

Understanding Electricity & Gas Prices in Ireland

2nd SEMESTER (JULY – DECEMBER) 2008





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Report prepared by
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*Energy Policy Statistical
Support Unit*

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.

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 third cycle of electricity and gas price data gathered under this improved methodology and is thus limited to the period July – December 2008, i.e. the second semester 2008.

- During the first semester of 2008, European Brent nominal crude oil spot prices increased by 39% to €140 per 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 fell to around \$43 - \$44 per barrel in early 2009.
- Since July 2008, there has been a sharp decline in the price of crude oil to a low of around \$34 per barrel in late December.
- Crude oil prices during the first semester 2009 have risen to the \$60 - \$70 per barrel level.

Highlights - Business Customers

- Industrial/Services sector electricity prices in Ireland for the second half of 2008 were above the EU average in all consumption bands for which data is available, ranging from 12% to 38% above.
- Over the 12 month period from the second semester in 2007 to the second semester in 2008 electricity prices to business in Ireland increased by 14.9% on average. This increase for Ireland was lower than the 15.5% experienced in Europe and the 19.3% in the Euro Area¹ over the same period.
- Industrial/Services sector gas prices in Ireland for the second half of 2008 were above the average for EU countries in the lowest consumption bands (bands I1 and I2), ranging from being 3% to 12% above. Gas prices in Ireland were at the EU average in band I3 (10,000 - 100,000 GJ per annum) and 6% below the average in band I4 (100,000 - 1,000,000 GJ per annum).
- Over the 12 month period from the second semester in 2007 to the second semester in 2008 gas prices to business in Ireland increased by 13.1% over the 12 month period. This increase for Ireland was much lower than the 29% experienced in both Europe and the Euro Area.
- Industrial/services sector gas prices in Ireland for the first half of 2008 were below the average for Euro Area countries in all bands except for the lowest consumption band (band I1), ranging from 2% to 9% below. In the lowest consumption band (band I1) Ireland was 7% above the average in the Euro Area.

Highlights - Residential Customers

- Using purchasing power parities, Ireland is cheaper than the average in the EU for domestic electricity in the two highest consumption bands and specifically in the highest consumption band (band DE) 13% below the average and in the second highest consumption band (band DD) 2% below.
- Over the 12 month period from the second semester of 2007 to the second semester of 2008 price of domestic electricity in Ireland increased by 6%. This increase for Ireland was lower than the 9.6% experienced in the EU and the 9.9% in the Euro Area.
- Using purchasing power parities to compare prices, Ireland is cheaper in all domestic gas consumption bands, ranging from 17% to 30% below the EU average.
- Over the 12 month period from the second semester of 2007 to the second semester of 2008 price of domestic gas in Ireland increased by 7.1%. This increase for Ireland was much lower than the 20.5% experienced in the EU and the 18.2% in the Euro Area.

¹ The 'Euro Area' is the official term for the group of EU Member States that have adopted the euro as their currency (informally known as the Eurozone).

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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 July – December 2008, i.e. the second semester 2008. This report covers the period during which global oil prices collapsed 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 2nd 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 third 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 2007¹ 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 supply³. According to EU statistics⁴, 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 prices⁵ over the period 2004 – July 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 first semester (S1) of 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 during the first semester 2009 have risen to the \$60 - \$70/barrel level.

Figure 1 Crude Oil Price Trend 2004 – to August 18th 2009



Source: EIA⁶

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 Agency¹ 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 China², India, the Middle East and Latin America) and had offset reduced demand in the largest global energy consumer, the United States³ (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 analysis⁴ 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 worldwide⁵ 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)⁶, 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 Commission⁷. 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 years⁸. This was associated with specific supply characteristics

1 International Energy Agency, 2008, *Medium Term Oil Market Report*, www.iea.org.

2 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

3 International Energy Agency, 2008, *Oil Market Report – A Monthly Market and Stocks Assessment July 2008.*, www.iea.org.

4 International Energy Agency, 2008, *Oil Market Report – December 2008 Supplement.*, www.iea.org.

5 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*

6 Cambridge Energy Research Associates, 2008, *An Enduring Relationship? Oil and Gas Prices in Europe.*

7 European Commission, 2008, *Progress in creating the internal gas and electricity market COM(2008) 192 Final.*

8 Sustainable Energy Ireland, 2007, *Security of Supply in Ireland 2007 Report.*

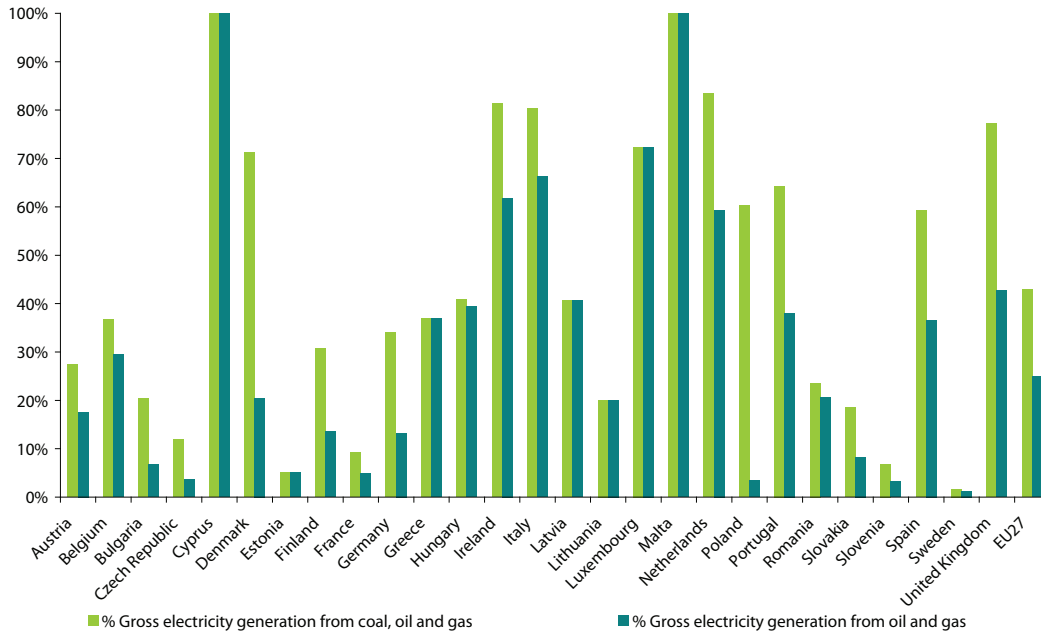
of that market, namely the decline of gas production from the UK Continental Shelf and the timing of new infrastructure allowing increased imports from Norway (Langed pipeline September 2006), Belgium (additional compression at Zeebrugge November 2006) and the Netherlands (BBL Balgzand Bacton Leiding November 2006)¹. 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. This is particularly significant with respect to an electricity fuel mix which relies on internationally traded fuels such as gas and oil but also coal. During periods of volatile price movements in these fuels there is a strong knock-on impact electricity prices. This provides one aspect of increased understanding required to assess different electricity prices in EU Member States. Other factors that impact electricity prices 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).

Figure 2 and Table 1 show the percentage of electricity generation in Europe 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 (excl. peat) in Europe (2007)



Source: Based on Eurostat data

As highlighted in Table 1 and with the exception of Cyprus and Malta, Ireland has the second highest overall dependency of electricity generation on fossil fuels at 81% behind the Netherlands at 83%. Ireland also has a high dependency on oil and gas generation at 62%. Only Italy and Luxembourg have higher gas and oil generation dependency than Ireland at 66% and 72% respectively.

For gas dependency in electricity generation, Ireland and Italy share the third highest share at 55% behind Netherlands at 57% and Luxembourg at 72%.

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

Table 1 Percentage of Gross Electricity Generation from Fossil Fuels (excl. peat) in Europe (2007)

Percentage Electricity Generated from:	Austria	Belgium	Bulgaria	Czech Republic	Cyprus	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy
Coal, Oil & Gas	27%	37%	20%	12%	100%	71%	5%	31%	9%	34%	37%	41%	81%	80%
Gas & Oil	18%	29%	7%	4%	100%	20%	5%	14%	5%	13%	37%	39%	62%	66%
Gas	16%	29%	5%	4%	0%	18%	5%	13%	4%	12%	22%	38%	55%	55%

Percentage Electricity Generated from:	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom	EU27
Coal, Oil & Gas	41%	20%	72%	100%	83%	60%	64%	24%	19%	7%	59%	2%	77%	43%
Gas & Oil	41%	20%	72%	100%	59%	3%	38%	21%	8%	3%	37%	1%	43%	25%
Gas	40%	17%	72%	0%	57%	2%	28%	19%	6%	3%	31%	1%	42%	22%

Source: Eurostat

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.

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.

In 2008, Eirgrid launched *Grid 25* as its strategy for planning a major infrastructure programme to put in place the electricity transmission system needed for economic growth in Ireland. The strategy sets out a investment of a further €4 billion approximately over the period to 2025 that will see the development of the transmission system to be capable of accommodating increased demand for electricity, meeting 40% of consumption from renewables, adequate conventional capacity to complement the level of wind on the system and provide further interconnection to the UK or Europe beyond the 500 MW connector to the UK currently under construction.

