

## Household Energy Price Index for Europe

October 27, 2016

October Prices Just Released

**The most up-to-date picture of European household electricity and gas prices: VaasaETT and two leading European energy market authorities collaborate to track monthly energy prices in 29 European countries**

Energie-Control Austria, the Hungarian Energy and Public Utility Regulatory Authority (MEKH) and VaasaETT are delighted to publish the results of our study of residential electricity and gas prices now covering 29 European countries. VaasaETT was recently commissioned by Hungary's MEKH to expand the coverage of HEPI to the remaining 6 countries that were not yet part of our study, namely, Estonia, Cyprus, Latvia, Lithuania, Malta, and Bulgaria. Our price survey now includes all of the 28 EU member countries in addition to Serbia who is a full candidate to membership.

We would like to use this opportunity to thank the energy market authorities for their time and cooperation to ensure the quality and accuracy of the data.

***If you would like to know more about the latest developments in residential energy prices, visit our project webpage at [www.energypriceindex.com](http://www.energypriceindex.com) and subscribe to the free monthly update of the HEPI index for Europe.***

### *In This Month's Edition*

*Household gas prices at a 6-year low*

*Significant increase in electricity prices in Belgrade, Copenhagen, Madrid and Stockholm*

*Significant increase in gas prices in Athens, Copenhagen and London*

*Significant drop in gas prices in Vienna, Brussels and Luxembourg*

*Market forces represent less than half of household energy bills*

## European energy price development

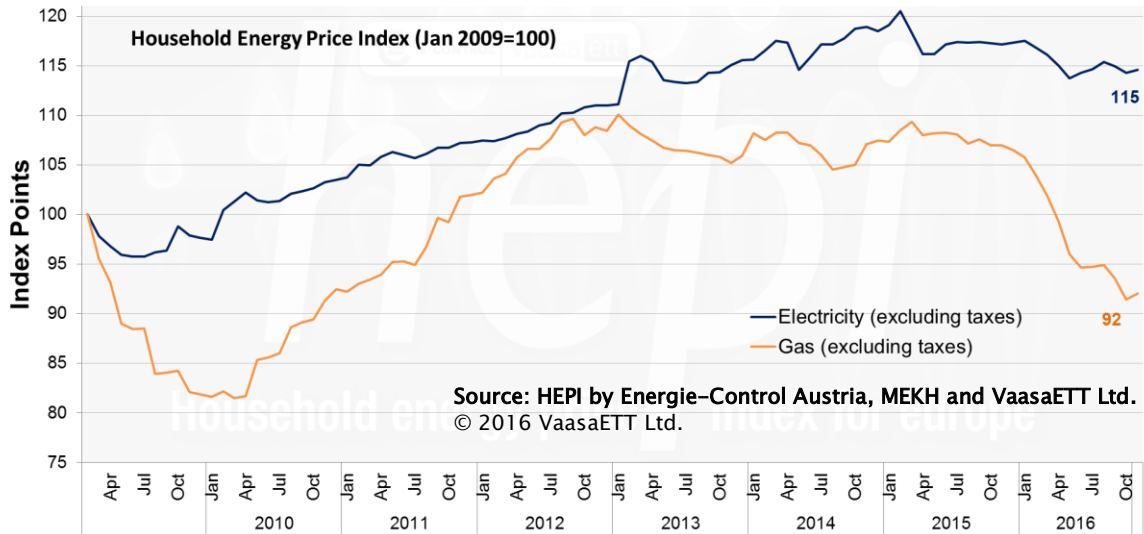
After significant drops during the first half of the year, this month's HEPI report shows that the decrease in household energy prices has decelerated.

Figure 1 shows the evolution of residential energy and distribution prices **excluding taxes** between January 2009 and October 2016 in 15 European capital cities. The index is calculated by weighing prices in each of the capital cities by the respective national electricity or gas residential consumption.

