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Electricity prices: European comparisons

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Paper comparing domestic and industrial electricity prices across 32 European countries. The allocation of component costs on a per kilowatt charge basis is also examined.

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Key Points

The analysis that follows has shown that:

- Denmark and Germany tend to be amongst the most expensive regions for domestic electricity.
- Industrial customers in Cyprus, Italy and Malta tend to pay the highest price for their electricity.
- Across all countries there is a tendency for network charges to decrease as industrial consumption increases.
- The case studies have shown that in actual c/kWh paid the largest variation between standard domestic and industrial is in taxes and levies.
- This is most pronounced in Germany where domestic customers pay 257% more per kilowatt hour in taxes and levies than industrial customers.

Executive Summary

This paper uses Eurostat data to compare domestic and industrial electricity prices across 32 European countries. The allocation of component costs on a per kilowatt charge basis is also examined.

As per the original data domestic customers are divided into five different consumption groupings. There are also five different industrial consumption groupings considered. Eurostat defines 'standard' domestic customers as customers with an annual domestic consumption of between 2,500kWh and 5,000kWh. Standard industrial customers are defined as customers with a consumption of between 500MWh and 2,000MWh.

The analysis considers three cost components – energy and supply, network costs, and taxes and levies.

The analysis shows that there is considerable variation in the price paid by domestic customers for their electricity depending upon the consumption grouping they sit in. Denmark and Germany tend to be amongst the most expensive regions, although their actual position varies.

Proportionally customers from Malta have the largest energy and supply component of their bills. Customers from Denmark have the largest tax component. There is no apparent pattern to the allocation of network charges.

If energy and supply cost are considered alone, standard domestic customers in the UK move from paying the twelfth highest price for electricity, to paying the third highest c/kWh price.

Cyprus, Italy and Malta industrial customers tend to pay the highest price for their electricity. Denmark, which was one of the most expensive regions for domestic electricity, appears in the middle of the rankings for industrial electricity price.

Proportionally, industrial customers from Cyprus have the largest energy and supply component, Lithuanian customers pay the largest network component in more categories than any other country, and Italian customers pay the largest tax and levies component. In Bosnia and Herzegovina, Latvia, Montenegro and Romania industrial customers do not pay any tax component.

Across all countries there is a tendency for network charges to decrease as industrial consumption increases.

If only energy and supply charges are considered UK standard industrial customers pay the fifth highest price for energy.

The case studies show that prices for industrial customers tend to be less than for domestic customers in the UK and that there is a relatively even distribution of costs across all domestic and industrial categories in the region.

The largest variation in per kilowatt price paid in the UK is on the tax element, with standard domestic customers paying 49% more than standard industrial customers per kilowatt hour.

In the Republic of Ireland prices for industrial customers tend to be less than for domestic customers. Prices also tend to decrease as consumption increases for both domestic and industrial consumers.

In actual c/kWh paid the largest variation between standard domestic and industrial is in taxes and levies (91%), followed by network costs (42%).

In Germany industrial electricity prices are cheaper than domestic prices.

In actual c/kWh paid the largest variation between standard domestic and industrial is again in taxes with domestic customers paying 257% more. Domestic customers also pay 39% more per kilowatt hour for network charges.

In Denmark there are small variations in the allocation of cost in the domestic sector. Costs for customers in the 20MWh or less industrial category are allocated in the same way as cost for domestic customers. If this grouping is removed from the industrial section, the variation amongst industrial groupings is also minimal.

In actual c/kWh paid the greatest variation between the standard groupings is in taxes and levies, with domestic customers paying 92% more than industrial per kilowatt hour. This is followed by network charges, with domestic customers paying 39% more per kilowatt hour.

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1 Introduction

This paper uses Eurostat data to compare domestic and industrial electricity prices across 32 European countries. The allocation of component costs on a per kilowatt charge basis is also examined. In the first half of the paper, all 32 countries are examined and ranked according to the prices consumers pay for electricity. The second half takes a case study approach, analysing four countries – UK, Republic of Ireland, Germany and Denmark – in greater detail. It should be noted different Member States operate under different market designs.

Eurostat data is only available at a Member State level. As such it has not been possible to compare Northern Ireland to the 32 countries considered in this paper. The Utility Regulator produced a paper in March 2013 which compared Northern Ireland to the European Union 15. This paper was able to use Power NI data to examine cost allocations in the domestic market in Northern Ireland and compare it to cost allocation in other regions. The paper did not, however, include a cost allocation comparison for the non-domestic sector. The Utility Regulator's paper found that:

- Northern Ireland domestic prices were around the EU average;
- Price for very small industrial and commercial customers were also around the EU average; and,
- All other industrial and commercial customers in Northern Ireland paid amongst the highest prices in Europe.¹

In their evidence to the ETI Committee Energia presented a comparison of Northern Ireland and Republic of Ireland costs allocations in the domestic sector. On the basis of the evidence presented the company argued that the divergence in prices in the two regions was a result differences in the allocation of network and other pass through charges. Specifically, they found that:

- In 2011 NI domestic network and pass through charges were c£12.50/MWh lower than RoI, while industrial and commercial network and pass through charges were £16.50/MWh higher in NI than in RoI; and
- In 2012 NI domestic network and pass through charges were £7/MWh lower than RoI, while NI industrial and commercial network and pass through charges were £14.70/MWh higher than in RoI.

The Regulator is embarking on a body of work that will investigate the issue of network and other cost allocations in greater detail.

¹ Northern Ireland Utility Regulator *NI Electricity Prices: data and comparisons* (March 2013)
http://www.uregni.gov.uk/uploads/publications/Electricity_Pricing_Paper_website_-_March_2013.pdf

2 Data

The data used within this comparison has been sourced from Eurostat. The data is separated into domestic and industrial customers.² Eurostat divides these broad customer types into categories based upon their annual consumption. For the domestic sector customers are divided as follows:

- Very small – customers with an annual consumption of below 1,000kWh;
- Small – customers with an annual consumption of between 1,000kWh and 2,500kWh;
- Medium – customers with an annual consumption of between 2,500kWh and 5,000kWh;
- Large – customers with an annual consumption of between 5,000 and 15,000kWh; and
- Very large - customers with an annual consumption above 15,000kWh.

To put these groupings in context, average domestic consumption in Northern Ireland was 3,744kWh in 2011 (latest available data), placing the region in the medium grouping. In Great Britain average domestic consumption was 4,078kWh, which is again in the medium grouping. For the UK as a whole, average domestic consumption was 4,069kWh.³ The medium grouping is used by Eurostat to define standard domestic consumption. As such, much of the analysis that follows focuses on this grouping.

Eurostat provides information on industrial customers for the following groupings:

- Customers with an annual consumption of below 20MWhs;
- Customers with an annual consumption of between 20MWh and 500MWh;
- Customers with an annual consumption of between 500MWh and 2,000MWh;
- Customers with an annual consumption of between 2,000MWh and 20,000MWh; and
- Customers with an annual consumption of between 20,000MWh and 70,000MWh.

Average non-domestic electricity consumption in Northern Ireland was 75.6MWh in 2011, which places the region in the second lowest Eurostat consumption grouping. Non-domestic consumption differed by District Council area (DCA) – the highest consumption was in Craigavon, which had consumed 119.6MWh on average – although every DCA fell within the same consumption grouping (20MWh to 500MWh).⁴

² All data is taken from the Eurostat database (http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database) specifically: 'Electricity prices components for domestic consumers, from 2007 onwards - annual data' and 'Electricity prices components for industrial consumers, from 2007 onwards - annual data'

³ Department of Energy and Climate Change, *Sub-national domestic electricity consumption in Northern Ireland 2011* (June 2013) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/209141/Sub-national_domestic_electricity_consumption_in_Northern_Ireland_2011_factsheet.pdf

⁴ Department of Energy and Climate Change, *Sub-national non-domestic electricity consumption in Northern Ireland – 2011* (June 2013) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/209142/Sub-national_non-domestic_electricity_consumption_in_Northern_Ireland_2011_factsheet_2.pdf

Eurostat use the 500MWh to 2,000MWh grouping to define the standard industrial customer.

The Eurostat data provides electricity prices for each of these consumption categories on a country basis. It also separates electricity prices into constituent parts, namely:

- Energy and supply costs;
- Network costs; and
- Taxes and levies.

This allows for a comparison of total electricity prices and of the cost allocation between countries and consumption groupings. The price data for domestic customers includes VAT as it is a non-refundable expense for this customer grouping. Non-domestic data does not include VAT in the taxes and levies component as it is a refundable cost for this grouping.

Data at this level of detail is only available at country level. Eurostat data is available for 32 countries – the EU 28 (formally the EU-27, with Croatia added in July 2013), candidate countries Turkey and Montenegro, potential candidate country Bosnia and Herzegovina (B&H), and Norway which is non-EU. Data for Luxemburg is not provided by Eurostat.

The remainder of this paper will provide total cost and cost allocation comparisons based on this data. The final section of the paper adopts a case study approach to examine a number of European countries in greater detail.

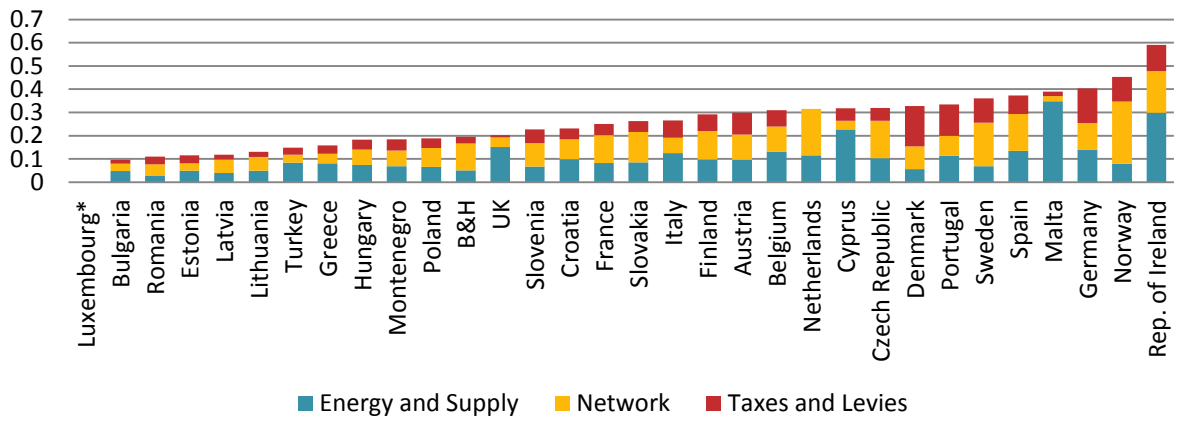
3 European comparisons – domestic prices

The first set of figures (figures 1 to 5) compares actual domestic energy prices in Eurocents per kWh (c/kwh) for each consumption category across the 32 countries. Each figure ranks the countries according to the price paid by consumers, from smallest price paid to the greatest, in a specific consumption category. It is evident that there is no real pattern as to where the countries appear in this ranking across the five figures. With that said, Denmark and Germany tend to be situated amongst the more expensive regions. It is also notable that, proportionally, Denmark tends to have the largest tax element of the countries examined.

Focussing on Figure 3, which shows the medium category (the category used by Eurostat to define the standard domestic customer, i.e. those customers who have an annual consumption of between 2,500kWh and 5,000kWh) it is evident that within this group Danish domestic consumers pay the highest price for their electricity (0.2972c/kWh) followed by consumers in Cyprus (0.291c/kWh) and consumers in Germany (0.2676c/kWh). Consumers in the Republic of Ireland pay the fifth highest price for electricity (0.2289c/kWh), whilst those in the UK pay the twelfth highest price (0.1784c/kWh). The cheapest domestic electricity is in Bosnia and Herzegovina (0.0804c/kWh), followed by Bulgaria (0.0955c/kWh) and Montenegro (0.1006c/kWh).

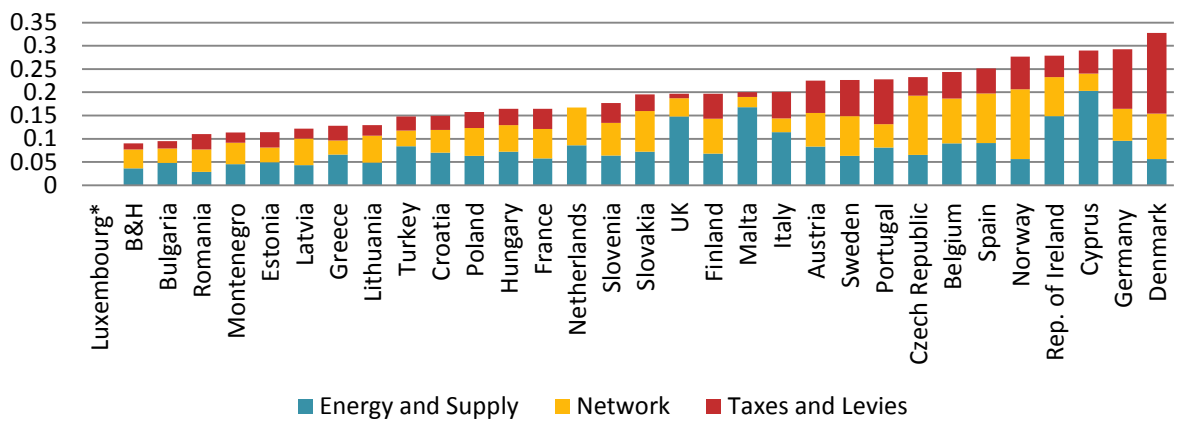
Turning to Figure 6, shows that if energy and supply cost are considered alone, standard domestic customers in the UK move from paying the twelfth highest price for electricity, to paying the third highest c/kWh price.