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 gas¹ 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

¹ 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.

consumption is between 500 and 2,000 MWh¹. The non-recoverable tax varies from zero (for 6 Member States including Ireland) to Austria at 1.67 c/kWh, the latter representing 16% of ex-VAT price of electricity (data for the *all taxes excluded* price 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 (2nd 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
Estonia	6.01	5.50	0.51	8.5%
France	6.15	5.61	0.54	8.8%
Bulgaria	6.49	6.44	0.05	0.8%
Finland	6.74	6.47	0.27	4.0%
Sweden	7.73	7.68	0.05	0.6%
Latvia	7.96	7.96	0.00	0.0%
Lithuania	8.38	8.38	0.00	0.0%
Norway	8.71	7.48	1.23	14.1%
Portugal	9.01	7.81	1.20	13.3%
Poland	9.10	8.53	0.57	6.3%
France	9.20	9.20	0.00	0.0%
Croatia	9.47	9.33	0.14	1.5%
Romania	9.50	9.50	0.00	0.0%
Sweden	9.85	9.51	0.34	3.5%
Denmark	10.19	8.85	1.34	13.2%
Netherlands	10.20	8.90	1.30	12.7%
Luxembourg	10.34	9.99	0.35	3.4%
Spain	10.68	10.16	0.52	4.9%
Austria	10.72	9.05	1.67	15.6%
Germany	10.78	9.51	1.27	11.8%
United Kingdom	10.88	10.50	0.38	3.5%
Belgium	10.96	..	..	..
Czech Republic	11.21	11.08	0.13	1.2%
Hungary	12.18	11.95	0.23	1.9%
Slovakia	12.90	12.83	0.07	0.5%
Ireland	14.19	14.19	0.00	0.0%
Italy	14.81	..	..	..
Malta	16.19	16.19	0.00	0.0%
Cyprus	18.07	17.85	0.22	1.2%

Source: Eurostat

1 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 annum¹. The non-recoverable taxes vary from zero to €8.09 per GJ in Denmark, the latter representing 48% of ex-VAT price of gas.

Table 3 Gas Prices and Taxes for Industrial Consumers (2nd semester 2008)

	Basic Price plus Non-recoverable Taxes	Non-recoverable Taxes		Non-recoverable Taxes as % of ex-VAT price
	in € per GJ	Basic Price	in € per GJ	
Croatia	6.41	6.41	0.00	0.0%
Bulgaria	7.43	7.43	0.00	0.0%
Romania	7.76	6.36	1.41	18.1%
United Kingdom	8.69	8.24	0.45	5.2%
Estonia	8.76	8.57	0.20	2.2%
Spain	9.03	9.03	0.00	0.0%
Portugal	9.21	9.21	0.00	0.0%
Finland	9.30	8.80	0.50	5.4%
Poland	9.33	9.33	0.00	0.0%
Belgium	10.48	10.34	0.14	1.3%
Netherlands	10.64	9.15	1.49	14.0%
France	10.85	10.61	0.25	2.3%
Czech Republic	10.95	10.61	0.34	3.1%
Ireland	10.99	10.99	0.00	0.0%
Latvia	11.01	10.99	0.01	0.1%
Italy	11.32	10.82	0.50	4.4%
Hungary	11.71	11.41	0.30	2.6%
Lithuania	12.14	12.14	0.00	0.0%
Sweden	12.66	11.87	0.79	6.2%
Slovakia	13.12	12.94	0.18	1.4%
Germany	13.81	12.69	1.12	8.1%
Sweden	14.72	12.89	1.83	12.4%
Denmark	16.90	8.81	8.09	47.9%
Luxembourg	..	..	..	..
Austria	..	..	..	..

Source: Eurostat

¹ Based on industrial gas consumption band I3

Table 4 Electricity Prices and Taxes for Domestic Consumers (2nd 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	8.23	6.85	0.00	1.38	16.8%
Estonia	8.50	6.70	0.51	1.29	21.2%
Lithuania	8.65	7.32	0.00	1.33	15.4%
Latvia	10.03	9.56	0.00	0.47	4.7%
France	10.99	10.05	0.00	0.94	8.6%
Romania	11.03	9.20	0.00	1.83	16.6%
Sweden	11.56	9.19	0.45	1.92	20.5%
Croatia	11.84	9.61	0.14	2.09	18.8%
France	12.32	9.31	1.26	1.75	24.4%
Finland	12.73	9.55	0.88	2.30	25.0%
Poland	12.95	10.05	0.57	2.33	22.4%
Czech Republic	12.99	10.80	0.12	2.07	16.9%
Portugal	15.25	10.66	3.87	0.72	30.1%
Slovakia	15.27	12.83	0.00	2.44	16.0%
Malta	15.36	14.63	0.00	0.73	4.8%
Hungary	15.53	12.81	0.13	2.59	17.5%
Luxembourg	15.56	13.70	0.98	0.88	12.0%
Spain	15.57	12.77	0.65	2.15	18.0%
United Kingdom	16.03	15.30	0.00	0.73	4.6%
Norway	17.00	12.37	1.23	3.40	27.2%
Sweden	17.46	11.37	2.63	3.46	34.9%
Austria	17.72	12.68	2.08	2.96	28.4%
Netherlands	17.80	13.20	1.80	2.80	25.8%
Ireland	20.33	17.91	0.00	2.42	11.9%
Cyprus	20.40	17.54	0.22	2.64	14.0%
Belgium	20.81	15.78	1.42	3.61	24.2%
Germany	21.95	13.41	5.02	3.52	38.9%
Italy	21.95	..	..	2.00	..
Denmark	27.85	13.23	9.05	5.57	52.5%

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 annum¹. The VAT charges are shown separately from other taxes for the purposes of comparison. There are 9 Member States (including Ireland) who apply VAT charges only to domestic customers. Total taxes (VAT plus other taxes) vary from 0.47 c/kWh (Latvia) to 14.62 c/kWh (Denmark), or between 4.6% and 52% 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 annum². 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 total tax vary from 55 c/GJ (UK) to €13.44/GJ (Denmark) or 4.2% to 51% of final domestic gas prices.

1 Based on household electricity consumption band DC

2 Based on household electricity consumption band D2

Table 5 Gas Prices and Taxes for Domestic Consumers¹ (2nd 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	7.70	6.31	0.00	1.39	18.0%
Romania	9.33	6.14	1.69	1.49	34.1%
Estonia	10.30	8.38	0.35	1.57	18.7%
Lithuania	10.63	9.01	0.00	1.62	15.3%
Bulgaria	10.86	9.05	0.00	1.81	16.7%
Slovakia	12.92	10.86	0.00	2.06	16.0%
Hungary	12.93	10.77	0.00	2.15	16.7%
United Kingdom	13.29	12.73	0.00	0.55	4.2%
Latvia	13.88	13.20	0.01	0.66	4.9%
Poland	14.30	11.72	0.00	2.58	18.0%
Czech Republic	14.69	12.34	0.00	2.34	16.0%
France	16.06	13.71	0.00	2.35	14.6%
Belgium	17.29	13.92	0.36	3.01	19.5%
Portugal	17.48	16.65	0.00	0.83	4.8%
Austria	17.72	13.04	1.75	2.93	26.4%
Ireland	18.05	15.90	0.00	2.15	11.9%
Spain	18.14	15.64	0.00	2.50	13.8%
Sweden	19.77	15.68	0.79	3.30	20.7%
Italy	19.99	13.55	3.10	3.34	32.2%
Netherlands	21.03	13.41	4.27	3.36	36.3%
Germany	21.17	16.14	1.65	3.38	23.8%
Denmark	26.57	13.13	8.13	5.31	50.6%
Sweden	28.82	16.95	6.19	5.68	41.2%
Luxembourg	..	..	..	..	..

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.

1 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.

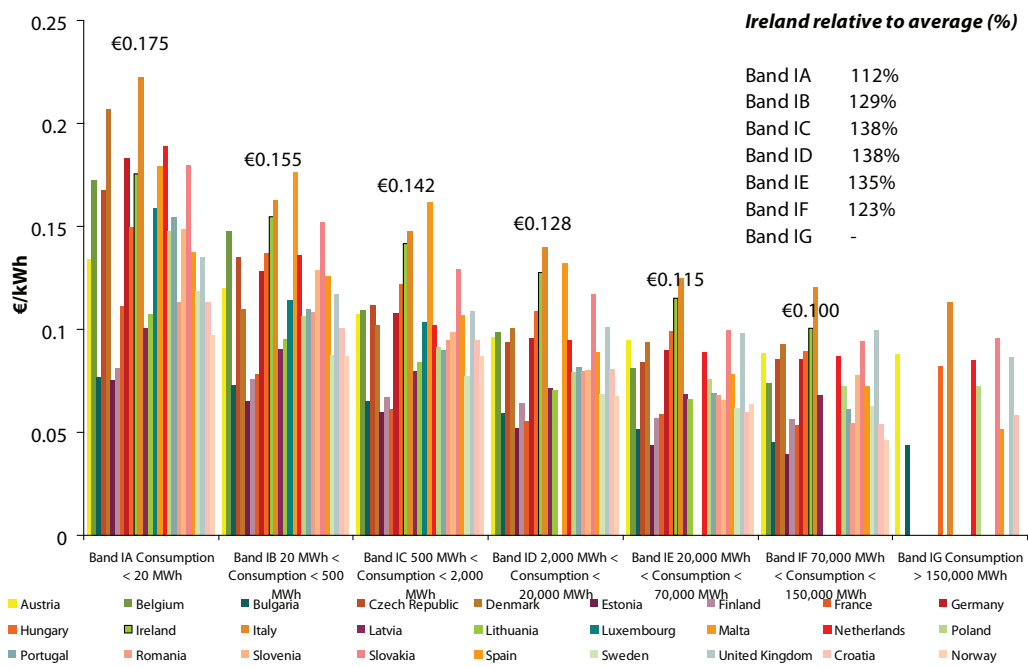
Electricity prices are surveyed for the following categories of industrial end-user:

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 3 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 second semester of 2008. For each consumption band, the price shown on Figure 3 is the average electricity price excluding VAT. The analysis compares firstly industrial/services electricity costs in euro across all the countries and then makes a comparison based on Euro Area 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 3 Industrial/Services Electricity Prices (€) in EU (2nd Semester 2008)



Source: Eurostat

Industrial/Services sector electricity prices in Ireland for the second half of 2008 were above the average in all consumption bands for which data is available, ranging from 12% to 38% above, as shown in Figure 3 and Table 8.

