SUSTAINABLE ENERGY IRELAND

Energy Policy Statistical Support Unit

Understanding Electricity & Gas Prices in Ireland

1ST SEMESTER (JANUARY – JUNE) 2008

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Report prepared by
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Sustainable Energy Ireland

Sustainable Energy Ireland was established as Ireland's national energy agency under the Sustainable Energy Act 2002. SEI's mission is to promote and assist the development of sustainable energy. This encompasses environmentally and economically sustainable production, supply and use of energy, in support of Government policy, across all sectors of the economy including public bodies, the business sector, local communities and individual consumers. Its remit relates mainly to improving energy efficiency, advancing the development and competitive deployment of renewable sources of energy and combined heat and power, and reducing the environmental impact of energy production and use, particularly in respect of greenhouse gas emissions.

SEI is charged with implementing significant aspects of government policy on sustainable energy and the climate change abatement, including:

- Assisting deployment of superior energy technologies in each sector as required;
- Raising awareness and providing information, advice and publicity on best practice;
- Stimulating research, development and demonstration;
- Stimulating preparation of necessary standards and codes;
- Publishing statistics and projections on sustainable energy and achievement of targets.

It is funded by the Government through the National Development Plan with programmes part financed by the European Union.

Energy Policy Statistical Support Unit (EPSSU)

SEI has a lead role in developing and maintaining comprehensive national and sectoral statistics for energy production, transformation and end use. This data is a vital input to meeting international reporting obligations, for advising policy makers and informing investment decisions. Based in Cork, EPSSU is SEI's specialist statistics team. Its core functions are to:

- Collect, process and publish energy statistics to support policy analysis and development in line with national needs and international obligations;
- Conduct statistical and economic analyses of energy services sectors and sustainable energy options;
- Contribute to the development and promulgation of appropriate sustainability indicators.

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Highlights

This report analyses data published by Eurostat collected under the new methodology for the *EU Gas and Electricity Price Transparency Directive* that came into effect on January 1st 2008. The focus of the report is on the second cycle of electricity and gas price data gathered under this improved methodology and is thus limited to the period January – June 2008, i.e. the first semester 2008.

- In 2007 energy use increased by 1.4% and energy-related CO_2 emissions increased by 0.8% while economic growth remained strong at 6%. If international aviation is excluded, the overall emissions increase was 0.5%.
- During the 1st semester 2008, European Brent nominal crude oil spot prices increased by 39% to €140 a barrel at the end of June and subsequently hit a high of €144 in early July. This was due to a number of factors, primarily the strong growth in global oil demand and the limited growth in supply. Crude oil prices had fallen to around $43 - $44 per barrel in early 2009.

Highlights - Business Customers

- Electricity prices in Ireland for business (industry and services) customers with an annual consumption < 20 MWh were 1% below average for EU countries during the first half of 2008. Ireland was between 18% and 52% above the average for customers with an annual consumption > 20 MWh.
- For business customers whose annual electricity consumption was more than 500 MWh, Ireland was the most expensive country in the EU in the first half of 2008.
- Smaller electricity customers (< 20 MWh per annum) experienced a price decrease of 4.3% between the last semester of 2007 and the first semester 2008 while customers with higher consumption experienced prices increases of between 0.4% and 10.6%.
- Gas prices for business customers in Ireland during the first half of 2008 were above the average for EU countries for those with an annual consumption less than 100,000 GJ, ranging from 6% to 18% above depending on level of consumption. For customers who use more than 100,000 GJ per annum, Ireland was 3% below the average.
- Sweden and Germany have higher gas prices than Ireland across all business customer consumption bands. For certain consumption bands, Italy, The Netherlands and Luxembourg also have higher prices.
- Smaller gas customers (< 1,000 GJ) experienced a price decrease of 1% between the last semester of 2007 and the first semester 2008 while customers consuming between 1,000 and 100,000 GJ per annum experienced price increases of between 0.5% and 16.5%.
- Ireland's position, compared with the EU average for gas prices to business customers, improved for customers using < 10,000 GJ and disimproved for customers using 10,000 – 1,000,000 GJ compared with the second semester in 2007.

Highlights - Residential Customers

- Using purchasing power parities, electricity prices for residential customers in Ireland were cheaper than the EU average for those using more than 2,500 kWh per annum.
- Prices for customers in the consumption bands most relevant to Ireland were between 4% and 10% below the EU average
- Ireland's position, compared with the EU average domestic electricity prices expressed in purchasing power parities, disimproved compared with the second semester in 2007.
- Using purchasing power parities to compare prices, Ireland is between 2% and 7% below the average for the Eurozone countries.
- Residential gas customers saw reductions in gas price of between 10% and 37% for households using less than 200 GJ per annum and a 0.7% reduction for higher consumers.
- Ireland's position, compared with the EU average for gas prices to householders, improved considerably for all consumers and moved below (0.4% to 6.5%) the EU average for those using less than 200 GJ per annum.

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1. Introduction

The fluctuations in energy prices over the past number of years are a key concern to all energy consumers in Ireland, as they impact on the rate of inflation and competitiveness. Understanding the key contributing factors and the precise impacts of energy price changes are key ingredients to developing appropriate, sensible and measured responses from businesses, householders and policy makers. Comparing energy prices in Ireland with those of other EU Member States and elsewhere is a particularly important aspect of any analysis of the impact of price changes. This report seeks to add to that analysis and thereby increase the understanding of energy price changes in Ireland.

This report draws on the results of a new EU methodology for gathering energy price data that came into effect on January 1st 2008. Significant changes have occurred recently in the international oil and gas market prices. However, the focus of the report is on the second cycle of electricity and gas price data gathered under this improved methodology and is thus limited to the period January – June 2008, i.e. the first semester 2008. This report does not take into account the collapse in global oil prices that took place after July 2008.

The report is structured as follows:

- Section 2 provides a context for the analysis, touching on global factors affecting energy prices, discussing some characteristics that particularly impact on prices in Ireland.
- Section 3 focuses on electricity and gas prices paid by industrial and services customers, informing the discussion on impacts of energy price changes for business in Ireland.
- Section 4 focuses on price changes for domestic customers, comparing prices for households in Ireland with those of other EU Member States.
- Appendix 1 shows the average electricity and natural gas prices in the various consumption bands in Ireland during the 1st semester 2008.

SEI acknowledges the co-operation of electricity and gas suppliers in providing the information necessary for Ireland to comply with the *European Commission Decision (2007/394/EC)* amending *Directive 90/377/EEC* with regard to the methodology to be applied for the collection of gas and electricity prices charged to industrial and household end-users and to allow this analysis to be carried out.

This is the second edition of this report focusing on energy prices. Feedback and comments on the report are welcome and should be addressed by post to the address on the rear cover or by e-mail to EPSSU@SEI.ie.

Readers may also be interested in previous statistical analysis related to energy prices carried out by SEI. The report *Energy in Ireland 1990 – 2007* tracks changes in aggregated energy prices from 2000. The report *Energy in Industry 2007* assesses how significant energy costs are as a proportion of the overall cost base for industrial enterprises, drawing on data from the CSO's *Census of Industrial Production*. Both reports are available from www.sei.ie/statistics.

2. Factors Affecting Electricity and Gas Prices in Ireland

There are a number of factors that influence energy prices in Ireland and how prices here compare with prices elsewhere. These factors include, but are not limited to, imported fuel prices, energy infrastructure investment costs, Ireland's electricity generating fuel mix and non-energy costs that affect energy prices (for example taxes levied, employment costs, raw material and shipping costs).

2.1 Global Energy Prices

The most significant factor affecting energy prices in Ireland is recent dramatic changes in global oil prices due to Ireland's high dependence on oil. In addition there is the knock-on impact oil prices have on other energy prices, in particular natural gas and as a consequence electricity prices.

According to Ireland's 2007[1] energy balance, oil accounts for 66% of Total Final Consumption (TFC)[2] in Ireland (almost 100% in transport TFC, 39% of residential TFC, 38% of industry TFC and 33% of services TFC) and 56% of Ireland's primary energy supply[3]. According to EU statistics[4], Ireland's oil dependence (as a proportion of primary energy supply) is higher than any other EU-15 Member State except Luxembourg (63% primary energy in 2006).

Figure 1 tracks the nominal crude oil prices[5] over the period 2004 – March 2009. Prices increased from $30 per barrel in 2004 to a peak of $144 per barrel on July 11th 2008. As shown in Figure 1, crude oil prices doubled between July 2007 and July 2008. During the 1st semester 2008, nominal crude oil prices increased by 39%. Since July 2008, there has been a sharp decline in the price of crude oil to a low of around $34/barrel in late December. Prices in January - February 2009 stabilised around $43 - $44/barrel

Figure 1 Crude Oil Price Trend 2004 – to March 17th 2009

Source: EIA[6]

1 The 2007 data is drawn from the energy balance as of October 15th 2008. For the latest energy balance see www.sei.ie/statistics
2 Total Final Consumption represents all energy that end users are billed for directly.
3 Primary Energy Supply is the TFC plus primary energy used in transformation (electricity generation, oil refining, peat briquetting, etc.)
4 European Commission Directorate General for Energy and Transport, 2008, *EU Energy and Transport in Figures. Statistical Pocketbook 2007/2008*. ISBN 978-92-79-07082-2
5 These prices are daily spot prices of Brent crude oil, which is sourced from the North Sea and are used as a benchmark to price European, African and Middle Eastern oil that is exported to the West.
6 The Energy Information Administration (EIA) is a statistical agency of the U.S. Department of Energy that publishes price energy data at www.eia.doe.gov/emeu/international/contents.html

Recent analysis undertaken by the International Energy Agency[7] suggests that the oil price rises up to July 2008 were due to a number of factors, primarily the strong growth in global oil demand and the limited growth in supply.

Demand growth was concentrated in developing countries (particularly China[8], India, the Middle East and Latin America) and had offset reduced demand in the largest global energy consumer, the United States[9] (this reduced demand being due to weak economic performance and high oil prices). The low growth on the supply side was due to a levelling off of non-OPEC crude oil since 2004 (the ongoing decline of mature fields and project delays and cost escalation in new production) and project slippage in new OPEC crude oil capacity. The IEA analysis also found no sign of abnormal stockbuilding, suggesting that the oil price increases were due to supply demand fundamentals rather than speculation.

The IEA pointed to the positive impact of growing biofuel production in Europe and the US since 2005 that had compensated for some of the shortfalls in oil supply. Given the relatively low spare oil capacity, oil prices would have been much higher, according to the IEA, without the contribution of biofuels.

In supplementary analysis[10] the IEA noted that, since July 2008, the global oil market had been turned upside down by the impact of earlier high prices, an economic slow-down and resultant plunge in crude oil prices, and by an evolving credit crisis. The analysis in this report relates to natural gas and electricity prices, which are both directly affected by oil price rises. The analysis and prices presented here, however, predates the global downturn and fall in oil prices that occurred during the second half of 2008. The impact on electricity prices depends on the proportion of oil and natural gas in the electricity generation fuel mix and is discussed further in Section 2.2 of this report.

The coupling of gas prices to oil prices is historically evident despite the existence of three distinctly separate (in terms of production, treatment and consumption) natural gas markets worldwide[11] compared with a single, global oil market. The major gas markets are in

- North America and the Caribbean
- Europe incl. Russia and Central Asia, and Africa (North and West)
- Asia and the Middle East

According to a report by Cambridge Energy Research Associates (CERA)[12], oil indexation provides the pricing mechanism within Europe, through long-term contracts that supply at least 70% of gas demand. It has been a continuing basis for pricing over the past 40 years and despite record high oil prices, the price of gas will continue to be coupled to oil for the foreseeable future, meaning higher gas prices. Effectively a stable, reliable and transparent alternative to an oil index has yet to emerge. A gas market with sufficient liquidity could provide an alternative index to oil in gas contracts. But while continental European hubs do exist, they have not developed to the point where they could become a viable alternative.