Figure 1: Domestic electricity prices 2012: <1,000kWh (c/kWh)



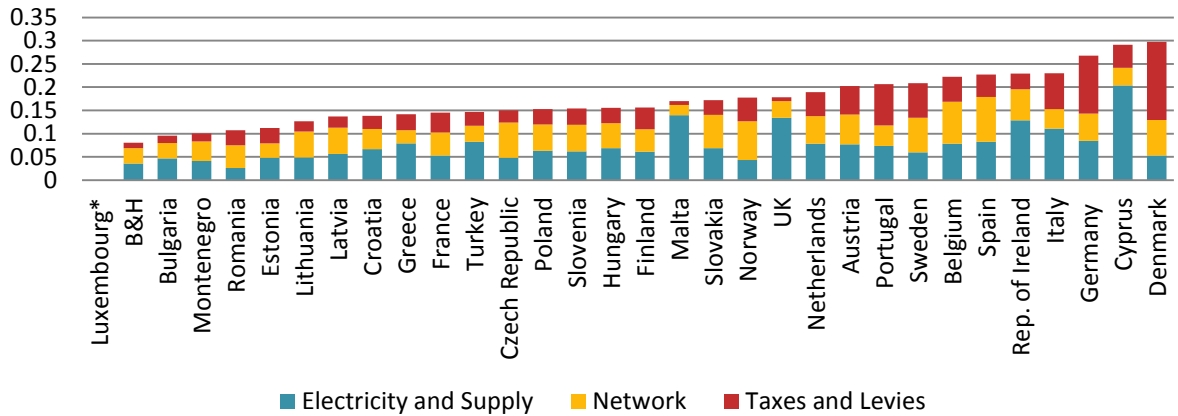
Source: Eurostat

Figure 2: Domestic electricity prices 2012 1,000kWh to 2,500kWh (c/kWh)



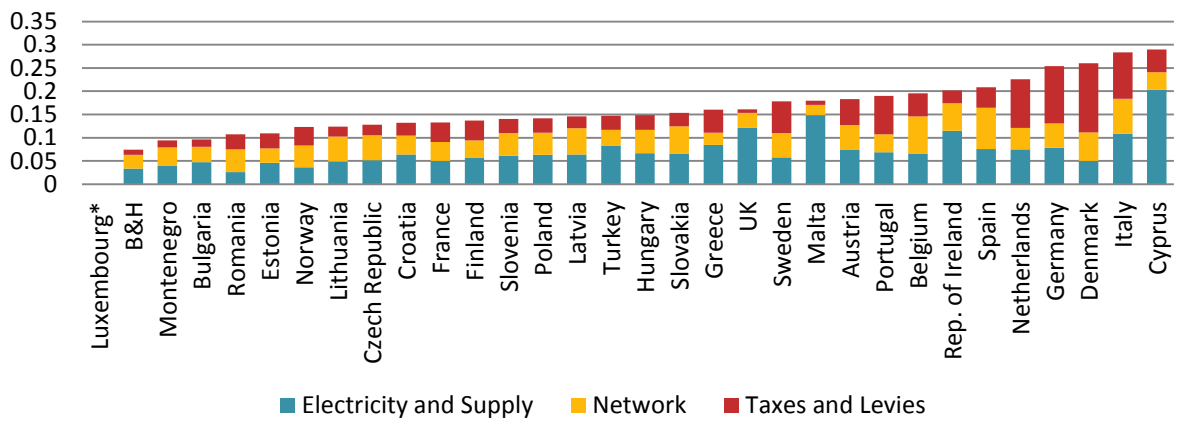
Source: Eurostat

Figure 3: Domestic electricity prices for 2012: 2,500kWh to 5,000kWh (c/kWh)



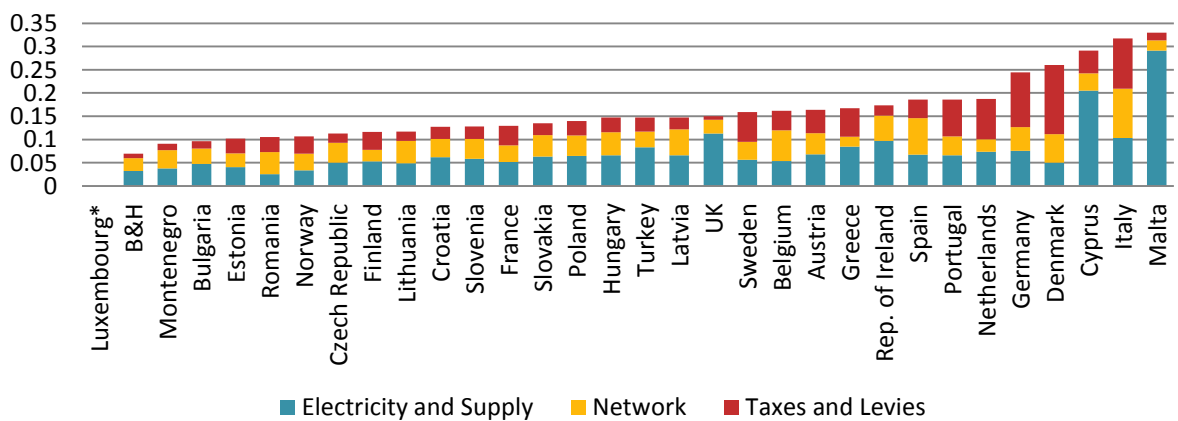
Source: Eurostat

Figure 4: Domestic electricity prices 2012: 5,000kWh to 15,000kWh (c/kWh)



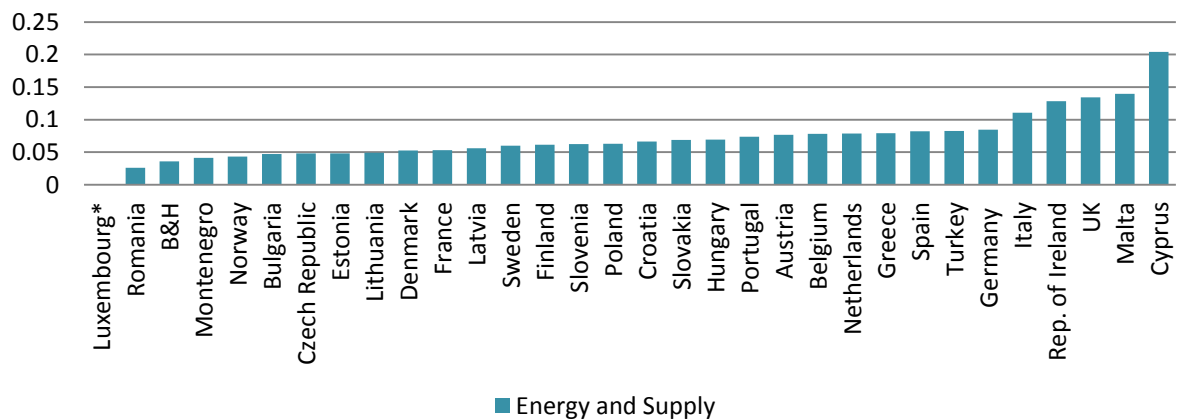
Source: Eurostat

Figure 5: Domestic electricity prices 2012: above 15,000kWh (c/kWh)



Source: Eurostat

Figure 6: Standard domestic consumption electricity price – energy and supply components only 2012 (c/kWh)

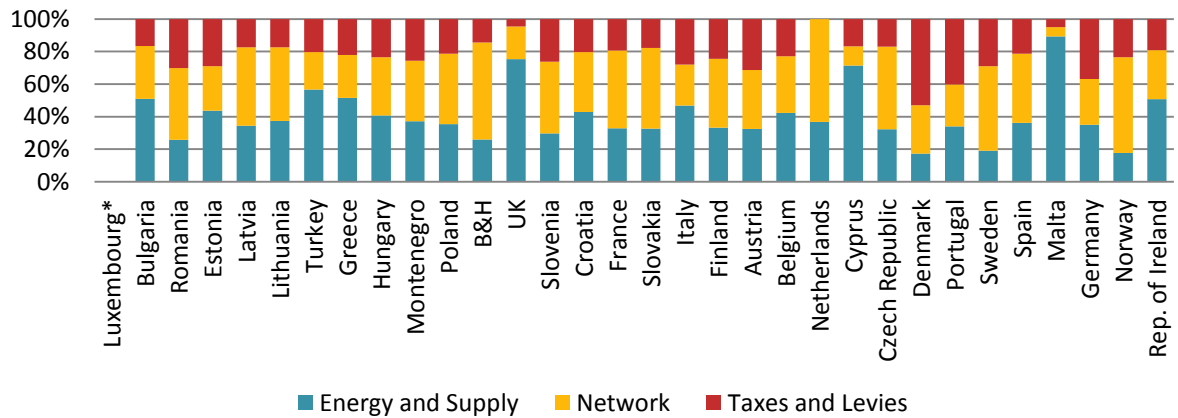


The next set of figures (figures 7 to 11) is again focussed on domestic prices. These figures show similar ranking (from smallest price to greatest) across the consumption groupings. In this case, however, the figures show the components of price consumers pay as a percentage of the total price paid.

As before there is no pattern to where countries are placed in the ranking. However, it is possible to say the following from looking at the figures:

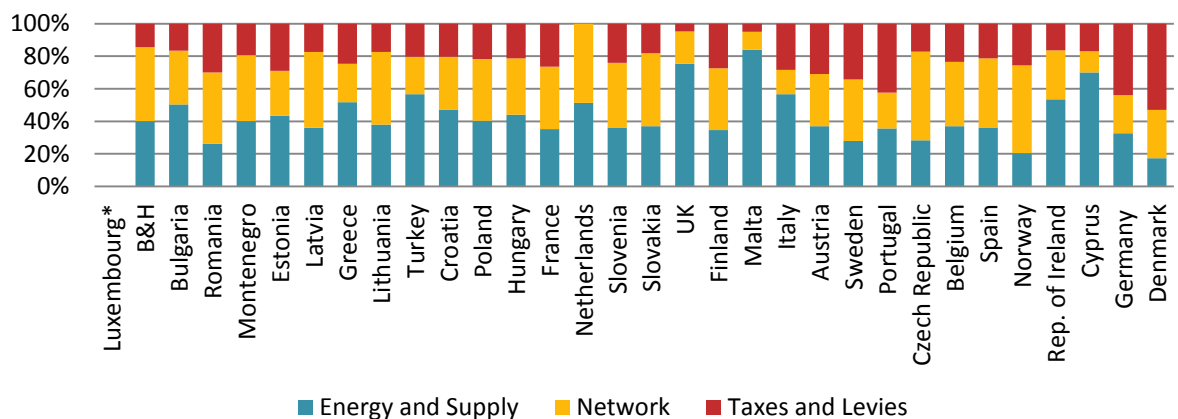
- Danish consumers consistently pay the highest proportion of their bills in taxes and levies (between 53% and 57% depending on consumption category, with percentage share increasing in line with consumption);
- UK consumers consistently pay the second largest (after Malta) proportion of their bill towards energy and supply costs (75% of all costs across all consumption groups); and
- There is no apparent pattern to the proportional allocation of network charges, with a different country having the highest percentage of the final price attributable to network charges in each consumption category.

Figure 7: Domestic electricity prices and proportional contribution of component parts 2012: <1,000kWh (c/kWh)



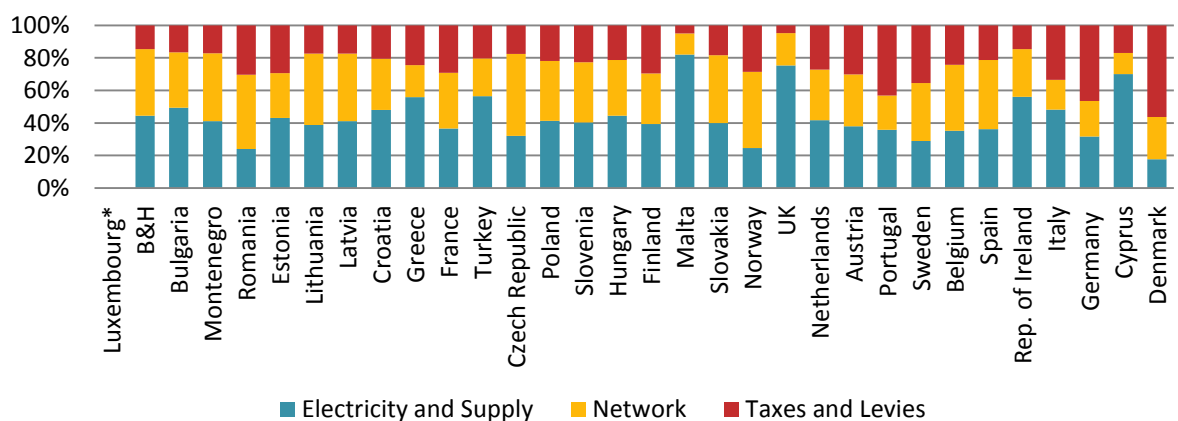
Source: Eurostat

Figure 8: Domestic electricity prices and proportional contribution of parts 2012: 1,000kWh to 2,500kWh (c/kWh)



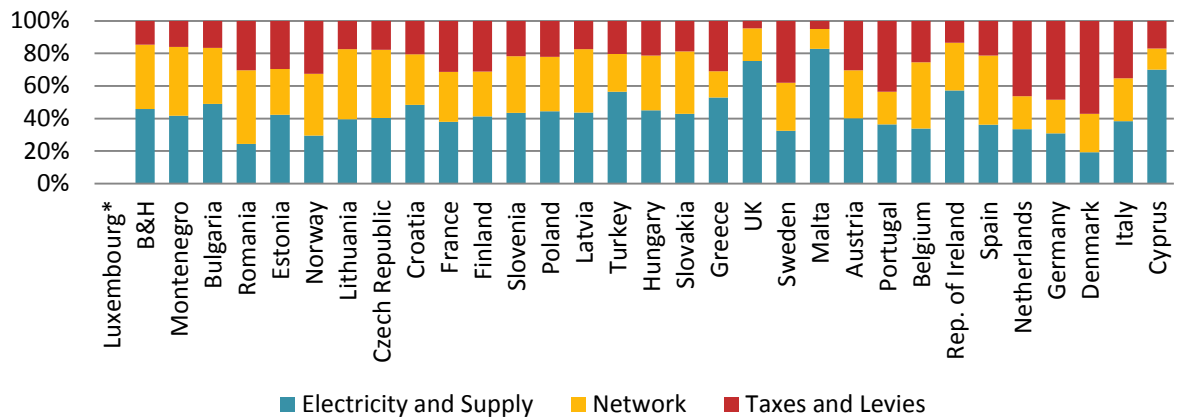
Source: Eurostat

Figure 9: Domestic electricity prices and proportional contribution of component parts 2012: 2,500kWh to 5,000kWh (c/kWh)