Table 7 shows prices in band IC (500 – 2000 MWh per annum) for the three semesters between the second half of 2007 and the end of 2008. Also shown is the price change for each country between the semesters and for the latest 12 months. Price change in the second semester of 2008 ranged from a 33% increase in Malta to a 4.1% price decrease in France. Ireland experienced a 9% increase. Europe as a whole experienced a 5.2% increase and the Euro Area 3.8% increase.

Note that the percentage price change shown in Table 7 is calculated from the published Eurostat euro values for each country. Percentage price change in national currencies may differ considerably from these.

Over the 12 month period from the second semester (S2) 2007 to S2 2008 price change varied from 34% increase in Latvia to a 0.3% increase in Luxembourg. Ireland experienced an increase of 14.9% over the 12 month period. This increase for Ireland was lower than the 15.5% experienced in Europe and the 19.3% in the Euro Area.

Table 7 Industrial/Services Electricity Prices in band IC in Europe (S2 2007 to S2 2008)

Band IC	without VAT (c/kWh)			% change		
	July 07 -	Jan 08 -	July 08 -	S2 '07 to	S1 '08 to	12 months
	Dec 07	June 08	Dec 08	S1 '08	S2 '08	to S2 '08
Austria	9.40	10.64	10.72	13.2%	0.8%	14.0%
Belgium	9.49	10.69	10.96	12.6%	2.5%	15.5%
Bulgaria	5.68	5.62	6.49	-1.1%	15.5%	14.3%
Croatia	7.38	7.56	9.47	2.4%	25.3%	28.3%
Cyprus	13.91	14.27	18.07	2.6%	26.6%	29.9%
Czech Republic	9.46	11.07	11.21	17.0%	1.3%	18.5%
Germany	10.13	10.53	10.78	3.9%	2.4%	6.4%
Denmark	8.95	9.13	10.19	2.0%	11.6%	13.9%
Estonia	5.30	5.67	6.01	7.0%	6.0%	13.4%
Finland	5.86	6.40	6.74	9.2%	5.3%	15.0%
France	5.80	6.41	6.15	10.5%	-4.1%	6.0%
Greece	7.89	8.61	9.20	9.1%	6.9%	16.6%
Hungary	11.28	11.42	12.18	1.2%	6.7%	8.0%
Ireland	12.35	13.02	14.19	5.4%	9.0%	14.9%
Italy	..	13.99	14.81	..	5.9%	..
Latvia	5.94	6.60	7.96	11.1%	20.6%	34.0%
Lithuania	7.44	8.29	8.38	11.4%	1.1%	12.6%
Luxembourg	10.31	10.31	10.34	0.0%	0.3%	0.3%
Malta	12.21	12.21	16.19	0.0%	32.6%	32.6%
Netherlands	9.70	9.90	10.20	2.1%	3.0%	5.2%
Norway	7.56	7.84	8.71	3.7%	11.1%	15.2%
Poland	9.05	8.81	9.10	-2.7%	3.3%	0.6%
Portugal	8.68	8.95	9.01	3.1%	0.7%	3.8%
Romania	9.08	8.86	9.50	-2.4%	7.2%	4.6%
Slovakia	10.53	11.51	12.90	9.3%	12.1%	22.5%
Slovenia	9.10	9.32	9.85	2.4%	5.7%	8.2%
Spain	9.58	9.61	10.68	0.3%	11.1%	11.5%
Sweden	6.56	6.93	7.73	5.6%	11.5%	17.8%
United Kingdom	10.78	9.77	10.88	-9.4%	11.4%	0.9%
Euro Area	8.76	10.07	10.45	15.0%	3.8%	19.3%
EU 27	8.91	9.78	10.29	9.8%	5.2%	15.5%

Source: Eurostat

Table 8 shows Ireland's position, relative to the EU average electricity prices to industry/services for the second semester 2008 with the first semester 2008 shown in grey.

Table 8 Industrial/Services Electricity Prices (€) in Ireland (2nd Semester 2008) – EU Comparison

Electricity Prices Industrial/Services Consumers (excluding VAT)	Cost €/kWh	% change since last semester	Relative to EU Average 2008-S2	Relative to EU Average 2008-S1
Band IA (Consumption < 20 MWh)	0.175	18.7%	112%	99%
Band IB (20 MWh < Consumption < 500 MWh)	0.155	11.4%	129%	118%
Band IC (500 MWh < Consumption < 2,000 MWh)	0.142	9.0%	138%	130%
Band ID (2,000 MWh < Consumption < 20,000 MWh)	0.128	6.2%	138%	134%
Band IE (20,000 MWh < Consumption < 70,000 MWh)	0.115	-3.4%	135%	152%
Band IF (70,000 MWh < Consumption < 150,000 MWh)	0.100	:	123%	:
Band IG (Consumption > 150,000 MWh)	:	:	:	:

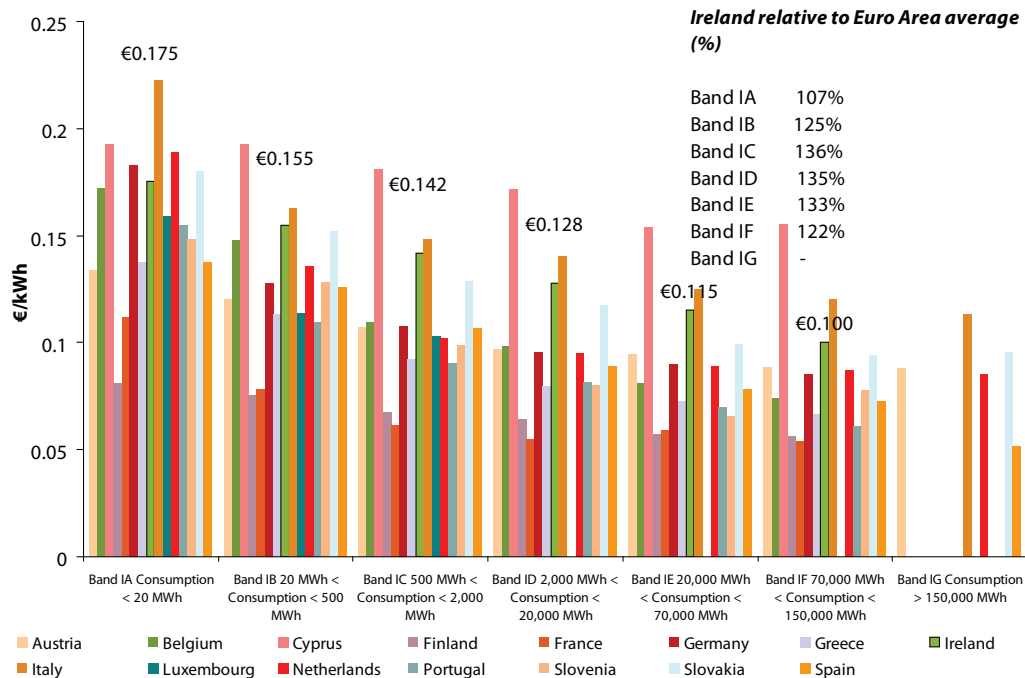
Source: Eurostat

Figure 4 illustrates the data presented in Figure 3, 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 62% of its electricity generated by gas and oil. Interestingly, Slovakia, which also falls into the highest range as shown in Figure 4, has 19% coal, oil and gas in the generation fuel mix and just 8% oil and gas.

Figure 4 Industrial/Services Electricity Prices in Europe (2nd Semester 2008)



Figure 5 Industrial/Services Electricity Prices (€) in Euro Area (2nd Semester 2008)


Within the Euro Area countries, industrial/services electricity prices in Ireland for the second half of 2008 were above the average in all bands where data is available, ranging from 7% above in band IA to 36% above in band IC.

Table 9 Industrial/Services Electricity Prices (€) (2nd Semester 2008) – Euro Area Comparison

Electricity Prices Industrial/Services Consumers (excluding VAT)	Cost €/kWh	Relative to Euro Area Average 2008 - S2	Relative to Euro Area Average 2008 - S1
Band IA (Consumption < 20 MWh)	0.175	107%	94%
Band IB (20 MWh < Consumption < 500 MWh)	0.155	125%	113%
Band IC (500 MWh < Consumption < 2,000 MWh)	0.142	136%	126%
Band ID (2,000 MWh < Consumption < 20,000 MWh)	0.128	135%	130%
Band IE (20,000 MWh < Consumption < 70,000 MWh)	0.115	133%	151%
Band IF (70,000 MWh < Consumption < 150,000 MWh)	0.100	122%	:
Band IG (Consumption > 150,000 MWh)	:	:	:

Source: Eurostat

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.