Within the EU-27, gas prices have risen along with oil prices according to data from the European Commission[13]. Prices rose for industrial users by an average of 35% between 2005 and 2006 and a further 12% in 2007. The total increase from 2005 to 2007 was comparable for household customers, although major price increases came into effect mainly in 2007.

The CERA report highlights one major factor that could disrupt the status quo which is the delivery of large volumes of liquefied natural gas (LNG) to Europe. New import infrastructure, particularly in the United Kingdom, combined with additional volumes of LNG from Qatar, may put pressure on the relationship that exists between buyers and the existing sellers of gas.

There are also sub-markets within these three regional gas markets, as evidenced by the higher increase in gas prices in the UK and Ireland relative to other EU Member States in recent years[14]. This was associated with specific supply characteristics

7 International Energy Agency, 2008, *Medium Term Oil Market Report*, www.iea.org.
8 One contextual aspect of this is that primary energy use per capita in 2005 was 7.9 toe for the USA compared with 1.3 for China. (For Ireland the figure was 3.7) Source: IEA 2007 Key World Energy Statistics
9 International Energy Agency, 2008, *Oil Market Report – A Monthly Market and Stocks Assessment* July 2008., www.iea.org.
10 International Energy Agency, 2008, *Oil Market Report – December 2008 Supplement*., www.iea.org.
11 European Commission, 2006, *Annex to the Green Paper A European Strategy for Sustainable, Competitive and Secure Energy – What is at stake – Background Document. COM(2006) 105 Final*
12 Cambridge Energy Research Associates, 2008, *An Enduring Relationship? Oil and Gas Prices in Europe*.
13 European Commission, 2008, *Progress in creating the internal gas and electricity market* COM(2008) 192 Final.
14 Sustainable Energy Ireland, 2007, *Security of Supply in Ireland 2007 Report*.

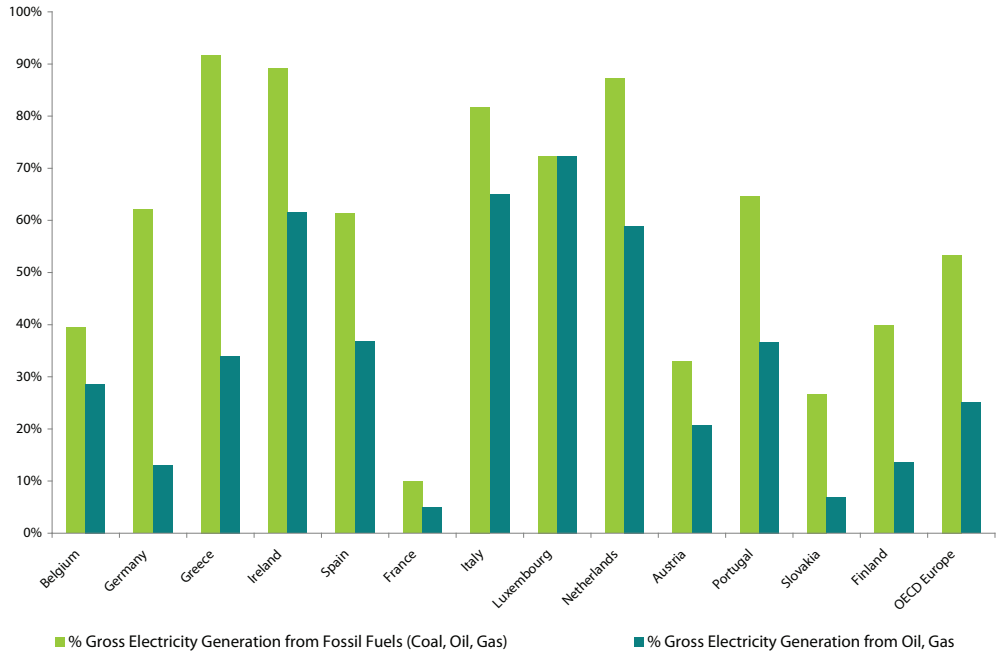
of that market, namely the decline of gas production from the UK Continental Shelf and the timing of new infrastructure allowing increased imports from Norway (Langeled pipeline September 2006), Belgium (additional compression at Zeebrugge November 2006) and the Netherlands (BBL Balgzand Bacton Leiding November 2006)[15]. This additional infrastructure and increased LNG capacity allowed for increased gas supply options and dampened the high gas prices that were observed in winter 2005/2006.

2.2 Fuel Mix for Electricity Generation

The fuel mix for electricity generation has a key bearing on the variation in the price of electricity in different countries. Other factors include the level of competition in electricity generation, labour costs, taxation policy and the level of investment in infrastructure (i.e. improving the transmission and distribution networks).

The electricity generation fuel mix is important, especially in periods of volatile price movement such as has been experienced in recent times, in particular with respect to gas and oil prices but also to coal prices. This provides one aspect of increased understanding required to assess different electricity prices in different EU Member States. Figure 2 and Table 1 show the percentage of electricity generation in selected Eurozone countries that is fossil fuel based (coal, oil & gas) and separately the proportion of electricity generated from gas and oil.

Figure 2 Gross Electricity Generation from Fossil Fuels in Eurozone



Source: Based on IEA data

As highlighted in Table 1 Ireland has the highest overall dependency of electricity generation on fossil fuels at 89% and also has a 61% dependency on gas and oil generation. Italy, Luxembourg and The Netherlands have higher gas and oil generation dependency than Ireland at 65%, 72% and 59% respectively.

15 National Grid 2007 *Winter 2007/2008 Preliminary Consultation Report*. Published by Ofgem.

Table 1 Percentage of Gross Electricity Generation from Fossil Fuels in selected Eurozone countries in 2007

Percentage Electricity Generated from:	Belgium	Germany	Greece	**Ireland**	Spain	France	Italy	Luxembourg	Netherlands	Austria	Portugal	Slovakia	Finland	OECD Europe
Coal, Oil & Gas	39%	62%	92%	**89%**	61%	10%	82%	72%	87%	33%	65%	27%	40%	53%
Gas & Oil	29%	13%	34%	**61%**	37%	5%	65%	72%	59%	21%	37%	7%	14%	25%

Source: IEA

2.3 Investment in Electricity and Gas Infrastructure

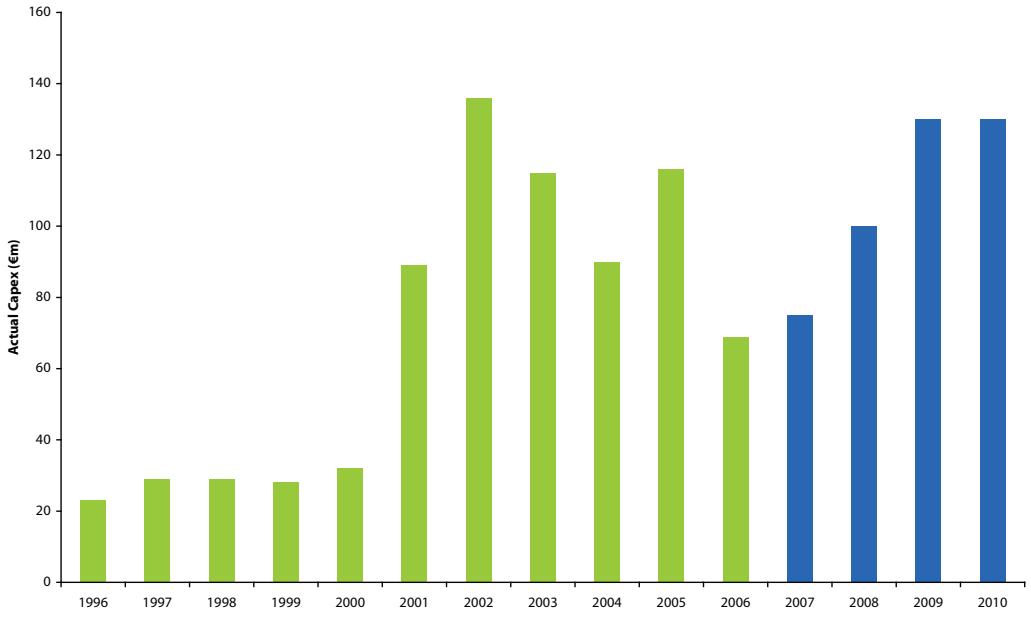
Investment in electricity and gas infrastructure assets is a further contributing factor to electricity and gas prices, depending on the level of costs and the extent to which these costs are passed through to final customers.

Section 2

In terms of electricity infrastructure, Ireland relies on an extensive high-voltage transmission network and a medium- and low-voltage distribution network to transport electricity domestically. Rapid growth in electricity demand in Ireland (4.7% per annum average annual growth 1990 – 2007) coupled with a long period of significant under-investment in electricity transmission and distribution network led to a network investment programme worth €4.4 billion, in both transmission and distribution networks, between 1996 and 2005. A total investment of €4.9 billion in both transmission and distribution networks is planned up to 2013.

Figure 3 shows the investment in Ireland's electricity network over the last decade. Total transmission investment over the period 1990 to 2006 was €755.8m. The CER in its *2006 to 2010 Transmission Price Control Review Decision Paper*[16], published on the 9th September 2005, has set a cap on capital expenditure on transmission of €520 million. The planned spend by ESB Networks for the remainder of this period is presented (in blue) on the right of Figure 3[17]. The impact of this capital constraint will be continually reviewed as project designs and costs evolve.

Figure 3 Electricity Transmission Investment 1996 to 2010



Source: ESB Networks

16 Available from www.cer.ie/cerdocs/cer05144.pdf.

17 Note that estimates are provisional and are subject to change, especially as projects may be delayed by the planning processes or by difficulties with way leaves etc. The costs shown are the costs which are expected to be incurred by ESB Networks, and do not include any investment which is paid for directly by third parties (e.g. for line diversions or grid connections). The forecasts are shown in 2006 currency values.

2.4 Share of Taxes in the Prices paid by Consumers in Europe

Another factor that affects the prices paid by consumers is the amount of non-recoverable taxes that are levied on energy. Business can generally recover value added tax (VAT) but not other taxes including energy taxes, carbon taxes, climate change levies, so the level of ex-VAT taxes is important. Householders cannot generally recover any taxes so the level of total tax levied is important. Tables 2 to 5 show the level of taxes applicable to assessing price comparisons in Europe for industry and households. In Ireland's case there were no non-recoverable taxes levied on electricity or gas[18] for industry in the 1st semester 2008 and the level of VAT levied on households at 11.9% of total price (13.5% VAT is levied on the basic price) is at the lower end compared with the other countries.

Table 2 shows the basic price for electricity and the non-recoverable taxes for industrial electricity consumers whose annual consumption is between 500 and 2,000 MWh[19]. The non-recoverable tax varies from zero (for 8 Member States including Ireland) to Austria at 1.67 c/kWh, the latter representing 16% of ex-VAT price of electricity (data for Italy was not available for this semester). The Member States are ranked in increasing order of basic price plus non-recoverable taxes.

