

International energy price comparisons

Introduction

This article looks at international comparisons in the EU for gas and electricity prices to both the non-domestic and the domestic sectors. It differs from Section 5 of Quarterly Energy Prices (QEP) as comparisons are also made in Purchasing Power Standard per kWh, whereas QEP only compares energy prices in pence per kWh. These comparisons were previously published in DECC's (now BEIS) UK Energy Sector Indicators.

The purchasing power standard (PPS) is an artificial currency unit. Theoretically, one PPS can buy the same amount of goods and services in each country. However, price differences across borders mean that different amounts of national currency units are needed for the same goods and services depending on the country. PPS are derived by dividing any economic aggregate of a country in national currency by its respective purchasing power parities⁽¹⁾.

Energy prices in Western European countries are generally lower when in PPS per kWh (PPS/kWh) than in pence per kWh (pence/kWh). The generally higher GDP in Western Europe offsets the typically higher cost of living in western European countries, with higher energy costs seen when data presented in a pence/kWh format.

All data used in this article are sourced from Eurostat, the statistical office of the EU. Data are available at <http://ec.europa.eu/eurostat/web/energy/data/database> .

Summary

UK gas prices, when measured using market exchange rates are around the EU28 average, though below the EU15 average. When prices are converted using PPS, UK prices are amongst the lowest in the EU28.

UK non-domestic electricity prices, converted using market exchange rates are amongst the highest in the EU. Conversion using PPS results in the UK price levels being around the EU median. In a similar manner, UK domestic prices move from being above the EU28 median when market exchange rates are used to below when PPS are used.

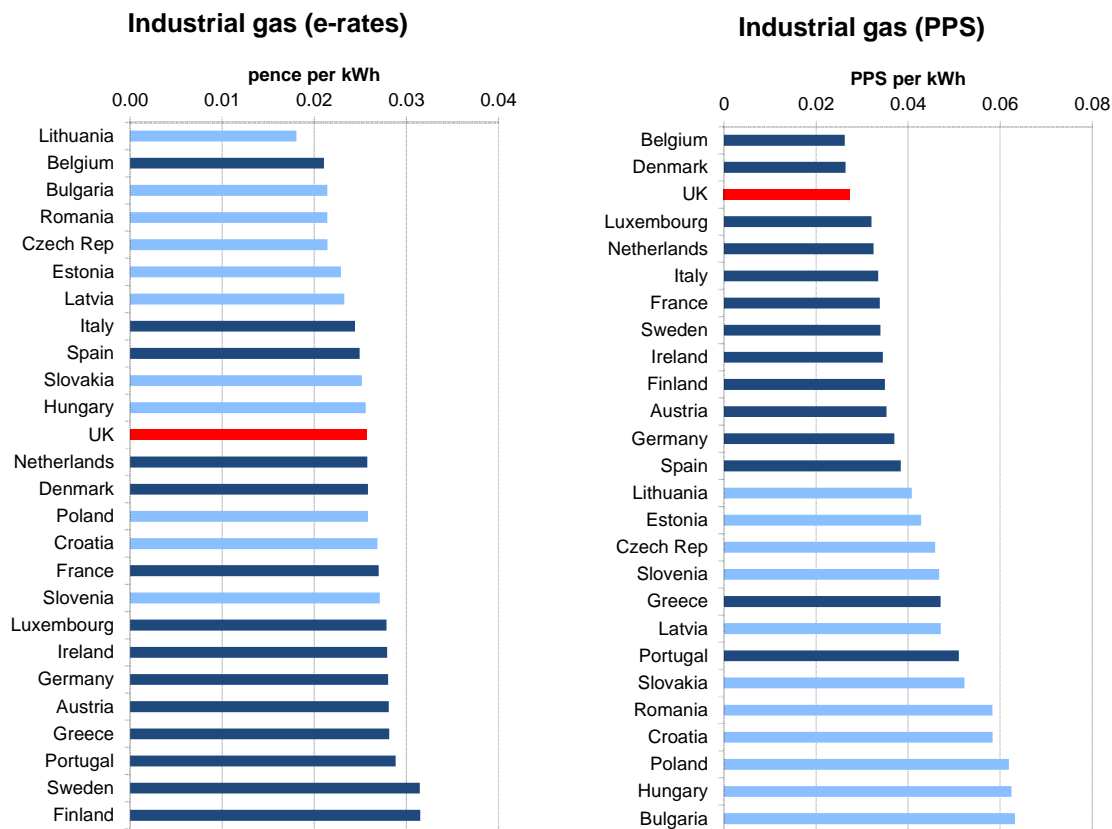
¹ [http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Purchasing_power_parities_\(PPPs\)](http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Purchasing_power_parities_(PPPs))

International non-domestic price comparisons

1.1 Non-domestic gas price comparisons in 2015 ^{(2), (3), (4)}

For non-domestic gas prices to medium sized consumers, measured in pence/kWh, the UK ranks twelfth lowest within the EU28, marginally below the EU28 median. However, when measured in PPS/kWh UK gas prices are third lowest in the EU28, 31 per cent below the median.