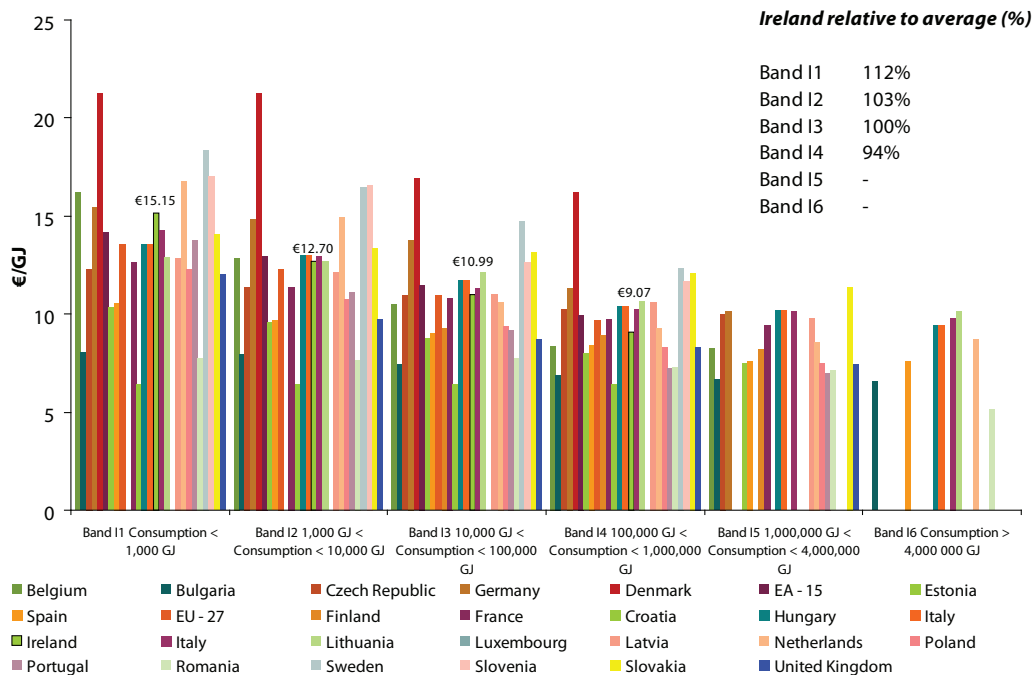
Gas prices are surveyed for the following categories of industrial end-user:

Table 10 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 6 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 second semester of 2008. As for electricity prices the prices shown in Figure 6 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 Euro Area countries only. The *excluding (VAT and other) recoverable taxes price* was used as this is the most relevant for industrial/services consumers.

Figure 6 Industrial/Services Gas Prices (€) in EU (2nd Semester 2008)



Source: Eurostat

Industrial/Services sector gas prices in Ireland for the second half of 2008 were above the average for EU countries in the lowest consumption bands, bands I1 and I2, ranging from being 3% to 12% above. Gas prices in Ireland were at the EU average in band I3 (10,000 – 100,000 GJ per annum) and 6% below the average in band I4 (100,000 – 1,000,000 GJ per annum).

Table 11 shows prices in band I3 for the three semesters between the second half of 2007 and the end of 2008. Also shown is the price change for each country between the semesters and for the latest 12 months. Price change in the second semester of 2008 ranged from a 47% increase in Slovakia to a 0.5% price decrease in Ireland. Interestingly only Ireland and Romania (-0.3%) experienced price drops in this consumption band during the latter half of 2008. In bands I1, I2 and I4 Ireland experienced price increases of 21.8%, 16.7% and 12.7% respectively. Europe as a whole experienced a 15.8% increase in band I3 and the Euro Area 15.2% increase.

Note that the percentage price change shown in Table 11 is calculated from the published Eurostat euro values for each country. Percentage price change in national currencies may differ considerably from these.

Over the 12 month period S2 2007 to S2 2008 price change varied from 130% increase in Denmark to a 1.6% decrease in Romania. Ireland experienced an increase of 13.1% over the 12 month period. This increase for Ireland was much lower than the 29% experienced in Europe and the 29% in the Euro Area.

Table 11 Industrial/Services Gas Prices in band I3 in Europe (S2 2007 to S2 2008)

Band I3	without VAT (€/GJ)			% change		
	July 07 - Dec 07	Jan 08 - June 08	July 08 - Dec 08	S2 '07 to S1 '08	S1 '08 to S2 '08	12 months to S2 '08
Belgium	7.83	9.15	10.48	16.9%	14.5%	33.8%
Bulgaria	5.02	5.72	7.43	14.0%	30.0%	48.1%
Croatia	6.42	6.37	6.41	-0.7%	0.6%	-0.1%
Czech Republic	6.82	8.87	10.95	30.2%	23.4%	60.6%
Germany	10.79	12.40	13.81	14.9%	11.4%	28.0%
Denmark	7.34	..	16.90	..	..	130.2%
Estonia	5.04	6.97	8.76	38.4%	25.7%	74.0%
Finland	6.80	7.90	9.30	16.2%	17.7%	36.8%
France	8.51	9.23	10.85	8.5%	17.6%	27.5%
Hungary	8.57	9.69	11.71	13.0%	20.9%	36.6%
Ireland	9.72	11.05	10.99	13.7%	-0.5%	13.1%
Italy	8.36	9.34	11.32	11.7%	21.2%	35.4%
Latvia	7.70	7.92	11.01	2.8%	39.0%	42.9%
Lithuania	6.76	8.79	12.14	30.0%	38.2%	79.6%
Luxembourg	9.40	11.30	..	20.2%	..	..
Netherlands	9.10	9.61	10.64	5.7%	10.7%	16.9%
Poland	7.22	8.36	9.33	15.9%	11.6%	29.3%
Portugal	8.20	8.69	9.21	6.0%	6.0%	12.4%
Romania	7.89	7.79	7.76	-1.3%	-0.3%	-1.6%
Slovakia	7.98	8.92	13.12	11.7%	47.2%	64.4%
Slovenia	8.84	10.12	12.66	14.5%	25.1%	43.2%
Spain	7.07	7.64	9.03	8.0%	18.2%	27.7%
Sweden	12.49	14.37	14.72	15.0%	2.4%	17.8%
United Kingdom	7.17	7.73	8.69	7.8%	12.4%	21.1%
Euro Area	8.90	9.95	11.47	11.8%	15.2%	28.9%
EU 27	8.48	9.46	10.96	11.5%	15.8%	29.2%

Source: Eurostat

With reference to Table 12, Ireland's position, compared with the EU average gas prices to industry, improved in bands I3 & I4 and disimproved in bands I1 & I2 compared with the first semester 2008.

Table 12 Industrial/Services Gas Prices (€) in Ireland (2nd Semester 2008) – EU Comparison

Gas Prices Industrial/Services Consumers (excluding VAT)	Cost €/GJ	% change since last semester	Relative to EU Average 2008 - S2	Relative to EU Average 2008 - S1
Band I1 (Consumption < 1,000 GJ)	15.15	21.8%	112%	106%
Band I2 (1,000 GJ < Consumption < 10,000 GJ)	12.7	16.7%	103%	102%
Band I3 (10,000 GJ < Consumption < 100,000 GJ)	10.99	-0.5%	100%	118%
Band I4 (100,000 GJ < Consumption < 1,000,000 GJ)	9.07	12.7%	94%	97%
Band I5 (1,000,000 GJ < Consumption < 4,000,000 GJ)	:	:	:	:
Band I6 (Consumption > 4,000 000 GJ)	:	:	:	:

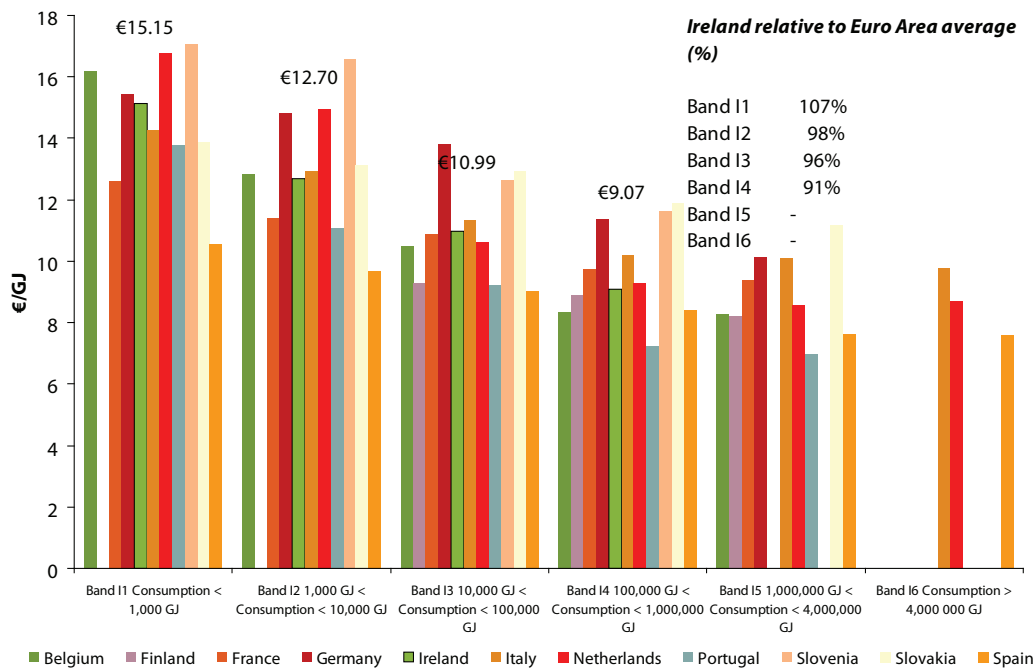
Source: Eurostat

Figure 7 illustrates the data presented in Figure 6, 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. In this consumption band, Ireland was at the EU average while the UK was in a lower price range. 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 7 Industrial/Services Gas Prices in Europe (2nd Semester 2008)



Figure 8 Industrial/Services Gas Prices (€) in Euro Area (2nd Semester 2008)



Source: Eurostat

Industrial/services gas prices in Ireland for the first half of 2008 were below the average for Euro Area countries in all bands except band I1, ranging from 2% to 9% below (see Table 13). In consumption band I1 Ireland was 7% above the average in the Euro Area.

