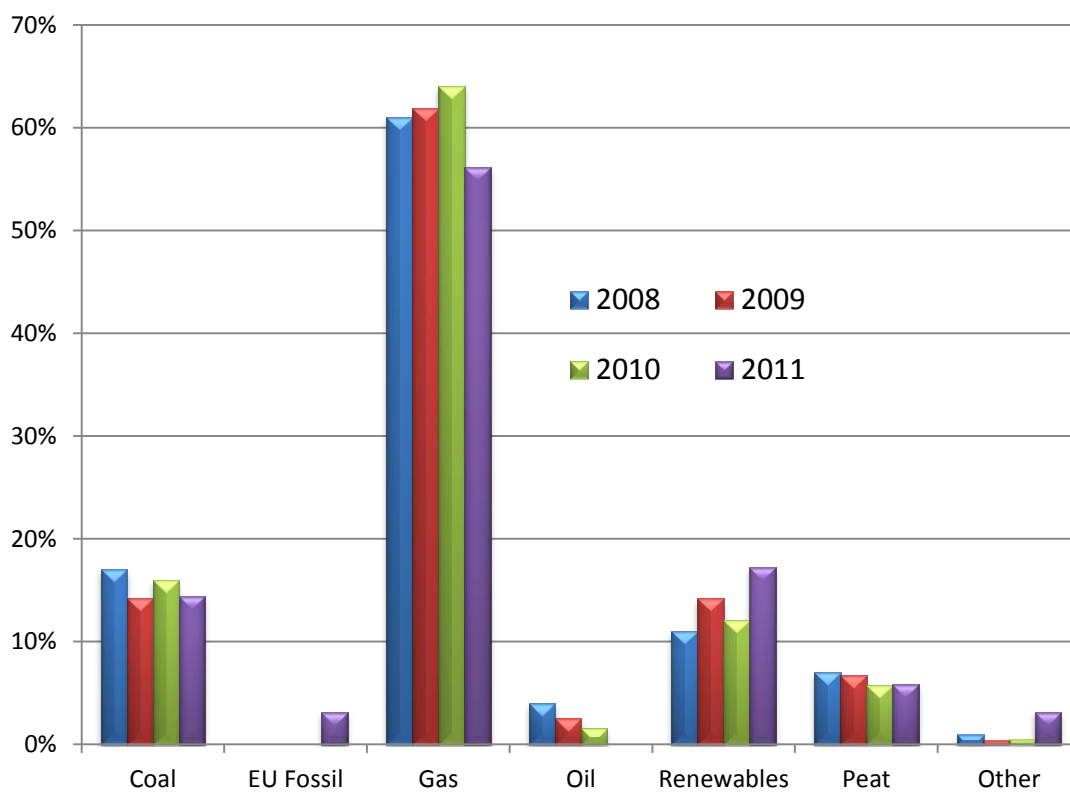
⁵ <http://www.reliable-disclosure.org/> Note: 'EU residual mix' for 2011 has been calculated from the RE-DISS project methodology, of which 'EU fossil' is a fuel category

Figure 1 **All-Island Fuel-Mix 2011**



Renewables = 14.5% wind, 2.0% hydro, 0.3% biomass, 0.4% landfill gas and >0% photovoltaic

Figure 2 Fuel-Mix Comparison 2008-2011



	2008	2009	2010	2011
Coal	17%	14%	16%	14%
EU Fossil	0%	0%	0%	3%
Gas	61%	62%	64%	56%
Oil	4%	3%	2%	--*
Renewables	11%	14%	12%	17%
Peat	7%	7%	6%	6%
Other	1%	0%	0%	3%

Numbers may not sum to 100% due to rounding.

Figures for 2008, 2009 and 2010 relate to Ireland and Northern Ireland and are based on the Interim Arrangements methodology referenced in this paper.

Figures for 2011 relate to Ireland and Northern Ireland and 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 oil contribution is included in the 'other' section, given it is below the 2.5% threshold applied for 2011.

Table 1		Average CO₂ Emissions (t/MWh)	
2008		0.533	
2009		0.504	
2010		0.519	
2011		0.466	

2.3 Suppliers' Fuel-Mix by Fuel Type in 2011⁶

Supplier	Coal	EU Fossil	Gas	Peat	Renewable	Other
All-island	14.4%	3.1%	56.2%	5.9%	17.2%	3.2%
Airtricity (Ireland)	17.6%	3.8%	19.4%	7.2%	48.2%	3.9%
Airtricity (N. Ireland)	27.9%	6.0%	30.7%	11.4%	17.9%	6.1%
Airtricity (All-Island)	20.2%	4.4%	22.3%	8.2%	40.4%	4.5%
Bord Gais (Ireland)	10.0%	2.2%	66.6%	4.1%	15.1%	2.2%
Bord Gais (N. Ireland)	32.9%	7.1%	36.3%	13.4%	3.1%	7.2%
Bord Gais (All-Island)	10.2%	2.2%	66.2%	4.2%	14.9%	2.3%
Energia (Ireland)	1.5%	0.3%	82.7%	0.6%	14.5%	0.3%
Energia (N. Ireland)	25.0%	5.4%	27.6%	10.2%	26.4%	5.5%
Energia (All-Island)	6.7%	1.5%	70.4%	2.7%	17.2%	1.5%
Electric Ireland (Ireland)	17.4%	3.8%	54.8%	7.1%	13.1%	3.8%
Electric Ireland (N. Ireland)	0.0%	0.0%	93.2%	0.0%	6.8%	0.0%
Electric Ireland⁷ (All-Island)	15.4%	3.3%	59.2%	6.3%	12.4%	3.4%
Power NI (N. Ireland)	14.7%	3.2%	71.3%	6.0%	1.6%	3.2%
Vayu (Ireland)	26.8%	5.8%	33.3%	10.9%	17.3%	5.9%

⁶ Where suppliers operate on an all-island basis their combined Irish and Northern Irish fuel-mix is listed along with the fuel-mixes associated with their Irish and Northern Irish electricity supply licences.

⁷ Electric Ireland is the rebranded entity of ESB Customer Supply, ESB Independent Energy (Ireland) and ESB Independent Energy (Northern Ireland) following deregulation

2.4 Suppliers' CO₂ Emissions for 2011

Suppliers	tCO ₂ /MWh
All Island Average	0.466
Airtricity (All-island)	0.412
Airtricity (Northern Ireland)	0.568
Airtricity (Ireland)	0.358
Bord Gáis Energy (All-island)	0.443
Firmus Energy (Northern Ireland)	0.67
Bord Gáis Energy (Ireland)	0.441
Electric Ireland (All-island)	0.494
Electric Ireland (Northern Ireland)	0.398
Electric Ireland (Ireland)	0.506
Power NI	0.535
Vayu	0.561
Energia (All-island)	0.406
Energia (Northern Ireland)	0.509
Energia (Ireland)	0.377

Appendix: Bill Layout

Default Presentation of Information⁸

Supplier Z Disclosure Label		
Applicable Period: January 2011 to December 2011		
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 %
Other	X %	X %
Total	100 %	100 %
Environmental Impact		
CO2 Emissions	X t/MWh	X t/MWh
For more information on the environmental impact of your electricity supply visit www.SupplierZ.ie or call 00XXX X XXX XXXX		

⁸ Please refer to SEM-09-081 for further detail on presentation requirements. Note that the fuel categories used each year can vary.