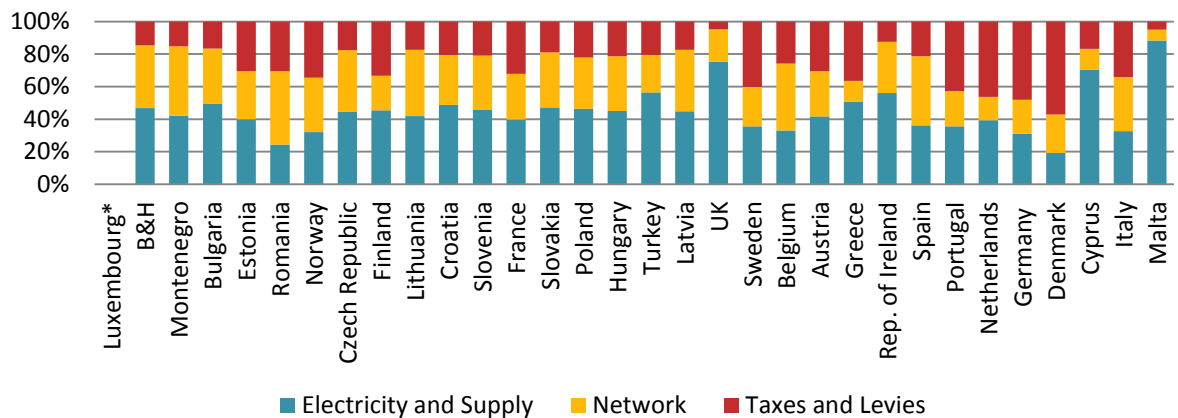
Source: Eurostat

Figure 10: Domestic electricity and proportional contribution of component parts 2012: 5,000kWh to 15,000kWh (c/kWh)



Source: Eurostat

Figure 11: Domestic electricity prices and proportional contribution of component parts 2012: above 15,000kWh (c/kWh)



Source: Eurostat

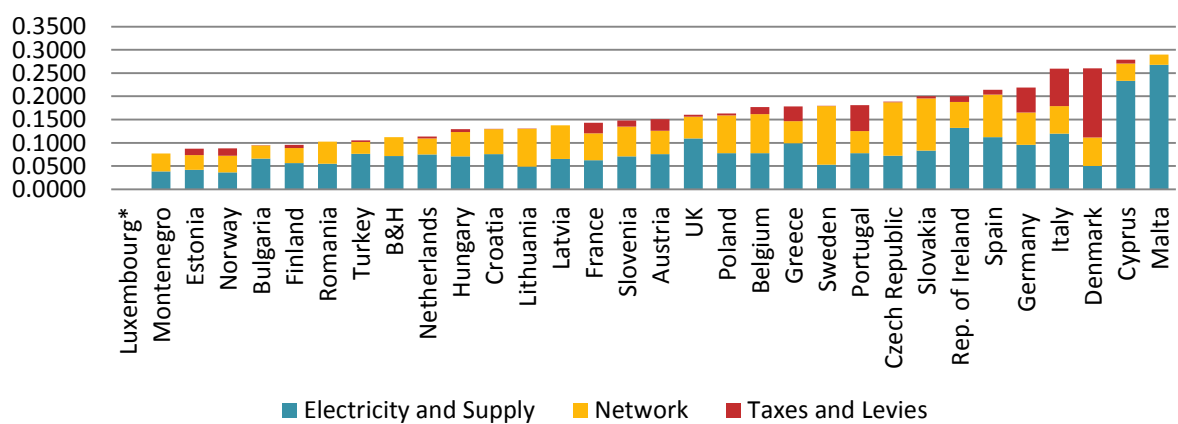
4 European Comparisons - Industrial prices

Figures 12 to 16 rank the 32 countries according to the price paid by industrial consumers in each of the consumption groupings. As is the case with domestic prices, there is no absolute trend to the ranking of the countries across the consumption groups. In all by the 20MWh or below grouping, however, Cyprus, Italy and Malta consistently pay the highest prices of all countries. It is also evident that whilst Danish consumers pay the third highest final price in the below 20MWh grouping, Danish consumers in other groupings pay a price that ranks them in the middle of the countries examined.

Focusing on Eurostat’s standard industrial consumer (500MWh to 2,000MWh consumption) outlined in Figure 12 it is evident that within this grouping consumers in Cyprus pay the most for their electricity (0.2342c/kWh), followed by Italy (0.1988c/kWh) and Malta (0.1800c/kWh). Within this grouping RoI industrial consumers pay the fourth highest price for their electricity (0.1396c/kWh), whilst industrial consumers in the UK pay the eighth highest price (0.1205c/kWh). Bosnia and Herzegovina industrial consumers pay the least for the electricity in this grouping (0.0647c/kWh).

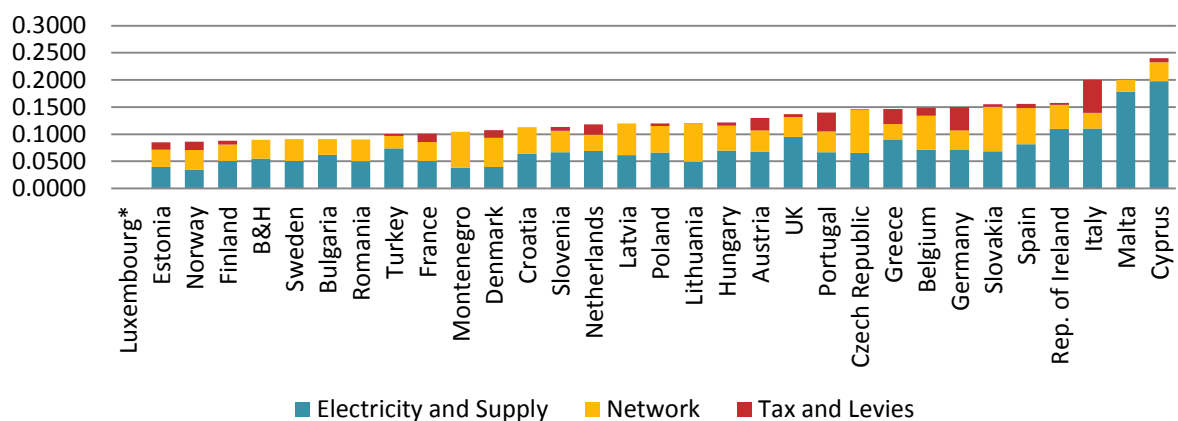
Figure 17 shows that if only energy and supply charges are considered UK standard industrial customers pay the fifth highest price for energy.

Figure 12: Industrial prices (c/kWh) 2012: below 20MWhs



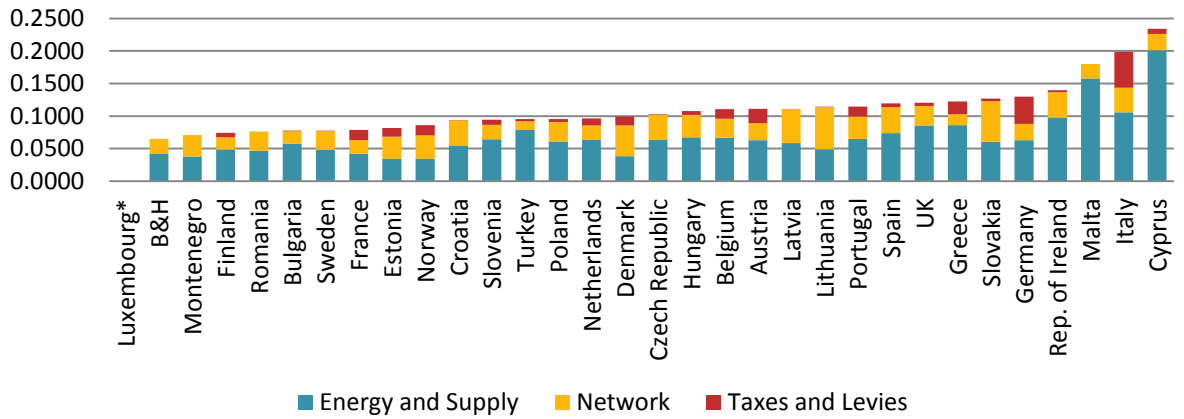
Source: Eurostat

Figure 13: Industrial prices 2012 (c/kWh): between 20MWh and 500MWh



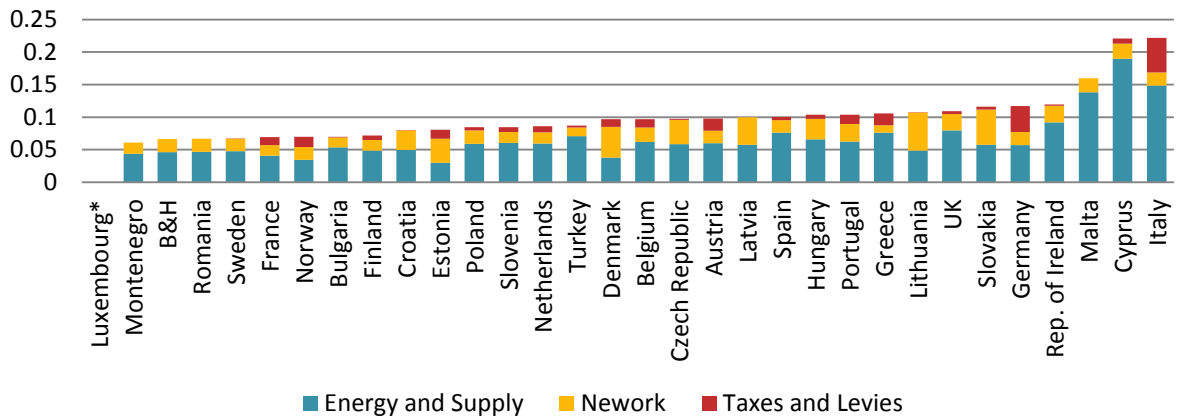
Source: Eurostat

Figure 14: Industrial prices 2012 (c/kWh): 500MWh and 2,000MWh



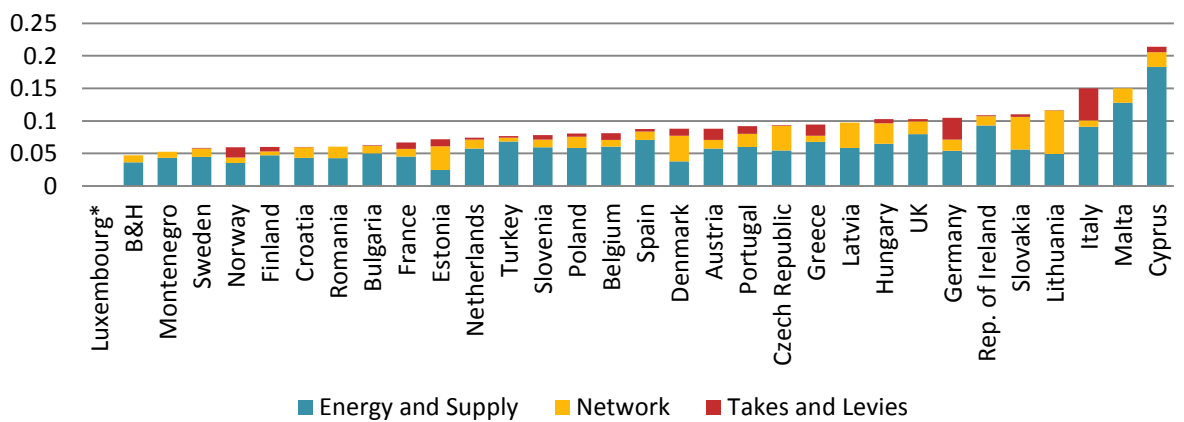
Source: Eurostat

Figure 15: Industrial prices 2012 (c/kWh): between 2,000MWh and 20,000MWh



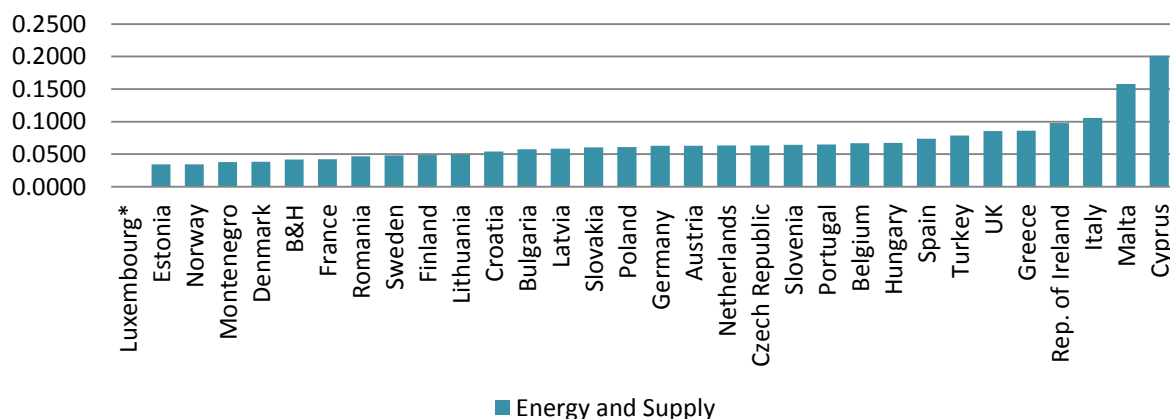
Source: Eurostat

Figure 16: Industrial prices 2012 (c/kWh): 20,000MWh and 70,000MWh



Source: Eurostat

Figure 17: Standard Industrial consumption electricity price – energy and supply components only 2012 (c/kWh)

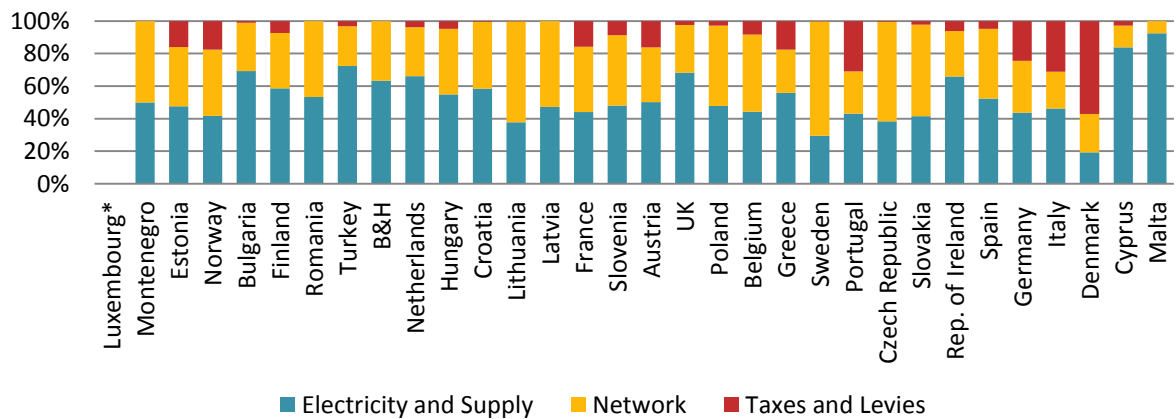


Source: Eurostat

The next set of figures (figures 18 to 22) show the proportional allocation of prices components on a country basis across the different consumption groups. The following can be stated about these figures:

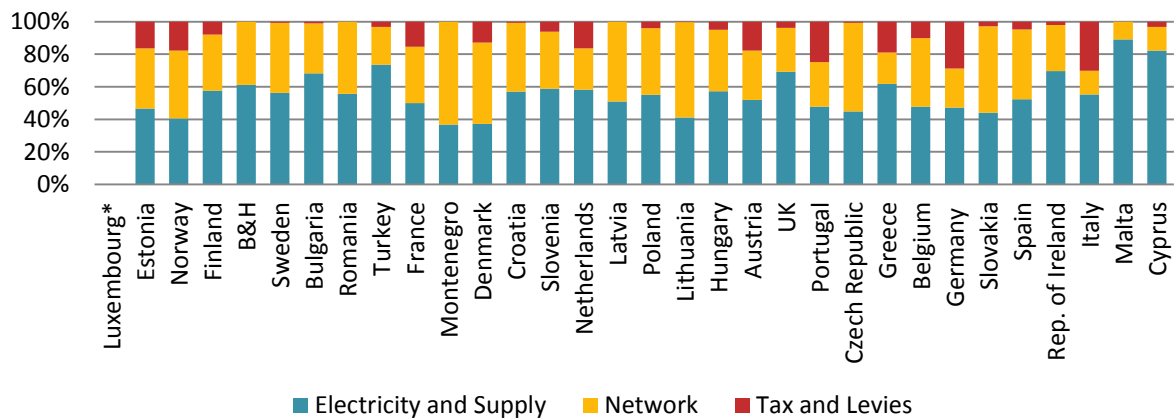
- In all but the smallest consumption grouping customers in Cyprus pay the largest proportion of their bills towards energy and supply costs;
- Norwegian customers pay the smallest proportion of their bills towards energy and supply costs in the two smallest consumption categories. Estonian customers pay the smallest proportion towards this cost in the remaining three consumption categories;
- Lithuanian customers pay the largest proportion of their bills towards network charges in three largest consumption categories. Swedish customers pay the largest proportion in the below 20MWh category, whilst Slovakian customers pay the largest proportion in the 20MWh to 500MWh category;
- There is a tendency across all countries for the proportion paid in network charges to decrease as electricity consumption increases – see Figure 23 for details.
- Italian customers pay the largest proportion of their bills towards taxes and levies across all but the smallest consumption group; and
- A number of countries do not impose any taxes and levies on industrial customers, namely: Bosnia and Herzegovina, Latvia, Malta, Montenegro, and Romania.

Figure 18: Industrial electricity prices and proportional contribution of component parts 2012: below 20MWhs



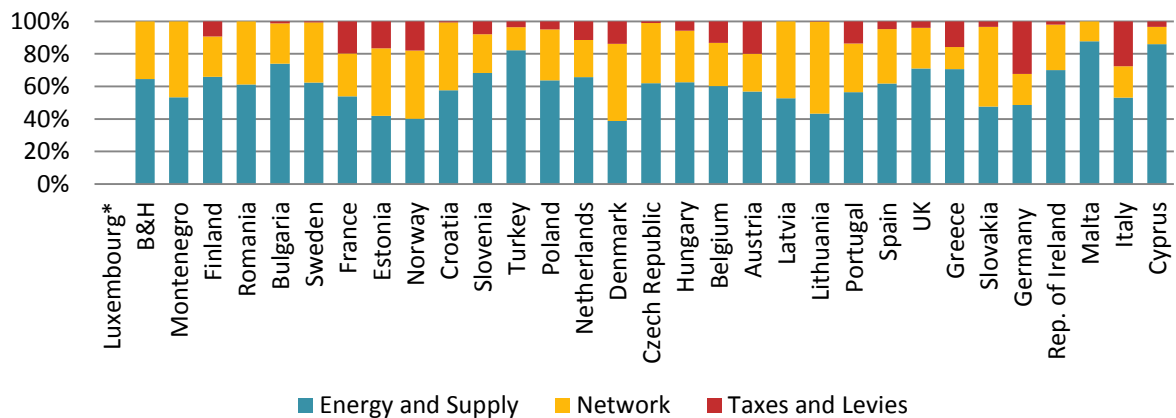
Source: Eurostat

Figure 19: Industrial electricity prices and proportional contribution of component parts 2012: between 20MWh and 500MWh



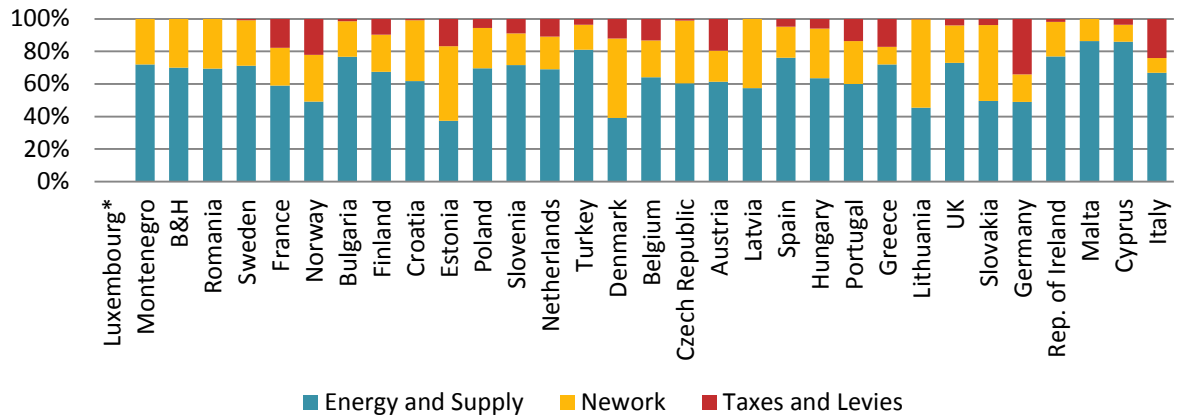
Source: Eurostat

Figure 20: Industrial electricity prices and proportional contribution of component parts 2012: 500MWh and 2,000MWh



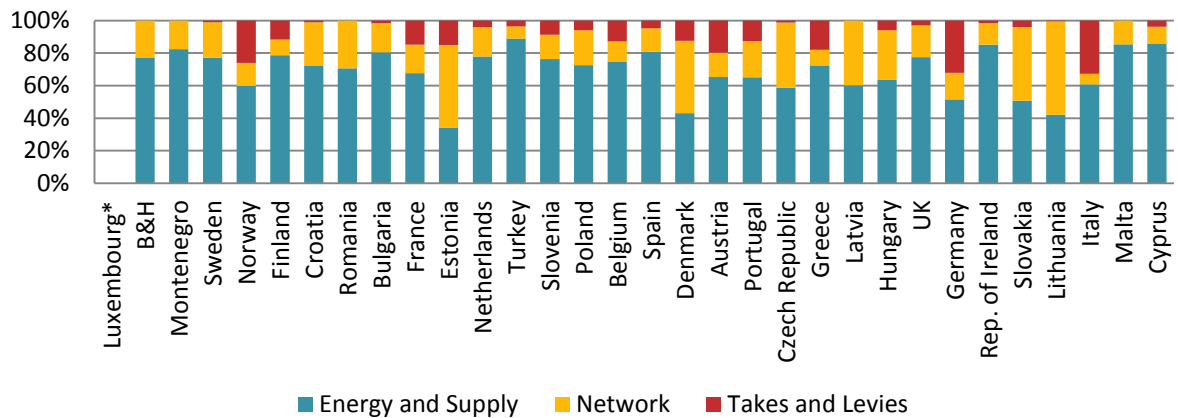
Source: Eurostat

Figure 21: Industrial electricity prices and proportional contribution of component parts 2012: between 2,000MWh and 20,000MWh



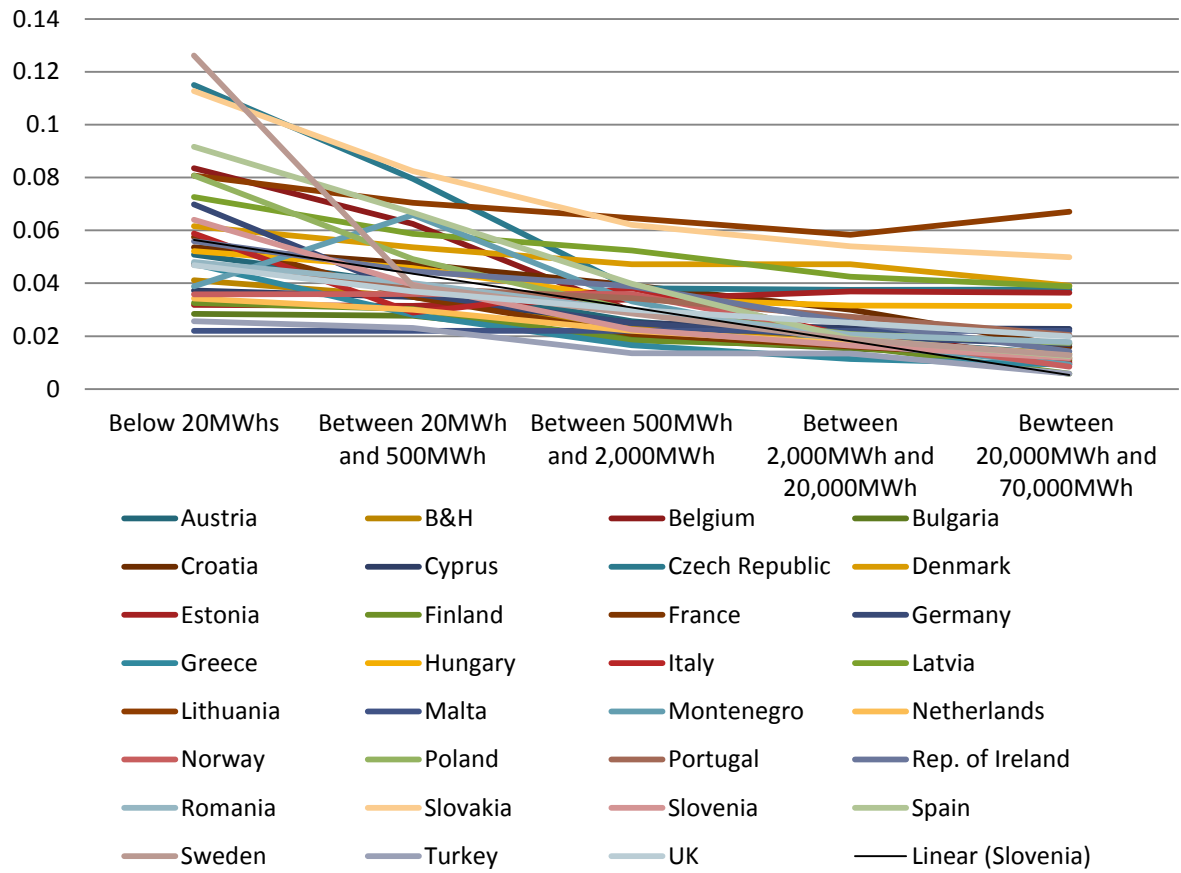
Source: Eurostat

Figure 22: Industrial electricity prices and proportional contribution of component parts 2012: 20,000MWh and 70,000MWh



Source: Eurostat

Figure 23: Network costs by industrial consumption category 2012 (c/kWh)



Source: Eurostat

5 Case studies

This section provides a number of case studies which highlight the different ways in which countries allocate costs to specific consumption groupings. It is worth reiterating the caveat stated in the introduction to this paper that variations in market organisation on a country to country basis ensure that any comparisons between markets are not like for like comparisons.

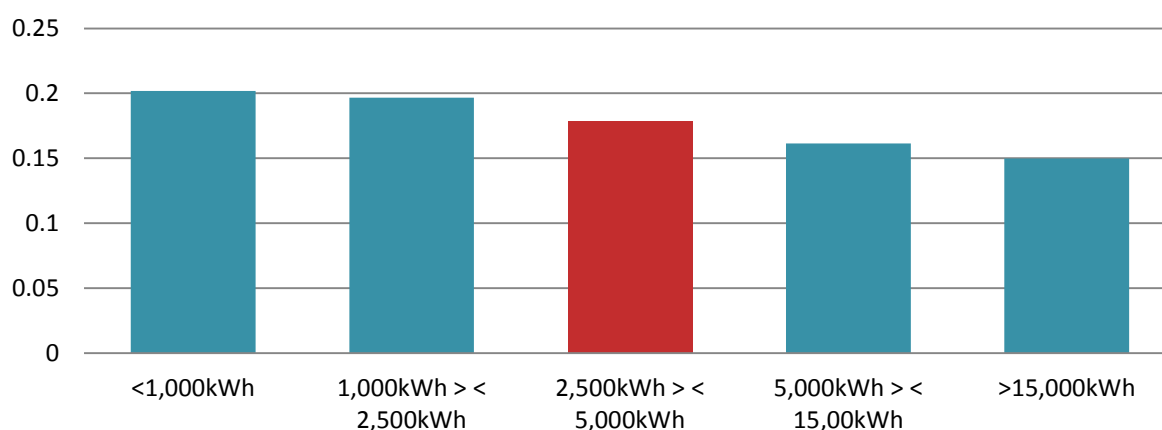
5.1 UK

As noted in earlier sections the UK in the standard domestic consumption grouping pay the twelfth highest price for electricity, whilst those in the standard industrial consumption pay the eighth highest price of the countries examined.

Figures 24 and 25 show the price paid in price per kilowatt hour across domestic and industrial customers in the region, the standard consumption categories are highlighted in each figure.

