

Price developments on the EU retail markets for electricity and gas 1998 – 2011

The Market Observatory for Energy has analysed price developments on the retail markets for electricity and natural gas (domestic and industrial consumers) in all MS of the EU, Norway, Croatia and Turkey. The analysis covers the years from **1998** to **2011**, a period of market opening, and is using data from the energy statistics of Eurostat.

Based on preliminary findings, the following can be observed:

1. It appears that market liberalization has worked to put downward pressure on prices in market segments where liberalization was allowed, (wholesale markets). In retail, market opening is still held back by end-price regulation. Furthermore, any liberalization effect on the energy component in end consumer bills is curtailed in most Member States by a strong rise of taxes on selected energy products. As a rule, the relative share of the taxation component increased for electricity while it remained stable for gas. For electricity, taxation was a major driver of increasing end-prices in recent years.

2. A more detailed analysis by MS and by type and category of consumers would be necessary to reinforce this message. In addition, key data that could provide a wider perspective (household expenditure, load profile data, etc.) is still unavailable. This analysis argues in favour of establishing a relevant set of data indicators that can provide evidence-based support for policy measures taken to improve the current retail market design.

The present document and the two accompanying annexes are based on an internal note of DG ENER. The following topics are discussed in greater detail:

- **Average retail prices of electricity**, net of taxes and measured in constant 2005 EUR, for median domestic and industrial consumers for the group of EU 15 (old Member States), **have remained stable throughout the observed period**, the difference between the highest and lowest level being less than 15%. The **variation of retail electricity prices** was actually **comparable to the variation of the general price level** in the EU for the observed period (as measured by the harmonised index of consumer prices). One could therefore argue that in 2010 domestic and industrial consumers have paid as much for the electrical energy and associated delivery costs (network and distribution) as they did in 1998.
- **Average retail prices of natural gas**, net of taxes and measured in constant 2005 EUR, for median domestic and industrial consumers for the group of EU, **have experienced a stronger increase**, the difference between the highest and lowest level being between 40% (domestic consumers) and 66% (industrial consumers).
- These developments are to be compared against a significant appreciation of the prices of energy commodities. For example, from 1998 to 2010, the **annual average prices of crude oil** (Brent), **coal** (EU steam coal imports as reported by the IEA) and **gas** (German border) **have increased from two to five times**.
- In contrast with retail, the wholesale electricity prices moved much in line with the prices of crude oil and natural gas. This development suggests that **margins were gradually reduced along the supply chain**, especially for vertically integrated companies. Even in a fully unbundled situation this development may have negative impacts on investment decisions in the upstream (generation) or passing-over effects to the downstream (sales companies).
- Whereas retail markets have been open to competition, **the majority of Member States continue to regulate prices** for selected domestic and industrial users. Such practices, together with complex electricity bills make it harder for new entrants to compete against established electricity suppliers, as witnessed by low switching rates.
- **National taxation policies exert a lasting impact on end consumer prices**. Fiscal policies of Member States differ in the extent and the objectives of taxes applied to final electricity and gas prices. The relative share of the taxes for the group of EU 15 varies from 5% (UK) to more than 50 % (DK); tax revenues could be earmarked for a particular support scheme for a generation technology or they could represent an important source of revenue for the national budget. It seems that the share of taxes is gradually increasing. For EU15 it represented 28% of the final price for domestic consumers in 2010, against 22% in 1998. The corresponding figures for industrial users were 19% in 1998 against 27% in 2010.
- The price analysis approach provides only a **partial picture of the developments in the retail markets for electricity and gas**. The quality and timeliness of the Eurostat retail price data is not beyond criticism; in addition key data that could provide a wider perspective (household expenditure, load profiles, switching rates, etc.) is still unavailable. The technical note concludes with some ideas on how to improve this situation.

1. Introduction

Energy products, such as electricity, gas and refined petroleum products represent a significant part of the consumer basket of European households and enterprises. As energy products are important inputs of virtually all final goods and services, any change of energy prices has a direct impact of the general price level. It is therefore easy to understand why the topic of retail prices for energy products is a regular subject of everyday discussions in the general media.

DG ENER follows closely retail market developments for electricity and gas which are part of the policy area covered by Unit B3. DG ENER also publishes regular benchmarking reports on the progress of creating an internal gas and electricity market in the EU¹. In addition, the Market Observatory for Energy publishes regular reports on developments in the EU electricity and gas markets². The latest developments of retail prices for domestic and industrial consumers are analysed quarter by quarter.

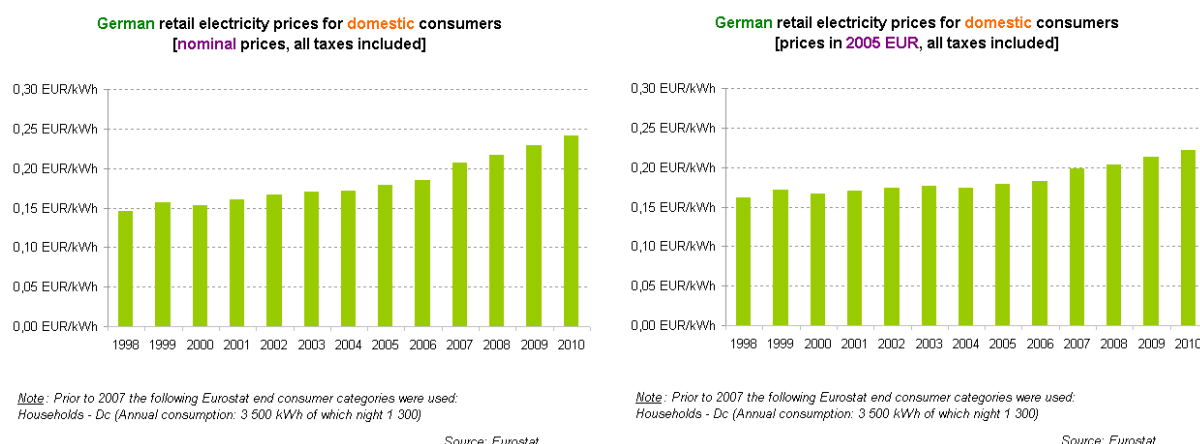
The objective of this analysis is different: we take a look further back and try to analyse the long term evolution of retail prices across the EU.

2. Long term retail price evolution for electricity and gas: preliminary findings

Recently, a number of articles appeared which seem to question the overall wisdom of the EU drive towards more competition and more open energy markets and ask what concrete benefits were brought to end consumers by this policy.

The argument starts with the observation that electricity prices for domestic and industrial users have increased significantly since 1998, the year that marks the opening of the EU electricity markets. The left chart of *Figure 1* illustrates this by presenting the case of the German median domestic consumers who saw their electricity bills increase by more than 60% in the observed period:

Figure 1



It then links to Commission documents saying that the aim of the EU energy policy was "to ensure that EU consumers receive the full benefits of market opening in terms of lower

¹ Available here: http://ec.europa.eu/energy/gas_electricity/legislation/benchmarking_reports_en.htm

² Available here: http://ec.europa.eu/energy/observatory/index_en.htm

domestic bills for electricity and gas" and concludes that, more than 10 years after the opening of the markets, the liberalisation has not delivered tangible benefits to consumers³.

How can such comments be addressed?

First, when comparing prices over long periods, it makes sense to use constant monetary units, not nominal ones. The chart on the right hand side of *Figure 1* presents the price history for the same consumer group used before, this time corrected for inflation, as measured by the German harmonised index on consumer prices (hicp). The price increase is reduced to less than 40%, which is still a significant rise.

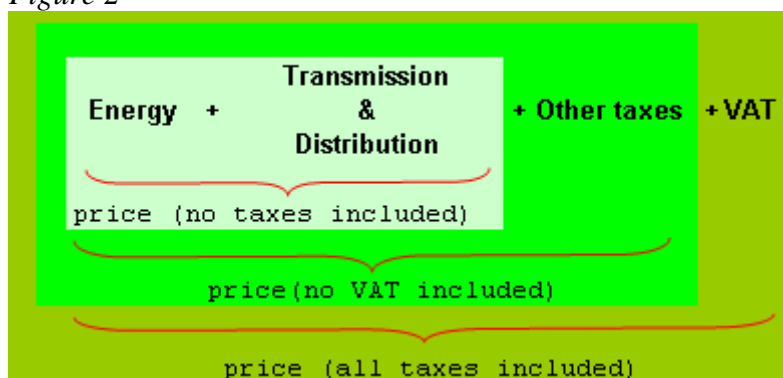
Next, if the objective is to evaluate the role of market opening on retail prices, it is better to break down retail prices into components and to analyse only those which are attributable to market factors.

Taxation of end consumer prices for electricity is an integral part of the general fiscal policy for which Member States retain competence. Whereas some policy decisions⁴ may affect the taxation of energy products, market developments rarely influence the taxation policy of a Member State. This part of the consumer bill is independent of market developments.

On the other hand, the generation, transmission, distribution and sale of electricity are areas which are open to competition, according to the *EU acquis*. This part of the end consumer bill should be affected by market developments.

The next *Figure 2* presents the three sets of prices reported by the Eurostat energy database. It illustrates how the different sub elements are built into each other.

Figure 2



The chart on the right hand side of *Figure 3* (next page) presents the evolution of the taxation and the energy + transport part of the electricity bill for median households in Germany. It shows that the energy + transport part has stayed stable whereas the taxation part has increased more than 3 times. The overall result has been a 40% increase in constant prices and a 60 % increase in nominal prices.

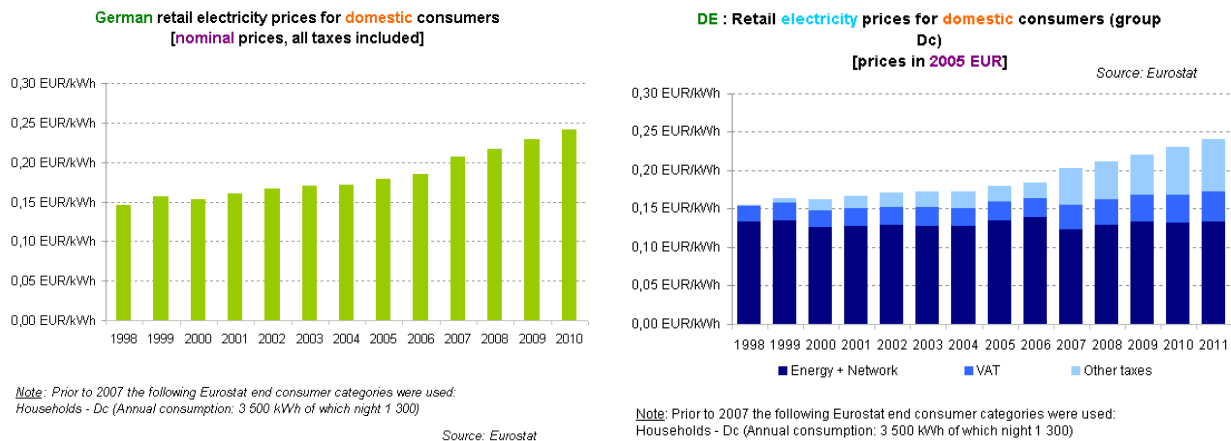
³ See for example the following articles:

<http://www.europeanenergyreview.eu/site/pagina.php?id=3373> ;

<http://www.ifri.org/?page=detail-contribution&id=6889>

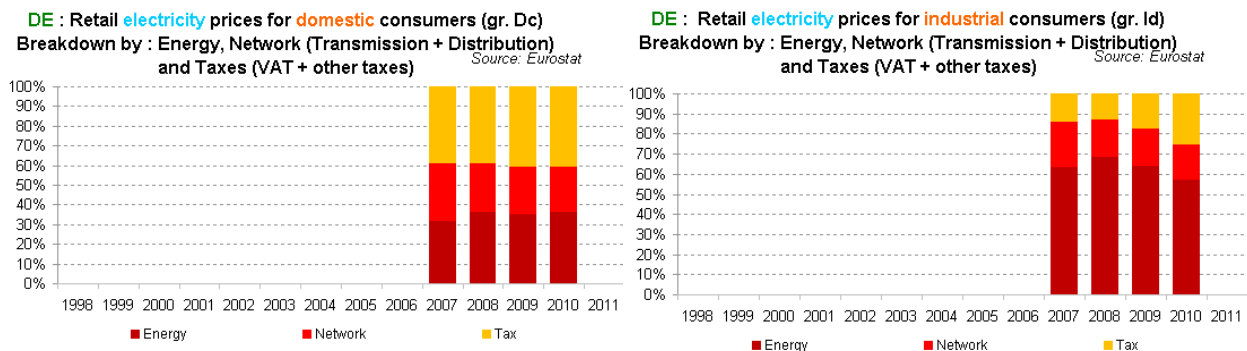
⁴ Such as the support for particular type of generation technology.

Figure 3



Starting from 2007 Eurostat collects additional data which splits energy and transport. Based on it, it seems that the relative share of energy in the final bill has increased from 31% in 2007 to 36% in 2010, whereas the transportation part decreased from 29% to 23%. Finally, the taxes represented 41% of the bill in 2010, as opposed to 39% in 2007.

Figure 4



Passing now to the group of EU 15 (excluding the New Member States for which Eurostat does not have a detailed history going back to 1998), it seems that average retail prices, net of taxes and measured in constant 2005 EUR, for median domestic and industrial consumers have remained stable throughout the observed period, the difference between the highest and lowest level being less than 15%.

In comparison, the relative share of the taxes for the group of EU 15 varies from 5% (UK) to more than 50% (DK). It seems that the share of taxes is gradually increasing. For EU15 it represented 28% of the final price for domestic consumers in 2010, against 22% in 1998. The corresponding figures for industrial users are 19% in 1998 against 27% in 2010. These results are confirmed by the IFRI study⁵ and are further detailed in the Annex of the present Note.

Annex A1 provides detailed charts by Member State of retail electricity prices for median industrial and domestic consumers split by taxes or broken down by energy and network. In reality the data set from which charts were generated is much larger. The Market Observatory has collected and processed information for all Eurostat consumer bands that goes back to 1990. In addition, nominal and constant 2000 prices are also available.

⁵ Please see previous footnote.

Likewise, **Annex A2** presents detailed charts for gas. The data set behind these charts also extends back to 1990.

Taking again EU15 and the group of median domestic and industrial consumers of natural gas, it can be observed that, between 1998 and 2011 prices have increased by 34% and 56% respectively (when measured in constant 2005 EUR). If nominal prices are used, the corresponding values are 48% and 65%.

