Household Energy Price Index

Household Energy Price Index for Europe

OCTOBER 1, 2025

September 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 33 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 covering 33 European countries. Our price survey now includes every EU Member State in addition to selected members of the European Energy Community (Montenegro, Norway, Serbia and Ukraine), plus Great Britain and Switzerland.

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

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

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IN THIS MONTH'S

Electricity price increases in Copenhagen, Helsinki, Ljubljana, London, Nicosia, Riga, Stockholm, Tallinn and Vilnius

Electricity price decreases in Athens, Berlin, Brussels, Lisbon, Madrid and Oslo

Natural gas price increases in Ljubljana and Rome

Natural gas price decreases in Amsterdam, Berlin, Brussels, London, Paris, Prague, Riga, Sofia and Vienna

Fixed vs variable tariff analysis: fixed prices are higher than the variable ones

European Energy Price Development

Figure 1 shows the evolution of residential energy and distribution prices excluding taxes between January 2009 and September 2025 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 as high as 117 index points in December 2014. Since then, it faltered and remained around 108 index points in 2016 and 2017. During 2019, the index was fluctuating around 115 and 120 points. However, the developments on the wholesale markets due to COVID-19 restrictions dropped the index rate down to 112 points in 2020. During 2021, the index followed an increasing trend as people and businesses were resuming their activities, hence there was higher demand, and the energy crisis was gradually developing. The extraordinary weather conditions, the record high wholesale natural gas prices and the lack of storage materials to cover demand led to repetitive record high prices in most of the European capitals by the end of 2021. The increasing trend became more extreme during the second half of the year, reaching 174 points in December 2021. After climbing the sharpest step in its historical data in January 2022 and its largest peak in October 2022 at 298 points, the HEPI electricity index followed a decreasing trend for more than a year. Since spring of 2024 it followed an increasing trend while it has been decreasing since the beginning of 2025; it currently stands at 184 points (EUR-15).

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 81 index points (nine 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 plummeted reaching a 6-year low in September 2016 at 88 points. After a small hike up to 91 points in March 2017, a bigger one followed to 98 points in November 2018. There was a decreasing trend for two years, up until the gas price index started increasing, surpassing November 2018 levels for the first time in August 2021. The energy crisis greatly affected the gas price index, which was almost doubled within 2021, going from 82 points in January 2021 to 158 points in November 2021. Since then, its value was

doubled again in November 2022, reaching 345 points. Similarly to the electricity market, since then it followed a decreasing trend while this seems to have been reversed recently; it currently stands at 153 index points.

When examining the averages of the end-user prices for both electricity and gas, the following changes can be observed; from a year ago, September 2024, the electricity bills in all EU capitals have increased by 5%, while the gas bills have increased by 2%.

Figure 1: Evolution of residential energy and distribution prices excluding taxes in the EUR-15