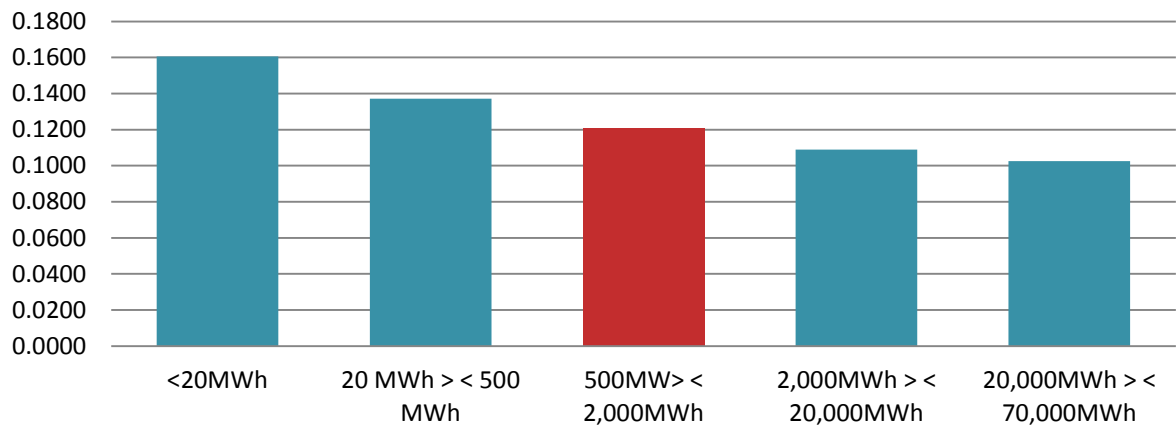
The figures show that the overall price per kilowatt hour paid by domestic and industrial customers decreases as consumption increases. It is also notable that prices for all industrial consumption groupings are less expensive than all but the largest domestic consumption grouping. Figure 24 shows that the per kilowatt price paid by the smallest domestic grouping (0.2019c/kWh) is 26% higher than the price paid the largest consumption grouping (0.1499c/kWh). Similarly, the per kilowatt price paid by the smallest industrial consumption grouping (0.1605c/kWh) is 25% more expensive than the price paid by those in largest consumption grouping (0.1206c/kWh).

Figure 24: UK domestic prices by consumption category 2012 (c/kWh)



Source: Eurostat

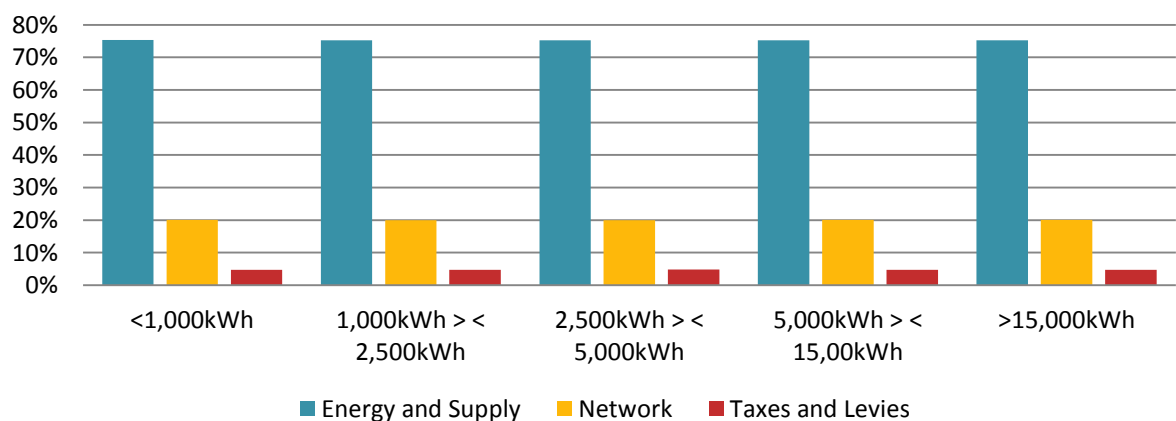
Figure 25: UK industrial prices by consumption category 2012 (c/kWh)



Source: Eurostat

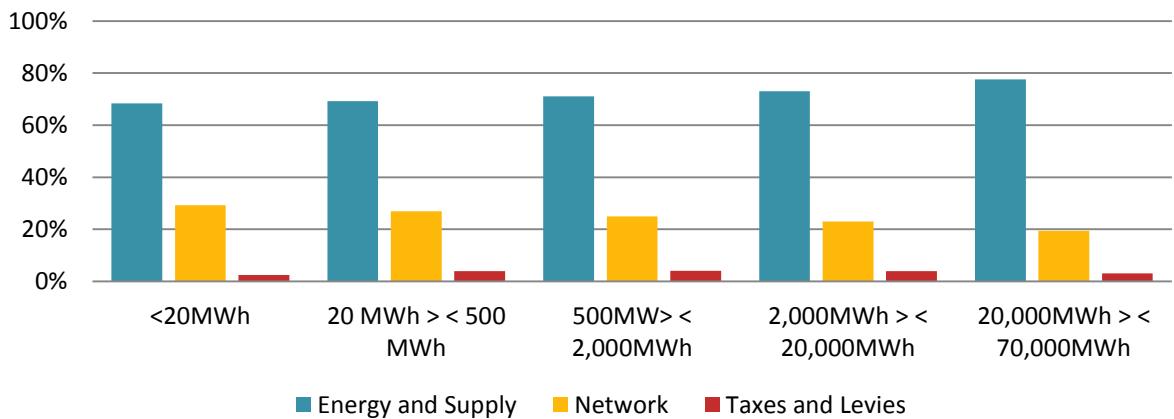
Figures 26 and 27 show the contribution each cost component makes to the final kilowatt hour price for electricity in percentage terms for each domestic and industrial consumption grouping. Figure 26 shows that the allocation of cost is proportionally identical across all domestic consumption groupings, with 75% of the final price attributable to energy and supply, 20% attributable to networks costs and 5% attributable to taxes. Figure 27 shows greater variation amongst the industrial groupings. For the smallest consumption grouping cost allocation breaks down as follows: 68% energy security, 29% network cost, and 2% taxes and levies. For the largest consumption grouping the breakdown is 78% energy and supply, 19% network and 3% taxes and levies.

Figure 26: Percentage contribution of cost components to price paid per kilowatt hour by UK domestic customers



Source: Eurostat

Figure 27: Percentage contribution of cost components to price paid per kilowatt hour by UK domestic customers

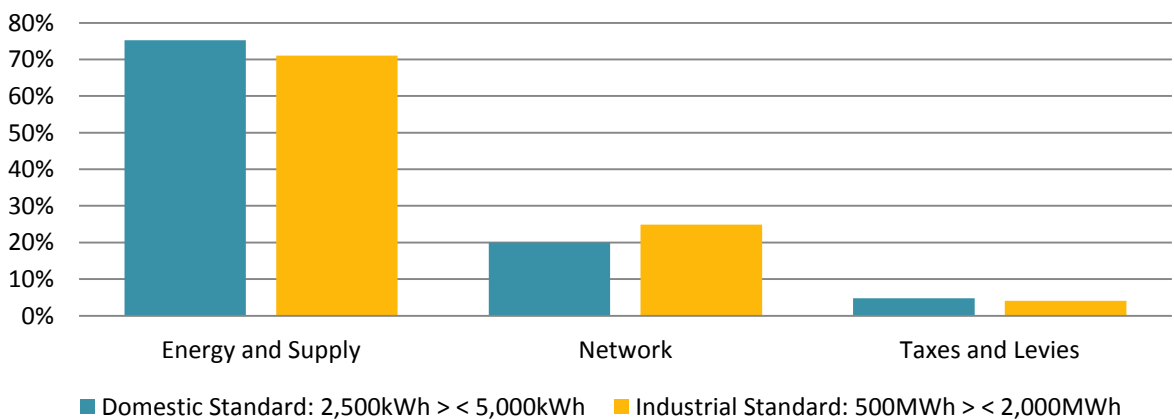


Source: Eurostat

Figure 28 directly compares the proportional contribution of cost components to the final price paid per kilowatt hour by standard domestic and industrial groupings. The figures highlight certain variations across the two groupings, as follows:

- 78% of the price paid per kilowatt hour by standard domestic customers goes towards energy and supply, for standard industrial customers it is 71%;
- 20% of the price paid per kilowatt hour by standard domestic customers goes towards networks costs, for standard industrial customers it is 25%; and
- 5% of the price paid per kilowatt hour by standard domestic customers goes towards taxes and levies, for standard industrial customers it is 4%.

Figure 28: Percentage contribution of cost components to price paid per kilowatt hour for standard domestic and industrial consumptions UK (2012)

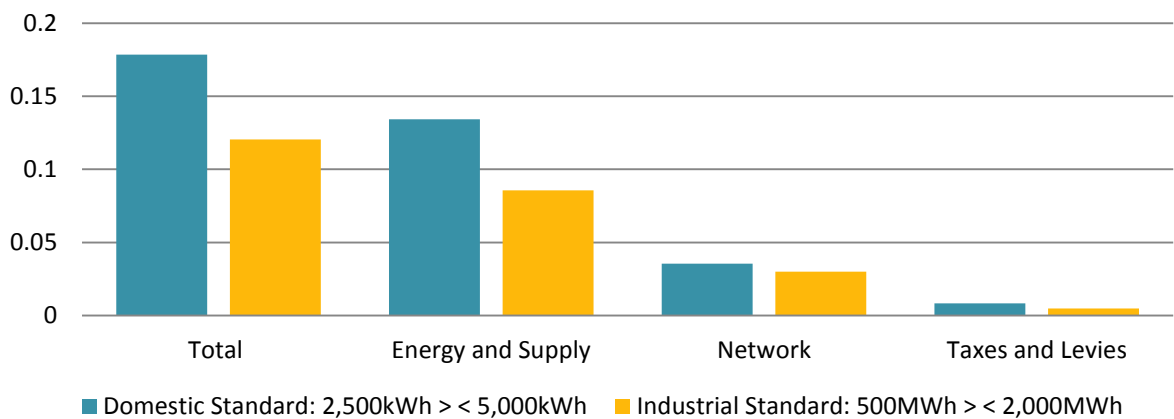


Source: Eurostat

Figure 29 compares the actual price paid by standard domestic and industrial customers for each cost component. The following can be said about this figure:

- Standard domestic customers paid 0.1784c/kWh for their electricity, the price paid by standard industrial customers is 0.1205c/kWh, a difference of 0.0579c/kWh. In other words standard domestic customers paid 32.4% more than standard industrial customers;
- Of the total price paid, standard domestic customers paid 0.1343c/kWh towards energy and supply cost. This was 36% more than standard industrial customers who paid 0.0856c/kWh;
- Standard domestic customers paid 0.356c/kWh toward network cost, 15% more than standard industrial customers, who paid 0.0300c/kWh; and
- Standard domestic customers paid 0.0085c/kWh toward taxes and levies, 49% more than standard industrial customers, who paid 0.0049c/kWh.

Figure 29: c/kwh contribution of cost components to price paid per kilowatt hour for standard domestic and industrial consumptions UK (2012)

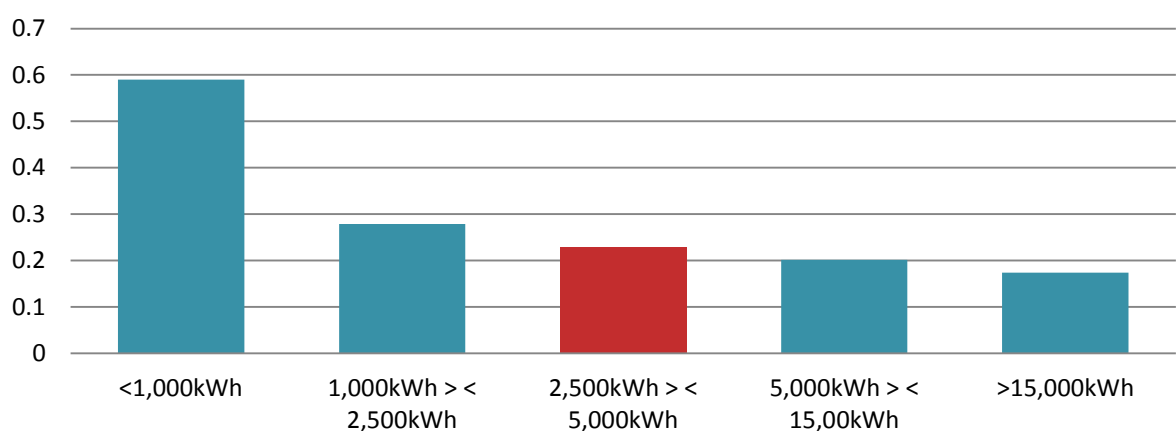


Source: Eurostat

5.2 Republic of Ireland

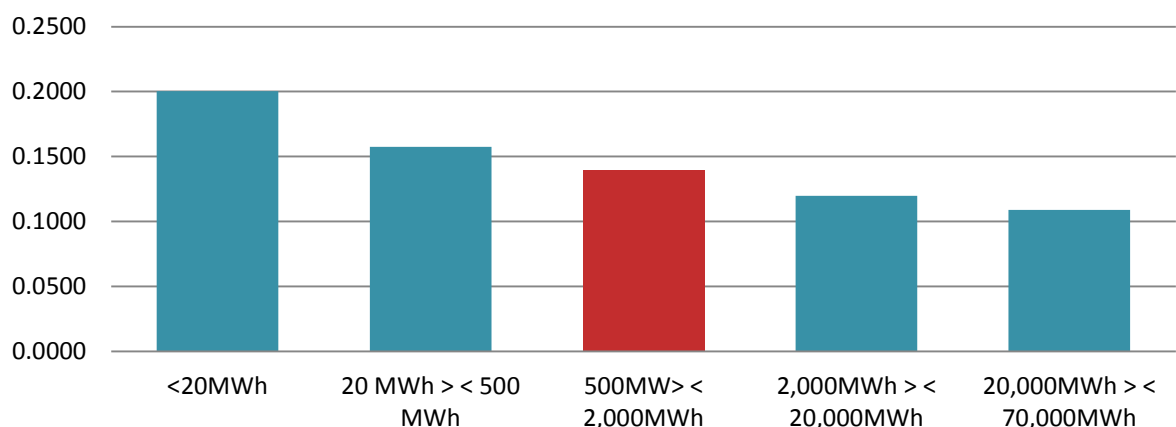
Figures 30 and 31 show that the overall price per kilowatt hour paid by domestic and industrial customers decreases as consumption increases. As is the case with the UK data, prices for all industrial consumption groupings are less expensive than all but the largest domestic consumption grouping. Figure 30 shows that the per kilowatt price paid by the smallest domestic grouping (0.5902c/kWh) is 70% higher than the price paid the largest consumption grouping (0.1734c/kWh). Similarly, the per kilowatt price paid by the smallest industrial consumption grouping (0.2003c/kWh) is 46% more expensive than the price paid by those in largest consumption grouping (0.1089c/kWh).