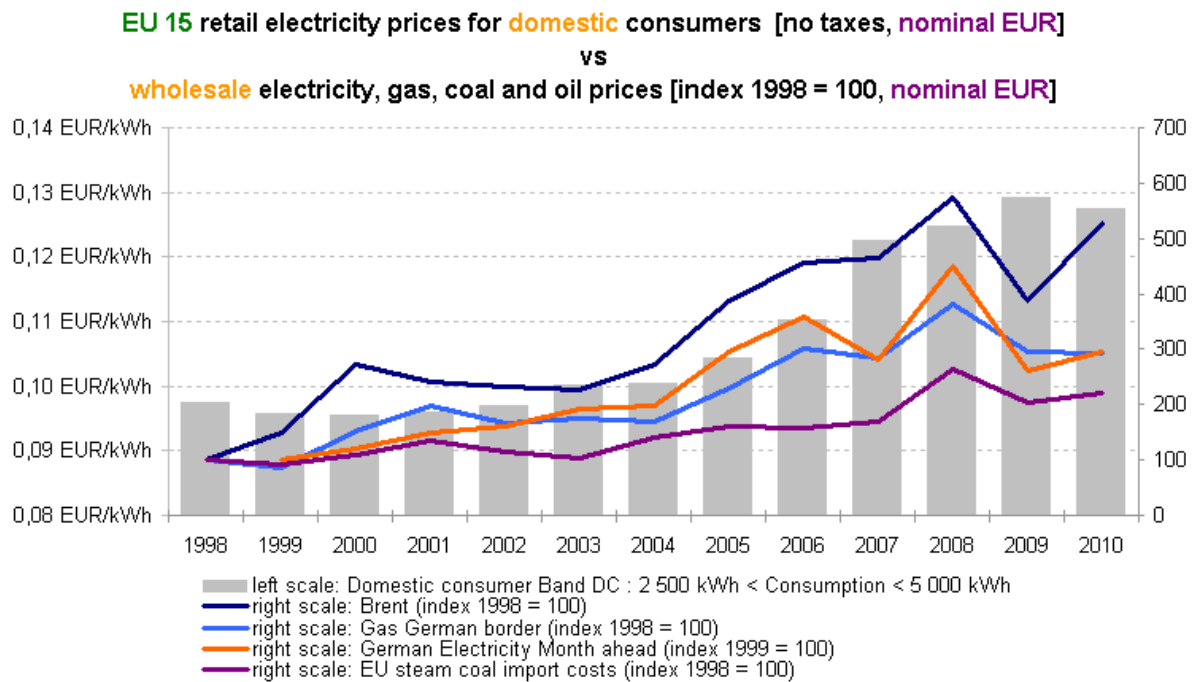
Contrary to electricity, it seems that the different elements of the consumer bill (energy, network, taxes) have increased more or less proportionally.

3. Electricity: are retail and wholesale markets disconnected?

The retail electricity prices (net of taxes), for domestic and industrial consumers for the 1998 – 2010 period have not experienced significant changes. Price increases were comparable to the level of general inflation (approximately 30% during the observed period).

This relative stability looks impressive when compared to what happened on the wholesale markets of energy commodities. During the same period wholesale energy prices, electricity included, rose from 2 to 5 times, as illustrated by *Figure 5*:

Figure 5



Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

Sources: Eurostat; Platts; BAFA

Factors that could explain such stability may be grouped in 2: those related to wholesale markets and those related to retail markets.

3.1. The wholesale markets for electricity

It is not straightforward to link the retail and the wholesale prices of the electricity markets. Even in established and normally functioning markets, it is probably too much to expect that generators pass on the price signal to final consumers instantaneously and that competition among electricity suppliers will ensure against market abuse. Elements in consumer behaviour (inertia) and preferences (prices stability) will continue to outline the boundaries between retail and wholesale.

Establishing the price link for the real retail and wholesale markets is even trickier. On one side, the Market Observatory collects each day a huge combination of wholesale prices (intraday, day ahead and prices on the forward curve grouped by different hours of the day); on the other we have biannual prices for pre-established consumer bands representing various proportion of domestic and industrial users in each Member State; the data usually arriving at the Market Observatory with 6 to 9 month lags...

Still, from a theoretical perspective, one should expect that sooner or later a price increase in the fuel costs of the marginal generator should make its way to the final consumer bill. If this is not the case, electricity generators risk facing diminishing profit margins which in turn will impact future investment decisions.

The same argument is easier to make for the case of vertically integrated companies during the 1998 – 2011 period.

The next *Figure 6* tries to make this point. It shows the ranges of levelised cost for electricity (LCOE) for three generation technologies (nuclear, coal and gas) based on a sample of investment projects across the OECD countries in 1998, 2005 and 2010⁶.

The levelised cost approach is a financial model used for the analysis of generation costs. It focuses on estimating the average levelised costs of generating electricity over the entire operating life of the power plants for a given technology, taking into account main cost components, namely capital costs, fuel costs and operations and maintenance (O&M) costs.

Figure 6 also shows an estimation of the break-even price for the case of Germany and the Netherlands (which guarantees that all generation costs of the marginal producer are recovered). This price is based on estimation of the fuel costs using market data and on estimation of the relative share of the fuel costs in the total generating costs.

The chart assumes that the marginal producer is either coal or gas fired power plant. That is the reason why break – even prices for nuclear are not given.

The LCOE ranges change through the years not only because market conditions (influencing the expected net cash flows from the investment project) are different; it could also has to do with the fact that the sample of investment projects in 1998, 2005 and 2010 are different and that technology is different.

As long as the break-even price stays **below** the LCOE range, it can be argued that investment decisions are enhanced since, based on current market data, investors are expected to break even below the LCOE range of the project.

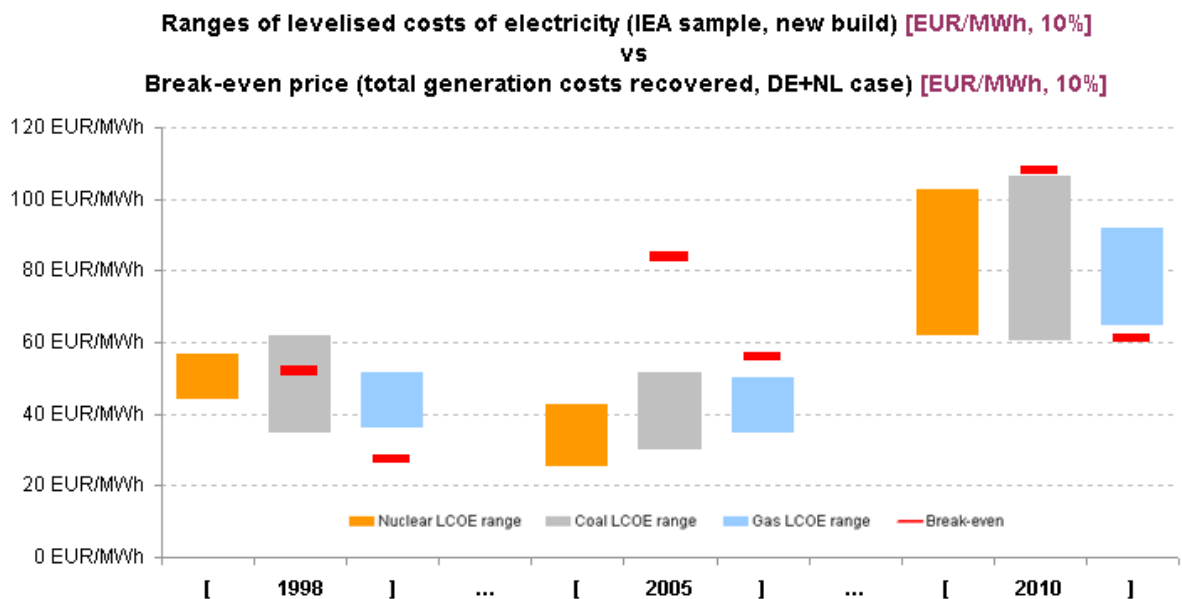
On the contrary, when the break-even price is above the LCOE range, market participants are tempted to delay investment decisions.

As it can be seen from the chart, new coal projects were probably not favoured by investors in Germany and the Netherlands (ETS). The situation for gas was more mixed. Whereas break-

⁶ These are the only years in the observed period for which data is available.

even prices were still in the LCOE range, the range itself moved up signalling less encouraging investment climate.

Figure 6



Source: "Projected costs of generating electricity", IEA-NEA (1998; 2005; 2010); Platts

Another interpretation of the results in Figure 5 could be that market opening has made the positions of incumbent companies contestable which in turn forced these companies to moderate price increases event in time of bullish commodity markets.

3.2. The retail markets for electricity

As of the end of 2011, the majority of Member States continue to regulate retail prices, especially for households, and only allow an appreciation which is no bigger than the rise of the general price level. In a way, this could explain the alignment of retail prices for electricity and inflation, as shown in the Table below.

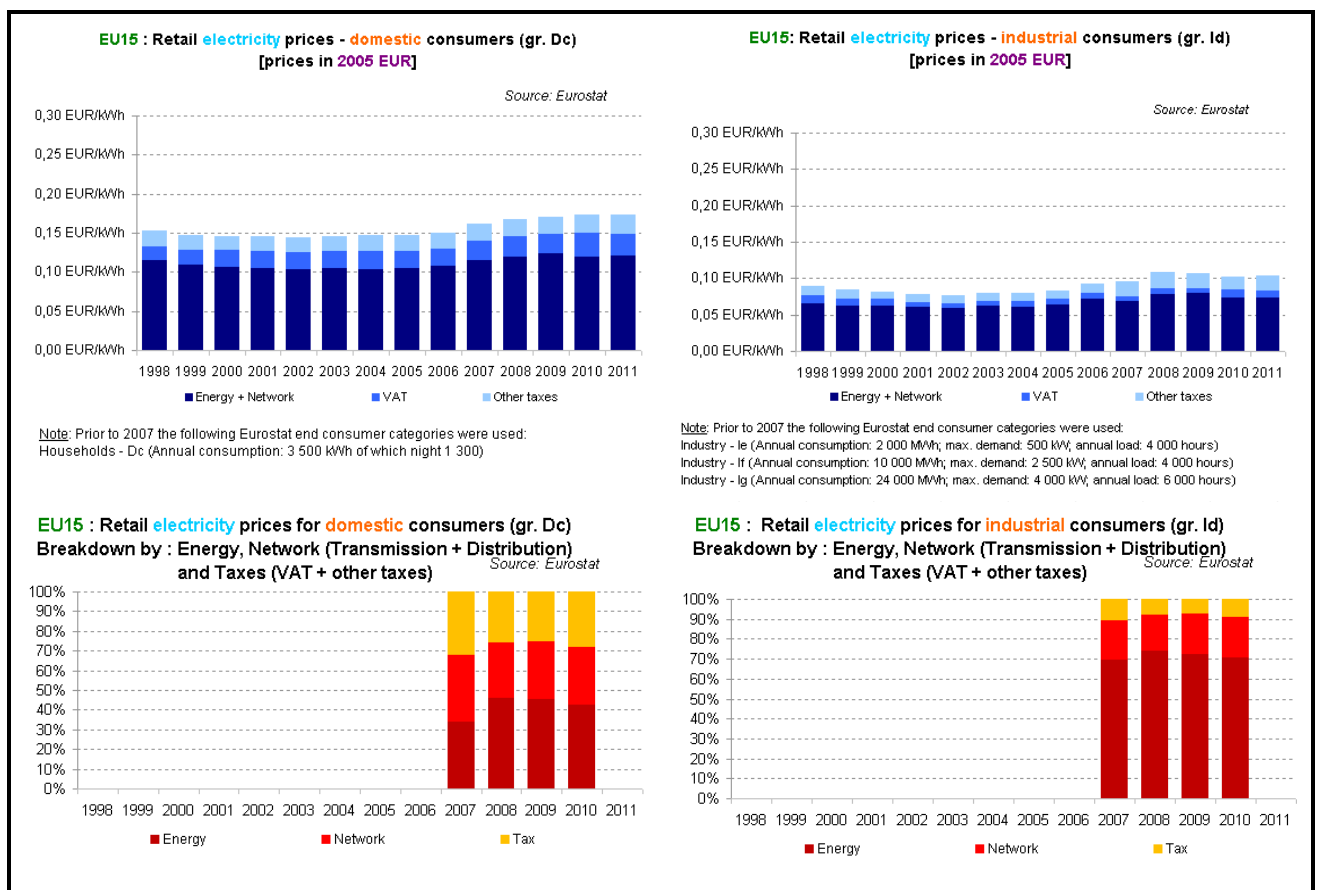
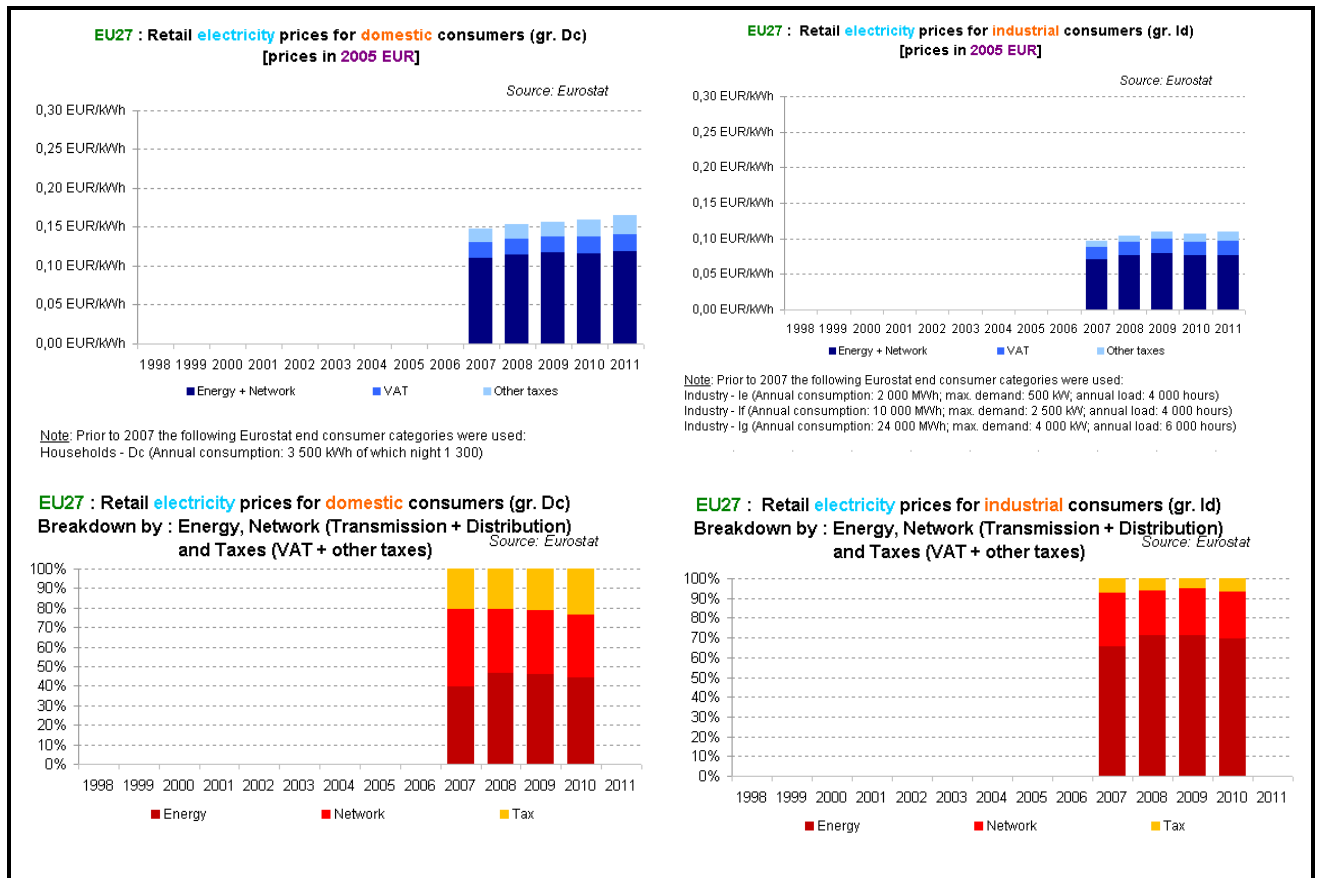
Country	Households	Small businesses	Medium to large businesses	Energy intensive industry
Bulgaria	100%	100%	98%	
Croatia	100%			
Cyprus	100%	100%	100%	100%
Denmark	94%	95%	NA	NA
Estonia	Derogation	Derogation	100%	100%
France	96%	83%	94%	82%
Greece	100%	100%	100%	
Hungary	100%	NA		
Ireland	80%	52%	28%	
Italy	91%	78%		
Latvia	99%	99%		
Lithuania	100%	NA		
Netherlands	100%	100%		
Poland	100%			
Portugal	92%	88%	39%	62%
Romania	100%	NA	NA	
Slovakia	100%	100%		
Spain	91%			
Legend				
	>95 % of customers have regulated prices			
	>50 % of customers have regulated prices			
	>10 % of customers have regulated prices			
	NA Information not available			