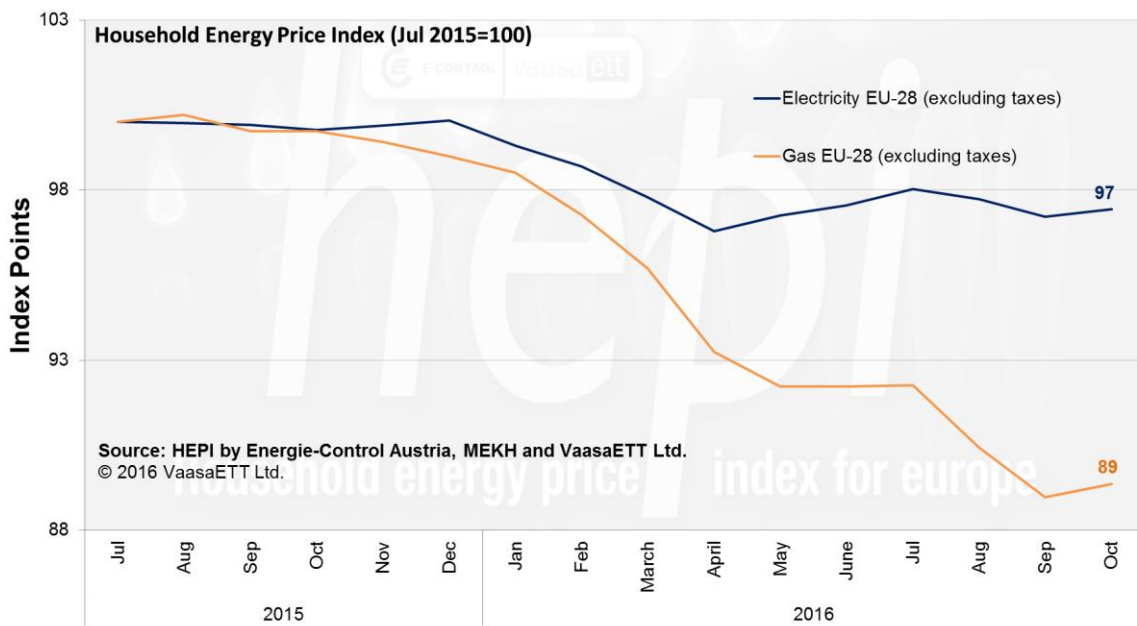
Residential electricity prices steadily decreased over the first half of 2009 and reached a trough at 96 index points in June 2009 as the economic crisis took its toll on demand and wholesale prices plummeted. Prices started to recover in the second half of 2009 together with (temporary) green shoots in economic activity and a general feeling that the worst of the crisis was behind us. They have been on an upward trend since then. The index for electricity reached its highest value in January 2015 at 121 index points. It has since faltered, falling back to 115 points.

The economic downturn which impacted energy demand and wholesale prices in 2009 is much more visible in the development of residential gas prices. The gas price index dropped significantly in 2009 and reached its lowest value only in February 2010 at 82 index points (eight months after the lowest value in the electricity price index). Retail prices started to recover in the winter of 2010 when a cold wave hit many parts of Europe. The index steadily increased until the beginning of 2013. It remained between 105 and 110 index points ever since despite a significant drop in natural gas prices on international markets during the year 2015. In 2016 however, gas prices have plummeted and the index, currently at 92 index points, stands at a 6-year low.