Table 13 Industrial/Services Gas Prices (€) in Ireland (2nd Semester 2008) – Euro Area Comparison

Gas Prices Industrial/Services Consumers (excluding VAT)	Cost €/GJ	Relative to EU Average 2008 - S2	Relative to EU Average 2008 - S1
Band I1 (Consumption < 1,000 GJ)	15.15	107%	101%
Band I2 (1,000 GJ < Consumption < 10,000 GJ)	12.7	98%	97%
Band I3 (10,000 GJ < Consumption < 100,000 GJ)	10.99	96%	113%
Band I4 (100,000 GJ < Consumption < 1,000,000 GJ)	9.07	91%	93%
Band I5 (1,000,000 GJ < Consumption < 4,000,000 GJ)	:	:	:
Band I6 (Consumption > 4,000 000 GJ)	:	:	:

Source: Eurostat

With reference to Table 13, Ireland's position, compared with the Euro Area average gas prices to industry, improved in bands I3 & I4 and disimproved in bands I1 & I2 compared with the first semester in 2008. This is the reverse of what occurred between the previous two semesters and reflects the closer coupling of the price for large consumers to international price movements.

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:

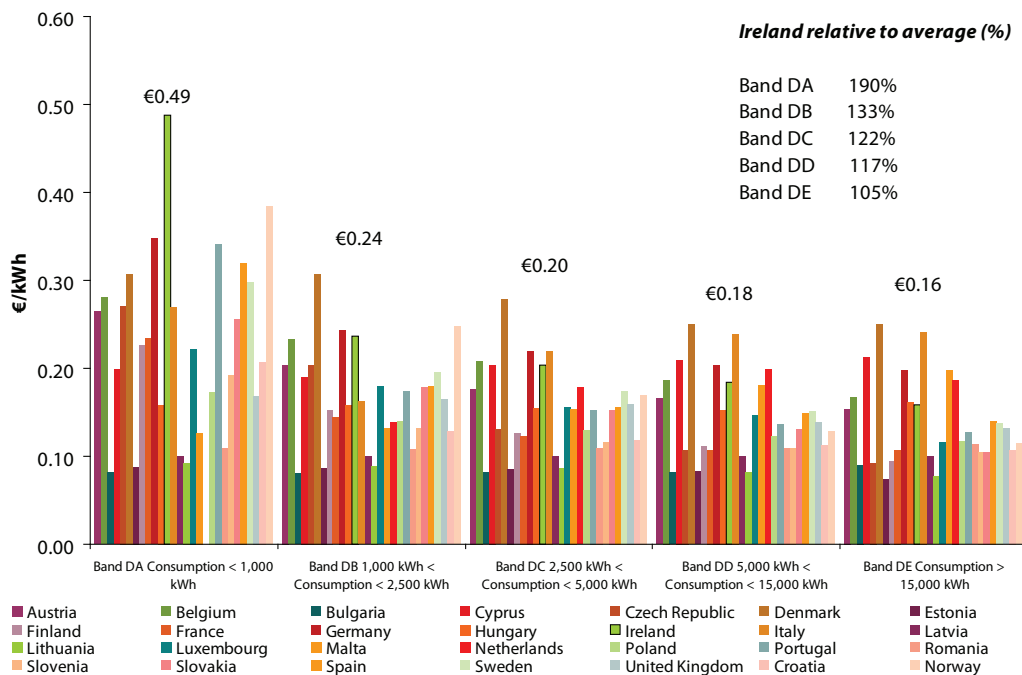
Table 14 Categories for Domestic End Use of Electricity

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 second semester of 2008 (July to December). 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 Euro Area 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 9 Domestic Electricity Prices (€) in EU (2nd Semester 2008)



Source: Eurostat

With reference to Figure 9 Ireland showed the highest cost in the lowest consumption band (DA band). However, this is to be expected if there are a significant number of very low usage accounts such as holiday homes. Excluding band DA, Ireland was between 5% and 33% above the EU average for electricity prices to households.

Table 15 shows prices in band DC for the three semesters between the second half of 2007 and the end of 2008. Also shown is the price change for each country between the semesters and for the latest 12 months. Price change in the second semester of 2008 ranged from a 55% increase in Malta to a 2.2% price decrease in Luxembourg. Ireland experienced a 14.9% increase in this consumption band during the latter half of 2008. Europe as a whole experienced a 5% increase in band DC and the Euro Area a 4.4% increase.

Note that the percentage price change shown in Table 15 is calculated from the published Eurostat euro values for each country. Percentage price change in national currencies may differ considerably from these.

Over the 12 month period S2 2007 to S2 2008 price change varied from 55% increase again in Malta to a 6.2% decrease in Poland. Ireland experienced an increase of 6% over the 12 month period. This increase for Ireland was lower than the 9.6% experienced in Europe and the 9.9% in the Euro Area.

Table 15 Domestic Electricity Prices in band DC in Europe (S2 2007 to S2 2008)

Band DC	without VAT (c/kWh)			% change		
	July 07 - Dec 07	Jan 08 - June 08	July 08 - Dec 08	S2 '07 to S1 '08	S1 '08 to S2 '08	12 months to S2 '08
Austria	17.40	17.79	17.72	2.2%	-0.4%	1.8%
Belgium	16.83	19.72	20.81	17.2%	5.5%	23.6%
Bulgaria	7.21	7.11	8.23	-1.4%	15.8%	14.1%
Croatia	9.84	9.90	11.84	0.6%	19.6%	20.3%
Cyprus	15.73	17.80	20.40	13.2%	14.6%	29.7%
Czech Republic	10.63	12.74	12.99	19.8%	2.0%	22.2%
Germany	21.05	21.48	21.95	2.0%	2.2%	4.3%
Denmark	24.01	26.35	27.85	9.7%	5.7%	16.0%
Estonia	7.86	8.14	8.50	3.6%	4.4%	8.1%
Finland	11.49	12.23	12.73	6.4%	4.1%	10.8%
France	12.13	12.13	12.32	0.0%	1.6%	1.6%
Greece	9.84	10.47	10.99	6.4%	5.0%	11.7%
Hungary	12.96	15.48	15.53	19.4%	0.3%	19.8%
Ireland	19.18	17.69	20.33	-7.8%	14.9%	6.0%
Italy	..	20.79	21.95	..	5.6%	..
Latvia	7.29	8.42	10.03	15.5%	19.1%	37.6%
Lithuania	8.70	8.60	8.65	-1.1%	0.6%	-0.6%
Luxembourg	15.91	15.91	15.56	0.0%	-2.2%	-2.2%
Malta	9.93	9.93	15.36	0.0%	54.7%	54.7%
Netherlands	17.20	17.30	17.80	0.6%	2.9%	3.5%
Norway	14.98	16.39	17.00	9.4%	3.7%	13.5%
Poland	13.80	12.59	12.95	-8.8%	2.9%	-6.2%
Portugal	15.59	14.80	15.25	-5.1%	3.0%	-2.2%
Romania	11.41	10.61	11.03	-7.0%	4.0%	-3.3%
Slovakia	13.77	13.65	15.27	-0.9%	11.9%	10.9%
Slovenia	11.16	11.47	11.56	2.8%	0.8%	3.6%
Spain	14.00	13.66	15.57	-2.4%	14.0%	11.2%
Sweden	16.13	16.98	17.46	5.3%	2.8%	8.2%
United Kingdom	14.81	14.58	16.03	-1.6%	9.9%	8.2%
Euro Area	15.71	16.54	17.26	5.3%	4.4%	9.9%
EU 27	15.26	15.93	16.73	4.4%	5.0%	9.6%

Source: Eurostat

Table 16 shows Ireland's position compared with the EU average domestic electricity prices for the second semester in 2008 with semester one 2008 shown in grey.

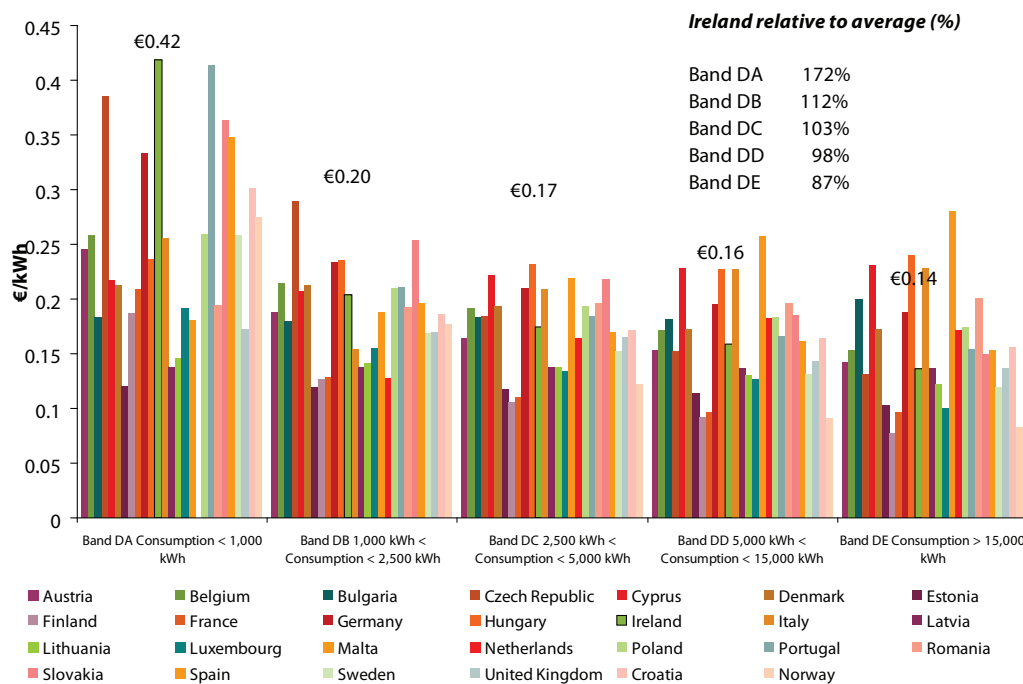
Table 16 Domestic Electricity Prices (€) in Ireland (2nd Semester 2008) – EU Comparison

Electricity Prices Domestic Consumers (all taxes included)	Cost €/kWh	% change since last semester	Relative to EU Average 2008 - S2	Relative to EU Average 2001 - S1
Band DA (Consumption < 1 000 kWh)	0.488	9.7%	190%	186%
Band DB (1,000 kWh < Consumption < 2,500 kWh)	0.237	13.5%	133%	123%
Band DC (2,500 kWh < Consumption < 5,000 kWh)	0.203	14.9%	122%	108%
Band DD (5,000 kWh < Consumption < 15,000 kWh)	0.184	17.3%	117%	104%
Band DE (Consumption > 15,000 kWh)	0.159	16.0%	105%	94%

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 10.