As can be seen from the charts below, when measured using PPS the 13 lowest prices are to be found in EU15 countries. Data are not published by Eurostat for Cyprus and Malta – there is limited gas use by non-domestic consumers in both these countries. Different shades have been used to differentiate between EU15 and the additional EU28 member states.



Between 2014 and 2015, when measured using market exchange rates UK prices fell by around 11 per cent. This however, contrasts with a larger average price fall of 16 per cent for other EU countries. This difference is partly due to the appreciation of the pound between 2014 and 2015 moving from an average euro/sterling rate of 1.24 in 2014, to an average of 1.38 in 2015 (an 11 per cent appreciation). When measured using PPS the UK price again fell by 11 per cent whilst the EU median excluding the UK fell by a smaller 7 per cent.

² Gas prices for non-domestic medium consumers: consuming 2,778 – 27,777 MWh per annum.

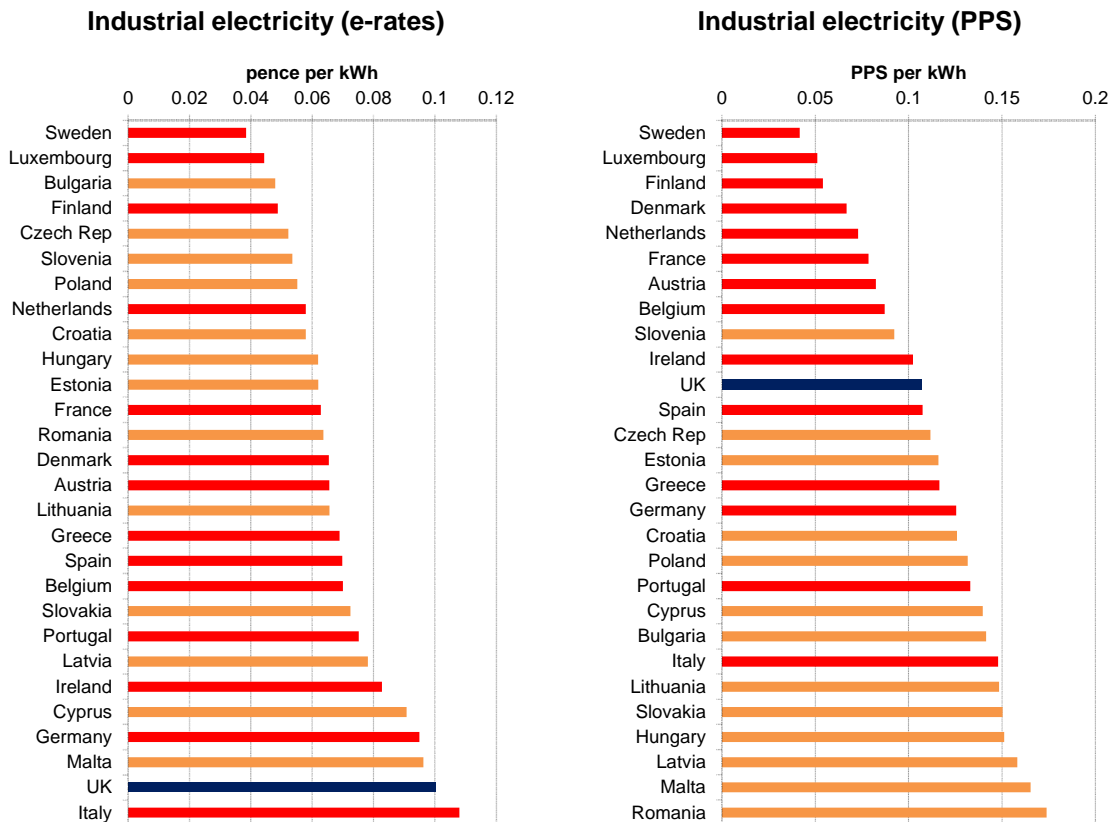
³ Prices include all taxes where not refundable on purchase.

⁴ Source: Eurostat Statistics in Focus and database for all data in this article.

1.2 Non-domestic electricity price comparisons in 2015 ⁽⁵⁾, ⁽⁶⁾

For non-domestic electricity prices to medium sized consumers, measured in pence/kWh, the UK ranks second highest within the EU28, 53 per cent above the EU28 median. However, when measured in PPS/kWh UK electricity prices are eleventh lowest in the EU28, 8.2 per cent below the median.