**Figure 1 Evolution of residential energy and distribution prices excluding taxes in the EU-15**



**Figure 2 Evolution of residential energy and distribution prices excluding taxes in the EU-28**



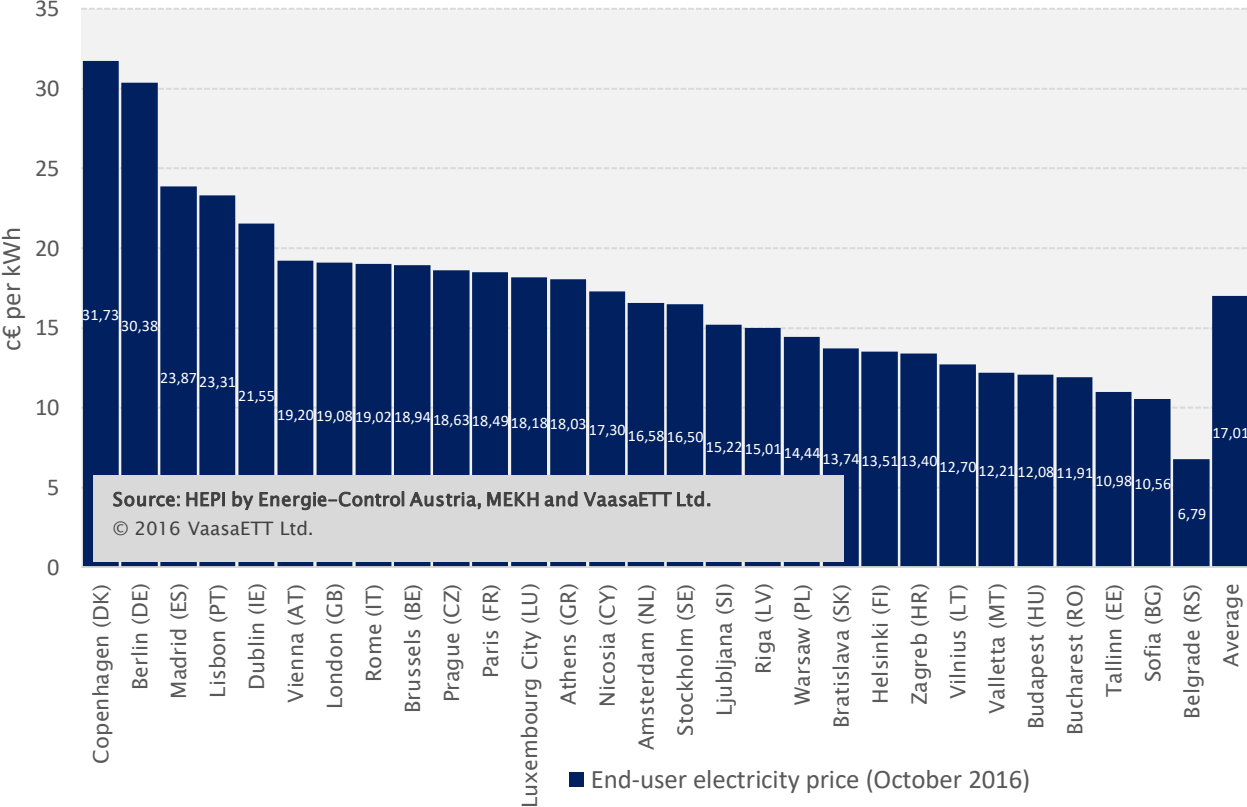
**Residential electricity prices**

Figure 3 shows the end-user price of electricity in 29 European capital cities as of October 1<sup>st</sup> 2016. It shows that depending on where a customer lives in the EU, the price that a customer has to pay per kWh of electricity can be three times the price. If we include Belgrade, the price varies by a staggering ratio of 4.7. Copenhagen and, since January 2013, Berlin are by far the most expensive cities for household

customers in Europe though the price of energy represents only a small portion of the total price, the lion’s share being tax, in fact.

Inhabitants of Belgrade pay the least followed by inhabitants of Sofia and Tallinn. In nominal terms, prices in the capital cities of Central and Eastern Europe (CEE) tend to be lower than average; Prague is the only capital city among the CEE countries in which the price of electricity is above the European average.