Source: ERGEG

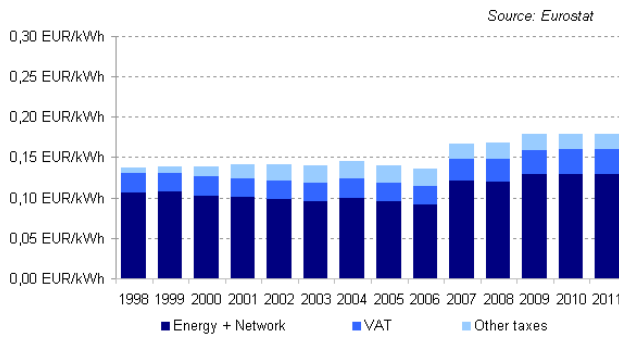
The combination of the above mentioned factors is most likely specific to each Member State. Further research is needed to determine the interplay of these factors, but also to analyse the country-specific taxation policy in the domain of energy products as well as policy support scheme for specific generation technologies.

The Market Observatory for Energy has collected and processed long and detailed datasets containing Eurostat retail prices for several categories of consumers. Much more detailed analysis can be extracted from it with special focus on specific or groups of Member States.

Annex A1 Breakdown of electricity retail prices for domestic and industrial consumers by Member State

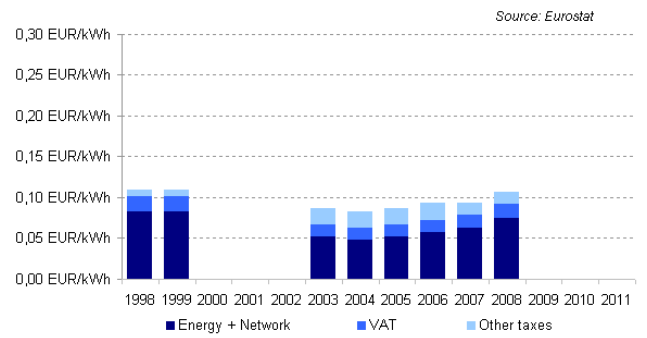


AT : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



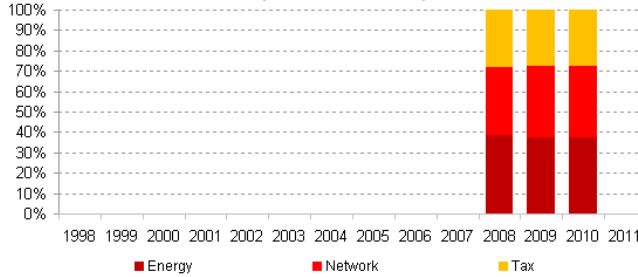
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

AT : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]



Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
Industry - If (Annual consumption: 10 000 MWh; max. demand: 2 500 kW; annual load: 4 000 hours)
Industry - Ig (Annual consumption: 24 000 MWh; max. demand: 4 000 kW; annual load: 6 000 hours)

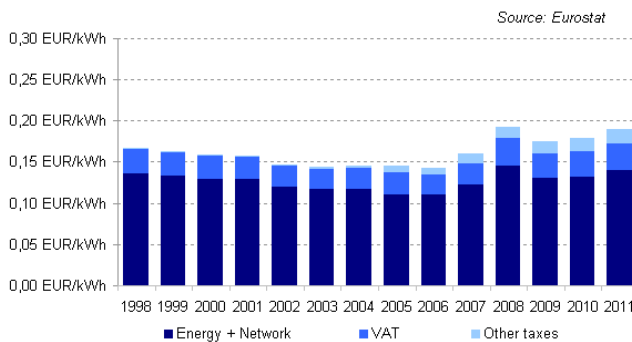
AT : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



AT : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)

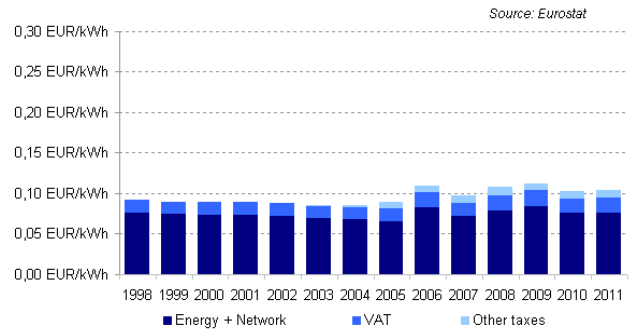


BE : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



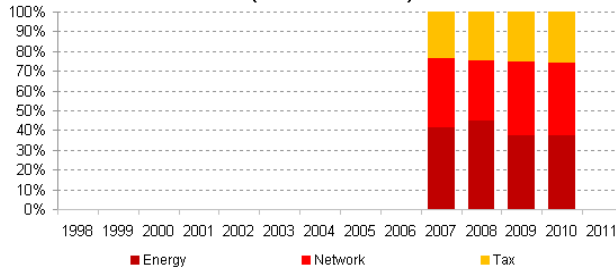
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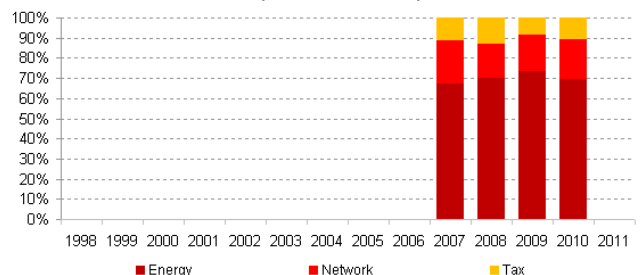


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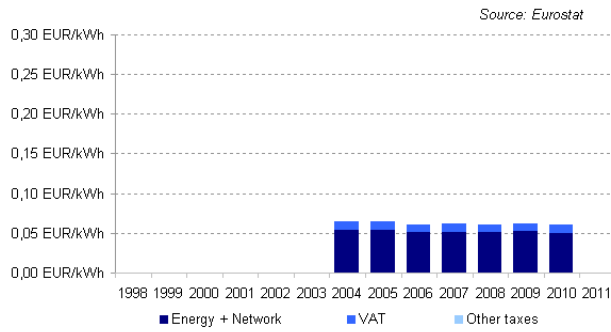
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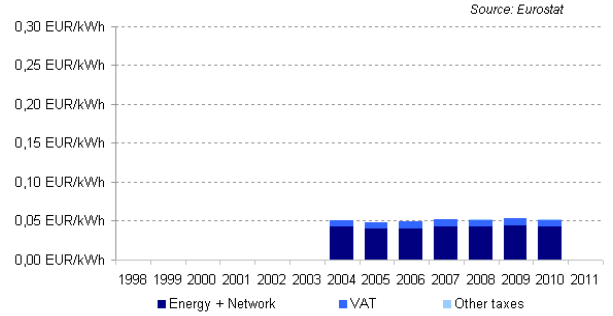


BG : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



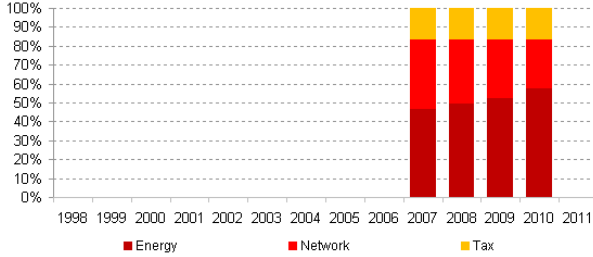
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BG : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

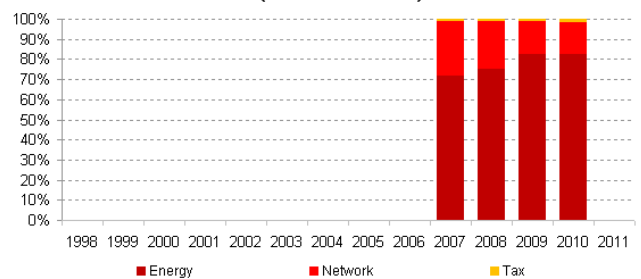


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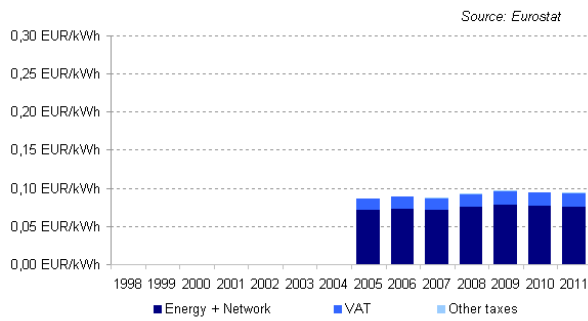
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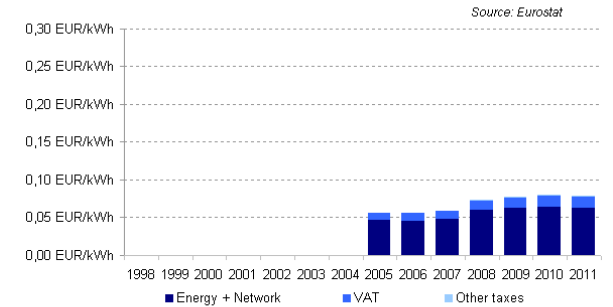


HR : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



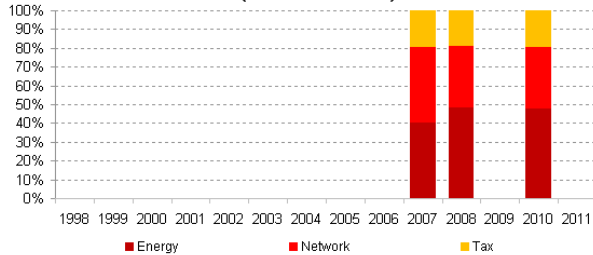
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[prices in 2005 EUR]

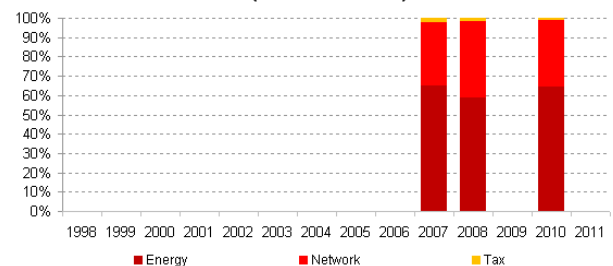


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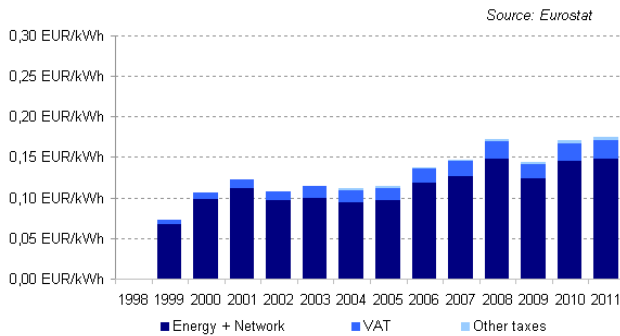
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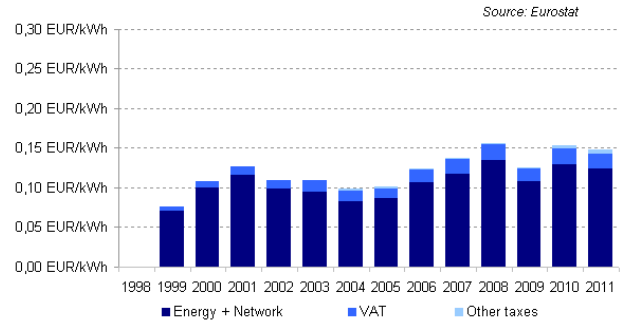


CY : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



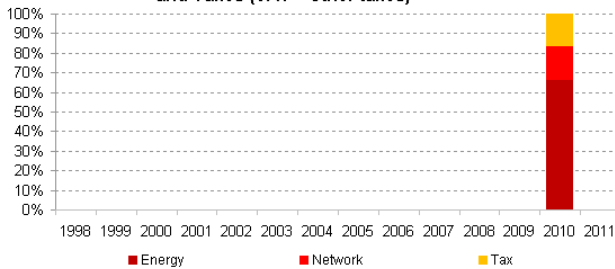
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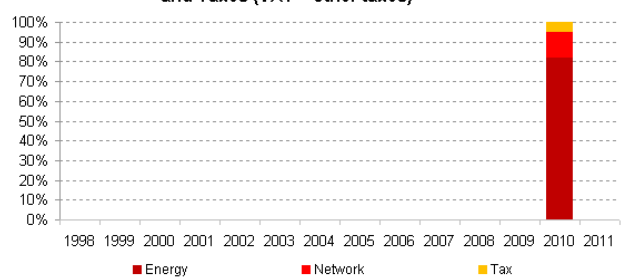