Table 2 Electricity Prices and Taxes for Industrial Consumers (1st semester 2008)

	Basic Price plus Non-recoverable Taxes	Basic Price	Non-recoverable Taxes	Non-recoverable Taxes
	in € per 100 kWh	in € per 100 kWh		as % of ex-VAT price
Bulgaria	5.62	5.57	0.05	0.9
Estonia	5.67	5.14	0.53	9.3
Finland	6.40	6.14	0.26	4.1
France	6.41	5.90	0.51	8.0
Latvia	6.60	6.60	0.00	0.0
Sweden	6.93	6.88	0.05	0.7
Croatia	7.56	7.43	0.13	1.7
Norway	7.84	6.52	1.32	16.8
Lithuania	8.29	8.29	0.00	0.0
Greece	8.61	8.61	0.00	0.0
Poland	8.81	8.14	0.67	7.6
Romania	8.86	8.86	0.00	0.0
Portugal	8.95	8.95	0.00	0.0
Denmark	9.13	7.85	1.28	14.0
Sweden	9.32	9.04	0.28	3.0
Spain	9.61	9.15	0.46	4.8
United Kingdom	9.77	9.37	0.40	4.1
Netherlands	9.90	8.60	1.30	13.1
Luxembourg	10.31	9.99	0.32	3.1
Germany	10.53	9.29	1.24	11.8
Austria	10.64	8.97	1.67	15.7
Belgium	10.69	9.88	0.81	7.6
Czech Republic	11.07	10.95	0.12	1.1
Hungary	11.44	11.24	0.20	1.7
Slovakia	11.97	11.97	0.00	0.0
Malta	12.21	12.21	0.00	0.0
Ireland	**13.02**	**13.02**	**0.00**	**0.0**
Cyprus	14.27	14.05	0.22	1.5
Italy		:	:	:

Source: Eurostat

18 Emissions trading, while not a tax, has resulted in an increase in wholesale electricity prices affecting all customers. The level of increase will vary across the EU and depends on the carbon content of fuel mix used in electricity generation and the level of price pass through to customers. This increase is not explicitly quantified and forms part of the basic electricity price. Emissions trading will also tend to increase the cost of using gas for companies involved in emissions trading. This is not reflected in the basic price nor is it captured in the recoverable or non-recoverable taxes.

19 Based on industrial electricity consumption band IC.

In the case of gas prices to industrial customers, there are 8 Member States (including Ireland) for which the non-recoverable taxes are zero, as shown in Table 3. These prices relate to gas customers who use between 10,000 and 100,000 GJ of gas per annum[20]. The non-recoverable taxes vary from zero to €1.88 /GJ, the latter representing 13% of ex-VAT price of gas.

Table 3 Gas Prices and Taxes for Industrial Consumers (1st semester 2008)

	Basic Price plus Non-recoverable Taxes	Basic Price	Non-recoverable Taxes	Non-recoverable Taxes
	in € per GJ	in € per GJ		as % of ex-VAT price
Bulgaria	5.72	5.72	0.00	0.0
Croatia	6.37	6.10	0.27	4.3
Estonia	6.97	6.78	0.19	2.8
Spain	7.64	7.64	0.00	0.0
United Kingdom	7.73	7.29	0.44	5.7
Romania	7.79	6.23	1.56	20.0
Finland	7.90	7.40	0.50	6.3
Latvia	7.91	7.90	0.01	0.2
Poland	8.36	8.36	0.00	0.0
Portugal	8.69	8.69	0.00	0.0
Lithuania	8.79	8.79	0.00	0.0
Czech Republic	8.88	8.54	0.34	3.8
Belgium	9.15	8.98	0.17	1.9
France	9.23	9.03	0.20	2.2
Slovakia	9.28	9.28	0.00	0.0
Italy	9.33	8.77	0.56	6.0
Netherlands	9.56	8.07	1.49	15.6
Hungary	9.60	9.38	0.22	2.3
Sweden	10.12	9.33	0.79	7.8
Ireland	**11.05**	**11.05**	**0.00**	**0.0**
Luxembourg	11.30	11.30	0.00	0.0
Germany	13.45	11.87	1.58	11.7
Sweden	14.37	12.49	1.88	13.1
Denmark		:	:	:
Austria		:	:	:

Source: Eurostat

20 Based on industrial gas consumption band I3

Table 4 Electricity Prices and Taxes for Domestic Consumers (1st semester 2008)

	Price including all Taxes	Basic Price	Other Taxes (excl. VAT)	VAT	All Taxes
	in € per 100 kWh	in € per 100 kWh			as % of total price
Bulgaria	7.11	5.93	0.00	1.18	16.6
Estonia	8.14	6.39	0.52	1.23	21.5
Latvia	8.42	8.02	0.00	0.40	4.8
Lithuania	8.60	7.29	0.00	1.31	15.2
Croatia	9.90	7.98	0.14	1.78	19.4
Malta	9.93	9.45	0.00	0.48	4.8
Greece	10.47	9.57	0.03	0.87	8.6
Romania	10.61	8.85	0.00	1.76	16.6
Sweden	11.47	9.11	0.45	1.91	20.6
France	12.13	9.14	1.25	1.74	24.6
Finland	12.23	9.15	0.88	2.20	25.2
Poland	12.59	9.65	0.67	2.27	23.4
Czech Republic	12.74	10.60	0.12	2.02	16.8
Spain	13.66	11.24	0.58	1.84	17.7
Slovakia	14.21	11.94	0.00	2.27	16.0
United Kingdom	14.58	13.94	0.00	0.64	4.4
Portugal	14.80	14.10	0.00	0.70	4.7
Hungary	15.48	12.77	0.13	2.58	17.5
Luxembourg	15.91	14.21	0.80	0.90	10.7
Norway	16.39	11.79	1.32	3.28	28.1
Sweden	16.98	10.85	2.74	3.39	36.1
Netherlands	17.30	12.70	1.80	2.80	26.6
Ireland	**17.69**	**15.59**	**0.00**	**2.10**	**11.9**
Austria	17.79	12.71	2.12	2.96	28.6
Cyprus	17.80	15.28	0.22	2.30	14.2
Belgium	19.72	15.00	1.30	3.42	23.9
Germany	21.48	12.99	5.01	3.48	39.5
Denmark	26.35	12.03	9.05	5.27	54.3
Italy		:	:	:	:

Source: Eurostat

The level of taxes applied to household electricity prices is significantly higher than that applied to industrial electricity prices, as shown in Table 4. These prices are for customers who use between 2,500 and 5,000 kWh per annum[21]. The VAT charges are shown separately from other taxes for the purposes of comparison. There are 11 Member States (including Ireland) who apply VAT charges only to domestic customers. Total taxes vary from 0.40 c/kWh (Latvia) to 5.27 c/kWh (Denmark), or between 4.4% and 54% of total prices. For Ireland, taxes account for 11.9% of the final electricity and gas prices to household consumers.

Table 5 shows the level of taxes applied to gas prices for domestic customers within the EU who have an annual consumption of between 20 and 200 GJ per annum[22]. As in the case of electricity, the taxes applied to domestic customers generally exceed those applied to industrial customers, although for domestic customers there are more Member States who apply zero non-VAT tax to gas prices. The amounts of tax vary from 42 c/GJ to €11.75/GJ or 4.8% to 44% of final domestic gas prices (data for Finland & Denmark not available).

21 Based on household electricity consumption band DC
22 Based on household electricity consumption band DC

Table 5 Gas Prices and Taxes for Domestic Consumers[23] (1st semester 2008)

	Price including all Taxes	Basic Price	Other Taxes (excl. VAT)	VAT	All Taxes
	in € per GJ	in € per GJ			as % of total price
Croatia	7.60	5.91	0.38	1.31	22.2
Latvia	8.70	8.27	0.01	0.42	4.9
Lithuania	9.15	7.75	0.00	1.40	15.3
Romania	9.21	5.95	1.79	1.47	35.4
Estonia	9.30	7.39	0.49	1.42	20.5
Bulgaria	9.85	8.20	0.00	1.65	16.7
United Kingdom	10.99	9.97	0.50	0.52	9.3
Hungary	11.23	9.36	0.00	1.87	16.7
Poland	11.57	9.48	0.00	2.09	18.0
Slovakia	11.89	9.99	0.00	1.90	16.0
Czech Republic	12.20	10.25	0.00	1.95	16.0
France	14.46	12.29	0.00	2.17	15.0
Ireland	**15.09**	**13.29**	**0.00**	**1.80**	**11.9**
Sweden	15.51	12.14	0.78	2.59	21.7
Spain	15.98	13.78	0.00	2.20	13.8
Belgium	16.26	13.01	0.47	2.78	20.0
Luxembourg	16.75	15.81	0.00	0.94	5.6
Portugal	17.37	16.54	0.00	0.83	4.8
Italy	17.47	12.03	2.52	2.92	31.1
Germany	18.64	13.93	1.74	2.97	25.3
Netherlands	19.37	12.01	4.27	3.09	38.0
Austria	22.99	16.81	3.40	2.78	26.9
Sweden	26.52	14.77	6.45	5.30	44.3
Finland		:	:	:	:
Denmark		:	:	:	:

Source: Eurostat

2.5 Purchasing Power

Another factor impacting on gas and electricity prices in a country are the costs associated with labour and services. In wealthier countries the cost of living as well as labour and services costs tend to be higher. Comparing electricity and gas prices on the basis of purchasing power parity is a method that may be used to separate the price differences associated with differences in wealth from those associated with other factors.

Purchasing Power Parities (PPPs) are currency conversion rates that convert to a common currency as well as equalising the purchasing power of different currencies. In other words, they eliminate the differences in price levels between countries due to differences in currency exchange rates and in living standards. This purchasing power exchange rate equalises the purchasing power of different currencies in their home countries for a given basket of goods. Using a PPP basis is arguably more useful when comparing differences in living standards on the whole between nations because PPP takes into account the relative cost of living and the inflation rates of different countries, rather than just a nominal gross domestic product (GDP) comparison.

23 Based on household gas consumption band D2

3. Energy Prices for Business

The *EU Gas and Electricity Price Transparency Directive* refers to gas and electricity prices charged to industrial end-users, however it recognises that suppliers generally can't distinguish between industrial and commercial services users and so accepts that industrial end-users may include other non-residential users. In essence therefore, industrial prices refer to all non-residential prices. Gas and electricity prices include all charges payable including: energy consumed, network charges, other charges (capacity charges, commercialisation, meter rental etc) all netted for any rebates or premiums due. Initial connection charges are not included. Prices are recorded as national average prices.

3.1 Industrial/Services Electricity Costs

The prices represent weighted average prices, using the market share of the electricity suppliers surveyed as weighting factors. Arithmetic average prices were provided by Member States only when weighted figures could not be calculated. In either case, Member States are required to ensure that a representative share of the national market is covered in the survey.

Market shares should be based on the quantity of electricity invoiced by electricity suppliers to industrial end-users. If possible, the market shares are calculated separately for each consumption band. The information used for calculating weighted average prices is managed by Member States, respecting confidentiality rules.

In order to ensure confidentiality, data relating to prices are communicated only where there are, in the Member State concerned, at least three end-users in each of the categories.

Three levels of prices are provided:

- Prices excluding taxes and levies,
- Prices excluding VAT and other recoverable taxes,
- Prices including all taxes, levies and VAT.