Figure 3 Residential electricity prices including taxes

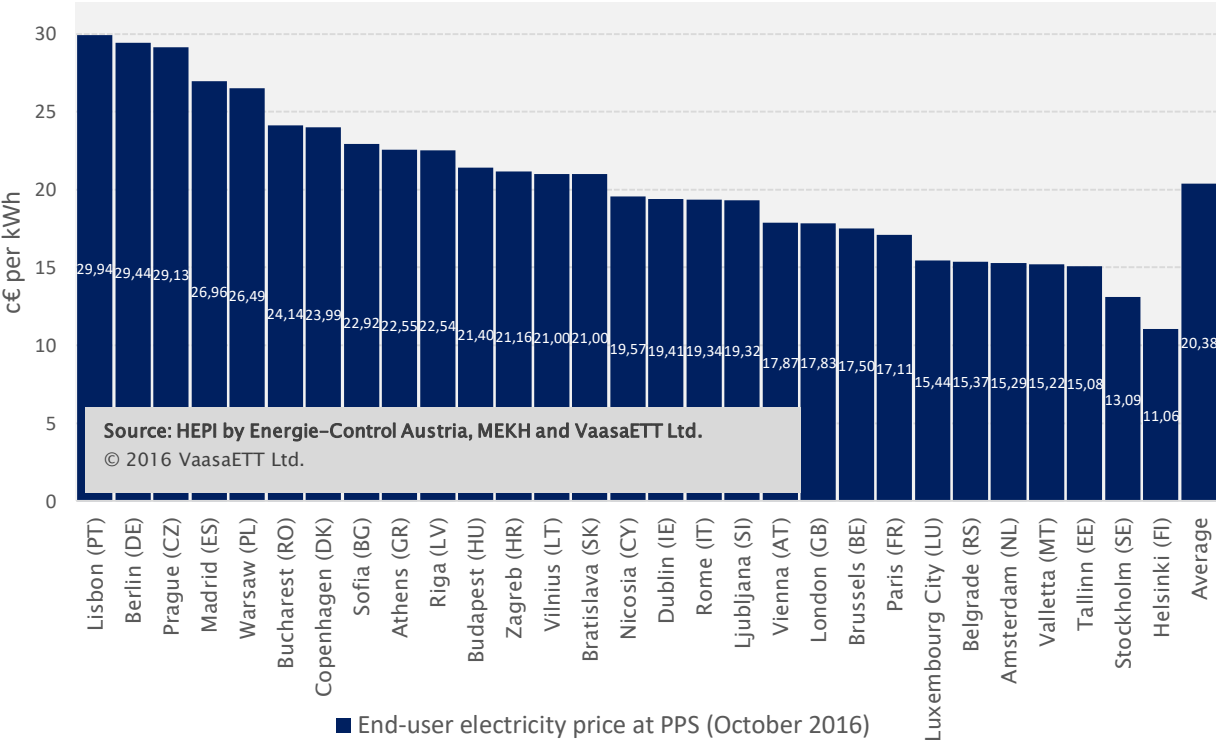


There were not many changes taking place in the electricity market this month; the most significant ones were:

- A 4% increase in Belgrade due to a rise in energy component;
- A 3% increase in Copenhagen due to both the energy component and the distribution tax;
- A 2% increase in Madrid due to energy, distribution and energy tax components;
- A 2% increase in Stockholm due to a rise in energy component.

When adjusted to purchasing power standards in each country, the picture changes dramatically. Indeed, most CEE countries end up with electricity prices which are relatively high compared to the general level of prices in the country and above the European average (Figure 4).

Figure 4 Residential electricity prices including taxes at PPS



### Residential gas prices

Figure 5 shows the end-user price of natural gas in 26 European capital cities as of October 1<sup>st</sup> 2016<sup>1</sup>. The highest price by very far is paid by inhabitants of Stockholm, who pay 2.6 times as much as the second most expensive city’s does for gas. This can be explained by the small size of the market; there are only 33,000 household gas customers in the whole of Sweden<sup>2</sup>.

<sup>1</sup> Please note that Helsinki, Nicosia, and Valletta have been left out of this analysis on gas prices as there is virtually no residential gas market in these cities.