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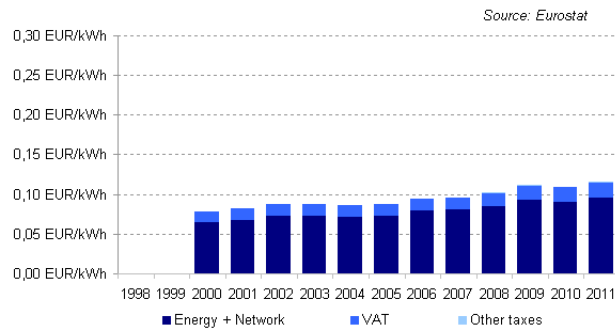
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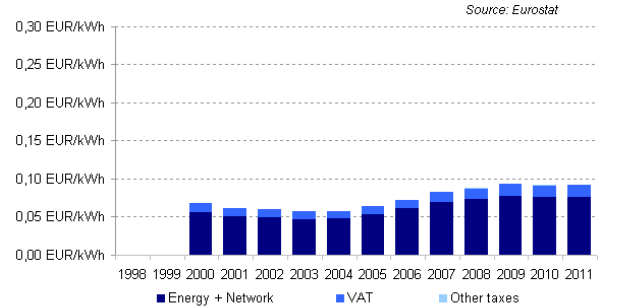


CZ : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



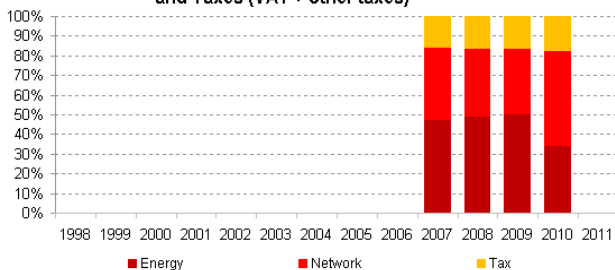
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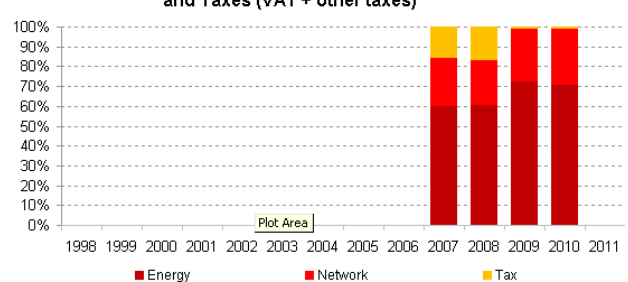


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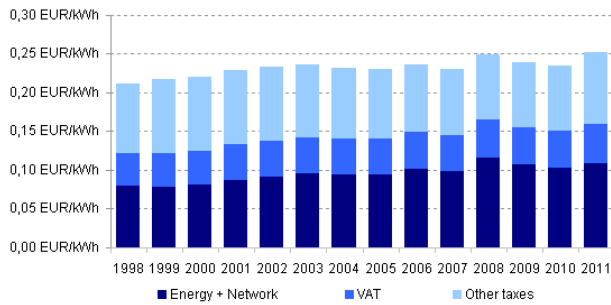
CZ : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



CZ : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)

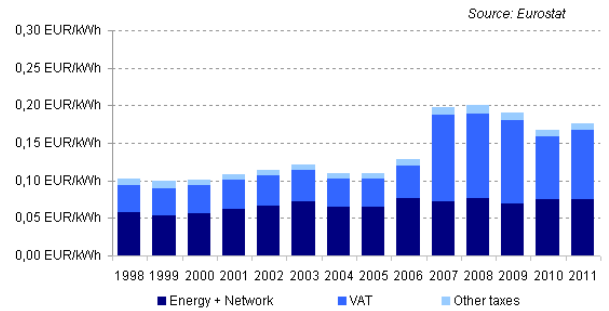


DK : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



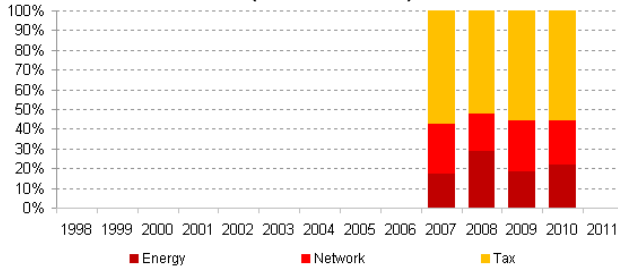
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

DK : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

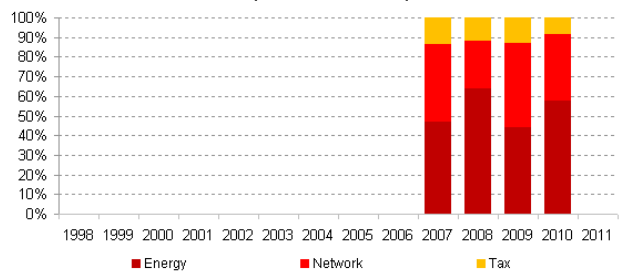


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
Industry - If (Annual consumption: 10 000 MWh; max. demand: 2 500 kW; annual load: 4 000 hours)
Industry - Ig (Annual consumption: 24 000 MWh; max. demand: 4 000 kW; annual load: 6 000 hours)

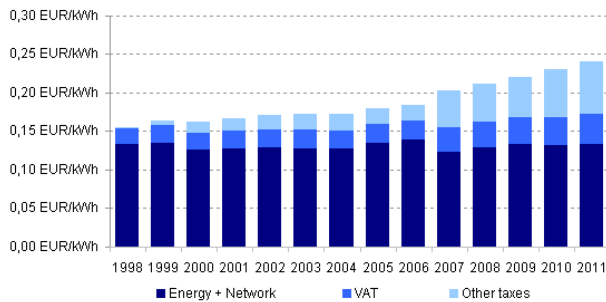
DK : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution) and Taxes (VAT + other taxes)



DK : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution) and Taxes (VAT + other taxes)

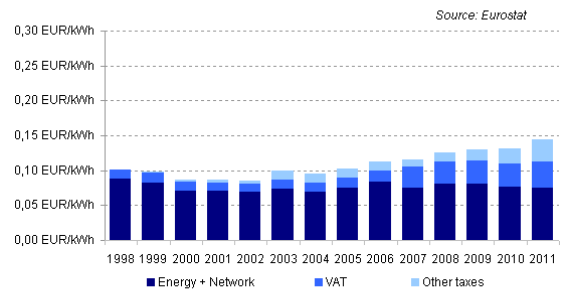


DE : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



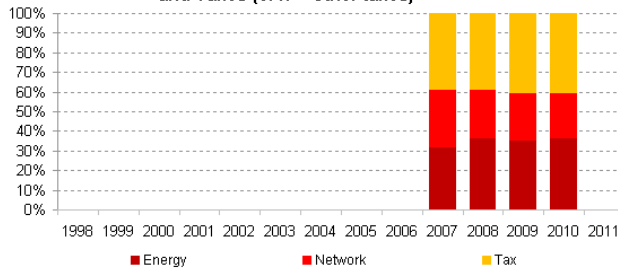
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

DE : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

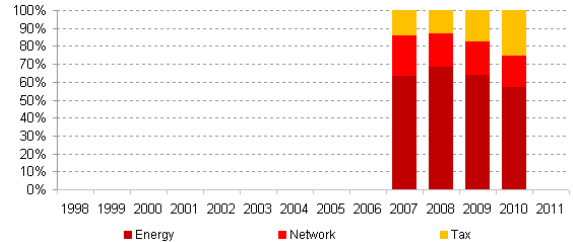


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
Industry - If (Annual consumption: 10 000 MWh; max. demand: 2 500 kW; annual load: 4 000 hours)
Industry - Ig (Annual consumption: 24 000 MWh; max. demand: 4 000 kW; annual load: 6 000 hours)

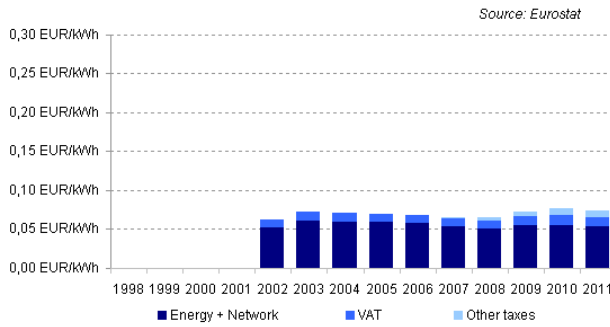
DE : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution) and Taxes (VAT + other taxes)



DE : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution) and Taxes (VAT + other taxes)

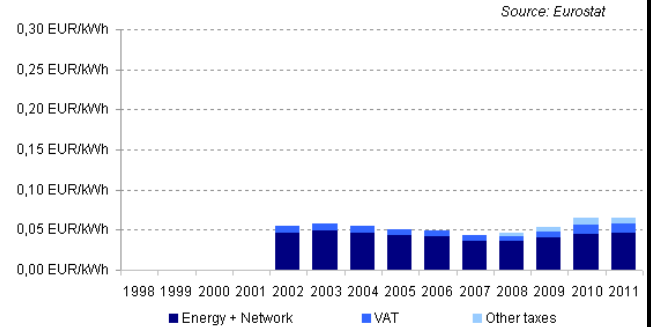


EE : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



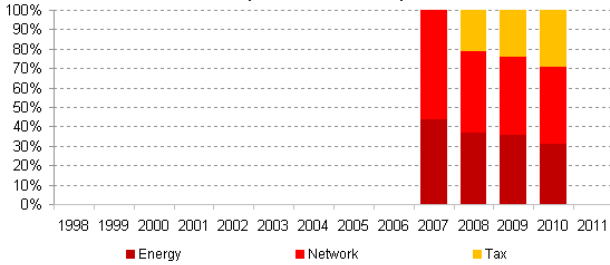
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

EE : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

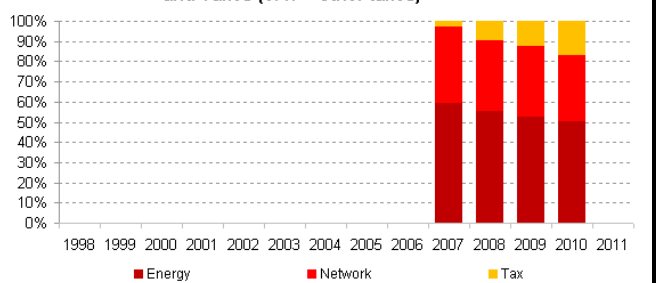


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
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Industry - Ig (Annual consumption: 24 000 MWh; max. demand: 4 000 kW; annual load: 6 000 hours)

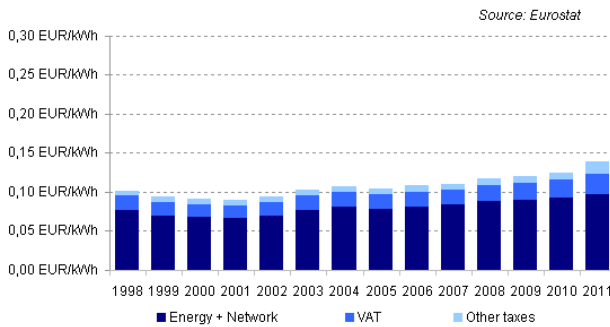
EE : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



EE : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)

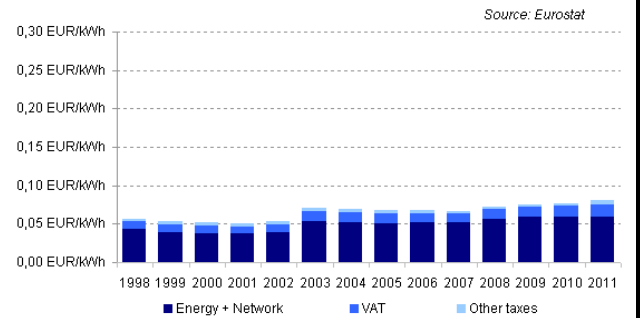


FI : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



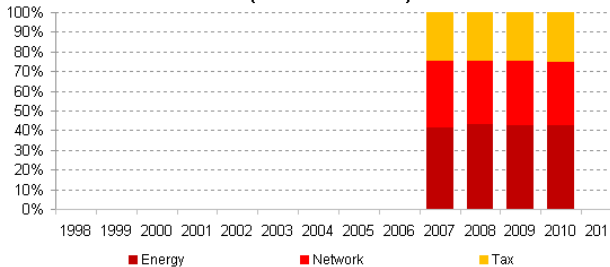
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

FI : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

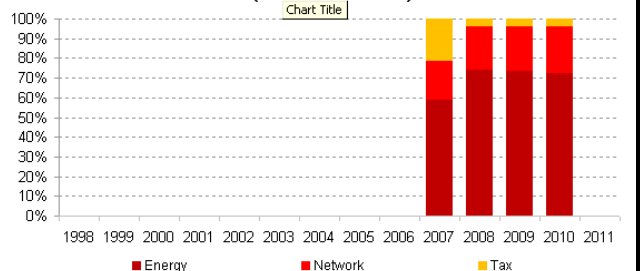


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
Industry - If (Annual consumption: 10 000 MWh; max. demand: 2 500 kW; annual load: 4 000 hours)
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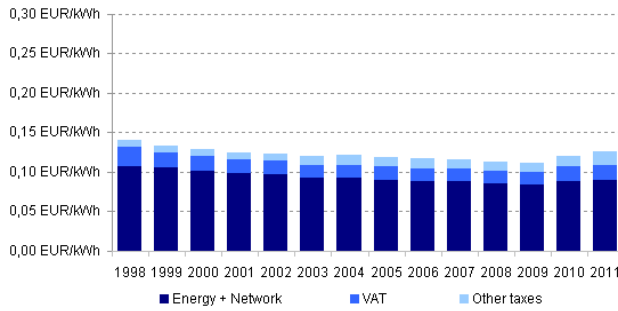
FI : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



FI : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



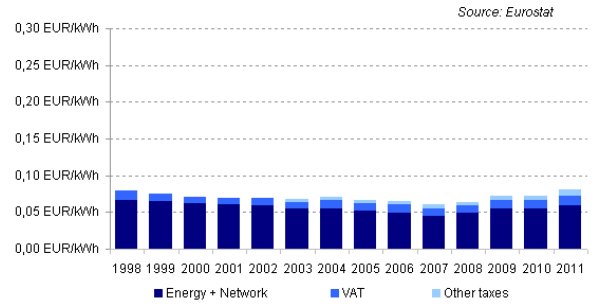
FR : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

n.a.