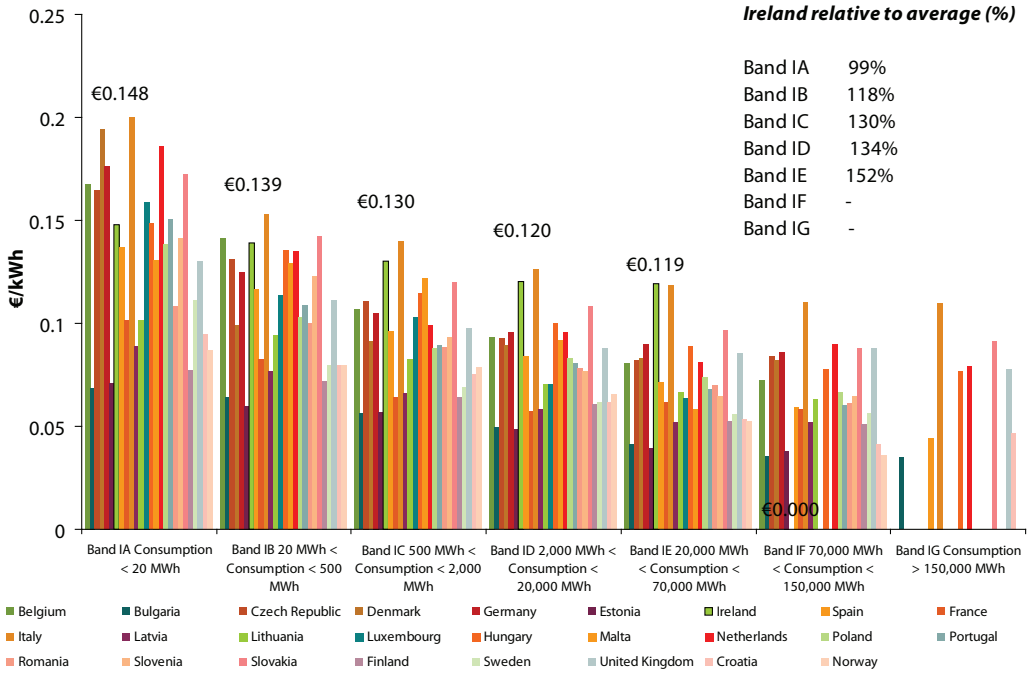
Electricity prices are surveyed for the following categories of industrial end-user:

Table 6 Categories for Industrial End Use of Electricity

Industrial End-User	**Annual electricity consumption (MWh)**	
	Lowest	***Highest***
Band - IA		< 20
Band - IB	20	< 500
Band - IC	500	< 2 000
Band - ID	2 000	< 20 000
Band - IE	20 000	< 70 000
Band - IF	70 000	<= 150 000

Figure 4 presents a comparison of electricity costs to industry and service enterprises in Ireland compared with the other EU Member States based on the returns from the revised *Gas & Electricity Price Directive* for the first semester of 2008. For each consumption band, the price shown on Figure 4 is the average electricity price excluding VAT for Ireland. The analysis compares firstly industrial/services electricity costs in euro across all the countries and then makes a comparison based on eurozone countries only. The electricity price excluding VAT was used as this is the most relevant for industrial/services consumers. The prices shown refer to average prices being charged by suppliers. For individual industrial customers, the price paid for electricity to a supplier will depend to some extent on the load profile of the customer and may be higher or lower than the average because of this.

Figure 4 Industrial/Services Electricity Prices (€) in EU (1st Semester 2008)



Source: Eurostat

Industrial/Services electricity prices in Ireland for the first half of 2008 were 1% below average for EU countries in band IA and above the average in bands IB to IE for which data is available, ranging from 18% to 52% above, as shown in Table 7. Ireland had the highest prices in bands IC, ID and IE[1]. In Ireland band IA experienced a price decrease of 4.3% between the last semester of 2007 and the first semester 2008 while bands IB to IE experienced prices increases ranging from 0.4% in IB to 10.6% in ID. The prices increases for higher consumption bands may reflect how these customers more closely follow the timing of fuel price changes.

With reference to Table 7, Ireland's position, relative to the EU average electricity prices to industry/commerce, improved in all categories except Band IE between the second semester 2007 and the first semester 2008.

Table 7 Industrial/Services Electricity Prices (€) in Ireland (1st Semester 2008) – EU Comparison

Electricity Prices Industrial/Services Consumers (excluding VAT)	Cost €/kWh	% change since last semester	Relative to EU Average 2008-S1	Relative to EU Average 2007-S2
Band IA (Consumption < 20 MWh)	0.148	-4.3%	99%	103%
Band IB (20 MWh < Consumption < 500 MWh)	0.139	0.4%	118%	123%
Band IC (500 MWh < Consumption < 2,000 MWh)	0.130	5.4%	130%	129%
Band ID (2,000 MWh < Consumption < 20,000 MWh)	0.120	10.6%	134%	129%
Band IE (20,000 MWh < Consumption < 70,000 MWh)	0.119	8.9%	152%	152%
Band IF (70,000 MWh < Consumption < 150,000 MWh)	:	:	:	149%
Band IG (Consumption > 150,000 MWh)	:	:	:	:

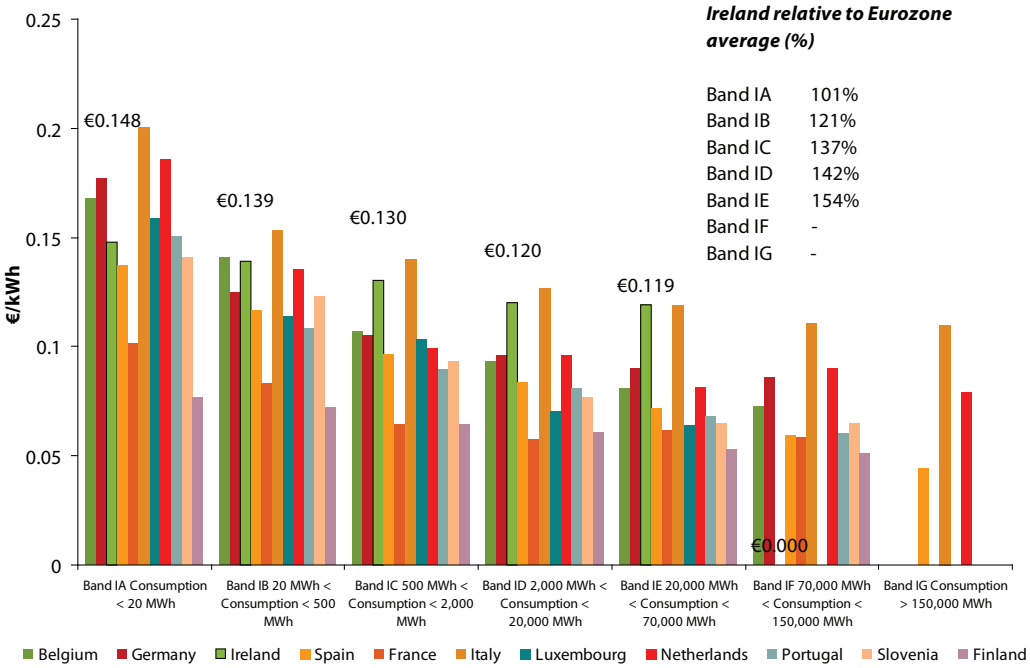
Source: Eurostat

Figure 5 illustrates the data presented in Figure 4, colour coding the countries of Europe according to electricity price bands for the customers within consumption band ID (2,000 – 20,000 MWh per annum). This shows Ireland in the highest category. It is interesting to compare the results of this analysis with the dependence on gas and oil in the electricity fuel mix shown in Figure 2 and Table 1. Ireland has 61% of its electricity generated by gas and oil. Interestingly, Slovakia, which falls into the next highest band as shown in Figure 5, has 27% coal, oil and gas in the generation fuel mix and just 7% oil and gas.

1 There were no prices available from Eurostat for Italy for the 1st semester 2008. Italy had higher prices than Ireland in the 2nd semester 2007 - see *Understanding Electricity & Gas Prices in Ireland 2008 Report* available at www.sei.ie.

Figure 5 Industrial/Services Electricity Prices in Europe (1st Semester 2008)

Figure 6 Industrial/Services Electricity Prices (€) in Eurozone (1st Semester 2008)



Source: Eurostat

Within the Eurozone countries, industrial/services electricity prices in Ireland for the first half of 2008 were above the average in all bands where data is available, ranging from 1% above in band IA to 54% above in band IE.

Table 8 Industrial/Services Electricity Prices (€) (1st Semester 2008) – Eurozone Comparison

Electricity Prices Industrial/Services Consumers (excluding VAT)	Cost €/kWh	Relative to Eurozone Average 2008 - S1	Relative to Eurozone Average 2007 - S2
Band IA (Consumption < 20 MWh)	0.148	101%	98%
Band IB (20 MWh < Consumption < 500 MWh)	0.139	121%	121%
Band IC (500 MWh < Consumption < 2,000 MWh)	0.130	137%	127%
Band ID (2,000 MWh < Consumption < 20,000 MWh)	0.120	142%	126%
Band IE (20,000 MWh < Consumption < 70,000 MWh)	0.119	154%	151%
Band IF (70,000 MWh < Consumption < 150,000 MWh)	:	:	149%
Band IG (Consumption > 150,000 MWh)	:	:	:

Source: Eurostat

With reference to Table 8, Ireland's position, with regard to the Eurozone average electricity prices to industry, improved in Bands IA, IC and ID, stayed the same in Band IB and disimproved in Band IE between the second semester 2007 and the first semester 2008.

3.2 Industrial/Services Gas Prices

The gas prices presented include all charges payable: network charges plus energy consumed minus any rebates or premiums, plus other charges (meter rental, standing charges, etc.). Initial connection charges are not included. Prices are recorded as national average prices.

These prices represent weighted average prices, using the market shares of the gas suppliers surveyed as weighting factors; with arithmetic average prices provided only when weighted figures cannot be calculated. In either case, Member States are required to ensure that a representative share of the national market is covered by the survey.

Market shares are based on the quantity of gas invoiced by the gas suppliers to industrial end-users. When possible, the market shares are calculated separately for each band. The information used for calculating weighted average prices is managed by

Member States, respecting confidentiality rules.

In the interest of confidentiality, data relating to prices will be communicated only where there are, in the Member State concerned, at least three end-users in each of the categories.

Three levels of prices are provided:

- prices excluding taxes and levies,
- prices excluding VAT and other recoverable taxes,
- prices including all taxes, levies and VAT.