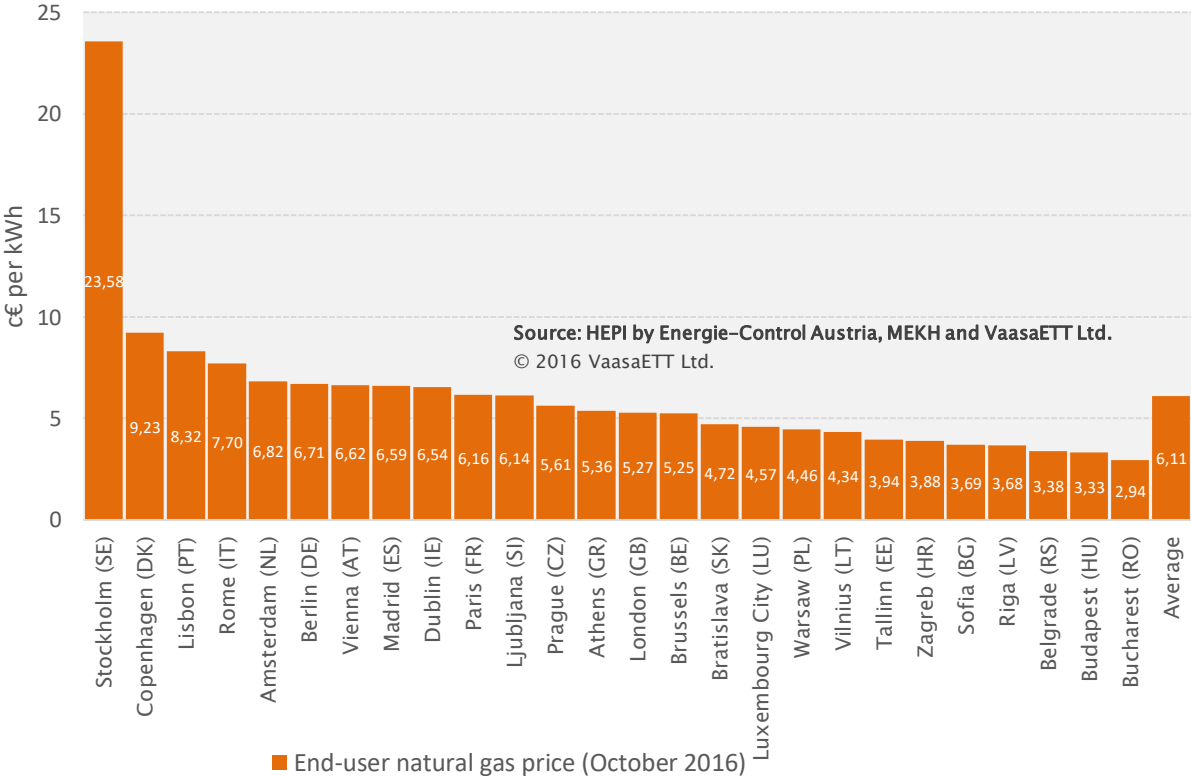
<sup>2</sup>The Swedish electricity and natural gas markets 2013 (2014: 51).

Not accounting for Stockholm, this month Copenhagen is the most expensive city for gas followed by Lisbon. The prices in Copenhagen are over three times as high as in Bucharest, which is the cheapest city for gas. Even more clearly than for electricity, household natural gas is cheapest in the CEE countries.

There were some important changes in gas prices this month, the most significant changes in local currency are summarised below:

- A 6% price increase in London;
- A 2% price increase in Copenhagen and Athens due to a rise in energy component;
- A 3% price decrease in Vienna due to a drop in energy component;
- A 2% price decrease Brussels and Luxembourg due to a drop in energy component.

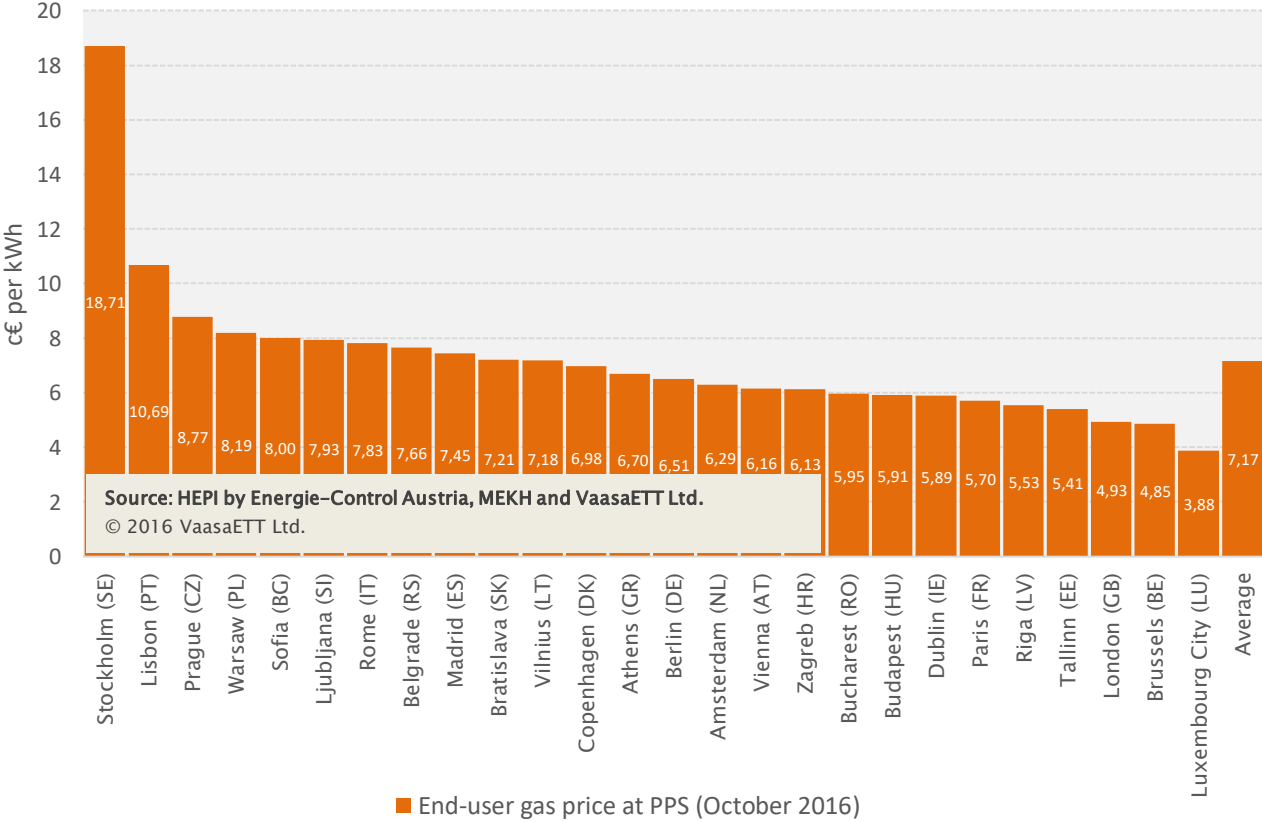
Figure 5 Residential gas prices including taxes