Figure 10 Domestic Electricity Prices in EU at Purchasing Power Parities (2nd Semester 2008)



Source: Eurostat

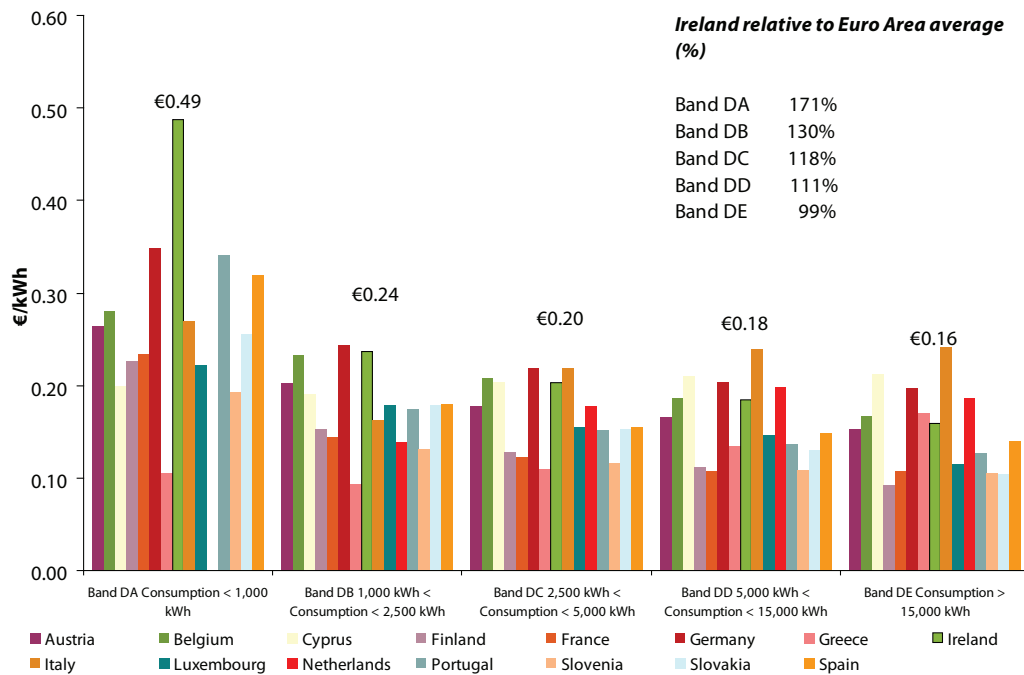
When purchasing power parities are applied, Ireland is cheaper than the average in the two highest consumption bands and specifically in band DE is 13% below the average and in band DD is 2% below.

Table 17 Domestic Electricity Prices (Purchasing Power Parity) (2nd Semester 2008) – EU Comparison

Electricity Prices Domestic Consumers (all taxes included)	Cost (PPP) €/kWh	Relative to EU Average 2008 - S2	Relative to EU Average 2008 - S1
Band DA (Consumption < 1 000 kWh)	0.420	172%	164%
Band DB (1,000 kWh < Consumption < 2,500 kWh)	0.204	112%	104%
Band DC (2,500 kWh < Consumption < 5,000 kWh)	0.175	103%	94%
Band DD (5,000 kWh < Consumption < 15,000 kWh)	0.159	98%	87%
Band DE (Consumption > 15,000 kWh)	0.137	87%	80%

Source: Eurostat

Table 17 shows Ireland's position, relative to the Europe average electricity prices to households for the second semester 2008 with the first semester 2008 shown in grey.

Figure 11 Domestic Electricity Prices (€) in Euro Area (2nd Semester 2008)


Source: Eurostat

Focusing on just the Euro Area countries and again excluding band DA, Ireland was between 11% and 30% above the Euro Area average in bands DB to DC and 1% cheaper in the highest consumption band DE.

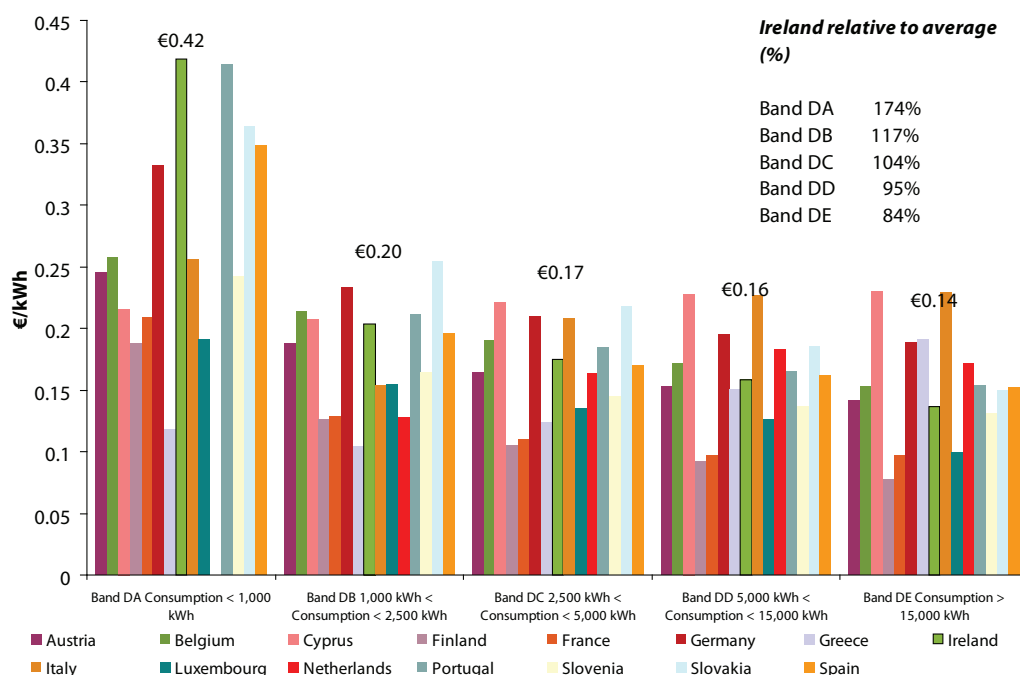
Table 18 Domestic Electricity Prices (€) in Ireland (2nd Semester 2008) – Euro Area Comparison

Electricity Prices Domestic Consumers (all taxes included)	Cost €/kWh	Relative to Euro Area Average 2008 - S2	Relative to Euro Area Average 2008 - S1
Band DA (Consumption < 1 000 kWh)	0.488	171%	169%
Band DB (1,000 kWh < Consumption < 2,500 kWh)	0.237	130%	120%
Band DC (2,500 kWh < Consumption < 5,000 kWh)	0.203	118%	103%
Band DD (5,000 kWh < Consumption < 15,000 kWh)	0.184	111%	99%
Band DE (Consumption > 15,000 kWh)	0.159	99%	90%

Source: Eurostat

Table 18 shows Ireland's position, relative to the Euro Area average electricity prices to households for the second semester 2008 with the first semester 2008 shown in grey.

Figure 12 Domestic Electricity Prices in Euro Area at Purchasing Power Parities (2nd Semester 2008)



Source: Eurostat

Using this measure Ireland is 4% above the average for the Euro Area in band DC and 5% below in band DD.

Table 19 Domestic Electricity Prices (Purchasing Power Parity) (2nd Semester 2008) – Euro Area

Electricity Prices Domestic Consumers (all taxes included)	Cost €/kWh	Relative to Euro Area Average 2008 - S2	Relative to Euro Area Average 2008 - S1
Band DA (Consumption < 1 000 kWh)	0.419	174%	167%
Band DB (1,000 kWh < Consumption < 2,500 kWh)	0.204	117%	111%
Band DC (2,500 kWh < Consumption < 5,000 kWh)	0.175	104%	97%
Band DD (5,000 kWh < Consumption < 15,000 kWh)	0.158	95%	87%
Band DE (Consumption > 15,000 kWh)	0.137	84%	80%

Source: Eurostat

Table 19 shows Ireland's position, in purchasing power parity terms, relative to the Euro Area average electricity prices to households for the second semester 2008 with the first semester 2008 shown in grey.