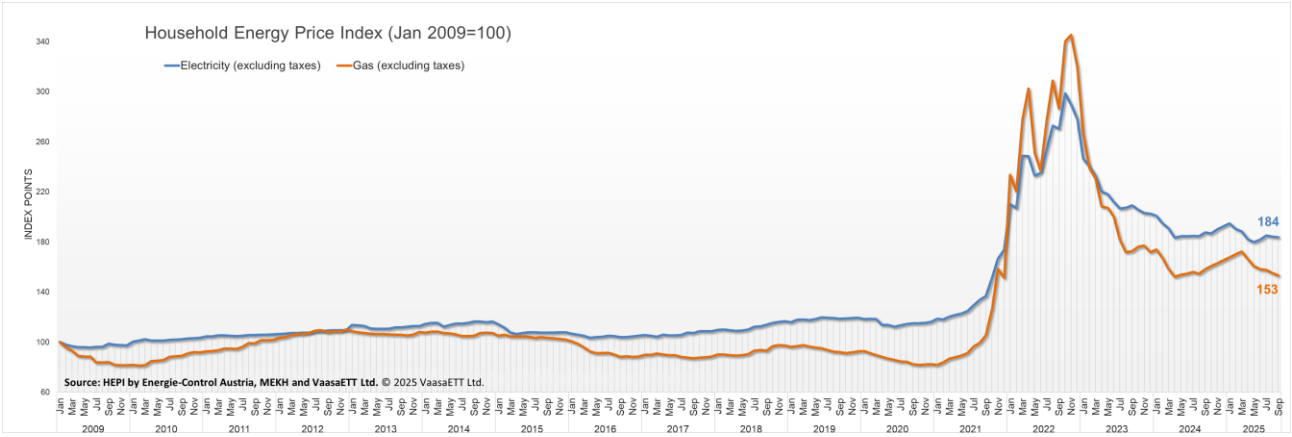
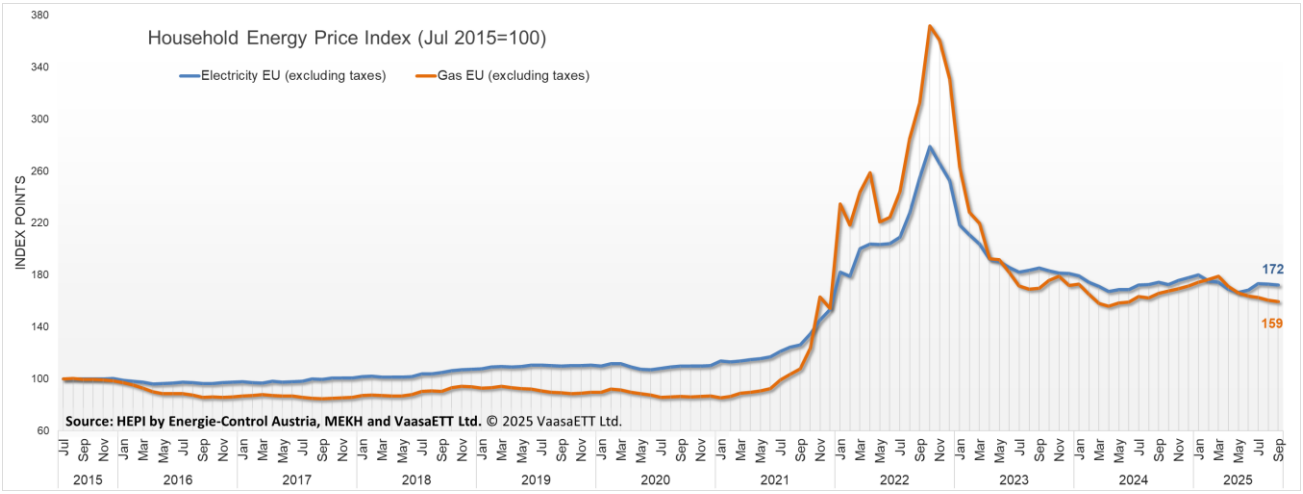


Figure 2: Evolution of residential energy and distribution prices excluding taxes in the EU[1]