Even with Stockholm in the lead with the highest adjusted price, the prices at PPS offer a very different outcome. At the end of Europe’s lowest adjusted prices for gas there are no major changes as Luxembourg, Brussels and London hold their

positions. Generally speaking, the CEE countries no longer exhibit Europe’s lowest gas prices when adjusted to PPS (Figure 6).

**Figure 6 Residential gas prices including taxes at PPS**



**Energy price breakdown**

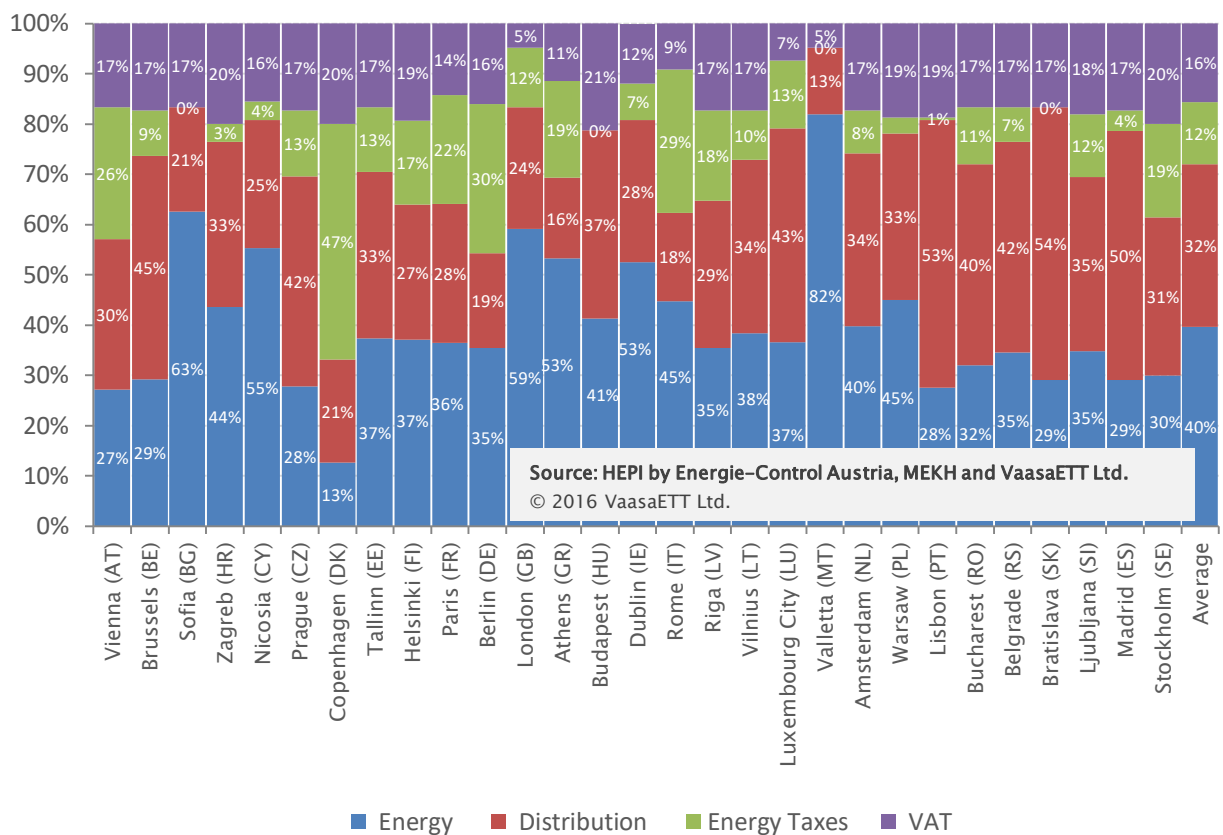
The breakdown of end-user energy prices into four components; energy, distribution, energy taxes and VAT, also shows major variations that can be seen in Figures 7 and 8. Our survey shows that on average, the energy price component (including retail margins) represents about 40% of the end-user price of electricity, distribution 32%, energy taxes 12% and VAT 16%, while energy (including retail margins) represents 48% of the end-user price of natural gas, distribution 28%, energy taxes 8% and VAT 16%.