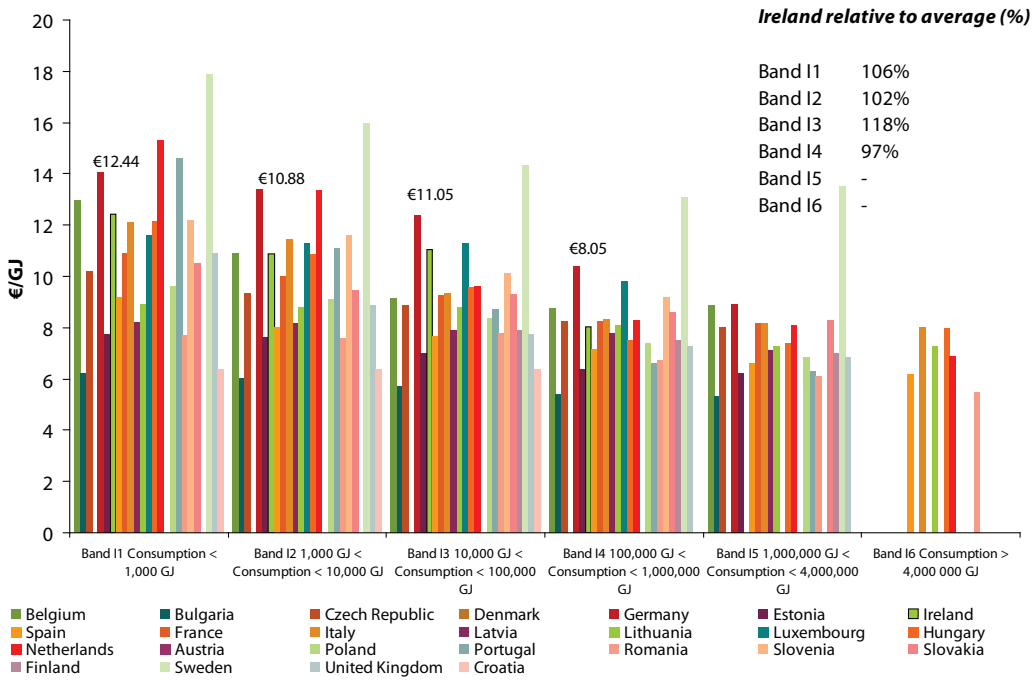
Gas prices are surveyed for the following categories of industrial end-user:

Table 9 Categories for Industrial End Use of Natural Gas

Industrial End-User	Annual gas consumption (GJ)	
	Lowest	*Highest*
Band - I1		< 1 000
Band - I2	1 000	< 10 000
Band - I3	10 000	< 100 000
Band - I4	100 000	< 1 000 000
Band - I5	1 000 000	<= 4 000 000

Figure 7 shows a comparison of natural gas costs to industry and services customers in Ireland compared with the other EU member states based on the returns from the revised *Gas & Electricity Price Directive* for the first semester of 2008. As for electricity prices the prices shown in Figure 7 for each consumption band are the average gas prices excluding VAT. The analysis looks first at a comparison of industrial/services gas costs in euro across all the countries and then makes a comparison based on eurozone countries only. The *excluding (VAT and other) recoverable taxes price* was used as this is the most relevant for industrial/services consumers.

Figure 7 Industrial/Services Gas Prices (€) in EU (1st Semester 2008)



Source: Eurostat

Industrial/Services gas prices in Ireland for the first half of 2008 were above the average for EU countries in bands I1 to I3, ranging from 6% to 18% above. In band I4 Ireland was 3% below the average. Sweden and Germany have higher prices than Ireland across all customer bands. For certain bands, Italy, The Netherlands and Luxembourg also have higher prices. In Ireland band I1 experienced a price decrease of 1% between the last semester of 2007 and the first semester 2008 while bands I2 to I4 experienced price increases of between 0.5% in IB to 16.5% in ID. The prices increases for higher consumption bands may reflect how these customers more closely follow the timing of fuel spot market price changes.

With reference to Table 10, Ireland's position, compared with the EU average gas prices to industry, improved in bands I1 & I2 and disimproved in bands I3 & I4 compared with the second semester in 2007.

Table 10 Industrial/Services Gas Prices (€) in Ireland (1st Semester 2008) – EU Comparison

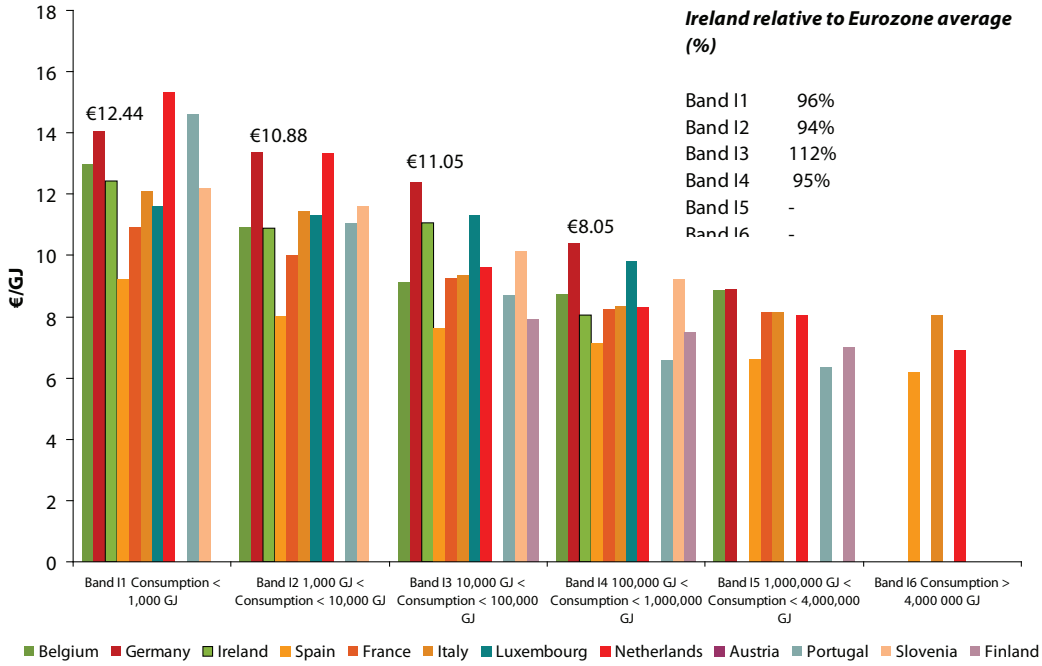
Gas Prices Industrial/Services Consumers (all taxes included)	**Cost €/GJ**	**% change since last semester**	**Relative to EU Average 2008 - S1**	**Relative to EU Average 2007 - S2**
Band I1 (Consumption < 1,000 GJ)	12.44	-1.0%	105.7%	111%
Band I2 (1,000 GJ < Consumption < 10,000 GJ)	10.88	0.5%	101.8%	109%
Band I3 (10,000 GJ < Consumption < 100,000 GJ)	11.05	13.7%	118.1%	113%
Band I4 (100,000 GJ < Consumption < 1,000,000 GJ)	8.05	16.5%	97.0%	94%
Band I5 (1,000,000 GJ < Consumption < 4,000,000 GJ)	:	:	:	:
Band I6 (Consumption > 4,000 000 GJ)	:	:	:	:

Source: Eurostat

Figure 8 illustrates the data presented in Figure 7, clustering the countries of Europe into price ranges for the price band I3. It is interesting to note the significant difference in gas prices between Ireland and the UK, given both form part of the same regional market. This may be due to the size of the gas market in each jurisdiction and economies of scale and possible currency exchange rate anomalies.

Figure 8 Industrial/Services Gas Prices in Europe (1st Semester 2008)

Figure 9 Industrial/Services Gas Prices (€) in Eurozone (1st Semester 2008)



Source: Eurostat

Industrial/services gas prices in Ireland for the first half of 2008 were below the average for Eurozone countries in all bands except band I3, ranging from 4% to 6% below (see Table 11). In consumption band I3 Ireland was 12% above the average in the Eurozone.

Table 11 Industrial/Services Gas Prices (€) in Ireland (1st Semester 2008) – Eurozone Comparison

Gas Prices Industrial/Services Consumers (all taxes included)	**Cost €/GJ**	**Relative to EU Average 2008 - S1**	**Relative to EU Average 2007 - S2**
Band I1 (Consumption < 1,000 GJ)	12.440	96%	106%
Band I2 (1,000 GJ < Consumption < 10,000 GJ)	10.880	94%	104%
Band I3 (10,000 GJ < Consumption < 100,000 GJ)	11.050	112%	108%
Band I4 (100,000 GJ < Consumption < 1,000,000 GJ)	8.050	95%	90%
Band I5 (1,000,000 GJ < Consumption < 4,000,000 GJ)	:	:	:
Band I6 (Consumption > 4,000 000 GJ)	:	:	:

Source: Eurostat

With reference to Table 11, Ireland's position, compared with the Eurozone average gas prices to industry, improved in bands I1 & I2 and disimproved in bands I3 & I4 compared with the second semester in 2007.

4. Energy Prices for Households

4.1 Domestic Electricity Costs

The data collection for households is based on a voluntary agreement and complements the data collection of gas and electricity prices for industrial users as specified in *Council Directive 90/377/EEC*. The methodology for collecting data on household electricity prices was also changed under the revised Directive.

For households, electricity prices include all charges payable including: energy consumed, network charges, other charges (capacity charges, commercialisation, meter rental etc) all netted for any rebates or premiums due. Initial connection charges are not included. The Member States develop and implement cost-effective procedures to ensure a representative data compilation system based on the following rules:

- Prices represent weighted average prices, using the market share of the electricity suppliers surveyed as weighting factors. Arithmetic average prices are provided only when weighted figures cannot be calculated. In either case, Member States ensure that a representative share of the national market is covered by the survey.
- Market shares are based on the quantity of electricity invoiced by electricity supply undertakings to household end-users. If possible, the market shares are calculated separately for each band. The information used for calculating weighted average prices is managed by Member States, respecting confidentiality rules.

Three levels of prices are provided:

- prices excluding taxes and levies,
- prices excluding VAT and other recoverable taxes,
- prices including all taxes, levies and VAT.

Electricity prices are surveyed for the following categories of household end-user:

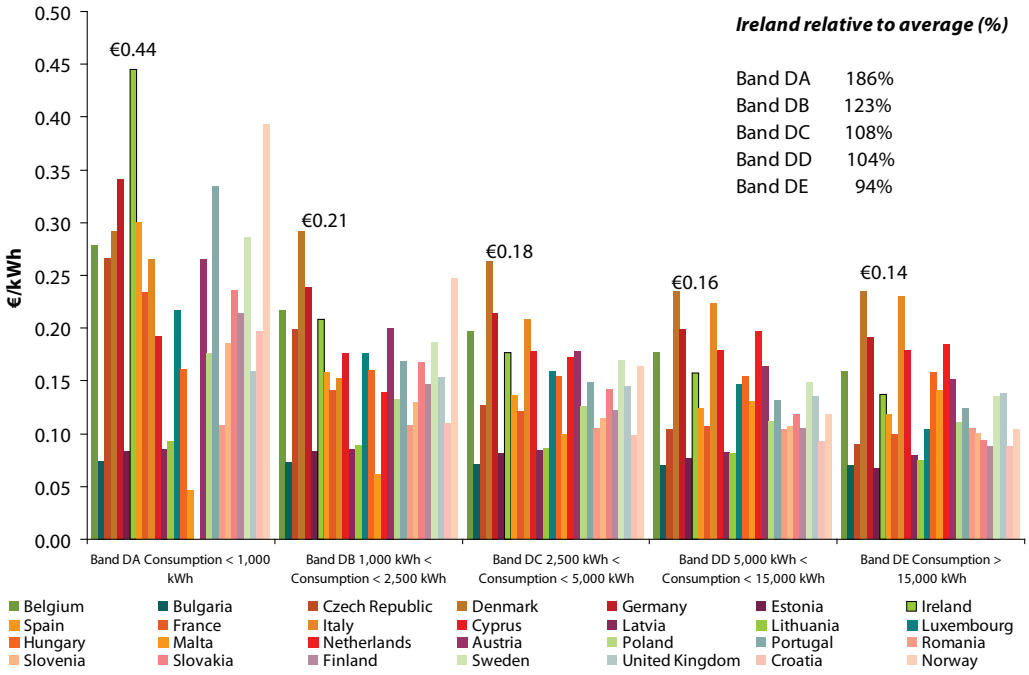
Table 12 Categories for Domestic End Use of Electricity

Household end-user	**Annual electricity consumption (kWh)**	
	Lowest	***Highest***
Very small (DA)	<1 000	
Small (DB)	1 000	<2 500
Medium (DC)	2 500	<5 000
Large (DD)	5 000	<15 000
Very large (DE)	≥15 000	

There follows a comparison of electricity costs to domestic consumers in Ireland compared with the other EU Member States based on the returns under the revised *Gas & Electricity Price Directive* for the first semester of 2008 (January to June). The analysis looks first at a basic comparison of domestic electricity costs in euro across all the countries and then refines this to more relevant comparisons based on purchasing power parities and finally comparison based on eurozone countries only. The price including all taxes, levies and VAT was used as this is the most relevant for domestic consumers.