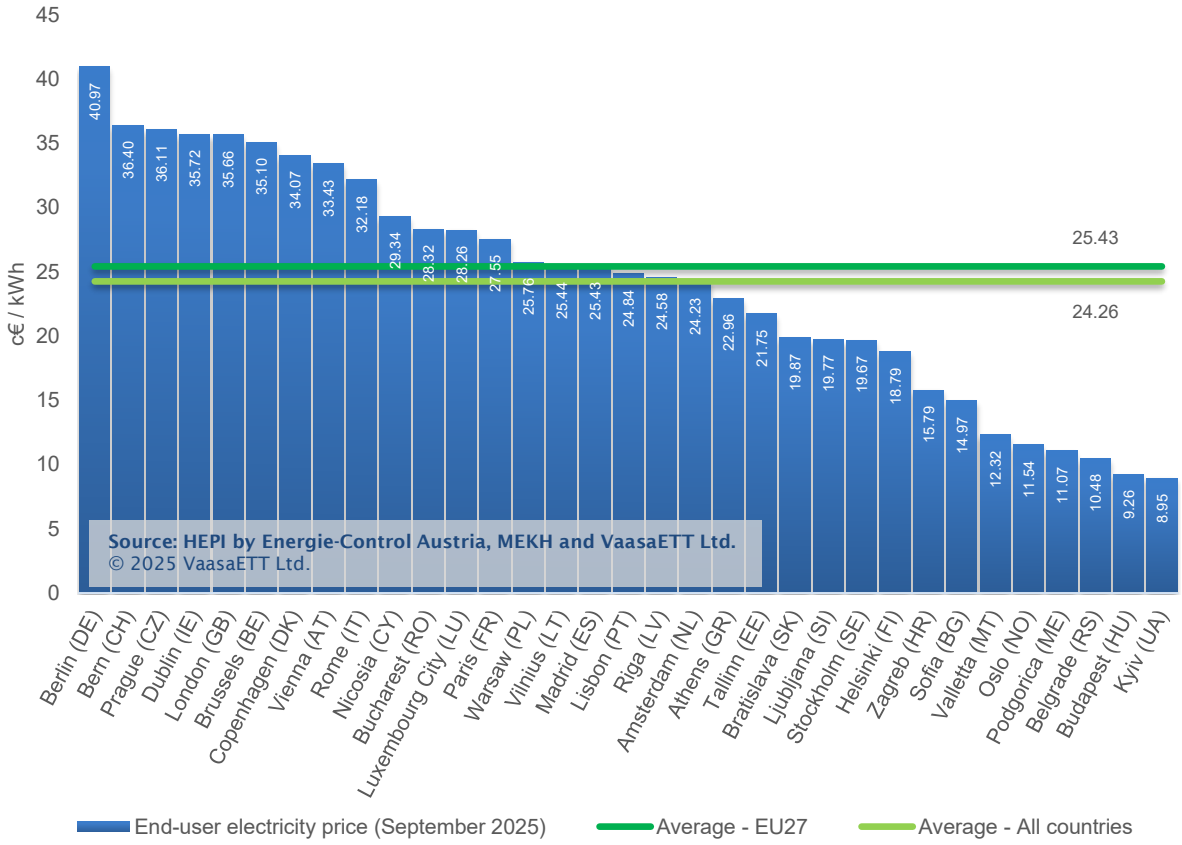


[1] EU-28 values were used between July 2015 - January 2020. EU-27 values are used from February 2020 onwards.

Residential Electricity Prices

Figure 3 shows the end-user price of electricity in the 33 European capital cities as of September 1st, 2025. It shows that depending on where a customer lives in Europe, the electricity price can vary by a ratio of almost 5. Berlin and Bern are the most expensive cities for household customers in Europe, followed by Prague, Dublin and London.

Figure 3: Residential electricity prices including taxes



Kyiv appears to have the least expensive electricity price, followed by Budapest, Belgrade and Podgorica. In nominal terms, prices in the capital cities of Central and Eastern Europe (CEE) tend to be lower than average; this month Bucharest, Prague, Vilnius and Warsaw are the only capital city among the CEE countries in which the price of electricity is above the European average.

The most significant changes that took place in the electricity market this month were as follows[1]:

- A 3% price increase in Vilnius, due to an increase in the energy component;
- A 2% price increase in Ljubljana, due to increases in the energy and distribution components;
- A 2% price increase in London, Stockholm and Tallinn, due to an increase in their energy component;
- A 1% price increase in Copenhagen, Helsinki, Nicosia and Riga, due to an increase in their energy component;
- An 8% price decrease in Athens, due to decreases in the energy and energy taxes components;
- A 3% price decrease in Brussels, due to a decrease in the energy component;
- A 1% price decrease in Berlin, Lisbon, Madrid and Oslo, due to a decrease in their energy component.

In September, the average European electricity end-user price remained largely stable compared to August, marking the end of the upward trend observed since the beginning of summer, which was mainly driven by cooling demand. Out of the 33 capitals under review, 9 experienced price increases of a limited scale, while 18 of them showed no price variation in their electricity end-user price. The remaining markets saw mostly minor decreases.

Vilnius experienced the largest electricity end-user price increase, though limited at 3%, due to an increase in wholesale prices.