Copenhagen is a very unusual case; the cost of energy as a commodity represents just 13% of the end-user electricity price, by far the lowest of all surveyed cities, whereas the energy taxes represent an astonishing 47% (four times Europe’s average) and 67% if we include VAT. A similar (albeit to a lesser extent) case is

Berlin where since the introduction of the *Energiewende*, the energy tax component represents 30% of the end-user price of electricity.

Overall, the results show that market forces represent only about half of the end-user price both for electricity and gas, whereas national fiscal and regulatory elements are responsible for the other half through distribution tariffs, energy taxes and VAT. In places where the energy component (the competitive part of the price) is lower, so is the incentive for customers to look for more competitive offers<sup>3</sup>.

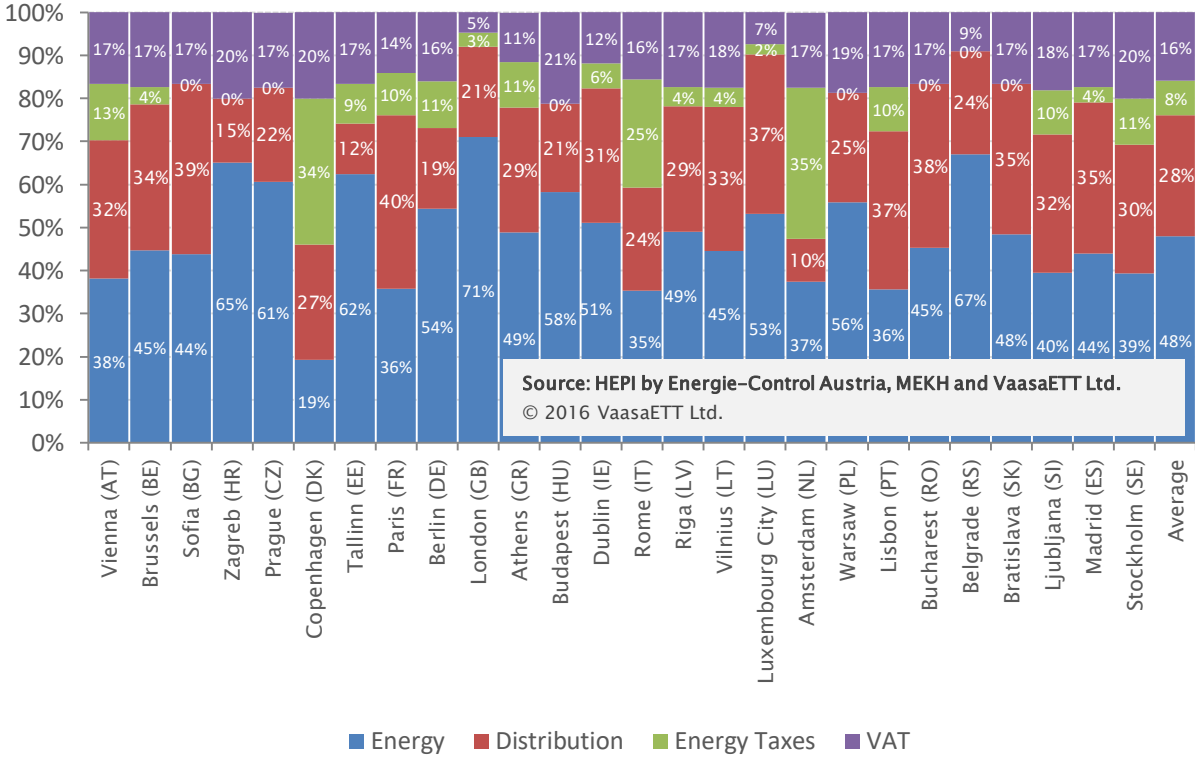
**Figure 7 Residential electricity price breakdown**