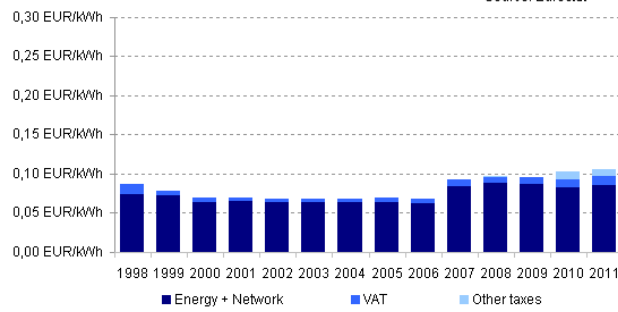
FR : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]



Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
Industry - If (Annual consumption: 10 000 MWh; max. demand: 2 500 kW; annual load: 4 000 hours)
Industry - Ig (Annual consumption: 24 000 MWh; max. demand: 4 000 kW; annual load: 6 000 hours)

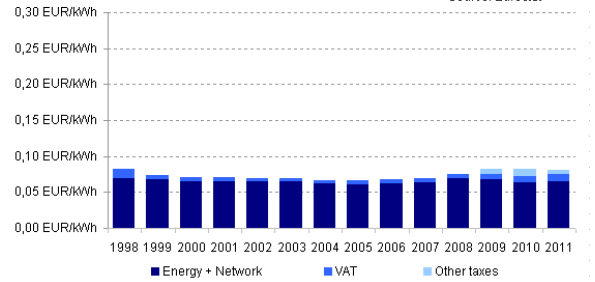
n.a.

GR : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



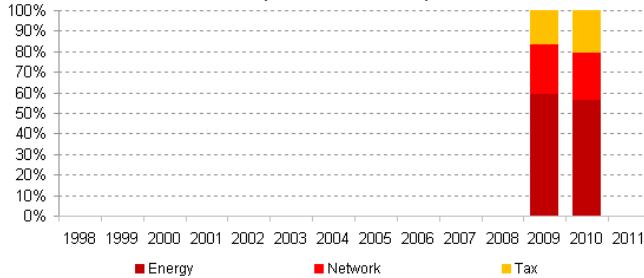
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

GR : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

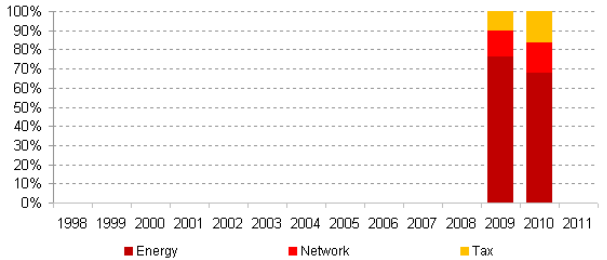


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
Industry - If (Annual consumption: 10 000 MWh; max. demand: 2 500 kW; annual load: 4 000 hours)
Industry - Ig (Annual consumption: 24 000 MWh; max. demand: 4 000 kW; annual load: 6 000 hours)

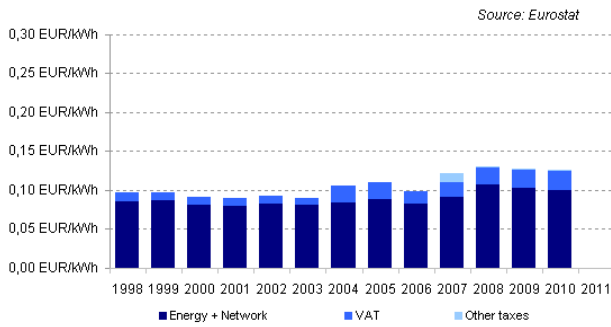
GR : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



GR : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)

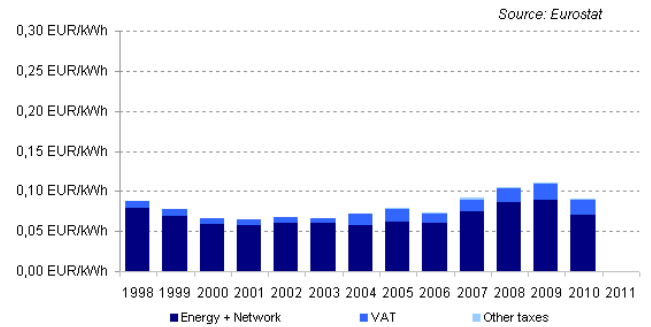


HU: Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



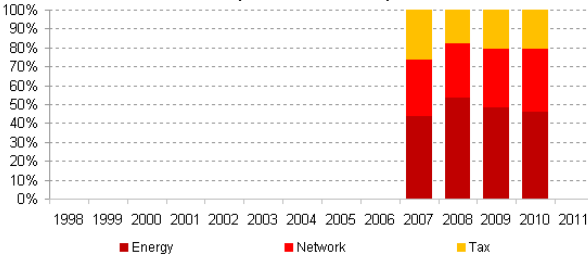
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

HU: Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

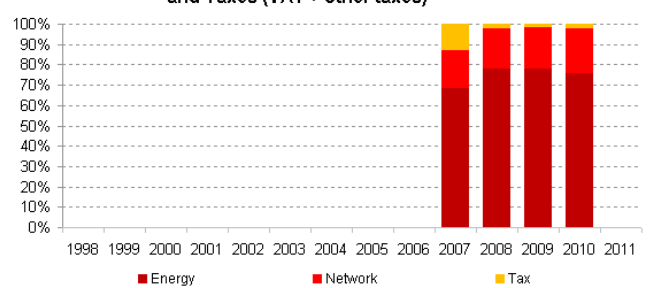


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
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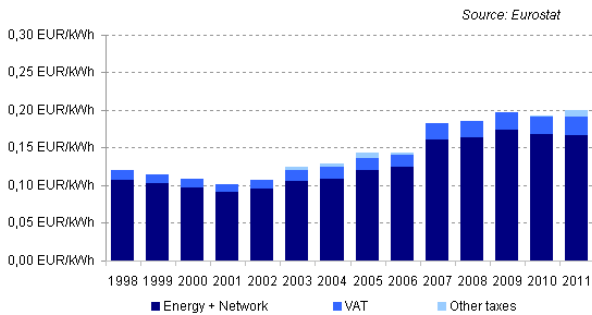
HU: Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
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HU: Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
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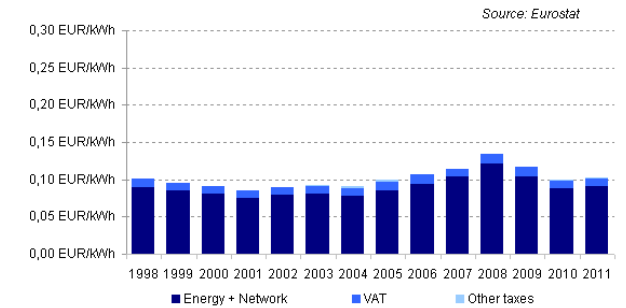


IE: Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



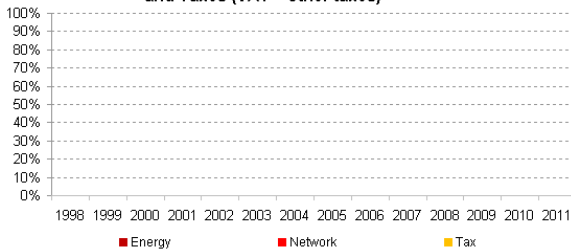
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

IE: Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

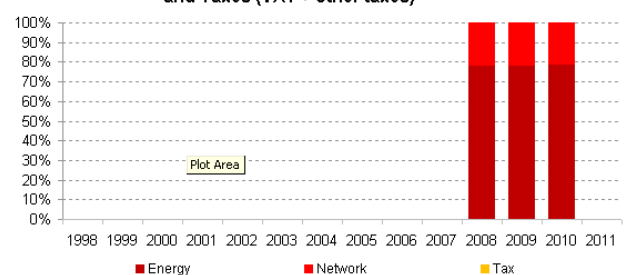


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
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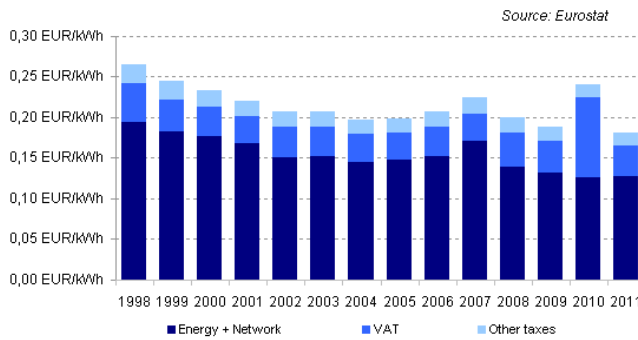
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Breakdown by : Energy, Network (Transmission + Distribution)
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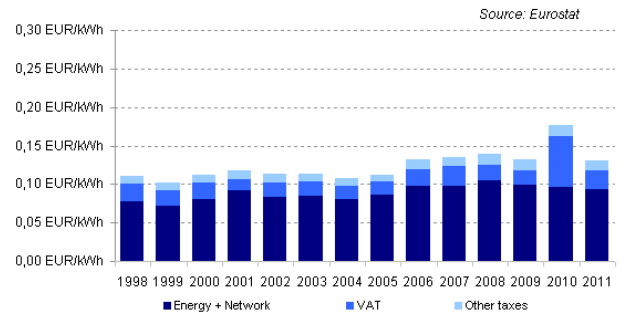


IT : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



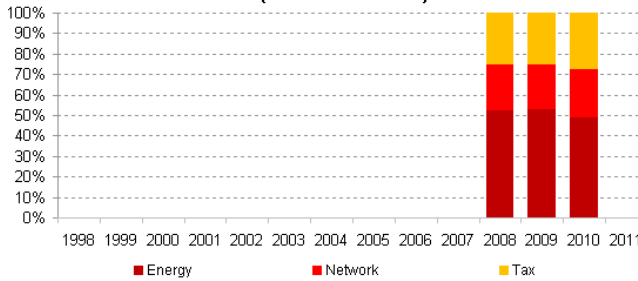
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

IT : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

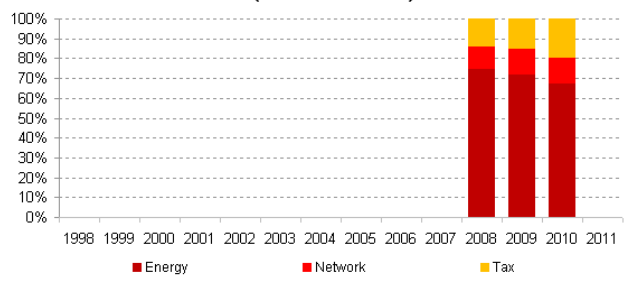


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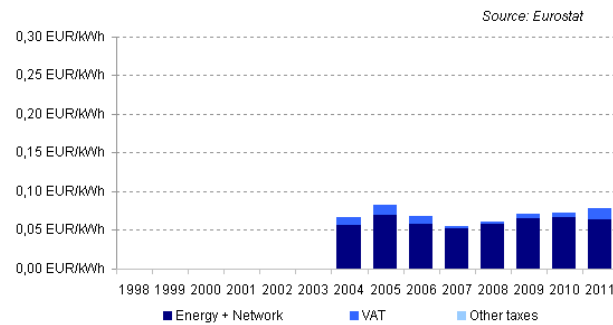
IT : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
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IT : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)

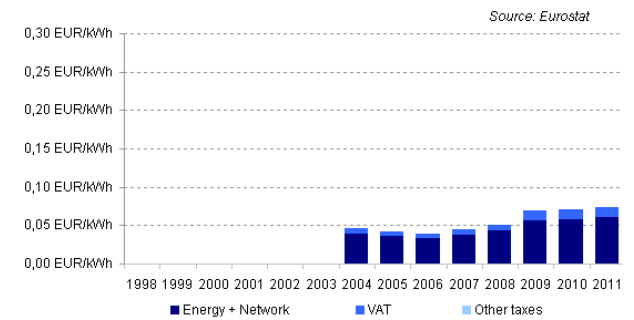


LV : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



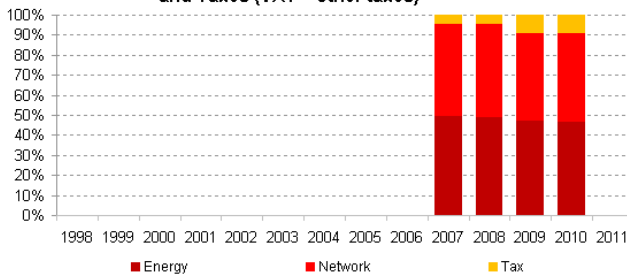
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

LV : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

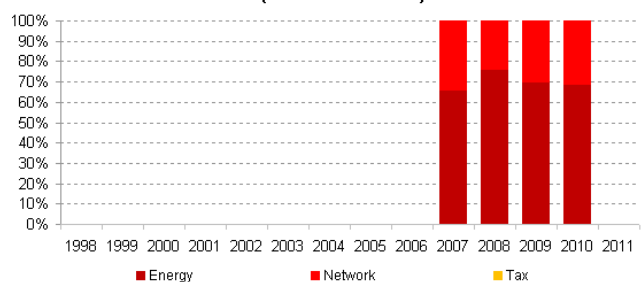


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
Industry - If (Annual consumption: 10 000 MWh; max. demand: 2 500 kW; annual load: 4 000 hours)
Industry - Ig (Annual consumption: 24 000 MWh; max. demand: 4 000 kW; annual load: 6 000 hours)

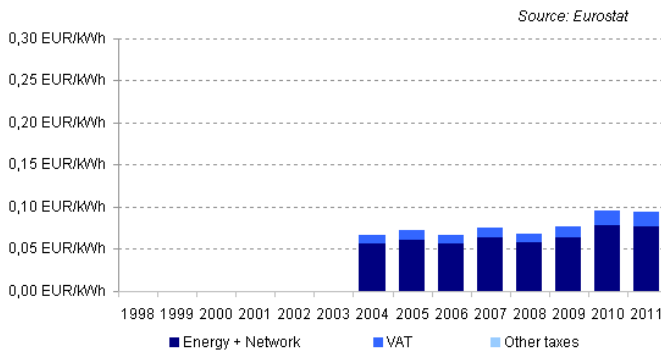
LV : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



LV : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
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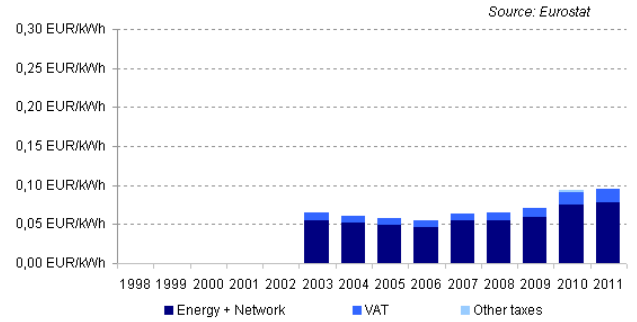