With regard to consumption bands, the most relevant for the majority of domestic consumers are the DC band (2,500 – 5,000 kWh per annum) and the DD band (5,000 – 15,000 kWh per annum). In the lower consumption bands the average cost per kWh is higher because the standing charges and network charges form a larger proportion of the annual costs. In the case of Ireland for instance, there are significant numbers of holiday homes that may be unoccupied for most of the year yet standing charges are still incurred with little or no electricity usage. During data collection, zero usage accounts were excluded.

Figure 10 Domestic Electricity Prices (€) in EU (1st Semester 2008)



Source: Eurostat

With reference to Figure 10 Ireland showed the highest cost in the DA band. However, as mentioned earlier this is to be expected if there are a significant number of very low usage accounts such as holiday homes. In the DC and DD bands, Ireland is the sixth and seventh most expensive; the electricity costs on average are 8% and 4% respectively above the average of the EU-27 countries. Higher prices were paid in Belgium, Denmark, Germany, Cyprus, The Netherlands and Austria. Prices fell in all domestic consumption bands between the last semester of 2007 and the first semester of 2008, ranging from a fall of 2.8% in band DA (or 6.6% if very small consumers are omitted) to 9.3% in band DD.

With reference to Table 13, Ireland's position, compared with the EU average domestic electricity prices, improved in all bands compared with the second semester in 2007.

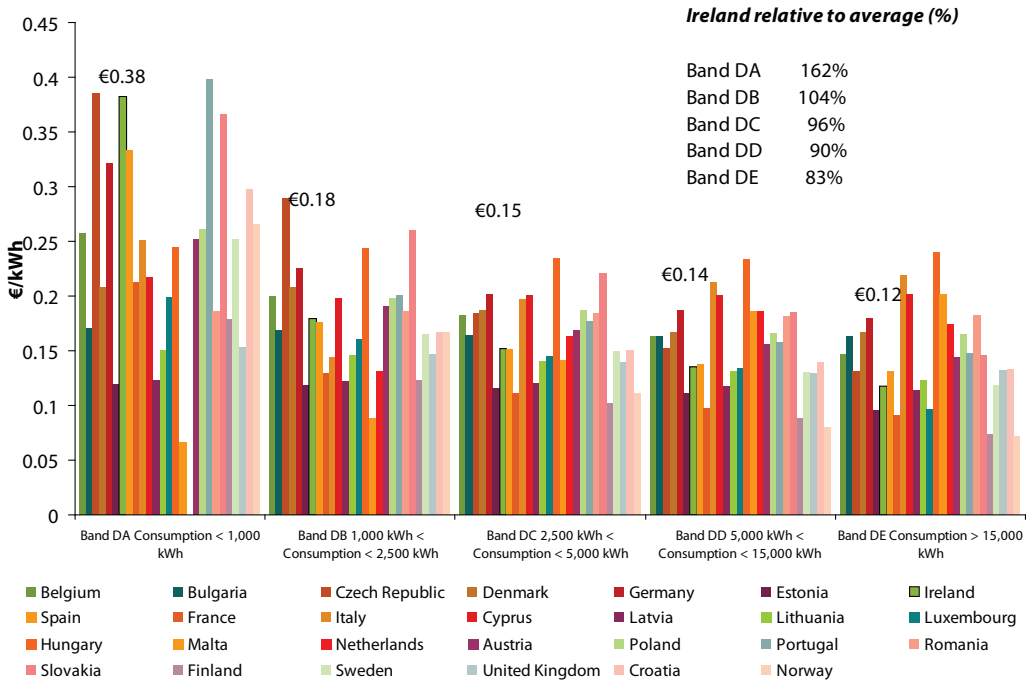
Table 13 Domestic Electricity Prices (€) in Ireland (1st Semester 2008) – EU Comparison

Electricity Prices Domestic Consumers (all taxes included)	**Cost €/kWh**	**% change since last semester**	**Relative to EU Average 2008 - S1**	**Relative to EU Average 2007 - S2**
Band DA (Consumption < 1 000 kWh)	0.445	-2.8%	186%	198%
Band DB (1,000 kWh < Consumption < 2,500 kWh)	0.209	-6.9%	123%	134%
Band DC (2,500 kWh < Consumption < 5,000 kWh)	0.177	-7.8%	108%	120%
Band DD (5,000 kWh < Consumption < 15,000 kWh)	0.157	-9.3%	104%	117%
Band DE (Consumption > 15,000 kWh)	0.137	-6.6%	94%	105%

Source: Eurostat

Some caveats should be acknowledged in looking at these basic euro prices. Non-euro country prices are converted into euro at the prevailing exchange rates but don't take into account the varying purchasing powers in each country. To correct for this Eurostat also publish prices in purchasing power parities. These are presented in Figure 11.

Figure 11 Domestic Electricity Prices in EU at Purchasing Power Parities (1st Semester 2008)



Source: Eurostat

When purchasing power parities are applied, Ireland is cheaper than the average in the three highest consumption bands and specifically in band DD is 90% of the average (10% below the average) and in band DC is 96% of the average (4% below).

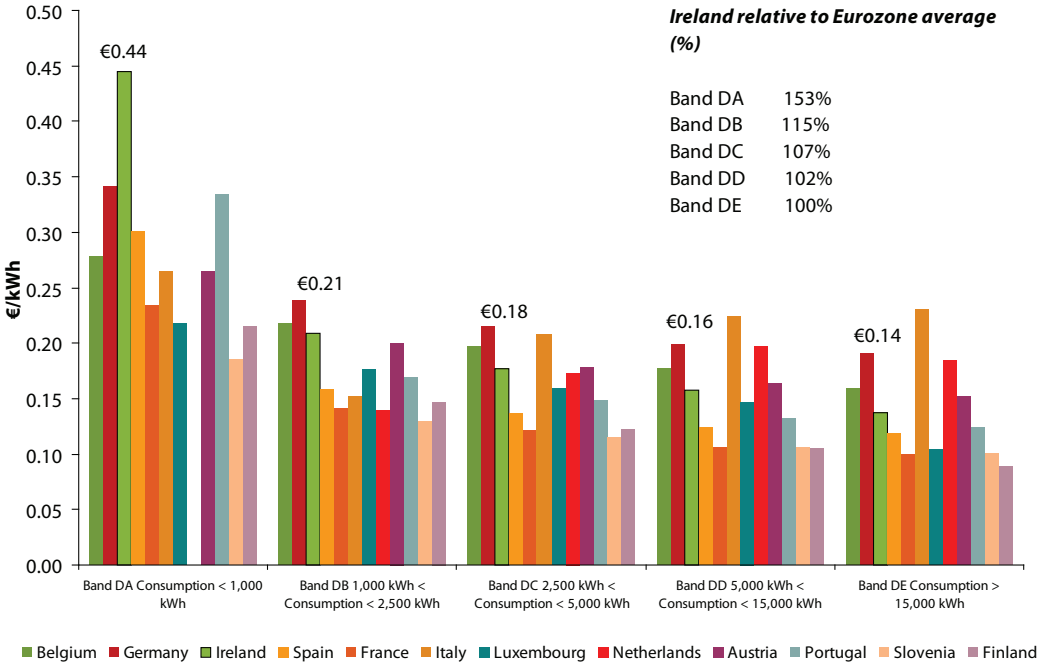
Table 14 Domestic Electricity Prices (Purchasing Power Parity) (1st Semester 2008) – EU Comparison

Electricity Prices Domestic Consumers (all taxes included)	**Cost (PPP) €/kWh**	**Relative to EU Average 2008 - S1**	**Relative to EU Average 2007 - S2**
Band DA (Consumption < 1 000 kWh)	0.383	162%	163%
Band DB (1,000 kWh < Consumption < 2,500 kWh)	0.180	104%	101%
Band DC (2,500 kWh < Consumption < 5,000 kWh)	0.152	96%	91%
Band DD (5,000 kWh < Consumption < 15,000 kWh)	0.135	90%	85%
Band DE (Consumption > 15,000 kWh)	0.118	83%	76%

Source: Eurostat

With reference to Table 14, Ireland's position, compared with the EU average domestic electricity prices expressed in purchasing power parities, improved in band DA but disimproved in all other bands compared with the second semester in 2007.

Figure 12 Domestic Electricity Prices (€) in Eurozone (1st Semester 2008)



Source: Eurostat

Focusing on just the Eurozone countries Ireland was fourth most expensive in band DC and fifth most expensive in band DD. Ireland was closer to the average measured in basic euro prices within the Eurozone than compared with all the EU countries. In band DC prices were 7% above the average in the Eurozone and 2% above in band DD.

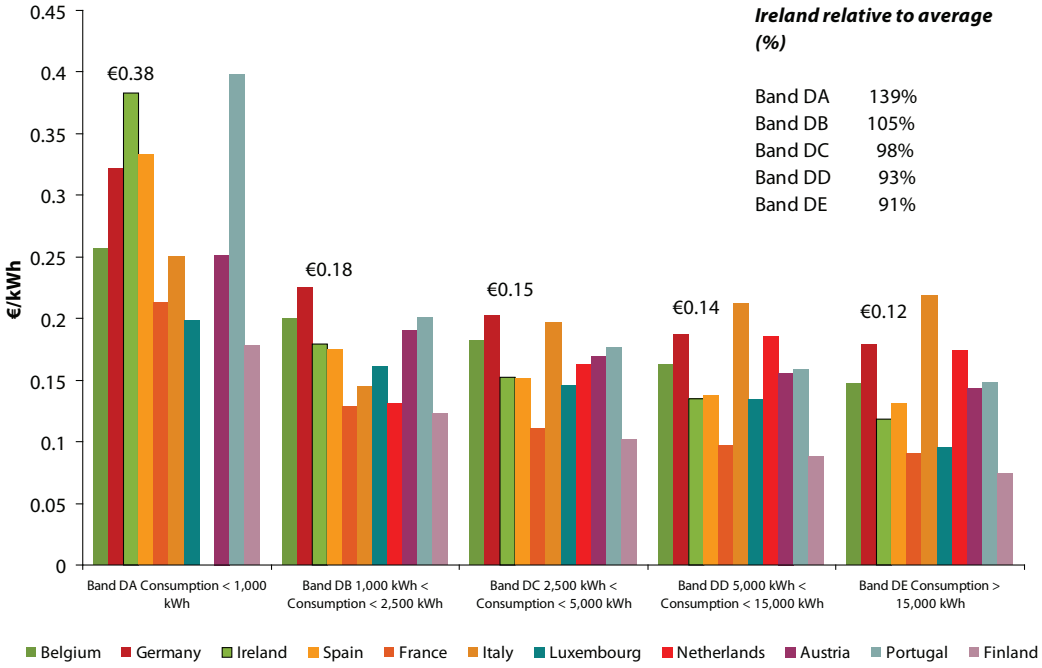
Table 15 Domestic Electricity Prices (€) in Ireland (1st Semester 2008) – Eurozone Comparison

Electricity Prices Domestic Consumers (all taxes included)	**Cost €/kWh**	**Relative to Eurozone Average 2008 - S1**	**Relative to Eurozone Average 2007 - S2**
Band DA (Consumption < 1 000 kWh)	0.445	153%	181%
Band DB (1,000 kWh < Consumption < 2,500 kWh)	0.209	115%	126%
Band DC (2,500 kWh < Consumption < 5,000 kWh)	0.177	107%	109%
Band DD (5,000 kWh < Consumption < 15,000 kWh)	0.157	102%	105%
Band DE (Consumption > 15,000 kWh)	0.137	100%	93%

Source: Eurostat

With reference to Table 15, Ireland's position, compared with the Eurozone average domestic electricity prices, improved in all bands except Band DE compared with the second semester in 2007.