As can be seen from the charts below, when measured using PPS, 11 of the lowest 12 prices are to be found in EU15 countries.



Between 2014 and 2015, when measured using market exchange rates UK prices rose by around 4.3 per cent. This contrasts with an average price fall of 13 per cent for other EU countries. The UK ranking slipped from fifth highest to the second highest between 2014 and 2015. The appreciation of the pound, as discussed earlier in the article explains a large part of the difference in the growth. When measured using PPS, UK prices rose by 4.2 per cent whilst the EU median excluding the UK fell by 4 per cent. The UK's ranking fell slightly from tenth in 2014 to its current eleventh place.

⁵ Electricity prices for non-domestic medium consumers: consuming 2,000 – 19,999 MWh per annum

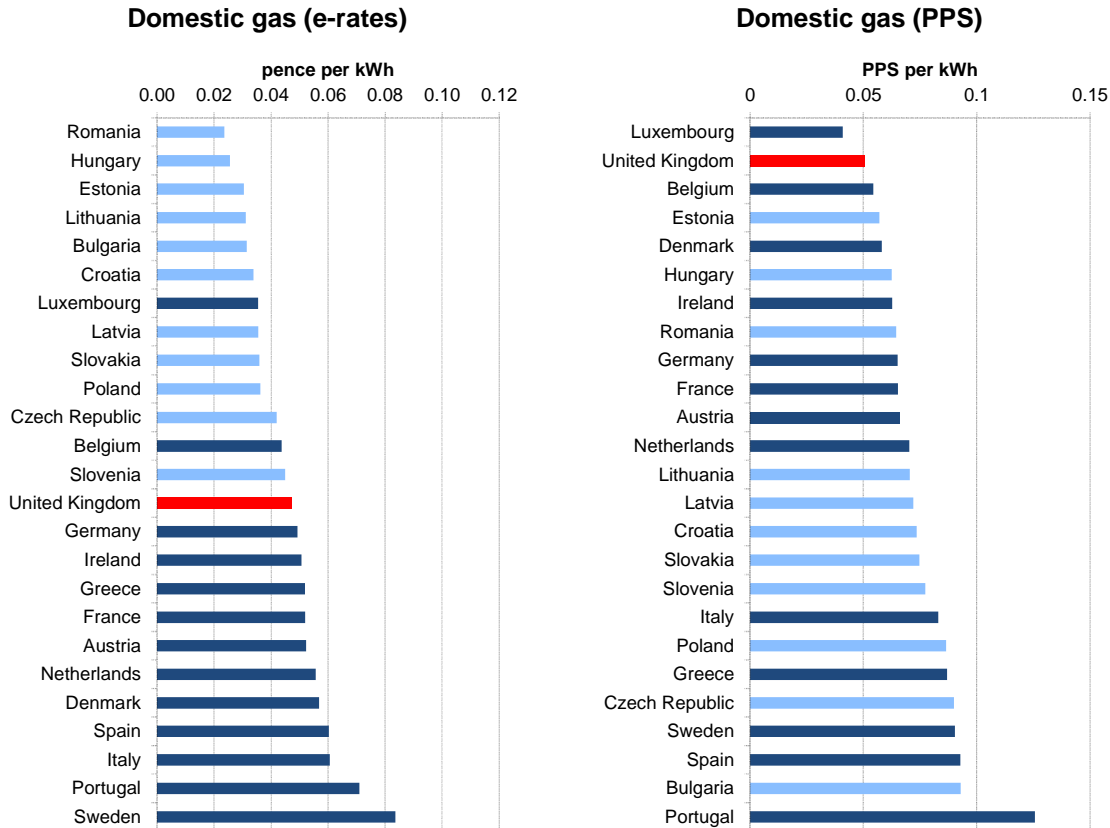
⁶ Prices include all taxes where not refundable on purchase

International domestic price comparisons

2.1 Domestic gas price comparisons in 2015 ^{(7), (8)}

For non-domestic gas prices to medium sized consumers, measured in pence/kWh, the UK ranks twelfth highest within the EU28, 5.3 per cent above the EU28 median. However, when measured in PPS/kWh UK gas prices are second lowest in the EU28, 29 per cent below the median.

As can be seen from the charts below, 9 of the 12 countries whose prices rank below the EU28 Median, when measured using PPS, are in the EU15. This is only true of two EU15 countries when measured in GBP, Luxembourg and Belgium.



Between 2014 and 2015, when measured using market exchange rates UK prices fell by 5.8 per cent. This however, contrasts with a larger average price fall of 12 per cent for other EU countries. This difference is partly due to the appreciation of the pound between 2014 and 2015 of 11 per cent. When measured using PPS the UK price again fell by 5.9 per cent whilst the EU median excluding the UK fell by a much smaller 2.6 per cent.