LT : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



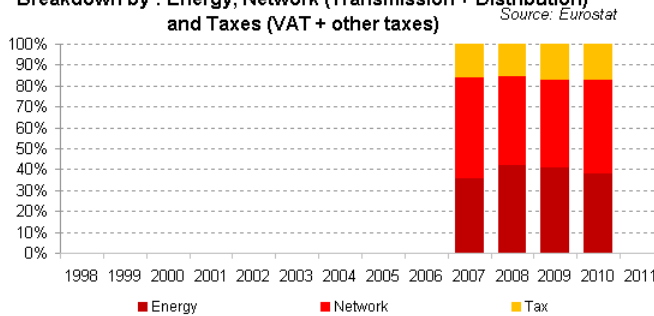
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

LT : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

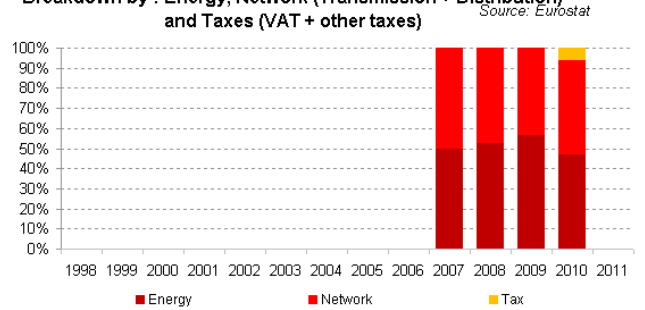


Note: Prior to 2007 the following Eurostat end consumer categories were used:
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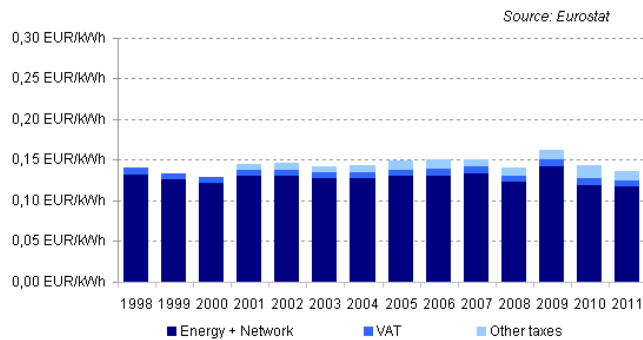
LT : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



LT : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)

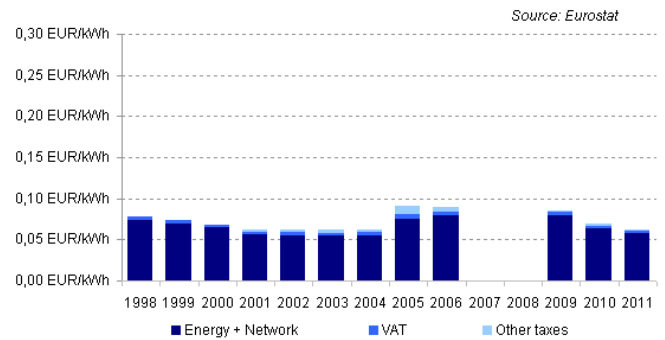


LU : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



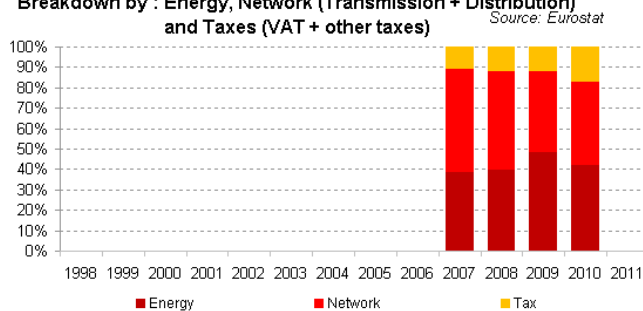
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

LU : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

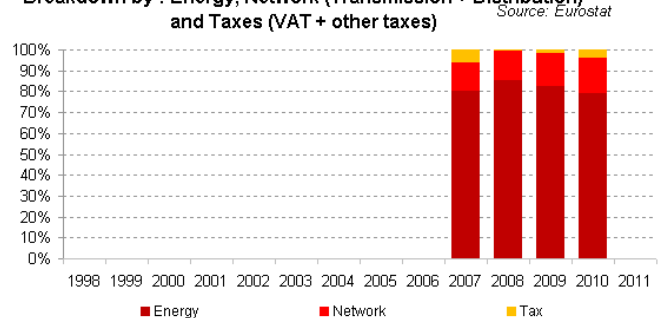


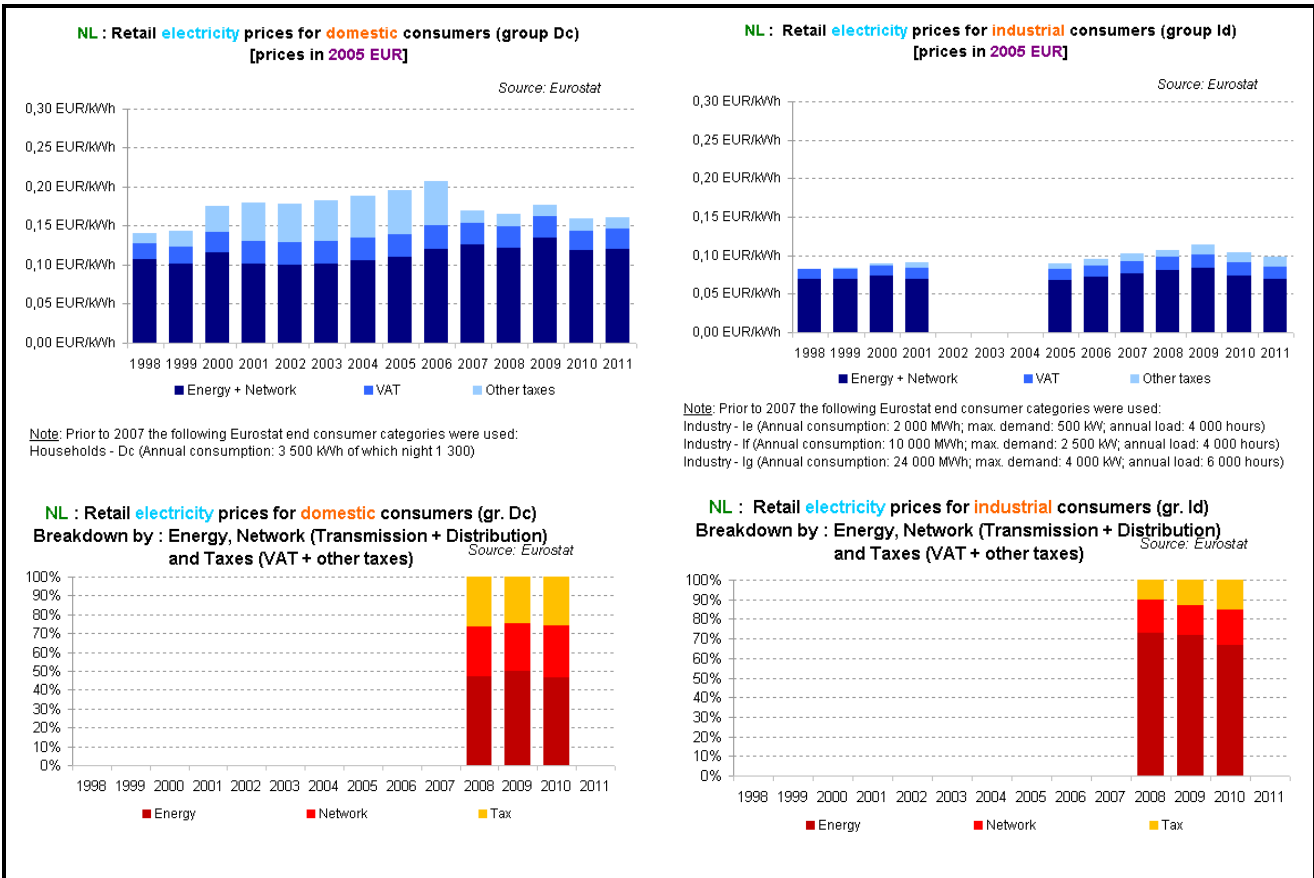
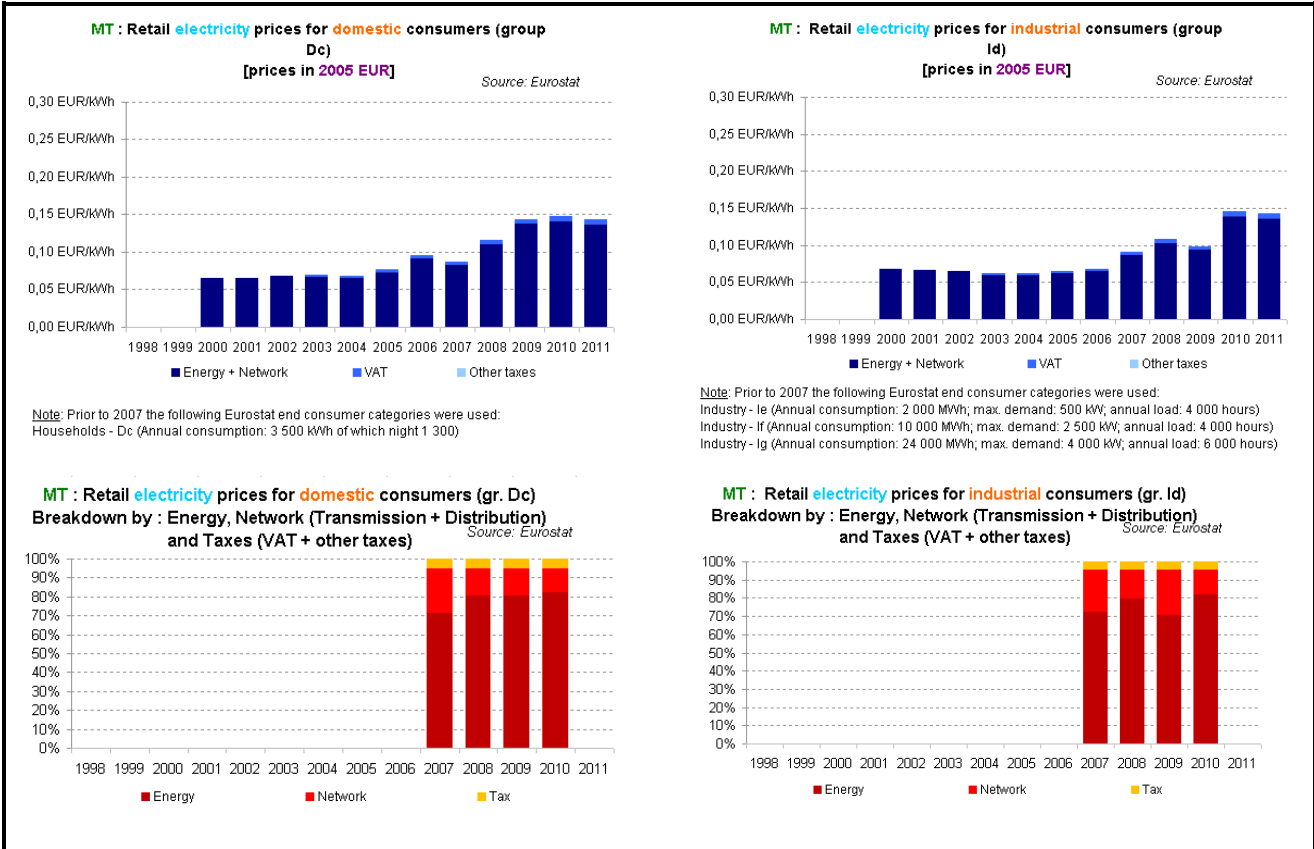
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
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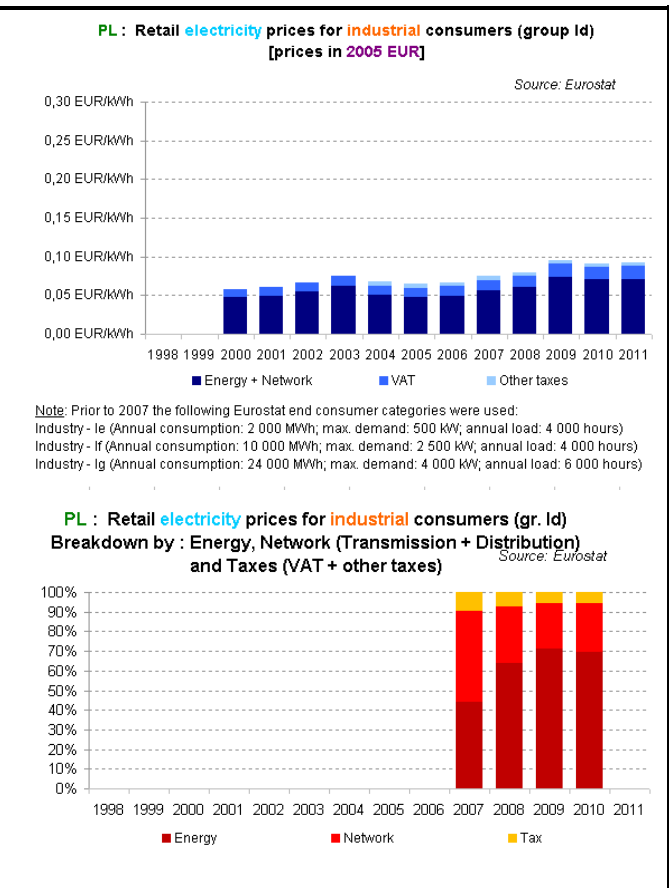
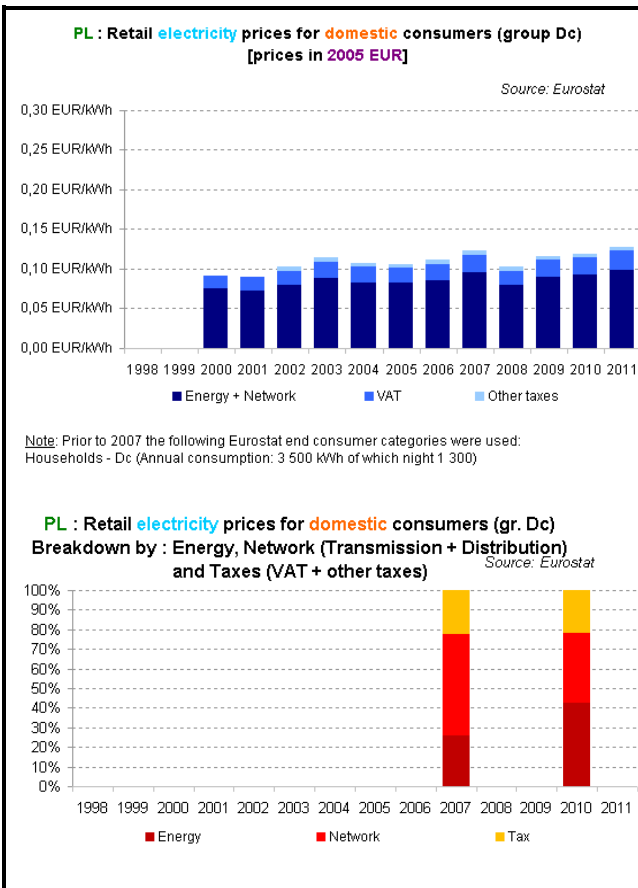
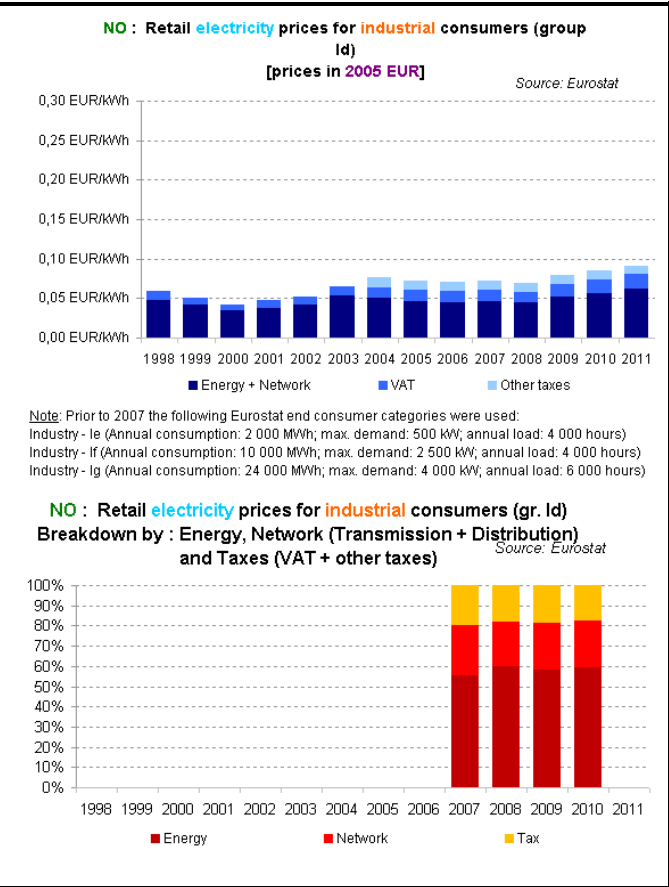
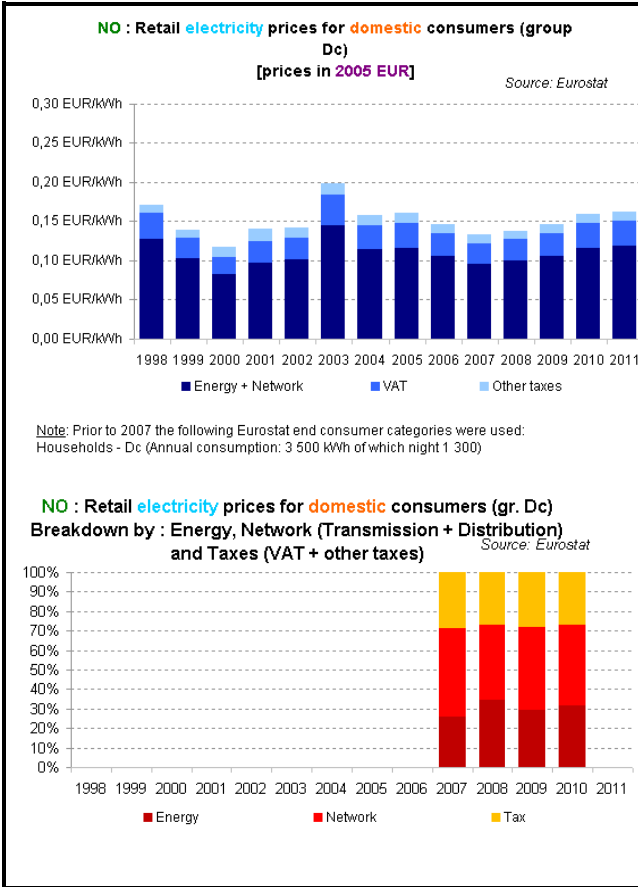
LU : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