On the contrary, the largest electricity end-user price decrease was observed in Athens (8%), reflecting the significant drop in wholesale prices in August, as most variable contracts are indexed to the wholesale price of the previous month[2].

When adjusted to purchasing power standards (PPS) in each country, the picture changes dramatically. PPS is an artificial common reference currency that eliminates general price level differences between countries[3] . When expressed in PPS, energy prices are thus shown in relation

[1] The change in each capital city is calculated using the prices in their local currency to exclude the impact of exchange rate fluctuations.

[2] ERT News: "ΔΕΗ: Μειωμένα 10-25 % τα τιμολόγια Σεπτεμβρίου", 01.09.2025
[3] Eurostat: Purchasing power parities - Overview

to the cost of other goods and services. The lowest adjusted household electricity prices are found in Oslo, Budapest, Valetta and Helsinki, while the highest are currently in Bucharest, Prague, Berlin and Warsaw. Most of the CEE countries usually end up with electricity prices which are relatively low compared to the general level of prices in the country and below European average (Figure 4) ; Bucharest, Prague, Riga, Vilnius and Warsaw are the only capital cities among the CEE countries in which the price of electricity was above the European average in September 2025.

Figure 4: Residential electricity prices including taxes at PPS

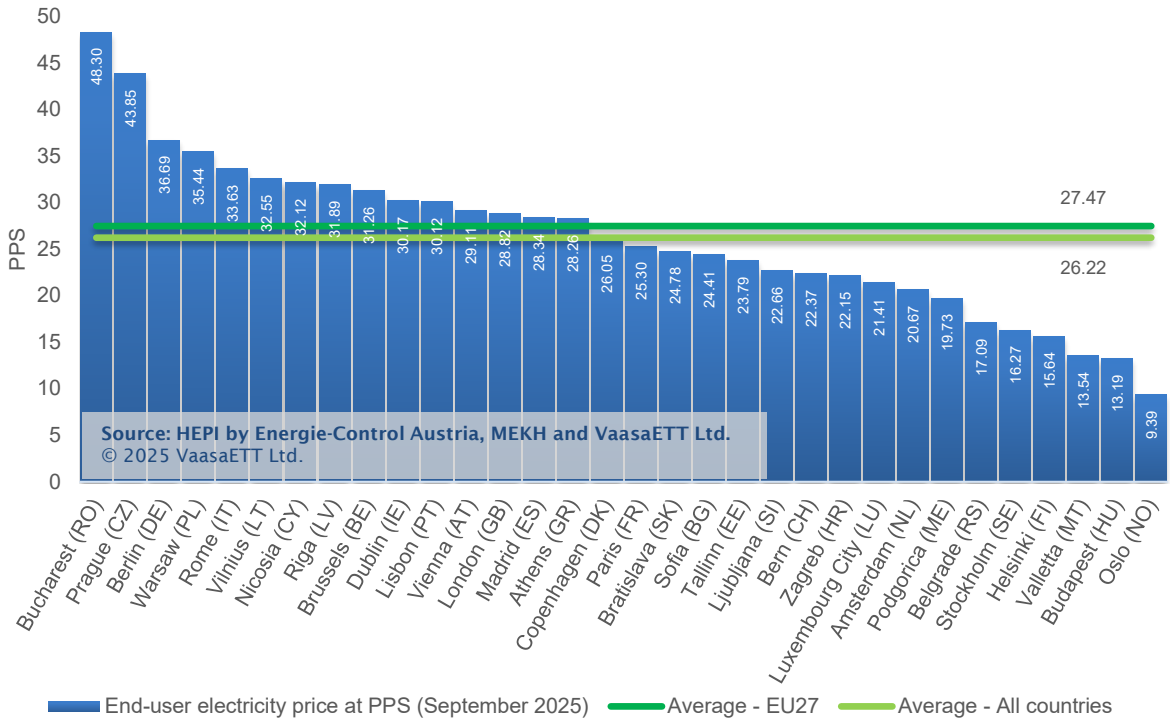


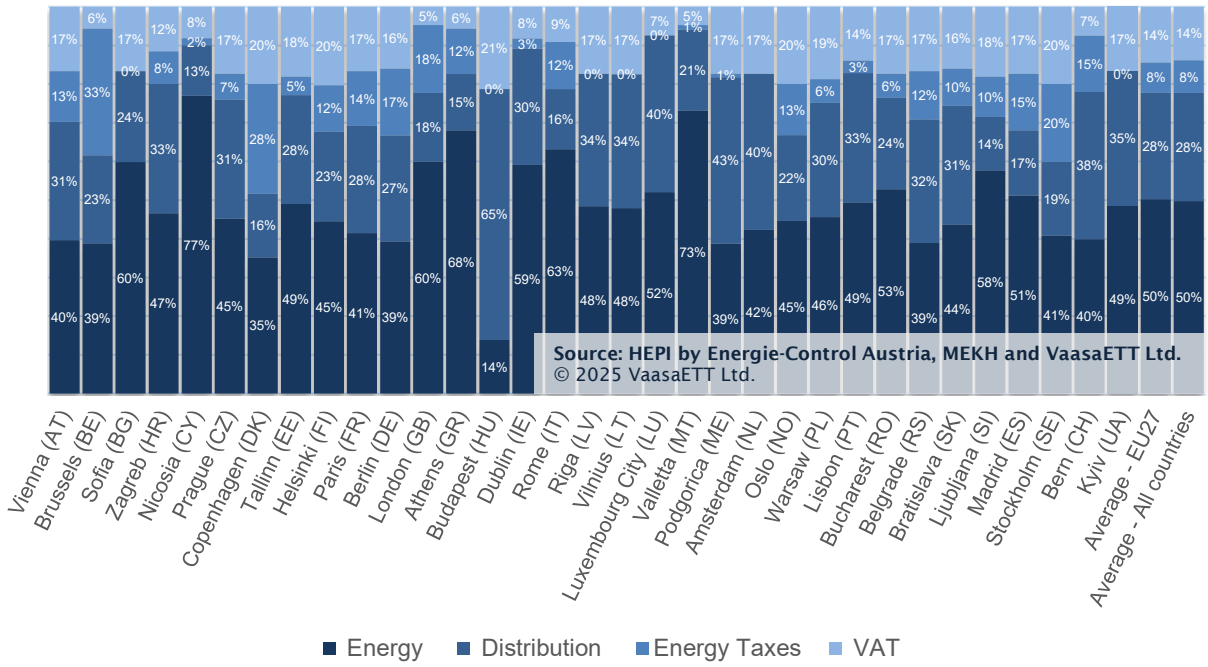
Figure 5 shows the breakdown of the electricity price in the 33 analysed capitals, into energy, distribution, energy taxes[4] and VAT. Our survey shows that on average, energy (the contestable component of the price) represents 50% of the end-user price of electricity bill, distribution 28%, energy taxes 8% and VAT 14% for the EU capitals.

If we focus on the cost of energy as a commodity, in Budapest it currently represents just 14% of the end-user electricity price, which is the lowest among all surveyed cities. On the contrary, Nicosia has the greatest energy percentage, reaching 77% of the end-user price in September 2025.

[4] Energy taxes component is the sum of all the taxes, fees and levies.

Additionally, starting from January 2020, a typical consumer in Amsterdam pays zero energy tax due to the increased amount of tax credit, which exceeds the indicated energy tax amount. On the contrary, they receive a refund on the exceeding tax credit amount. The aim of this refund is to encourage consumers towards electrification and switching away from gas heating and appliances. In the same manner, in Luxemburg City[5,6], the typical customer is paying negative energy taxes as a result of the compensation mechanism that is currently in force, intended to offset the increase in the energy component and stabilise prices to 2022 levels.