Figure 13 Domestic Electricity Prices in Eurozone at Purchasing Power Parities (1st Semester 2008)



Source: Eurostat

In terms of purchasing power parities within the Eurozone countries, Ireland is sixth most expensive in band DC and seventh most expensive in band DD. Again using this measure Ireland is 2% below the average for the Eurozone in band DC and 7% below in band DD.

Table 16 Domestic Electricity Prices (Purchasing Power Parity) (1st Semester 2008) – Eurozone

Electricity Prices Domestic Consumers (all taxes included)	Cost €/kWh	Relative to Eurozone Average 2008 - S1	Relative to Eurozone Average 2007 - S2
Band DA (Consumption < 1 000 kWh)	0.383	139%	160%
Band DB (1,000 kWh < Consumption < 2,500 kWh)	0.180	105%	113%
Band DC (2,500 kWh < Consumption < 5,000 kWh)	0.152	98%	97%
Band DD (5,000 kWh < Consumption < 15,000 kWh)	0.135	93%	93%
Band DE (Consumption > 15,000 kWh)	0.118	91%	86%

Source: Eurostat

With reference to Table 16, Ireland's position, compared with the Eurozone average domestic electricity prices expressed in purchasing power parities, improved in Bands DA & DB, remained the same in band DD and disimproved in Bands DC & DE compared with the second semester in 2007.

4.2 Domestic Gas Costs

The data collection for households is based on a voluntary agreement and complements the data collection of gas and electricity prices for industrial users as specified in *Council Directive 90/377/EEC*. The methodology for collecting household data was also changed so the prices under the revised Directive are not directly comparable with those collected under the previous methodology.

For households, gas prices include all charges payable including: energy consumed, network charges, other charges (capacity charges, commercialisation, meter rental etc) all netted for any rebates or premiums due. Initial connection charges are not included. The Member States develop and implement cost-effective procedures to ensure a representative data compilation system based on the following rules:

- Prices represent weighted average prices, using the market share of the natural gas supply undertakings surveyed as weighting factors. Arithmetic average prices will be provided only when weighted figures cannot be calculated. In

either case, Member States will ensure that a representative share of the national market is covered by the survey.

- Market shares are based on the quantity of gas invoiced by gas supply undertakings to household end-users. If possible, the market shares are calculated separately for each band. The information used for calculating weighted average prices is managed by Member States, respecting confidentiality rules.

Three levels of prices are to be provided:

- prices excluding taxes and levies,
- prices excluding VAT and other recoverable taxes,
- prices including all taxes, levies and VAT.

Gas prices are surveyed for the following categories of household end-user:

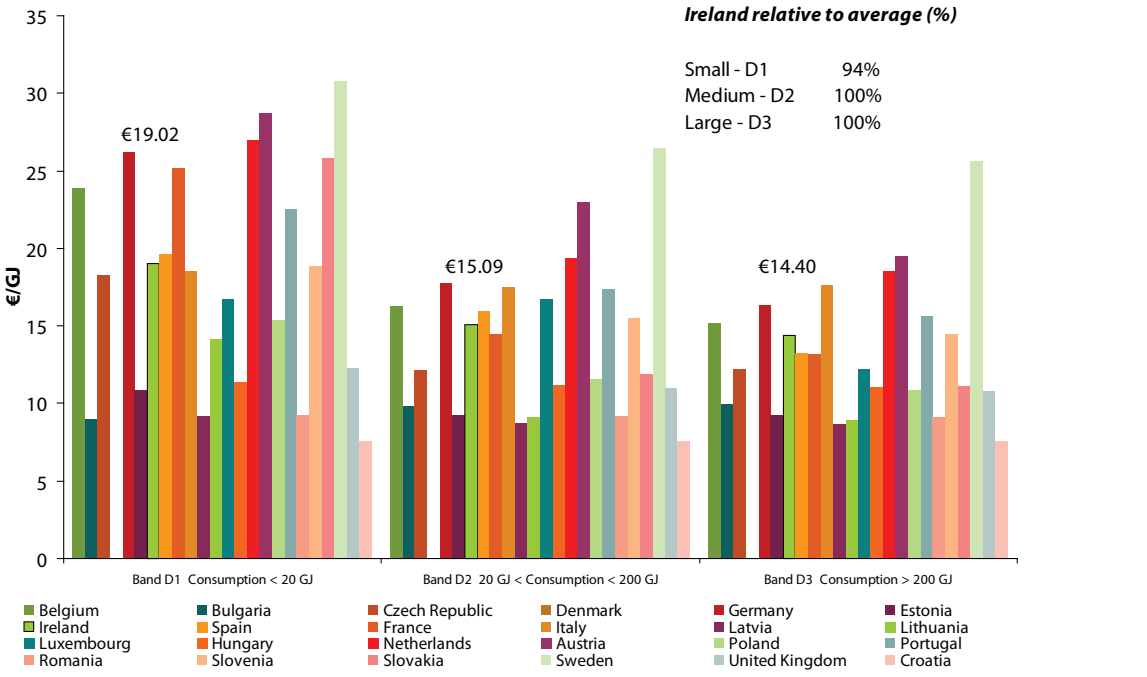
Table 17 Categories for Domestic End Use of Natural Gas

Household end-users	Annual gas consumption (GJ)	
	Lowest	***Highest***
D1 - Small	0	<20
D2 - Medium	20	<200
D3 - Large	≥200	

There follows a comparison of gas costs to domestic consumers in Ireland compared with the other EU Member States based on the returns under the revised *Gas & Electricity Price Directive* for the second semester of 2008 (January to June). The analysis looks first at a basic comparison of domestic gas costs in euro across all the countries and then refines this down to more relevant comparisons based on purchasing power parities and finally comparison based on eurozone countries only. The price including all taxes, levies and VAT was used as this is the most relevant for domestic consumers.

With regard to consumption bands the most relevant for the majority of domestic consumers is the medium band (20 – 200 GJ per annum) referred to as D2. In the lower consumption bands the average cost per kWh is higher because the standing charges and network charges form a larger proportion of the annual costs.

Figure 14 Domestic Gas Prices (€) in EU (1st Semester 2008)



Source: Eurostat

In the D2 band Ireland is 0.4% below the average for the EU as a whole, falling from 17% above in the previous semester. In the

lowest consumption band D1 Ireland went from being 51% above the EU average in the last semester of 2007 to being 6.5% below the average in the first semester 2008. The highest consumption band has gone from being 8% above the average to just 0.1% above. These changes are due to a significant tariff change and price change in late 2007 for domestic customers.

Table 18 Domestic Gas Prices (€) in Ireland (1st Semester 2008) – EU Comparison

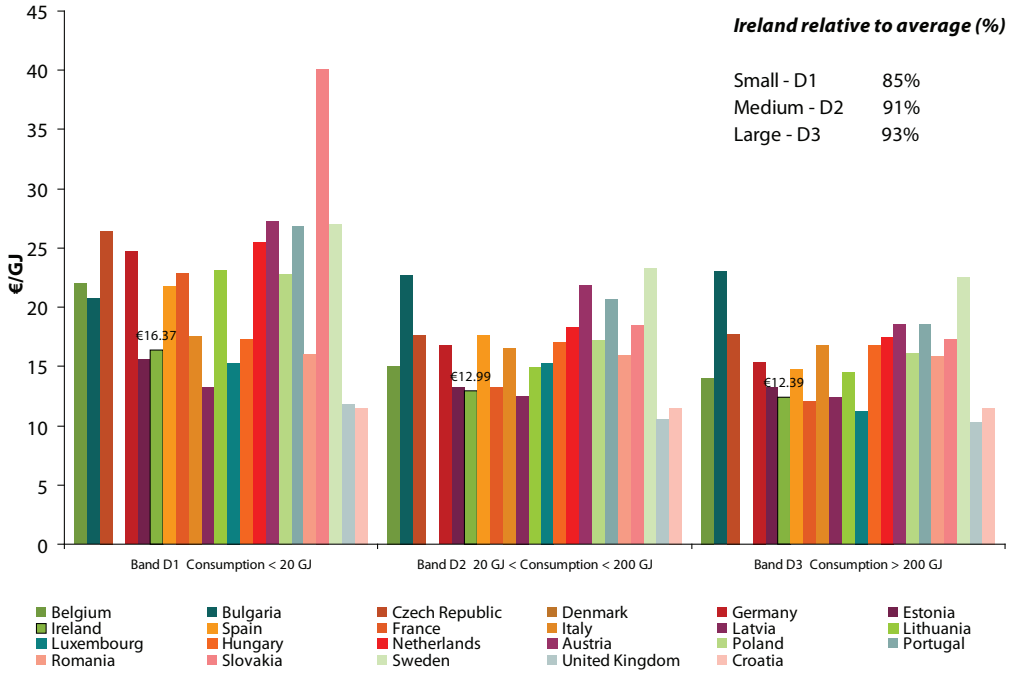
Gas Prices Domestic Consumers (all taxes included)	Cost €/GJ	Cost €/kWh	% change since last semester	Relative to EU Average 2008 - S1	Relative to EU Average 2007 - S2
Band D1 - Small	19.02	0.068	-36.9%	93.5%	151%
Band D2 - Medium	15.09	0.054	-10.4%	99.6%	117%
Band D3 - Large	14.4	0.052	-0.7%	100.1%	108%

Source: Eurostat

With reference to Table 18, Ireland's position, compared with the EU average domestic gas prices, improved in all bands compared with the second semester in 2007.

Some caveats should be acknowledged in looking at these basic euro prices. Non-euro countries prices are converted into euro at the prevailing exchange rates but don't take into account the varying purchasing powers in each country. To correct for this Eurostat also publish prices in purchasing power parities. These are presented in Figure 15.

Figure 15 Domestic Gas Prices in EU at Purchasing Power Parities (1st Semester 2008)



Source: Eurostat

When purchasing power parities are applied, Ireland is cheaper in all domestic consumption bands, ranging from 7% to 15% below the EU average.