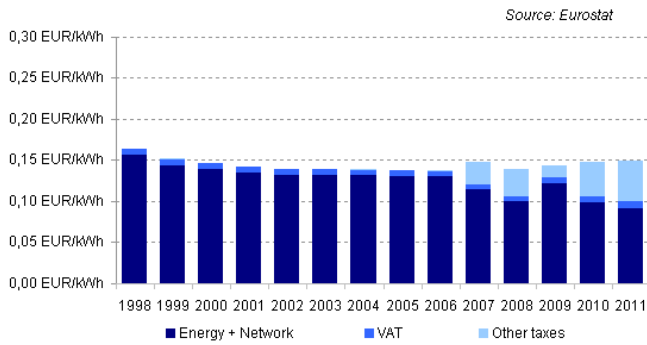
LU : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)





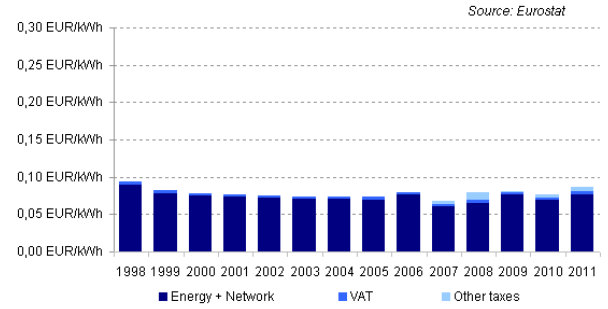


PT : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



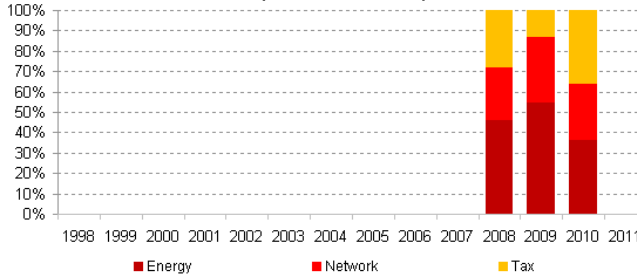
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

PT : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

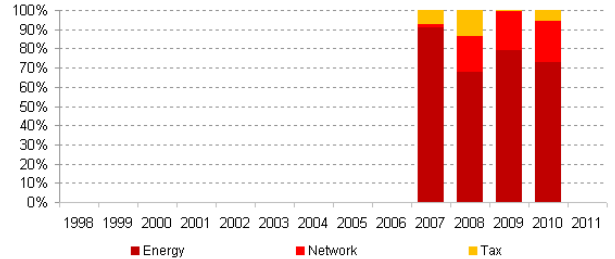


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
Industry - If (Annual consumption: 10 000 MWh; max. demand: 2 500 kW; annual load: 4 000 hours)
Industry - Ig (Annual consumption: 24 000 MWh; max. demand: 4 000 kW; annual load: 6 000 hours)

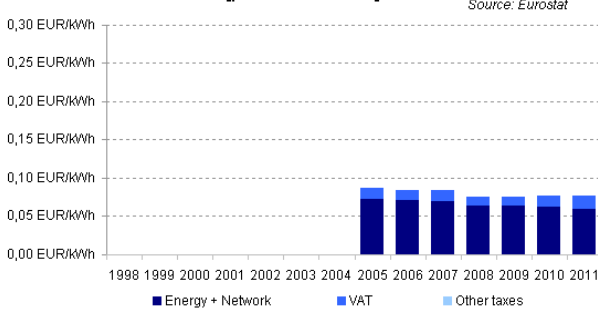
PT : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



PT : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)

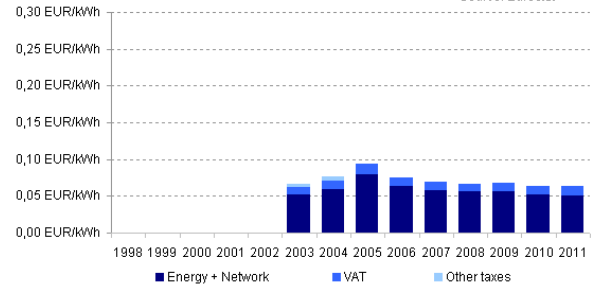


RO : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



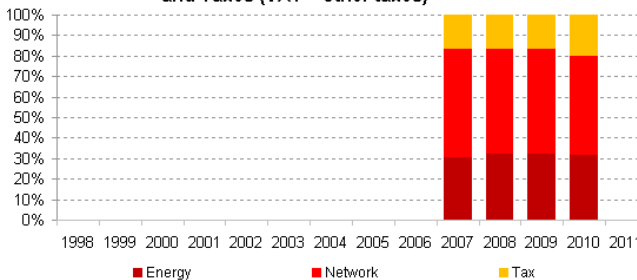
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

RO : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

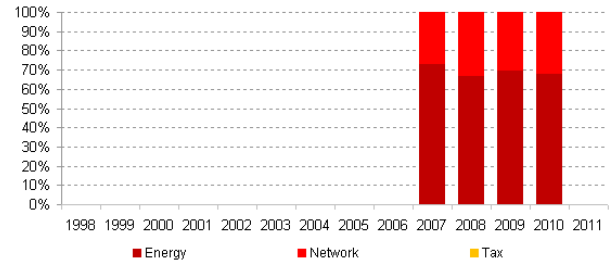


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
Industry - If (Annual consumption: 10 000 MWh; max. demand: 2 500 kW; annual load: 4 000 hours)
Industry - Ig (Annual consumption: 24 000 MWh; max. demand: 4 000 kW; annual load: 6 000 hours)

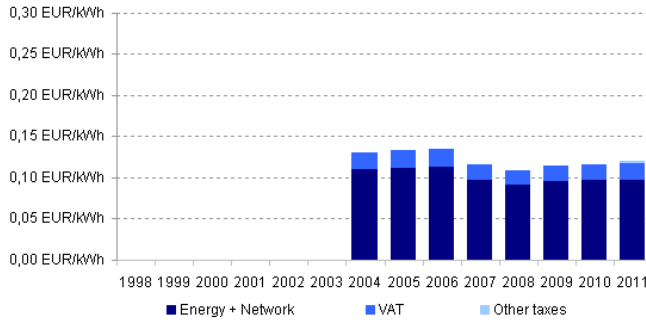
RO : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



RO : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)

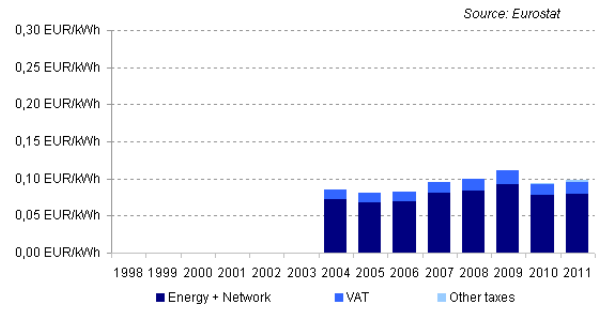


SK : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



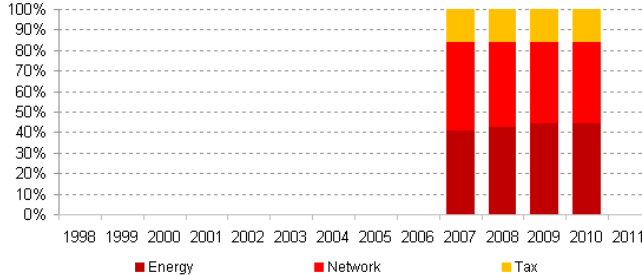
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

SK : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

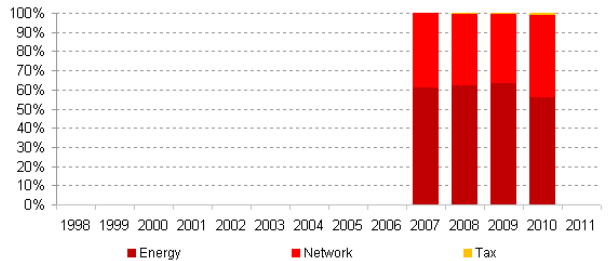


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
Industry - If (Annual consumption: 10 000 MWh; max. demand: 2 500 kW; annual load: 4 000 hours)
Industry - Ig (Annual consumption: 24 000 MWh; max. demand: 4 000 kW; annual load: 6 000 hours)

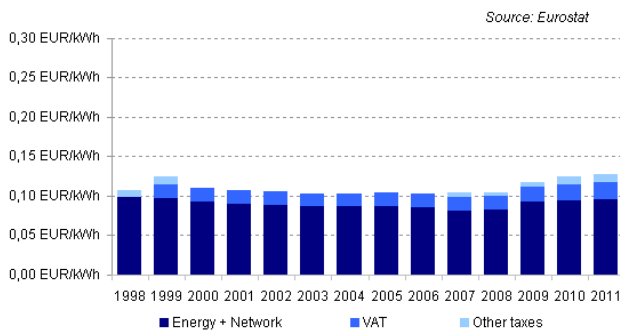
SK : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



SK : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)

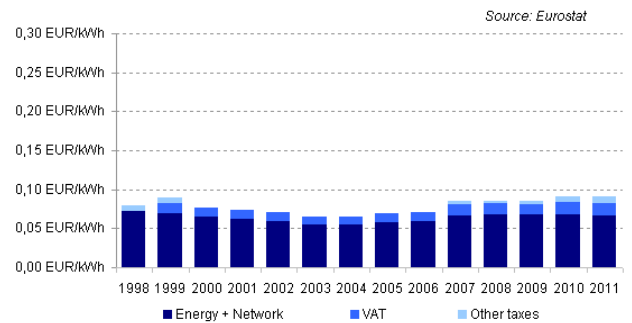


SI : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



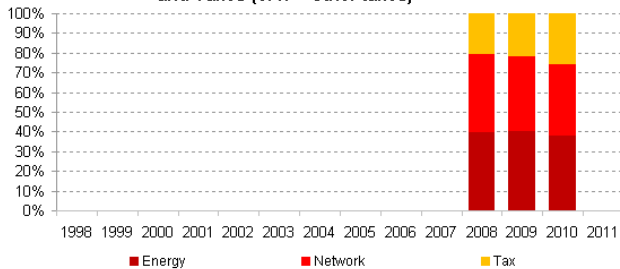
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

SI : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

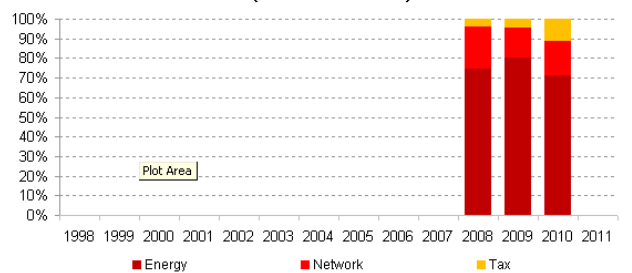


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
Industry - If (Annual consumption: 10 000 MWh; max. demand: 2 500 kW; annual load: 4 000 hours)
Industry - Ig (Annual consumption: 24 000 MWh; max. demand: 4 000 kW; annual load: 6 000 hours)