Figure 30: Rol domestic prices by consumption category 2012 (c/kWh)



Source: Eurostat

Figure 31: Rol industrial prices by consumption category 2012 (c/kWh)

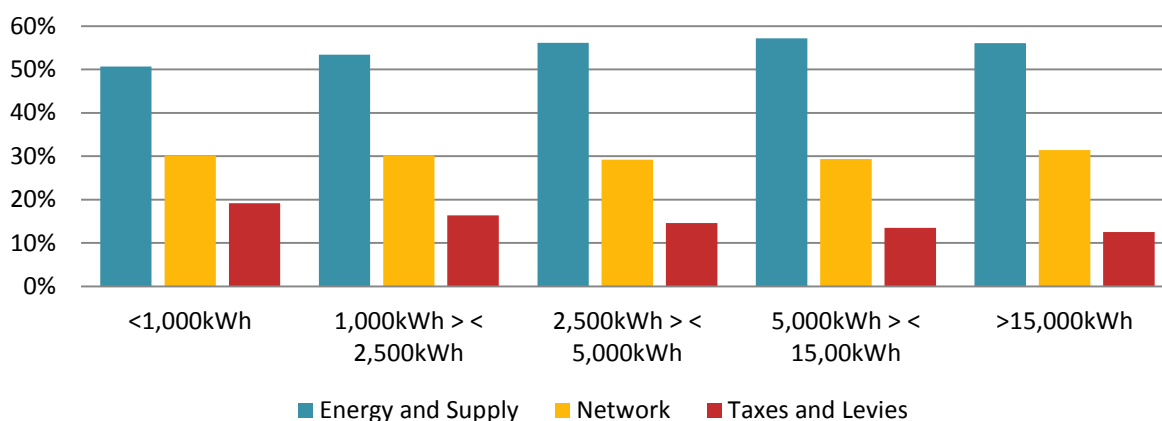


Source: Eurostat

Figures 32 and 33 show the contribution each cost component makes to the final kilowatt hour price for electricity in percentage terms for each domestic and industrial consumption grouping. Figure 32 shows that the proportion of the domestic bill allocated to energy and supply charges increases for each of the first three groupings – from 51% to 57% - before falling to 56% for the largest grouping. There is a slight

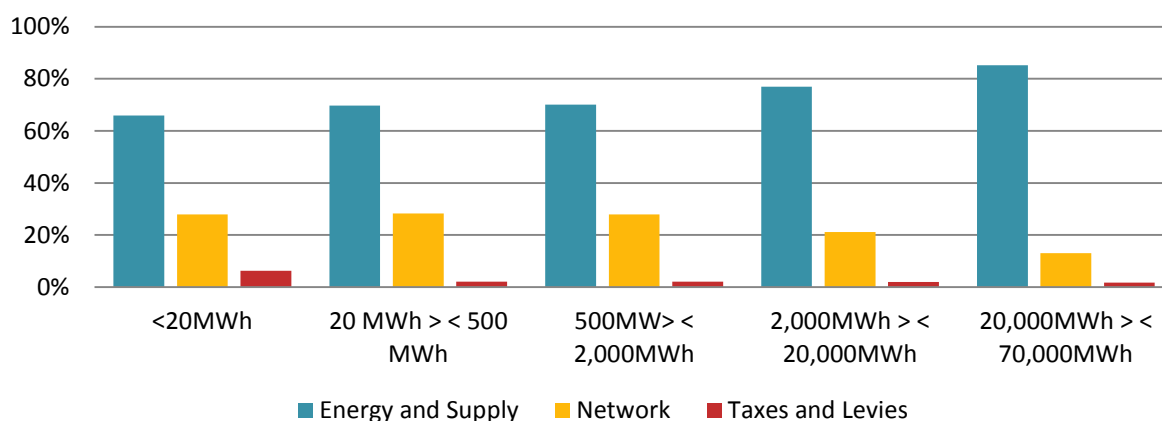
variation in the proportion of the price paid attributable to network costs – 30% for the two smallest consumption groupings, 29% for the next two consumption groupings and 31% for the largest consumption grouping. The proportion of the per kilowatt hour price which goes towards taxes and levies fall from 19% in the smallest consumption grouping to 13% in the largest consumption grouping. Figure 33 shows greater variation amongst the industrial groupings. Energy and supply costs rise from 66% of total price in the smallest consumption grouping to 85% in the largest consumption grouping. Network costs fall from 28% of total costs in the smallest consumption grouping to 13% in the largest. Taxes and levies fall from 6% in the smallest grouping to 2% in the largest.

Figure 32: Percentage contribution of cost components to price paid per kilowatt hour by Rol domestic customers (2012)



Source: Eurostat

Figure 33: Percentage contribution of cost components to price paid per kilowatt hour by Rol domestic customers (2012)

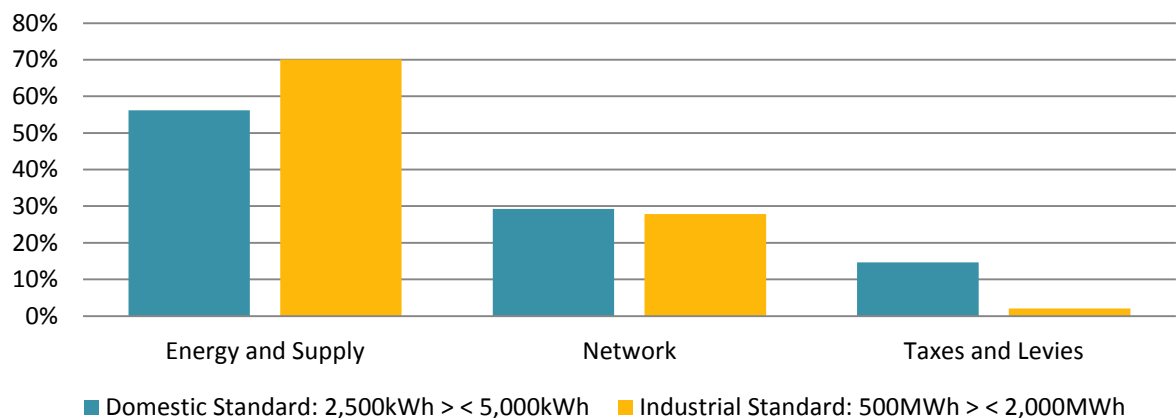


Source: Eurostat

Figure 34 directly compares the proportional contribution of cost components to the final price paid per kilowatt hour by standard domestic and industrial groupings. The figures highlight certain variations across the two groupings, as follows:

- 56% of the price paid per kilowatt hour by standard domestic customers goes towards energy and supply, for standard industrial customers it increases to 70%;
- 29% of the price paid per kilowatt hour by standard domestic customers goes towards networks costs, for standard industrial customers it is 28%; and
- 15% of the price paid per kilowatt hour by standard domestic customers goes towards taxes and levies, for standard industrial customers it is 2%.

Figure 34: Percentage contribution of cost components to price paid per kilowatt hour for standard domestic and industrial consumptions Rol (2012)

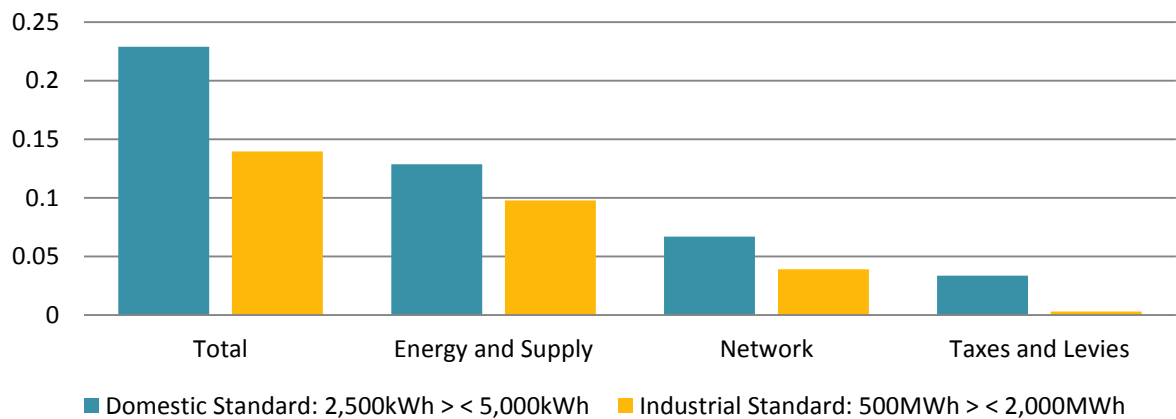


Source: Eurostat

Figure 35 compares the actual price paid by standard domestic and industrial customers for each cost component. The following can be said about this figure:

- Standard domestic customers paid 0.2289c/kWh for their electricity, the price paid by standard industrial customers is 0.1396c/kWh, a difference of 0.0893c/kWh. In other words standard domestic customers paid 39% more than standard industrial customers;
- Of the total price paid, standard domestic customers paid 0.1285c/kWh towards energy and supply cost. This was 0.0307c/kWh (24%) more than standard industrial customers who paid 0.0978c/kWh;
- Standard domestic customers paid 0.0669c/kWh toward network cost, 0.28c/kWh(42%) more than standard industrial customers, who paid 0.0389c/kWh; and
- Standard domestic customers paid 0.0335c/kWh toward taxes and levies, 0.0306c/kWh (91%) more than standard industrial customers, who paid 0.0029c/kWh.

Figure 35: c/kwh contribution of cost components to price paid per kilowatt hour for standard domestic and industrial consumptions Rol (2012)

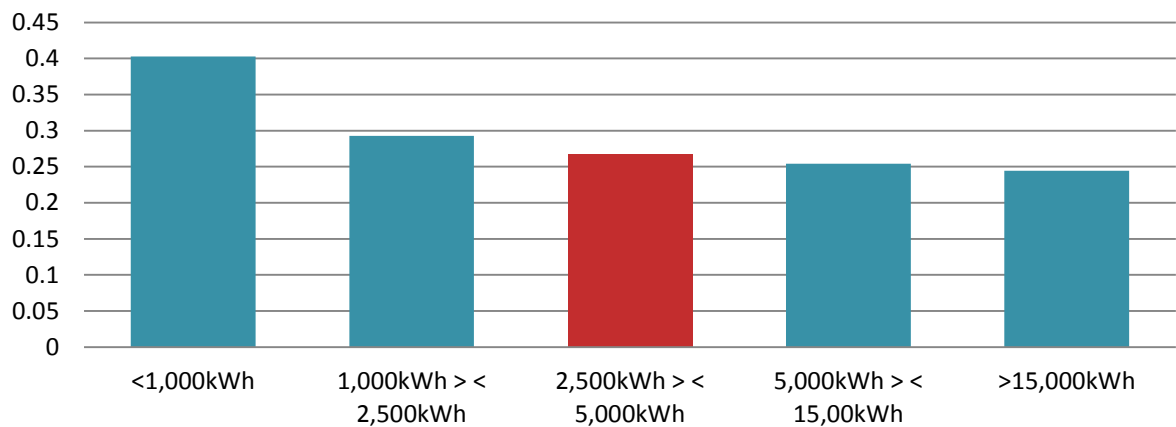


Source: Eurostat

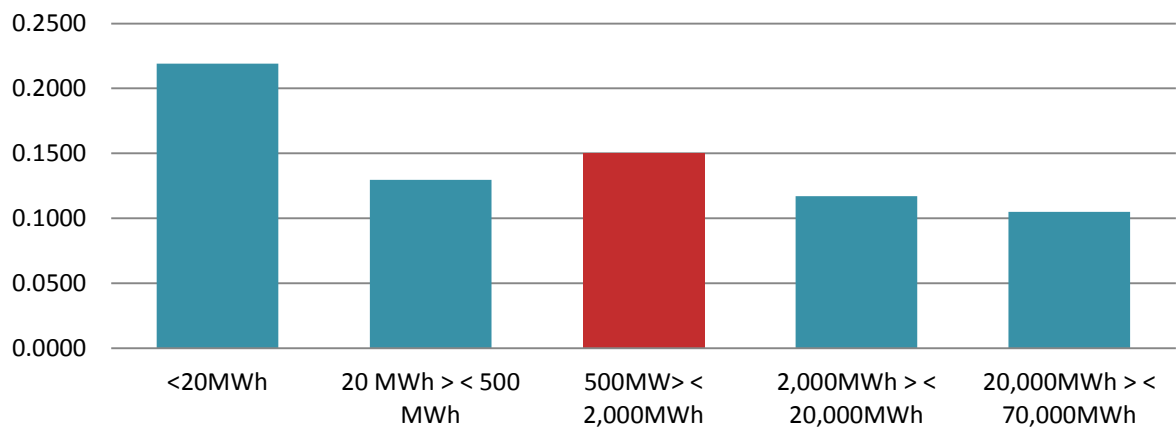
5.3 Germany

Figures 36 and 37 show that the overall price per kilowatt hour paid by domestic customers decreases as consumption increases. For industrial customers there is no such relationship between consumption and price. There is a significant fall in total price per kilowatt from the below 20MWh consumption grouping to the 20MWh to 500MWh grouping. The total price increases for the 500MWh to 2,000MWh grouping, before decreasing across the last two groupings.

Total prices for all industrial consumption groupings are less expensive than all domestic consumption groupings. Figure 36 shows that the per kilowatt price paid by the smallest domestic grouping (0.4028c/kWh) is 39% higher than the price paid the largest consumption grouping (0.2442c/kWh). Similarly, the per kilowatt price paid by the smallest industrial consumption grouping (0.2190c/kWh) is 52% more expensive than the price paid by those in largest consumption grouping (0.1049c/kWh).