<sup>3</sup>You may download the latest version of VaasaETT's survey of utility customer switching at <http://www.utilitycustomerswitching.com>.



Figure 8 Residential gas price breakdown



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## ***For More Information***

### **Christophe Dromacque**

HEPI Project Manager

Office: +358 (0)9 4159 0344

Mobile: +358 (0) 449066822

Email: christophe.dromacque@vaasaett.com (English / French)

### **Rafaila Grigoriou**

Analyst

Email: rafaila.grigoriou@vaasaett.com (English / Greek)

### **Hanna Launonen**

Research Assistant

Email: hanna.launonen@vaasaett.com (English / Finnish)

### **Silke Paizoni**

Regulation and Competition

Office: +43 (1) 24724 715

Email: Silke.Paizoni@e-control.at (English / German)

### **László Szabó**

Head of Unit of Analysis and Modelling

Department of Analysis and Statistics

Office: +36 1 459 7910

Email: szabolaszlo@mekh.hu (English / Hungarian)

## About the Authors

### Energie-Control Austria

Energie-Control Austria was set up by the legislator on the basis of the new Energy Liberalisation Act and commenced operation on 1 March 2001. Energie-Control is headed by Mr. Wolfgang Urbantschitsch and Mr. Andreas Eigenbauer as managing directors and is entrusted with monitoring, supporting and, where necessary, regulating the implementation of the liberalisation of the Austrian electricity and natural gas markets. **More at: [www.e-control.at](http://www.e-control.at)**

### The Hungarian Energy and Public Utility Regulatory Authority

The main responsibilities of the Hungarian Energy and Public Utility Regulatory Authority are consumer protection, providing regulated access to networks and systems, carrying out regulatory competencies in order to maintain security of supply and fostering competition. The scope of the infrastructures, which have to be overseen by the Hungarian Energy and Public Utility Regulatory Authority, has been extended in 2011 with the complete regulation of district heating and in 2012 with the water public utilities. As market progresses are becoming more widespread, we put emphasis on our market monitoring task and we pay specific attention to regional market integration both in electricity and natural gas.

**More at: [www.mekh.hu](http://www.mekh.hu)**

### VaasaETT Global Energy Think Tank

VaasaETT is a research and advisory consultancy dedicated to customer related issues in the energy industry. VaasaETT advises its clients based on empirical evidence brought about from extensive research in the area of customer behaviour and competitive market behaviour (including smart energy offerings, demand response, energy efficiency, smart home, smart grid). VaasaETT's unique collaborative approach enables it to draw on an extensive network of several thousand energy practitioners around the world who can contribute to its research activities or take part in industry events it organizes allowing VaasaETT to integrate global knowledge and global best practice into its areas of expertise. VaasaETT's truly global focus is reflected by research and strategic support having been provided to a diverse array of organizations on 5 continents including for instance 28 of the Fortune Global 500 companies, the European Commission, Government and public research bodies in Europe, Japan, the UAE, the Middle East and Australia. **More at: [www.vaasaett.com](http://www.vaasaett.com)**