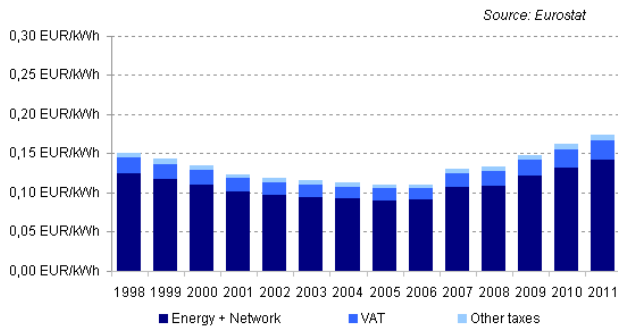
SI : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



SI : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)

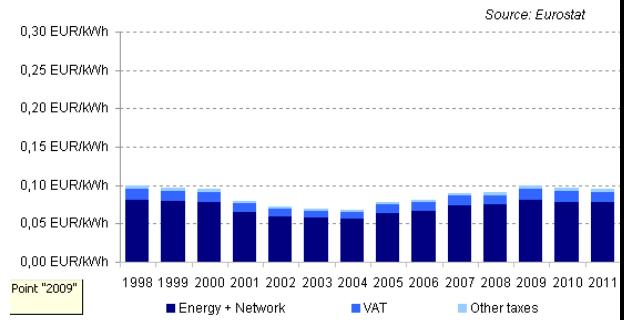


ES : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



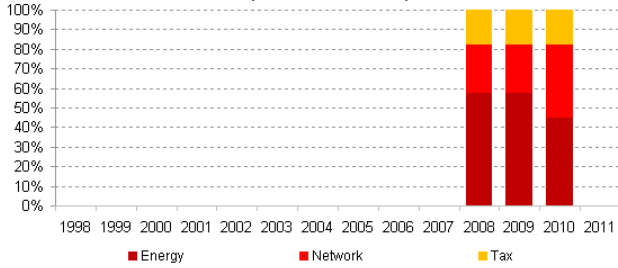
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

ES : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

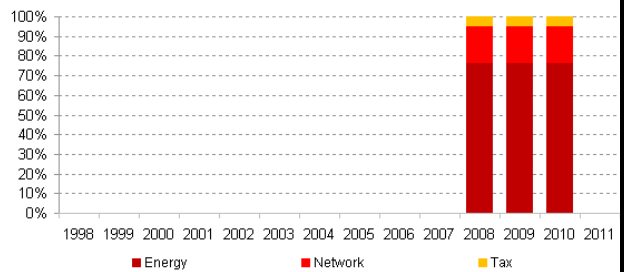


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
Industry - If (Annual consumption: 10 000 MWh; max. demand: 2 500 kW; annual load: 4 000 hours)
Industry - Ig (Annual consumption: 24 000 MWh; max. demand: 4 000 kW; annual load: 6 000 hours)

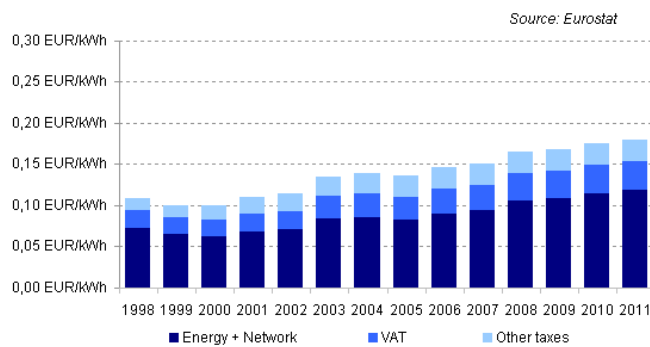
ES : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



ES : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)

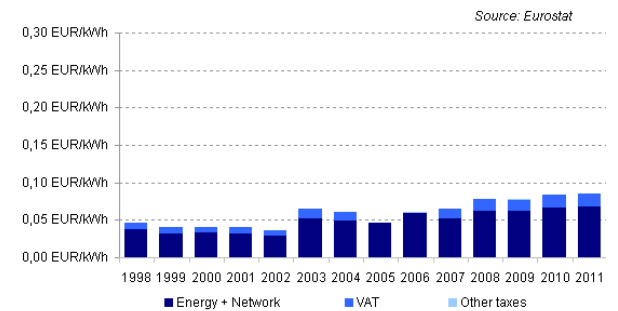


SE : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



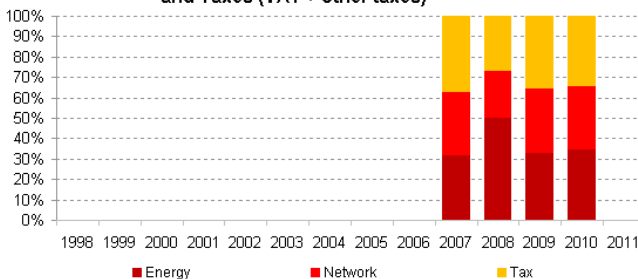
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

SE : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

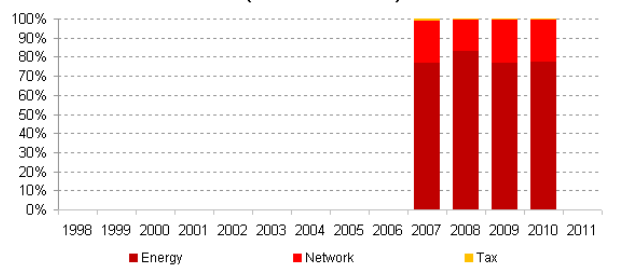


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
Industry - If (Annual consumption: 10 000 MWh; max. demand: 2 500 kW; annual load: 4 000 hours)
Industry - Ig (Annual consumption: 24 000 MWh; max. demand: 4 000 kW; annual load: 6 000 hours)

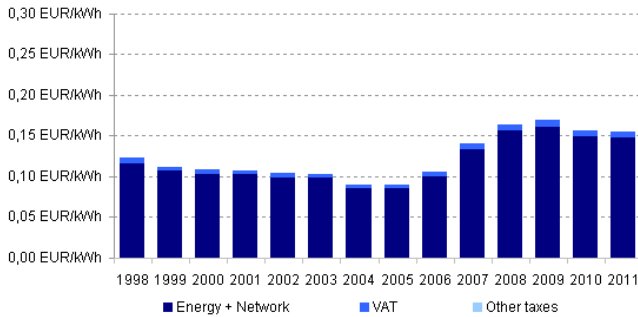
SE : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



SE : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)

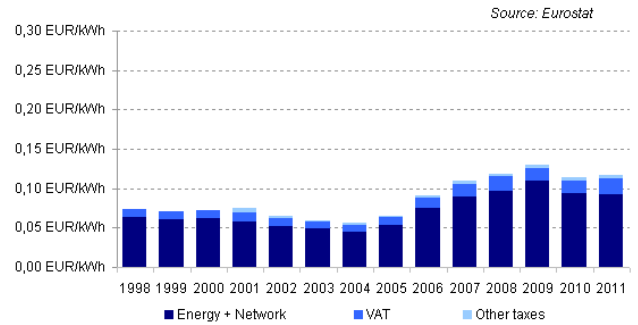


UK : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



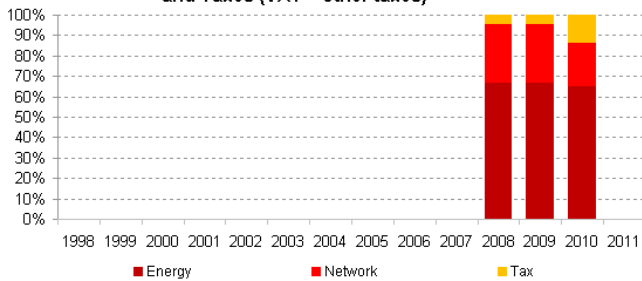
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

UK : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

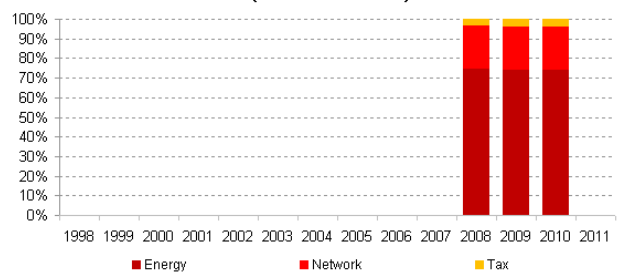


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
Industry - If (Annual consumption: 10 000 MWh; max. demand: 2 500 kW; annual load: 4 000 hours)
Industry - Ig (Annual consumption: 24 000 MWh; max. demand: 4 000 kW; annual load: 6 000 hours)

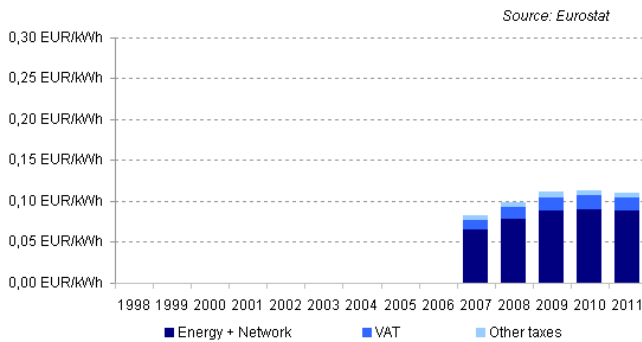
UK : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



UK : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)

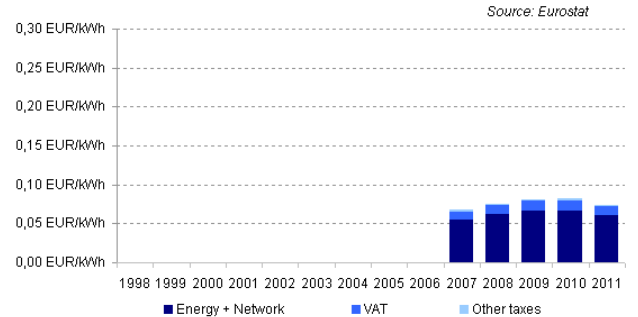


TR : Retail electricity prices for domestic consumers (group Dc)
[prices in 2005 EUR]



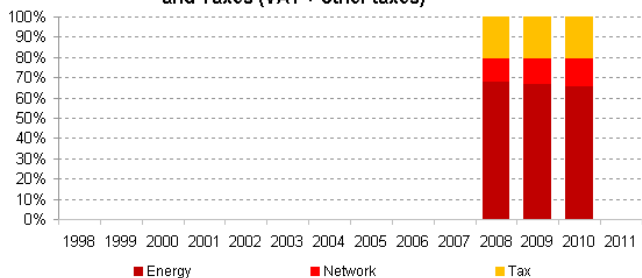
Note: Prior to 2007 the following Eurostat end consumer categories were used:
Households - Dc (Annual consumption: 3 500 kWh of which night 1 300)

TR : Retail electricity prices for industrial consumers (group Id)
[prices in 2005 EUR]

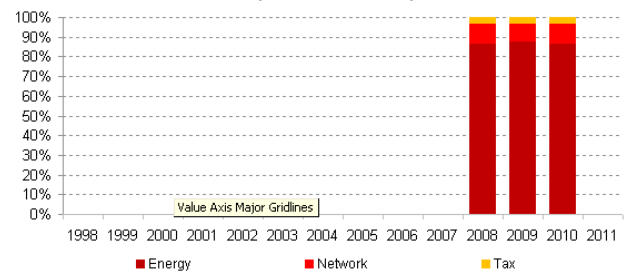


Note: Prior to 2007 the following Eurostat end consumer categories were used:
Industry - Ie (Annual consumption: 2 000 MWh; max. demand: 500 kW; annual load: 4 000 hours)
Industry - If (Annual consumption: 10 000 MWh; max. demand: 2 500 kW; annual load: 4 000 hours)
Industry - Ig (Annual consumption: 24 000 MWh; max. demand: 4 000 kW; annual load: 6 000 hours)

TR : Retail electricity prices for domestic consumers (gr. Dc)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)

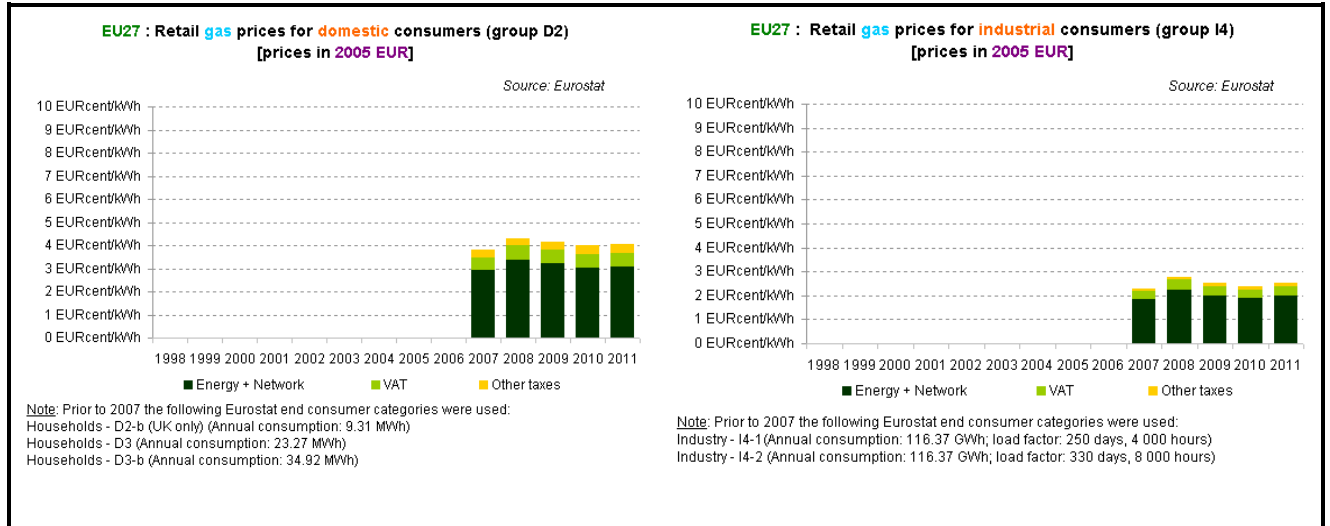


TR : Retail electricity prices for industrial consumers (gr. Id)
Breakdown by : Energy, Network (Transmission + Distribution)
and Taxes (VAT + other taxes)



Annex A2 Breakdown of natural gas retail prices for domestic and industrial consumers by Member State in the EU 15 group.

EU27



EU15