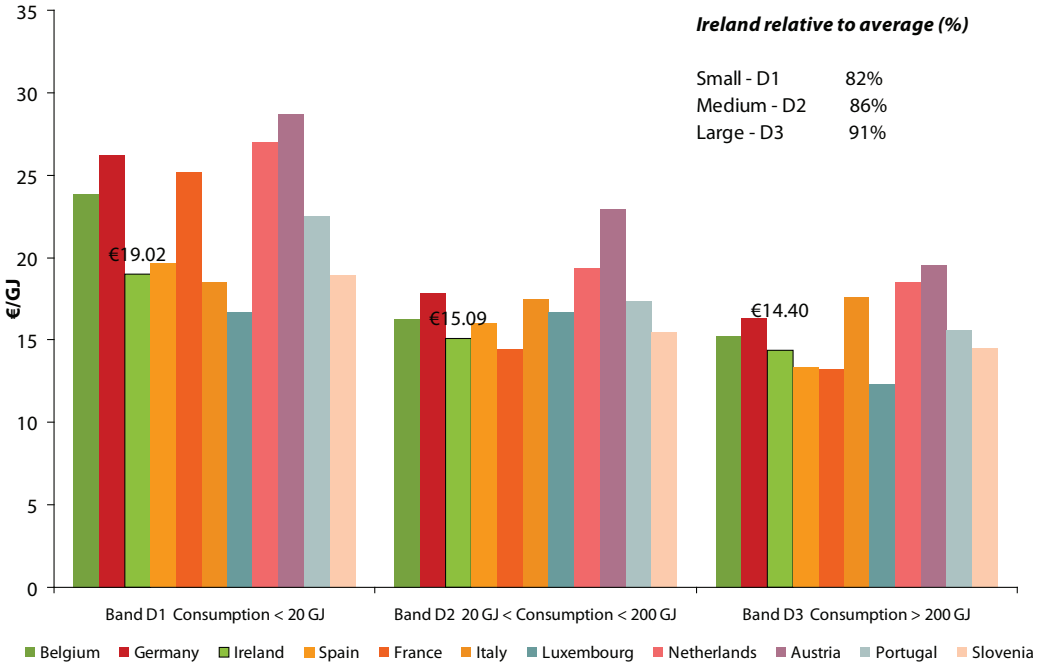
Table 19 Domestic Gas Prices (Purchasing Power Parity) (1st Semester 2008) – EU Comparison

Gas Prices Domestic Consumers at purchasing power parities (all taxes included)	Cost €/GJ	Cost €/kWh	Relative to EU Average 2008 - S1	Relative to EU Average 2007 - S2
Band D1 - Small	16.369	0.059	85%	129%
Band D2 - Medium	12.986	0.047	91%	98%
Band D3 - Large	12.393	0.045	93%	90%

Source: Eurostat

With reference to Table 19, Ireland's position, compared with the EU average domestic gas prices expressed in purchasing power parities, improved in all bands except band D3 compared with the second semester in 2007.

Figure 16 Domestic Gas Prices (€) in Eurozone (1st Semester 2008)



Source: Eurostat

When the focus is on just the Eurozone countries, Ireland again is below the average, ranging from 4% to 18%.

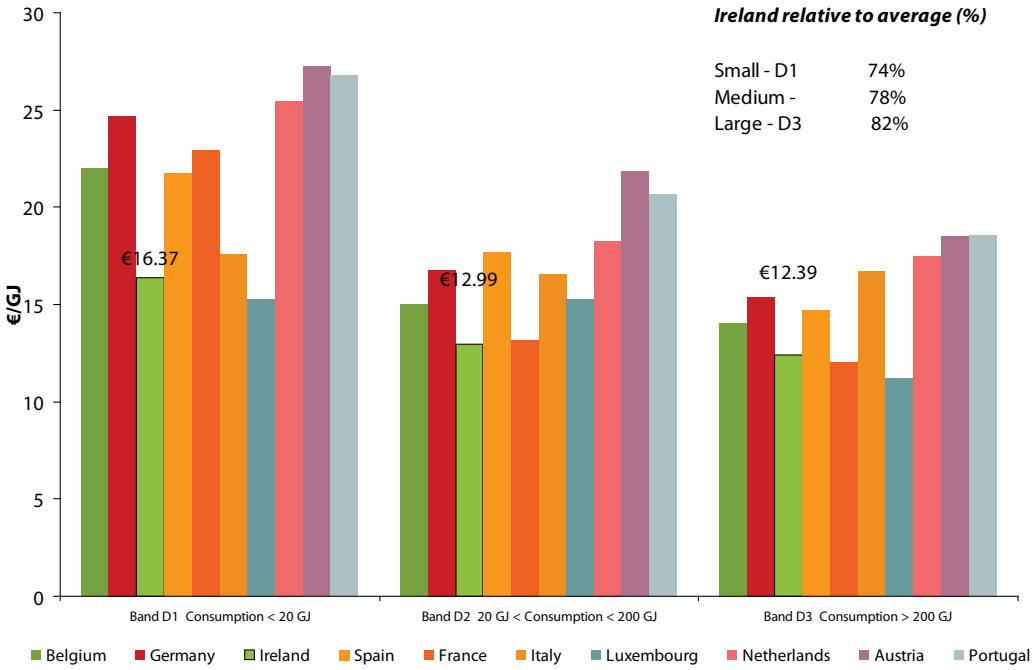
Table 20 Domestic Gas Prices (€) in Ireland (1st Semester 2008) – Eurozone Comparison

Gas Prices Domestic Consumers (all taxes included)	Cost €/GJ	Cost €/kWh	Relative to Eurozone Average 2008 - S1	Relative to Eurozone Average 2007 - S2
Band D1 - Small	19.02	0.068	82%	124%
Band D2 - Medium	15.09	0.054	86%	102%
Band D3 - Large	14.40	0.052	91%	93%

Source: Eurostat

With reference to Table 20, Ireland's position, compared with the Eurozone average domestic gas prices, improved in all bands compared with the second semester in 2007.

Figure 17 Domestic Gas Prices in Eurozone at Purchasing Power Parities (1st Semester 2008)



Source: Eurostat

Based on purchasing power parities, gas costs to the majority of domestic consumers ranged from 18% below to 26% below the average for the Eurozone countries.

Table 21 Domestic Gas Prices (Purchasing Power Parity) (1st Semester 2008) – Eurozone Comparison

Gas Prices Domestic Consumers at purchasing power parities (all taxes included)	**Cost €/GJ**	**Cost €/kWh**	**Relative to Eurozone Average 2008 - S1**	**Relative to Eurozone Average 2007 - S2**
Band D1 - Small	16.369	0.059	74%	108%
Band D2 - Medium	12.986	0.047	78%	88%
Band D3 - Large	12.393	0.045	82%	85%

Source: Eurostat

With reference to Table 21, Ireland's position, compared with the Eurozone average domestic gas prices expressed in purchasing power parities, improved in all bands compared with the second semester in 2007.

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Appendix 1 – Electricity & Gas Prices in Ireland

Table 22 Industrial Electricity Prices (€) – 1st Semester 2008

Industrial Electricity Prices (ex VAT) weighted average across all suppliers	€/kWh 2008 - S1	Change since 2007 - S2
Band IA Consumption < 20 MWh	0.148	-4.3%
Band IB 20 MWh < Consumption < 500 MWh	0.139	0.4%
Band IC 500 MWh < Consumption < 2,000 MWh	0.130	5.4%
Band ID 2,000 MWh < Consumption < 20,000 MWh	0.120	10.6%
Band IE 20,000 MWh < Consumption < 70,000 MWh	0.119	8.9%
Band IF 70,000 MWh < Consumption < 150,000 MWh	:	:
Band IG Consumption > 150,000 MWh	:	:

Source: Eurostat

Table 23 Industrial Gas Prices (€) – 1st Semester 2008

Industrial Gas Prices (ex VAT) weighted average across all suppliers	€/GJ 2008 - S1	€/kWh 2008 - S1	Change since 2007 - S2
Band I1 Consumption < 1,000 GJ	12.44	0.045	-1.0%
Band I2 1,000 GJ < Consumption < 10,000 GJ	10.88	0.039	0.5%
Band I3 10,000 GJ < Consumption < 100,000 GJ	11.05	0.040	13.7%
Band I4 100,000 GJ < Consumption < 1,000,000 GJ	8.05	0.029	16.5%
Band I5 1,000,000 GJ < Consumption < 4,000,000 GJ	:	:	:
Band I6 Consumption > 4,000 000 GJ	:	:	:

Source: Eurostat

Table 24 Household Electricity Prices (€) – 1st Semester 2008

Household Electricity Prices (all taxes included) weighted average across all suppliers	€/kWh 2008 - S1	Change since 2007 - S2
Band DA Consumption < 1,000 kWh	0.445	-2.8%
Band DB 1,000 kWh < Consumption < 2,500 kWh	0.209	-6.9%
Band DC 2,500 kWh < Consumption < 5,000 kWh	0.177	-7.8%
Band DD 5,000 kWh < Consumption < 15,000 kWh	0.157	-9.3%
Band DE Consumption > 15,000 kWh	0.137	-6.6%

Source: Eurostat

Table 25 Household Electricity Prices (Purchasing Power Parities) – 1st Semester 2008

Household Electricity Prices (all taxes included) weighted average across all suppliers	$€_{PPP}$/kWh 2008 - S1	Change since 2007 - S2
Band DA Consumption < 1,000 kWh	0.383	-1.4%
Band DB 1,000 kWh < Consumption < 2,500 kWh	0.180	-5.6%
Band DC 2,500 kWh < Consumption < 5,000 kWh	0.152	-6.5%
Band DD 5,000 kWh < Consumption < 15,000 kWh	0.135	-8.1%
Band DE Consumption > 15,000 kWh	0.118	-5.3%

Source: Eurostat

Table 26 Household Gas Prices (€) – 1st Semester 2008

Household Gas Prices (all taxes included) weighted average across all suppliers	€/GJ 2008 - S1	€/kWh 2008 - S1	Change since 2007 - S2
Band D1 Consumption < 20 GJ	19.02	0.068	-36.9%
Band D2 20 GJ < Consumption < 200 GJ	15.09	0.054	-10.4%
Band D3 Consumption > 200 GJ	14.40	0.052	-0.7%

Source: Eurostat

Table 27 Household Gas Prices (Purchasing Power Parities) – 1st Semester 2008

Household Gas Prices (all taxes included) weighted average across all suppliers	€$_{PPP}$/GJ 2008 - S1	€/kWh 2008 - S1	Change since 2007 - S2
Band D1 Consumption < 20 GJ	16.37	0.059	-36.0%
Band D2 20 GJ < Consumption < 200 GJ	12.99	0.047	-9.2%
Band D3 Consumption > 200 GJ	12.39	0.045	0.7%

Source: Eurostat

Appendix 2 – Methodologies for Assessing Prices

The International Energy Agency (IEA) are responsible for a major international compilation of energy prices at all market levels: import prices, industry prices and consumer prices. A large portion of the data is drawn from a quarterly reporting system of end-use energy prices initiated in 1981.

While this provides an extensive databank of energy prices, making comparisons between countries is not a trivial task. Definitions for prices shown for a particular energy source used in a given sector may differ from country to country. At one extreme, gasoline prices are closely comparable between countries; at the other extreme, only broad order of magnitude comparisons between coal prices may be possible.

Data collected in Ireland for *IEA's Energy Prices & Taxes* surveys are overall average prices for a given sector and therefore represent an aggregate price for small, medium and large consumers.

Eurostat collects electricity and gas prices under *Council Directive 90/377/EEC* of 29 June 1990 concerning a Community procedure to improve the transparency of gas and electricity prices charged to industrial end-users. This Directive obliges Member States to ensure that undertakings that supply electricity and gas to industrial end-users provide statistical data on an annual basis. Data must be provided to Eurostat on the price and terms of sale of gas and electricity to industrial end-users, the price systems in use and the breakdown of consumers and the corresponding volumes by category of consumption. Sustainable Energy Ireland has responsibility for the collection, collation and reporting of data on Ireland's behalf.

In 2002 Eurostat's Energy Statistics Committee meeting gave the mandate to set up a task force to study improvements in the existing data collection and methodology to take account in particular of market liberalization that changed the context for the methodology applied. *Directive 90/377/EEC* was recast in the interests of clarity and as a result the revised methodology has been applied since 1st January 2008. The electricity and gas price comparisons assessed in sections 3 and 4 of this report are drawn from the first set of results arising from this new methodology.

This new methodology reflects more accurately the actual cost of gas and electricity to final consumers as it incorporates all the factors in the cost of their use. The methodology is comprehensive and transparent and in each customer category, information is sought from each supplier regarding the volume of sales and the associated revenue. This allows computation of a national sales weighted unit price for electricity and gas for each customer category. It facilitates the comparison of costs across the EU but care must be taken in choosing the relevant costs to compare and to allow for currency and purchasing power differences.

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