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:

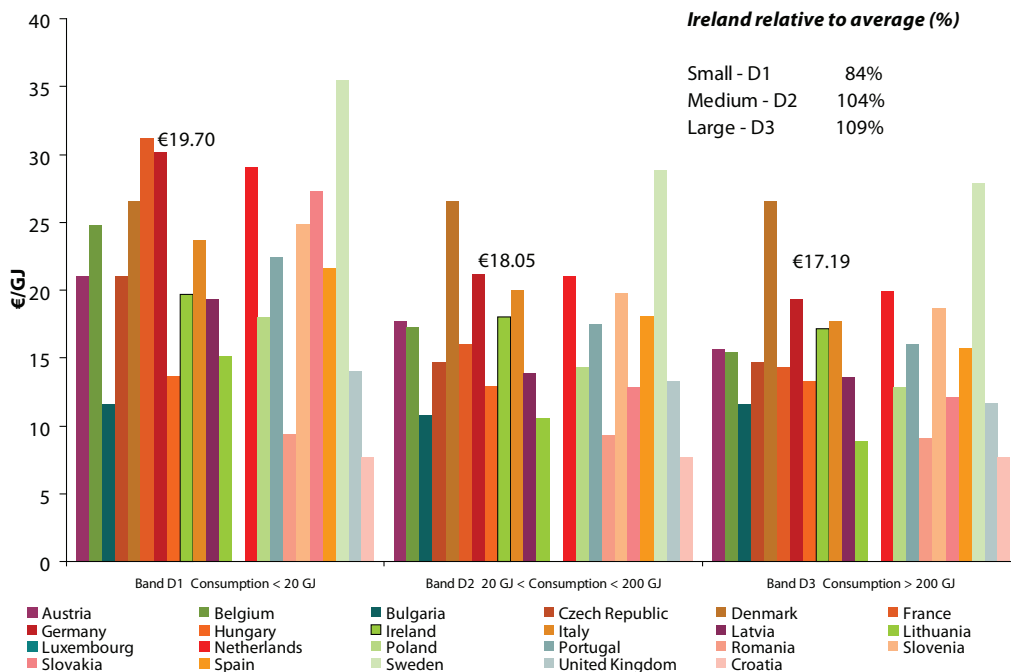
Table 20 Categories for Domestic End Use of Natural Gas

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 (July to December). 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 Euro Area 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 13 Domestic Gas Prices (€) in EU (2nd Semester 2008)



Source: Eurostat

In the D1 band Ireland is 16% below the average for the EU as a whole, while consumption bands D2 and D3 are 4% and 9% respectively higher during the second semester of 2008.

Table 21 shows prices in band D2 for the three semesters between the second half of 2007 and the end of 2008. Also shown is

the price change for each country between the semesters and for the latest 12 months. Price change in the second semester of 2008 ranged from a 59% increase in Latvia to a 0.6% price increase in Portugal. Ireland experienced a 19.6% increase in the second semester 2008 compared with the first semester. Europe as a whole experienced a 15.1% increase in band D2 and the Euro Area 14.5% increase.

Note that the percentage price change shown in Table 21 is calculated from the published Eurostat euro values for each country. Percentage price change in national currencies may differ considerably from these.

Over the 12 month period S2 2007 to S2 2008 price change varied from 63% increase in Lithuania to a 28% decrease in Denmark. Ireland experience an increase of 7.1% over the 12 month period. This increase for Ireland was much lower than the 20.5% experienced in Europe and the 18.2% in the Euro Area.

Table 21 Domestic Gas Prices in band D2 in Europe (S2 2007 to S2 2008)

Band D2	without VAT (€/GJ)			% change		
	July 07 -	Jan 08 -	July 08 -	S2 '07 to	S1 '08 to	12 months
	Dec 07	June 08	Dec 08	S1 '08	S2 '08	to S2 '08
Austria	16.95	16.88	17.72	-0.4%	5.0%	4.5%
Belgium	13.89	16.26	17.29	17.1%	6.3%	24.5%
Bulgaria	8.98	9.85	10.86	9.7%	10.3%	21.0%
Croatia	7.60	7.59	7.70	-0.2%	1.5%	1.3%
Czech Republic	10.06	12.20	14.69	21.3%	20.4%	46.0%
Germany	17.04	17.81	21.17	4.5%	18.9%	24.2%
Denmark	36.89	..	26.57	..	..	-28.0%
Estonia	7.30	9.30	10.30	27.3%	10.8%	41.1%
France	14.30	14.46	16.06	1.1%	11.0%	12.3%
Hungary	10.62	11.24	12.93	5.8%	15.0%	21.7%
Ireland	16.85	15.09	18.05	-10.4%	19.6%	7.1%
Italy	17.15	17.47	19.99	1.8%	14.4%	16.5%
Latvia	8.65	8.70	13.88	0.7%	59.5%	60.5%
Lithuania	6.52	9.15	10.63	40.3%	16.2%	63.0%
Luxembourg	10.95	16.75	..	53.0%	..	..
Netherlands	19.14	19.37	21.03	1.2%	8.6%	9.9%
Poland	11.15	11.56	14.30	3.7%	23.7%	28.3%
Portugal	18.13	17.37	17.48	-4.2%	0.6%	-3.6%
Romania	9.51	9.21	9.33	-3.1%	1.3%	-1.9%
Slovakia	11.57	11.42	12.92	-1.3%	13.1%	11.7%
Slovenia	14.14	15.51	19.77	9.7%	27.5%	39.8%
Spain	16.15	15.98	18.14	-1.0%	13.5%	12.3%
Sweden	25.56	26.53	28.82	3.8%	8.7%	12.8%
United Kingdom	9.91	10.99	13.29	10.9%	20.9%	34.1%
Euro Area	16.55	17.07	19.56	3.2%	14.5%	18.2%
EU 27	14.44	15.12	17.40	4.7%	15.1%	20.5%

Source: Eurostat

Table 22 Domestic Gas Prices (€) in Ireland (2nd Semester 2008) – EU Comparison

Gas Prices Domestic Consumers (all taxes included)	Cost €/GJ	Cost €/kWh	% change since last semester	Relative to EU Average 2008 - S2	Relative to EU Average 2008 - S1
Band D1 - Small	19.70	0.071	3.6%	84%	93.5%
Band D2 - Medium	18.05	0.065	19.6%	104%	99.6%
Band D3 - Large	17.19	0.062	19.4%	109%	100.1%

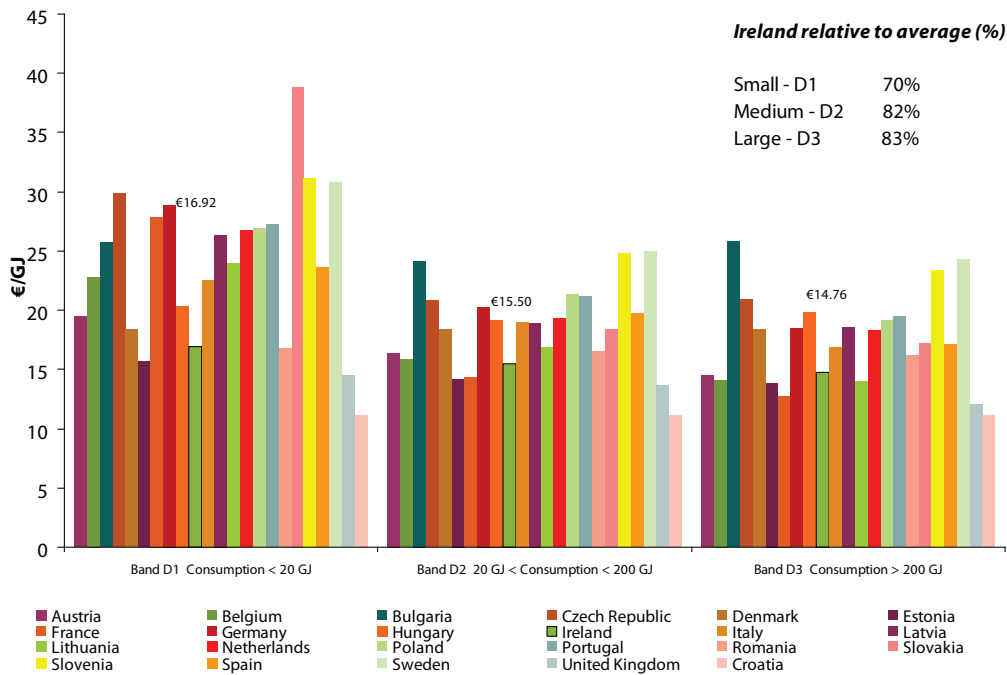
Source: Eurostat

With reference to Table 22, Ireland's position, compared with the EU average domestic gas prices, improved in all bands

compared with the first semester in 2008.

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 14.

Figure 14 Domestic Gas Prices in EU at Purchasing Power Parities (2nd Semester 2008)



Source: Eurostat

When purchasing power parities are applied, Ireland is cheaper in all domestic consumption bands, ranging from 17% to 30% below the EU average.

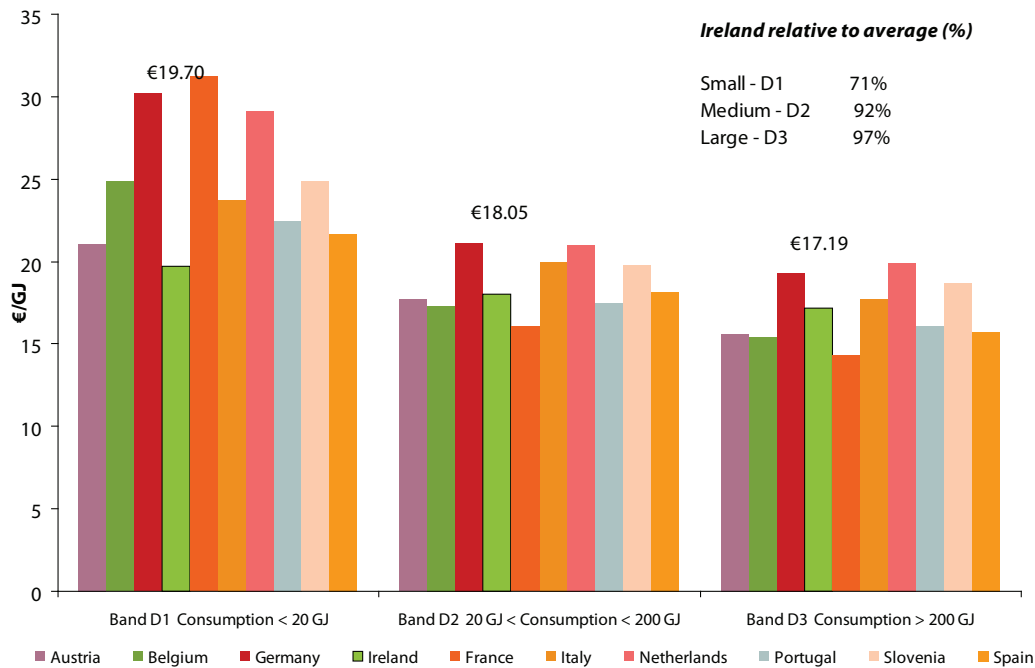
Table 23 Domestic Gas Prices (Purchasing Power Parity) (2nd Semester 2008) – EU Comparison

Gas Prices Domestic Consumers at purchasing power parities (all taxes included)	Cost €/GJ	Cost €/kWh	Relative to EU Average 2008 - S2	Relative to EU Average 2008 - S1
Band D1 - Small	16.92	0.061	70%	75%
Band D2 - Medium	15.50	0.056	82%	77%
Band D3 - Large	14.76	0.053	83%	78%

Source: Eurostat

Table 23 shows Ireland's position, expressed in purchasing power parity, relative to the Europe average gas prices to households for the second semester 2008 with the first semester 2008 shown in grey.