Figure 36: German domestic prices by consumption category 2012 (c/kWh)

Source: Eurostat

Figure 37: German industrial prices by consumption category 2012 (c/kWh)

Source: Eurostat

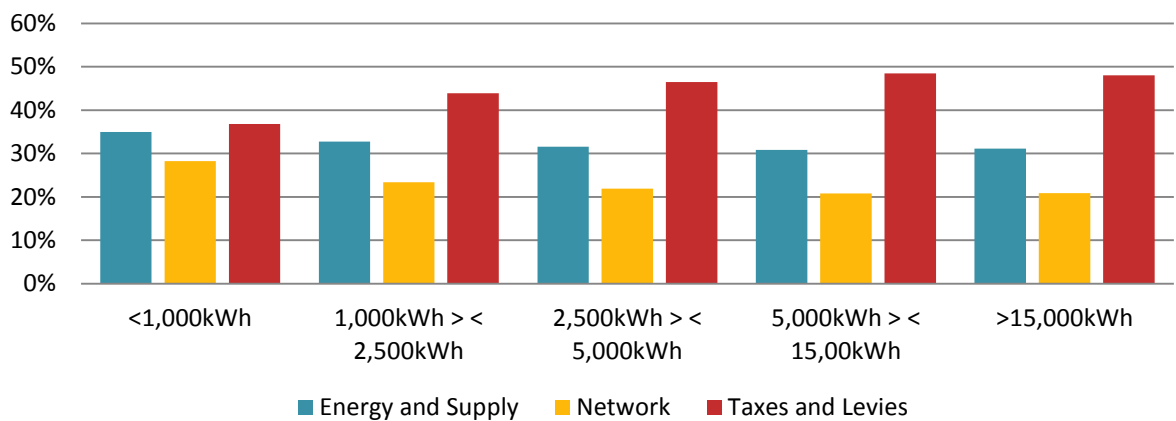
Figures 38 and 39 show the contribution each cost component makes to the final kilowatt hour price for electricity in percentage terms for each domestic and industrial consumption grouping. Figure 38 shows the following:

- The proportion of the domestic bill allocated to energy and supply falls from 35% in the smallest consumption to 31% in the largest grouping;
- The proportion of the price paid attributable to network costs falls from 28% for the smallest consumption grouping to 21% for the largest consumption grouping; and
- The proportion of the per kilowatt hour price which goes towards taxes and levies increases from 37% in the smallest consumption grouping to 48% in the largest consumption grouping.

Figure 39 shows:

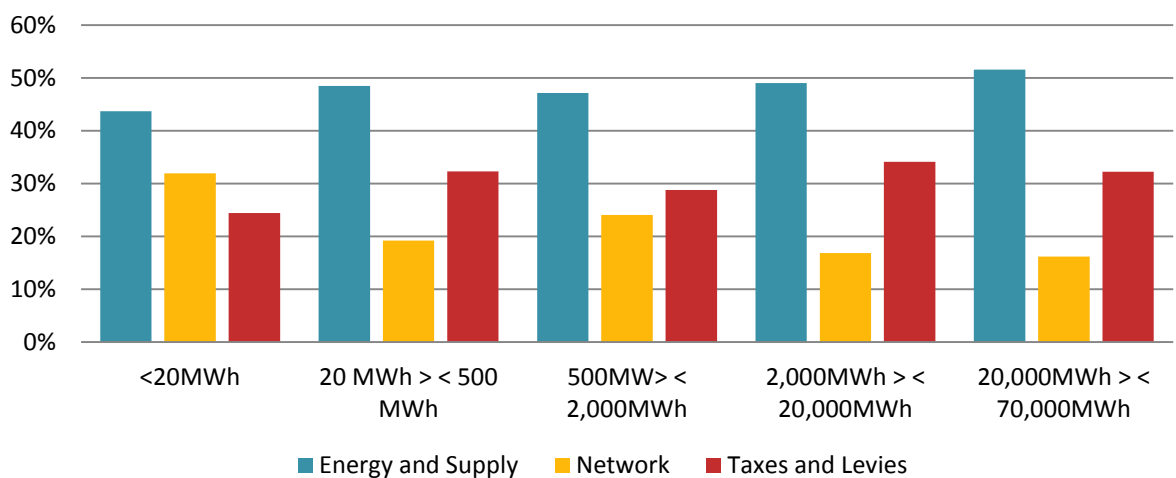
- Energy and supply costs show little variation falling from 35% of total price in the smallest consumption grouping to 31% in the largest industrial consumption grouping.
- Network costs fall a significant drop from 32% of total costs in the smallest consumption grouping to 16% in the largest.
- Taxes and levies show a significant increase from 24% in the smallest grouping to 48% in the largest.

Figure 38: Percentage contribution of cost components to price paid per kilowatt hour by German domestic customers (2012)



Source: Eurostat

Figure 39: Percentage contribution of cost components to price paid per kilowatt hour by German industrial customers (2012)

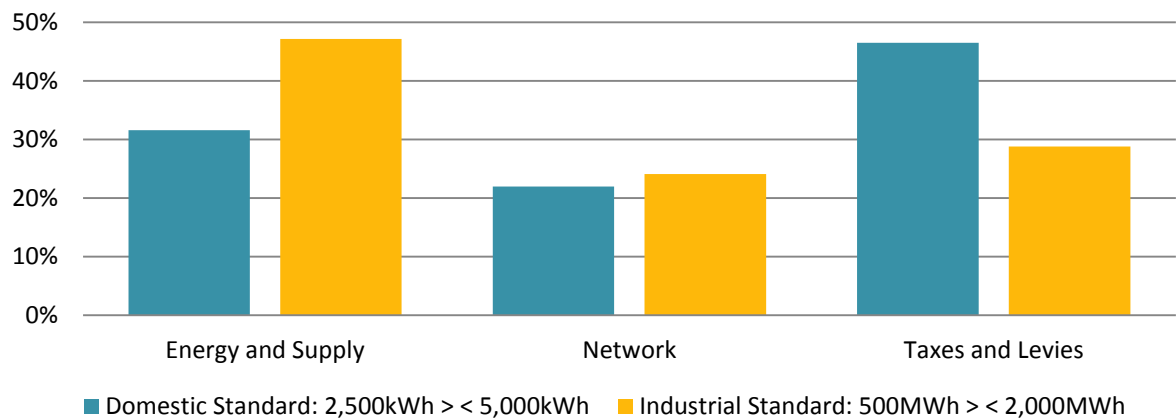


Source: Eurostat

Figure 40 directly compares the proportional contribution of cost components to the final price paid per kilowatt hour by standard domestic and industrial groupings. The figures highlight certain variations across the two groupings, as follows:

- 32% of the price paid per kilowatt hour by standard domestic customers goes towards energy and supply, for standard industrial customers it increases to 47%;
- 22% of the price paid per kilowatt hour by standard domestic customers goes towards networks costs, for standard industrial customers it is 24%; and
- 46% of the price paid per kilowatt hour by standard domestic customers goes towards taxes and levies, for standard industrial customers it is 29%.

Figure 40: Percentage contribution of cost components to price paid per kilowatt hour for standard domestic and industrial consumptions Germany (2012)

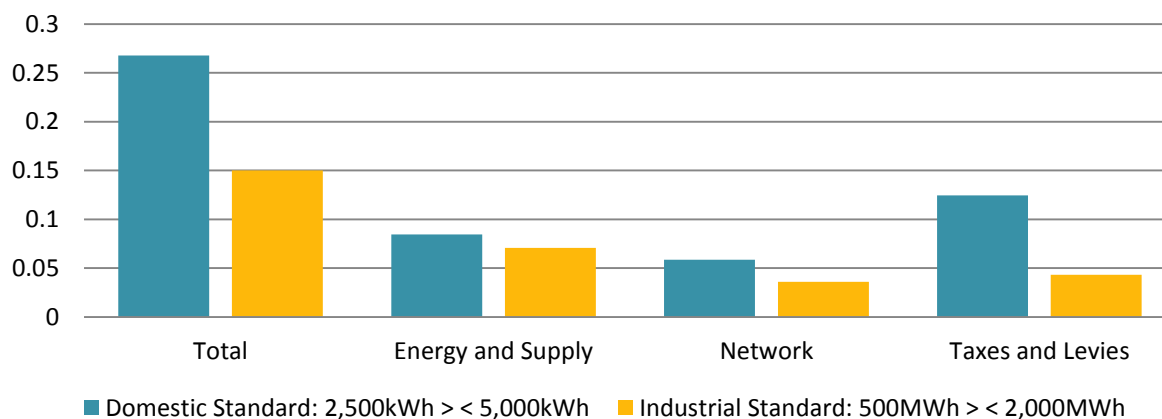


Source: Eurostat

Figure 41 compares the actual price paid by standard domestic and industrial customers for each cost component. The following can be said about this figure:

- Standard domestic customers paid 0.2676c/kWh for their electricity, the price paid by standard industrial customers is 0.1500c/kWh, making standard domestic prices of 0.1176c/kWh (44%) higher;
- Of the total price paid, standard domestic customers paid 0.0845c/kWh towards energy and supply cost. This was 0.0138c/kWh (16%) more than standard industrial customers who paid 0.0707c/kWh;
- Standard domestic customers paid 0.0587c/kWh toward network cost, 0.0226c/kWh (39%) more than standard industrial customers, who paid 0.0361c/kWh; and
- Standard domestic customers paid 0.1244c/kWh toward taxes and levies, 0.0812c/kWh (247%) more than standard industrial customers, who paid 0.0432c/kWh.

Figure 41: c/kwh contribution of cost components to price paid per kilowatt hour for standard domestic and industrial consumptions Germany (2012)



Source: Eurostat

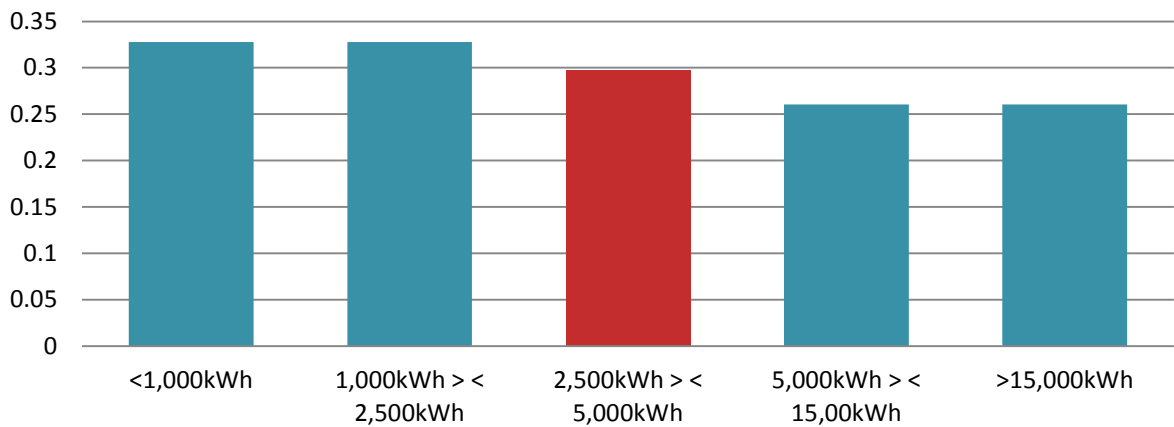
5.4 Denmark

Figure 42 shows that Danish consumers in the two smallest domestic consumption categories pay the same price per kilowatt hour (0.3278c/kWh). The price falls for the next two consumption groupings, before levelling out between the second largest and largest consumption groupings.

Figure 43 shows that there is a significant drop in price from the smallest industrial consumption to the second smallest (a decrease of 59%) grouping. Prices show a steady decline across the remaining consumption groupings.

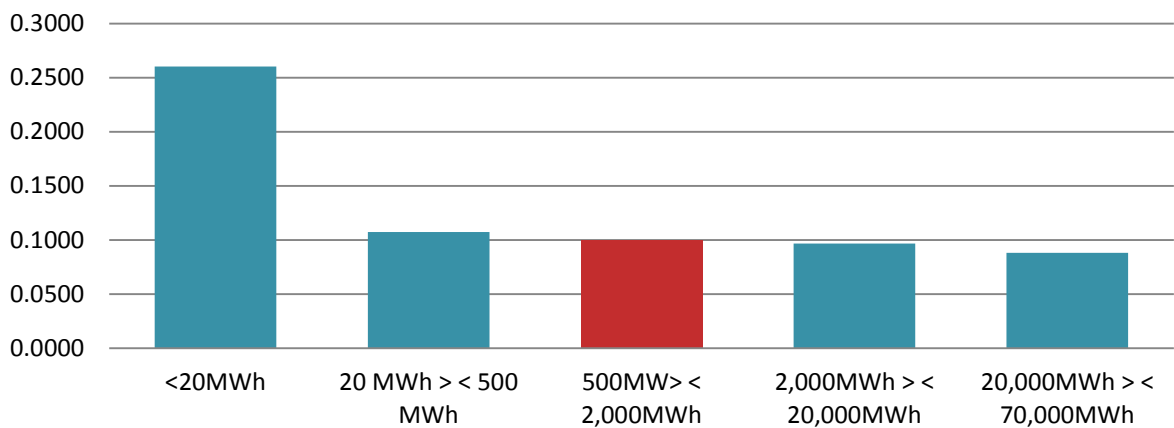
Total prices for all industrial consumption groupings are generally less expensive than all domestic consumption groupings, although, the largest domestic consumption grouping pays the same price as the smallest domestic grouping – 0.2603.c/kWh. Figure 42 shows that the per kilowatt price paid by the smallest domestic grouping (0.3278c/kWh) is 20% higher than the price paid the largest consumption grouping (0.2603c/kWh). Similarly, the per kilowatt price paid by the smallest industrial consumption grouping (0.2603c/kWh) is 66% more expensive than the price paid by those in largest consumption grouping (0.0879c/kWh).

Figure 42: Danish domestic prices by consumption category 2012 (c/kWh)



Source: Eurostat

Figure 43: Danish industrial prices by consumption category 2012 (c/kWh)



Source: Eurostat

Figures 44 and 45 show the contribution each cost component makes to the final kilowatt hour price for electricity in percentage terms for each domestic and industrial consumption grouping. Figure 44 shows the following:

- The proportion of the domestic bill allocated to energy and supply increases from 17% in the smallest consumption to 19% in the largest grouping;
- The proportion of the price paid attributable to network costs falls from 30% for the smallest consumption grouping to 24% for the largest consumption grouping.; and
- The proportion of the per kilowatt hour price which goes towards taxes and levies increases from 53% in the smallest consumption grouping to 57% in the largest consumption grouping.

Figure 45 shows:

- Energy and supply costs increase from 17% of total price in the smallest consumption grouping to 31% in the largest consumption grouping.