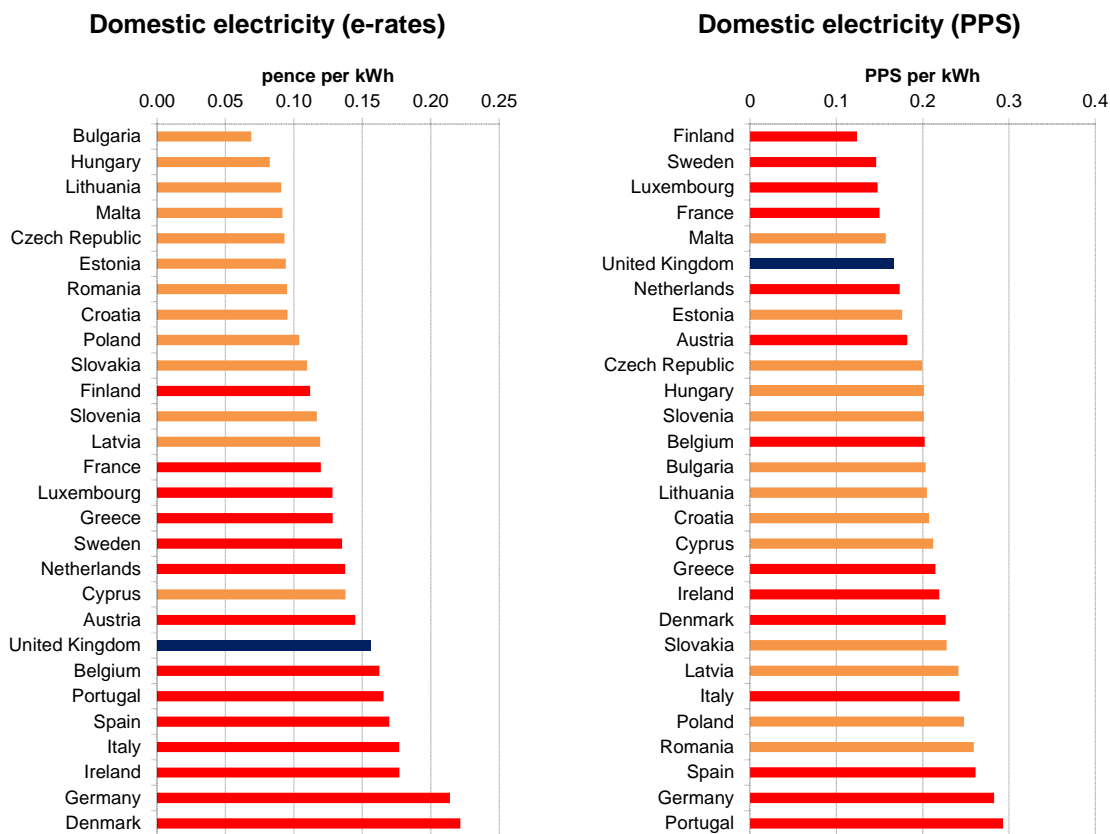
⁷ Gas prices for domestic medium consumers: consuming 5,557 – 55,557 kWh per annum

⁸ Prices include all taxes

2.2 Domestic electricity price comparisons in 2015 ⁽⁹⁾, ⁽¹⁰⁾

For non-domestic electricity prices to medium sized consumers, measured in pence/kWh, the UK ranks eighth highest within the EU28, 26 per cent above the EU28 median. However, when measured in PPS/kWh UK electricity prices are sixth cheapest in the EU28, 19 per cent below the median.

When measured in pence per kWh, the majority of the EU15 prices are above the median price. However, when measured in PPS, the prices for the EU15 countries are distributed more evenly and are not all amongst the highest prices.



Between 2014 and 2015, when measured using market exchange rates UK prices fell by 1.3 per cent. This contrasts with an average price fall of 10 per cent for other EU countries. When measured using PPS, UK prices fell by 1.5 per cent whilst the EU median excluding the UK was generally unchanged.

⁹ Electricity prices for domestic medium consumers: consuming 2,000 – 19,999 kWh per annum

¹⁰ Prices include all taxes

Conclusion

Using Purchasing Power Standards allows international comparisons of energy prices without the effect of exchange rates. For both non-domestic and domestic, energy prices in the UK are ranked more favourably amongst the EU28 compared to the ranking based on pence per kWh.

Gas prices, for both UK non-domestic and domestic, move from being ranked around the EU median when measured in pence per kWh, to one of the lowest in PPS. Similarly, electricity prices for the UK move from being amongst the highest, to being below the EU median when PPS are used to convert currencies.

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