Figure 15 Domestic Gas Prices (€) in Euro Area (2nd Semester 2008)



Source: Eurostat

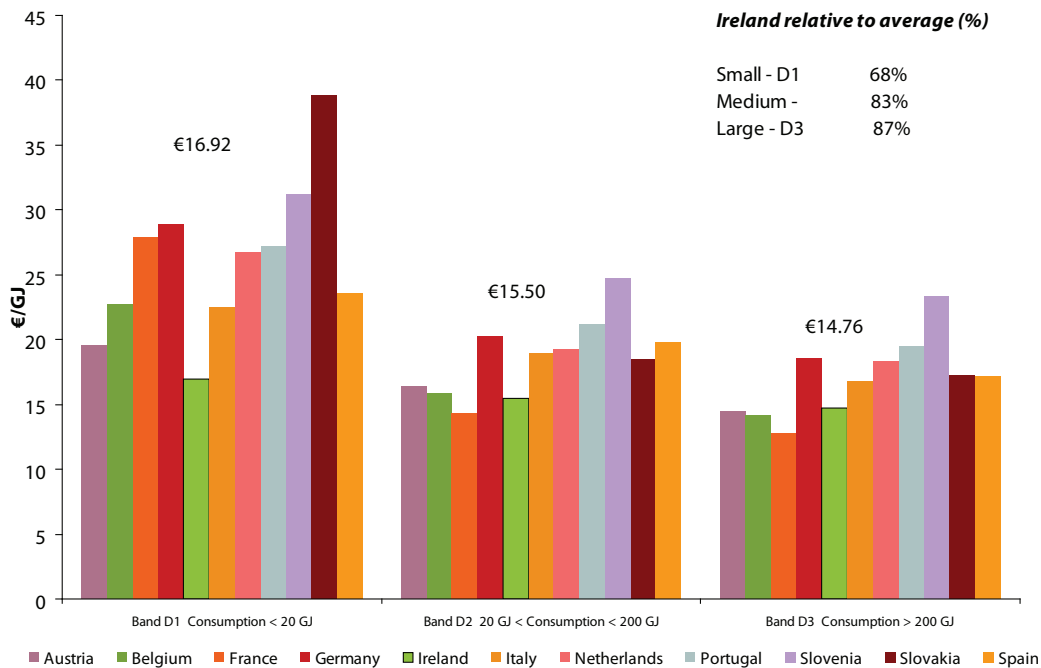
When the focus is on just the Euro Area countries, Ireland again is below the average, ranging from 3% to 29%.

Table 24 Domestic Gas Prices (€) in Ireland (2nd Semester 2008) – Euro Area Comparison

Gas Prices Domestic Consumers (all taxes included)	Cost €/GJ	Cost €/kWh	Relative to Euro Area Average 2008 - S2	Relative to Euro Area Average 2008 - S1
Band D1 - Small	19.70	0.071	71%	79%
Band D2 - Medium	18.05	0.065	92%	88%
Band D3 - Large	17.19	0.062	97%	89%

Source: Eurostat

Table 24 shows Ireland's position, relative to the Euro Area average gas prices to households for the second semester 2008 with the first semester 2008 shown in grey.

Figure 16 Domestic Gas Prices in Euro Area at Purchasing Power Parities (2nd Semester 2008)


Source: Eurostat

Based on purchasing power parities, gas costs to domestic consumers ranged from 13% below to 32% below the average for the Euro Area countries.

Table 25 Domestic Gas Prices (Purchasing Power Parity) (2nd Semester 2008) – Euro Area Comparison

Gas Prices Domestic Consumers at purchasing power parities (all taxes included)	Cost €/GJ	Cost €/kWh	Relative to Euro Area Average 2008 - S2	Relative to Euro Area Average 2008 - S1
Band D1 - Small	16.92	0.061	68%	80%
Band D2 - Medium	15.50	0.056	83%	83%
Band D3 - Large	14.76	0.053	87%	88%

Source: Eurostat

Table 25 shows Ireland's position, expressed in purchasing power parity, relative to the Euro Area average gas prices to households for the second semester 2008 with the first semester 2008 shown in grey.

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Appendix 1 – Electricity & Gas Prices in Ireland

Table 26 Industrial Electricity Prices (€) – 2nd Semester 2008

Industrial Electricity Prices (ex VAT) weighted average across all suppliers	€/kWh 2008 - S2	Change since 2008 - S1	Change in 12 months
Band IA Consumption < 20 MWh	0.175	18.7%	13.6%
Band IB 20 MWh < Consumption < 500 MWh	0.155	11.4%	11.8%
Band IC 500 MWh < Consumption < 2,000 MWh	0.142	9.0%	14.9%
Band ID 2,000 MWh < Consumption < 20,000 MWh	0.128	6.2%	17.5%
Band IE 20,000 MWh < Consumption < 70,000 MWh	0.115	-3.4%	5.1%
Band IF 70,000 MWh < Consumption < 150,000 MWh	0.100	:	-2.1%
Band IG Consumption > 150,000 MWh	:	:	:

Source: Eurostat

Table 27 Industrial Gas Prices (€) – 2nd Semester 2008

Industrial Gas Prices (ex VAT) weighted average across all suppliers	€/GJ 2008 - S2	€/kWh 2008 - S2	Change since 2008 - S1	Change in 12 months
Band I1 Consumption < 1,000 GJ	15.15	0.055	21.8%	20.5%
Band I2 1,000 GJ < Consumption < 10,000 GJ	12.70	0.046	16.7%	17.3%
Band I3 10,000 GJ < Consumption < 100,000 GJ	10.99	0.040	-0.5%	13.1%
Band I4 100,000 GJ < Consumption < 1,000,000 GJ	9.07	0.033	12.7%	31.3%
Band I5 1,000,000 GJ < Consumption < 4,000,000 GJ	:	:	:	
Band I6 Consumption > 4,000 000 GJ	:	:	:	

Source: Eurostat

Table 28 Household Electricity Prices (€) – 2nd Semester 2008

Household Electricity Prices (all taxes included) weighted average across all suppliers	€/kWh 2008 - S2	Change since 2008 - S1	Change in 12 months
Band DA Consumption < 1,000 kWh	0.488	9.7%	6.6%
Band DB 1,000 kWh < Consumption < 2,500 kWh	0.237	13.5%	5.7%
Band DC 2,500 kWh < Consumption < 5,000 kWh	0.203	14.9%	6.0%
Band DD 5,000 kWh < Consumption < 15,000 kWh	0.184	17.3%	6.3%
Band DE Consumption > 15,000 kWh	0.159	16.0%	8.3%

Source: Eurostat

Table 29 Household Electricity Prices (Purchasing Power Parities) – 2nd Semester 2008

Household Electricity Prices (all taxes included) weighted average across all suppliers	€ _{PPP} /kWh 2008 - S2	Change since 2008 - S1	Change in 12 month
Band DA Consumption < 1,000 kWh	0.419	9.7%	7.1%
Band DB 1,000 kWh < Consumption < 2,500 kWh	0.204	13.6%	6.1%
Band DC 2,500 kWh < Consumption < 5,000 kWh	0.175	14.9%	6.4%
Band DD 5,000 kWh < Consumption < 15,000 kWh	0.158	17.3%	6.8%
Band DE Consumption > 15,000 kWh	0.137	16.0%	8.8%

Source: Eurostat

Table 30 Household Gas Prices (€) – 2nd Semester 2008

Household Gas Prices (all taxes included) weighted average across all suppliers	€/GJ 2008 - S2	€/kWh 2008 - S2	Change since 2008 - S1	Change in 12 month
Band D1 Consumption < 20 GJ	19.70	0.071	3.6%	-34.6%
Band D2 20 GJ < Consumption < 200 GJ	18.05	0.065	19.6%	7.1%
Band D3 Consumption > 200 GJ	17.19	0.062	19.4%	18.6%

Source: Eurostat

Table 31 Household Gas Prices (Purchasing Power Parities) – 2nd Semester 2008

Household Gas Prices (all taxes included) weighted average across all suppliers	€_{PPP}/GJ 2008 - S1	€/kWh 2008 - S1	Change since 2007 - S2	Change in 12 months
Band D1 Consumption < 20 GJ	16.92	0.061	3.6%	-34.3%
Band D2 20 GJ < Consumption < 200 GJ	15.50	0.056	19.6%	7.6%
Band D3 Consumption > 200 GJ	14.76	0.053	19.4%	19.0%

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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