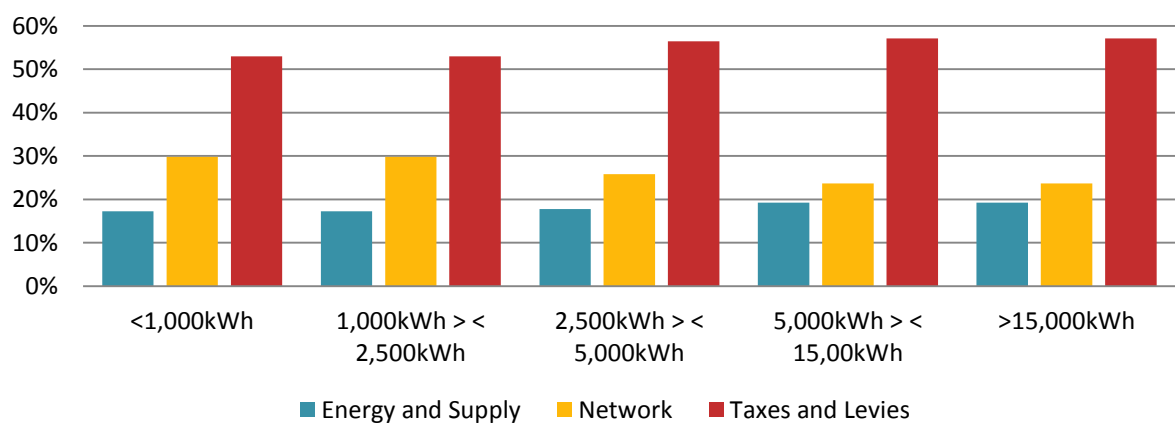
- Network costs increase from 24% of total costs in the smallest consumption grouping to 44% in the largest.
- Taxes and levies show a significant decrease from 57% in the smallest grouping to 12% in the largest.

Comparing figure 44 and 45, as well as 42 and 43 it is evident that consumers in the largest domestic grouping and smallest industrial grouping not only pay the same price per kilowatt for the energy but that the cost are allocated on the same proportional basis for both groupings – i.e. costs are broken down as follows: 19% energy and supply, 24% network and 57% taxes. If the smallest consumption grouping is removed from the industrial prices there is little variance in the way costs are allocated:

- Energy and security cost make up 37% of the total cost of customers in the second smallest consumption grouping and 43% in the largest consumption grouping;
- Network costs are 50% in the second smallest grouping and 44% in the largest; and
- Taxes and levies account for 13% in the second smallest grouping compared to 12% in the largest.

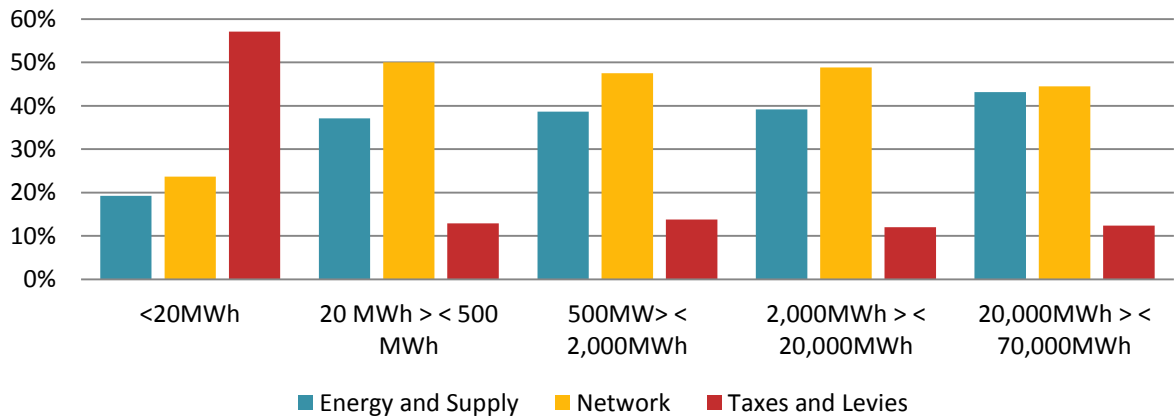
This seemingly unique treatment of industrial consumers in the below 20MWh consumption grouping would explain why in section 3.2 it was found that Danish industrial consumers pay the third highest final price of all countries examined in the below 20MWh grouping, Danish consumers in other groupings pay a price that ranks them in the middle of the countries examined.

Figure 44: Percentage contribution of cost components to price paid per kilowatt hour by Danish domestic customers (2012)



Source: Eurostat

Figure 45: Percentage contribution of cost components to price paid per kilowatt hour by Danish domestic customers (2012)

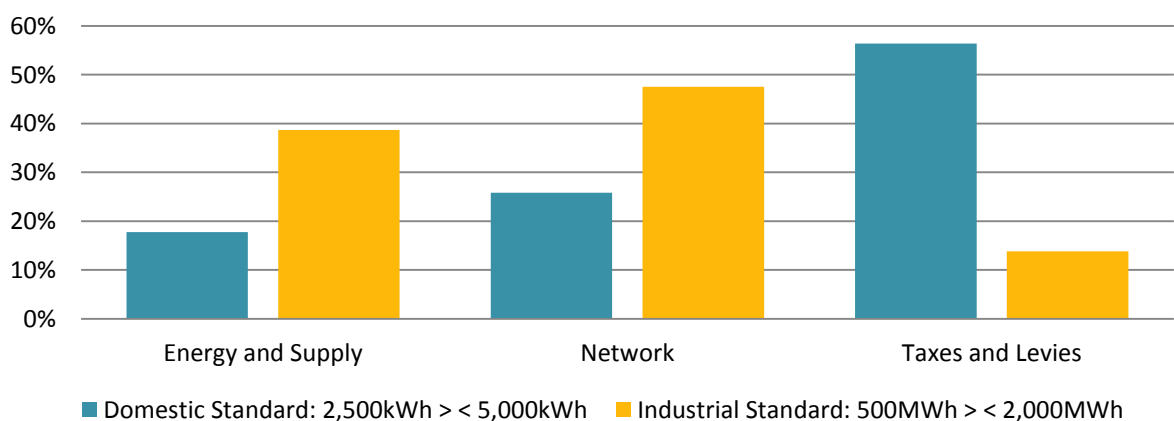


Source: Eurostat

Figure 46 directly compares the proportional contribution of cost components to the final price paid per kilowatt hour by standard domestic and industrial groupings. The figures highlight certain variations across the two groupings, as follows:

- 18% of the price paid per kilowatt hour by standard domestic customers goes towards energy and supply, for standard industrial customers it increases to 39%;
- 26% of the price paid per kilowatt hour by standard domestic customers goes towards networks costs, for standard industrial customers it is 48%; and
- 56% of the price paid per kilowatt hour by standard domestic customers goes towards taxes and levies, for standard industrial customers it is 14%.

Figure 46: Percentage contribution of cost components to price paid per kilowatt hour for standard domestic and industrial consumptions Denmark (2012)

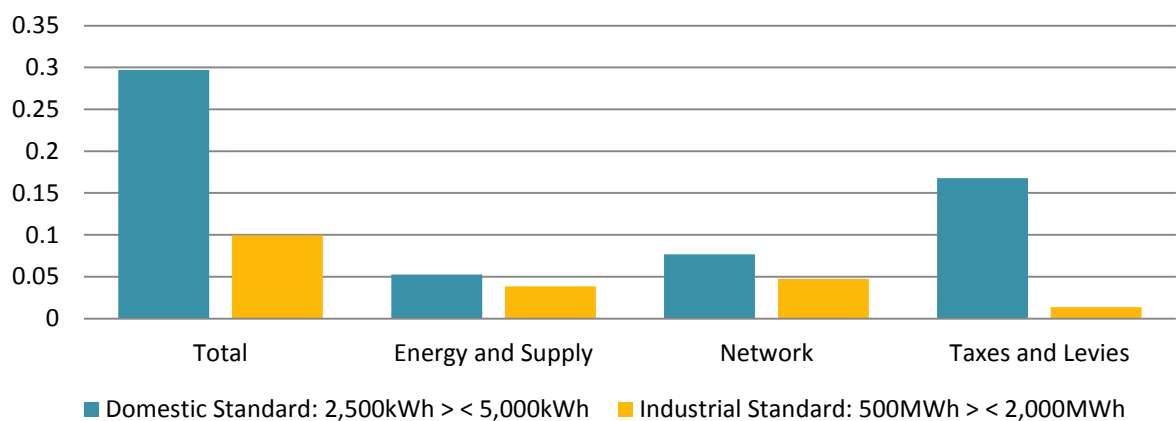


Source: Eurostat

Figure 47 compares the actual price paid by standard domestic and industrial customers for each cost component. The following can be said about this figure:

- Standard domestic customers paid 0.2972c/kWh for their electricity, the price paid by standard industrial customers is 0.0993c/kWh, making standard domestic prices of 0.1979c/kWh (66%) higher;
- Of the total price paid, standard domestic customers paid 0.0528c/kWh towards energy and supply cost. This was 0.0144c/kWh (27%) more than standard industrial customers who paid 0.0384c/kWh;
- Standard domestic customers paid 0.0768c/kWh toward network cost, 0.0296c/kWh (39%) more than standard industrial customers, who paid 0.0472c/kWh; and
- Standard domestic customers paid 0.1676c/kWh toward taxes and levies, 0.1539c/kWh (92%) more than standard industrial customers, who paid 0.0137c/kWh.

Figure 47: c/kwh contribution of cost components to price paid per kilowatt hour for standard domestic and industrial consumptions Denmark (2012)



Source: Eurostat

6 Discussion

The analysis in Section 3 shows that there is considerable variation in the price paid by domestic customers for their electricity depending upon the consumption grouping they sit in. As such the ranking of countries does not follow a pattern across consumption groups. It is, however, notable that Germany and Denmark were amongst the most expensive regions. It is also evident that Danish domestic customers pay the largest proportion of their bill in tax and levies of all the countries examined.

Proportionally customers from Malta have the largest energy and supply component of their bills. Customers from Denmark have the largest tax component. There is no apparent pattern to the allocation of network charges.

It is also notable that once network charges and taxes and levies are excluded the UK standard domestic customers move from paying the twelfth highest price for electricity, to paying the third highest c/kWh price.

Section 4 demonstrated that Cyprus, Italy and Malta industrial customers tended to pay the highest price for their electricity. Denmark, which was one of the most expensive regions for domestic electricity, appears in the middle of the rankings for industrial electricity price (except in the 20MWh or less category, which is touched on below).

Proportionally, industrial customers from Cyprus have the largest energy and supply component, Lithuanian customers pay the largest network component in more categories than any other country, and Italian customers pay the largest tax and levies component. In a number of countries – Bosnia and Herzegovina, Latvia, Montenegro and Romania – industrial customers do not pay any tax component.

Across all countries there is a tendency for network charges to decrease as industrial consumption increases.

If only energy and supply charges are considered UK standard industrial customers pay the fifth highest price for energy. When all costs are considered they pay the eighth highest price.

Turning to the case studies, in the UK the price paid for electricity decreases and consumption increases, prices for industrial customers tend to be less than for domestic customers. There is a relatively even distribution of costs across all UK domestic and industrial categories. For domestic customers the split is proportionally identical across all groups: 75% of final price on energy and supply; 20% towards networks and 5% towards taxes and levies. Industrial customers show greater variation.

There are small variations in the proportional contribution of cost components for standard domestic and industrial customers. For example, domestic customers pay 20% of every kilowatt hour cost towards networks, while industrial customers pay 25%.

The largest variation in per kilowatt price paid in the UK is on the tax element, with standard domestic customers paying 49% more than standard industrial customers per kilowatt hour.

In the Republic of Ireland prices for industrial customers tend to be less than for domestic customers. Prices also tend to decrease as consumption increases for both domestic and industrial consumers.

For domestic customers the contribution of energy costs increases from 51% to 56% from the smallest to largest consumption groupings. There is little variation in network charges and the taxes and levies component falls from 19% to 13%. Energy and supply costs for industrial consumers show greater increases rising from 66% for smallest consumption grouping to 85% in the largest grouping. Network charges show a significant decrease from 28% in the smallest group to 13% in the largest, whilst taxes and levies fall from 6% to 2%.

In the standard consumption groupings, industrial consumers pay more toward energy and supply than domestic (56% domestic, 70% industrial). Network charges are proportionally very similar (29% domestic, 28% industrial). There are considerable differences in the proportion of the per kilowatt hour price paid toward taxes and levies (15% in the case of domestic, 2% for industrial).

In actual c/kWh paid the largest variation between standard domestic and industrial is in taxes and levies (91%), followed by network costs (42%).

In Germany industrial electricity prices are cheaper than domestic prices. For domestic customers the proportion of the final price paid for electricity the goes towards energy and supply cost falls from 35% to 31% from the smallest grouping to the largest. Network costs fall from 28% to 21%, whilst taxes increase from 37% to 48%. There is a similar pattern for industrial customers. Energy and supply costs fall from 35% to 31%, networks charges fall from 32% to 16%, while taxes and levies increase from 24% to 48%. Comparing standard domestic and industrial customers shows a significant difference in the proportional contribution energy and supply cost make to the per kilowatt price (32% for domestic, 47% for industrial). There is little variation in the proportional contribution of network costs (22% for domestic and 24% for industrial), and considerable variation in taxes and levies (46% for domestic and 29% for industrial).

In actual c/kWh paid the largest variation between standard domestic and industrial is again in taxes with domestic customers paying 257% more. Domestic customers also pay 39% more per kilowatt hour for network charges.

In Denmark, there are small variations in the allocation of cost in the domestic sector. Energy and supply cost are 17% in the smallest grouping and 19% in the largest, network costs fall from 30% to 24% and taxes and levies increase from 53% to 57%.

Costs for customers in the 20MWh or less industrial category are allocated in the same way as costs for domestic customers. If this grouping is removed from the industrial section, the variation amongst industrial groupings is also minimal. Energy and security makes of 37% of total cost in the smallest grouping and 43% in the largest, network costs fall from 50% to 44% and taxes and levies fall from 13% to 12%.

Comparing the proportional cost allocation of the standard domestic industrial consumption groupings shows considerable variation across all three cost inputs. Energy and supply rise from 18% for domestic to 39% for industrial, network charges rise from 26% in domestic to 48% in industrial, and taxes and levies fall from 56% in domestic to 14% in industrial.

In actual c/kWh paid the greatest variation between the standard groupings is in taxes and levies, with domestic customers paying 92% more than industrial per kilowatt hour. This is followed by network charges, with domestic customers paying 39% more per kilowatt hour.