Figure 5: Residential electricity price breakdown[7]

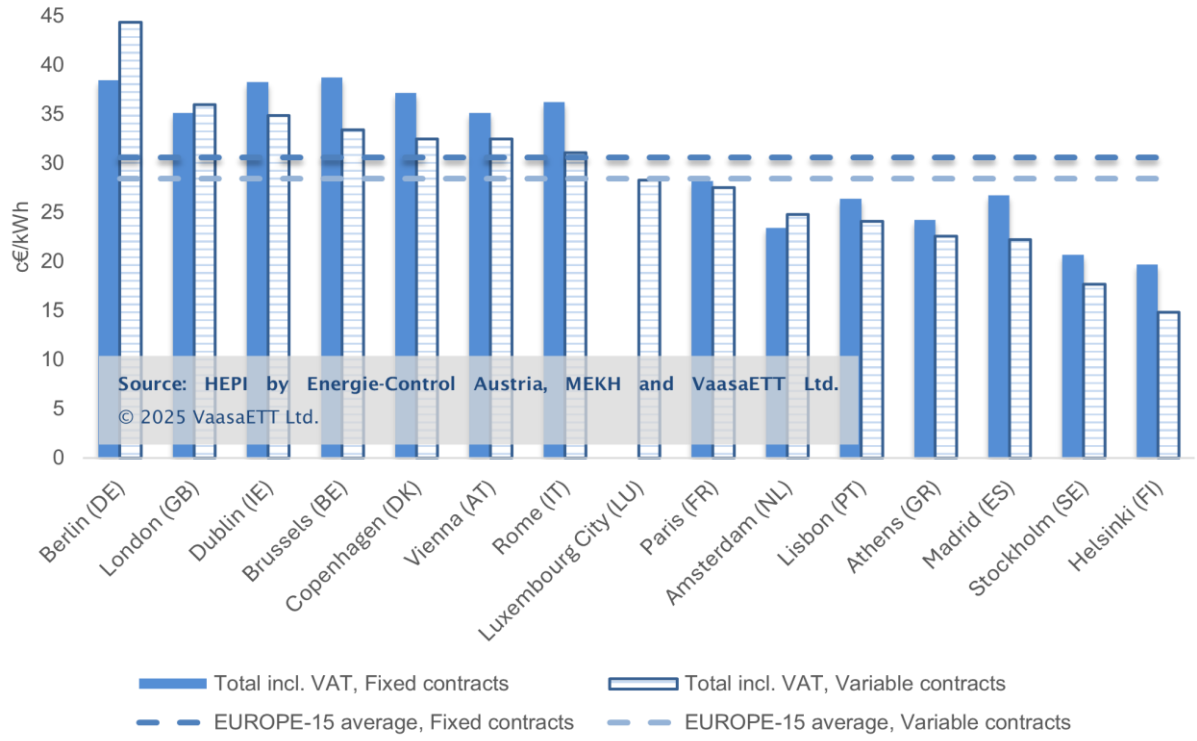


[5] ILR: "Règlement ILR/E22/58 du 28 décembre 2022 fixant la contribution au mécanisme de compensation de la catégorie A pour l'année 2023 - Secteur Électricité.", 28.12.2022

[6] PAPERJAM: "Luxembourg electricity prices to rise 30% in 2025: Statec", 21.01.2025

[7] Please note that proportions appearing in the graph are rounded, and due to this may not add up to 100%. Additionally, for Amsterdam (NL), the typical household considered in HEPI research receives a tax refund on their energy tax. When considering this, the end-consumer's bill breakdown is as follows: Energy component 65%, distribution 62%, energy taxes -45%, and VAT 17%. For Luxembourg City (LU), the typical household considered in HEPI research receives a tax refund on their energy tax. When considering this, the end-consumer's bill breakdown is as follows: Energy component 59%, distribution 46%, energy taxes -13%, and VAT 7%.

Figure 6: All-in electricity end-user price including VAT (c€/kWh) for EUR-15, average fixed vs variable contracts.



Before the energy crisis, fixed (price and term) and variable prices were relatively similar. A fixed price was often cheaper since it afforded the supplier lower loyalty and procurement risk. Though customers essentially gambled a little on the direction of the market, it was not a particularly significant choice for most customers. In the more mature markets at least, active customers nevertheless tended to choose fixed prices. Due to the crisis, the situation was mostly reversed. Fixed prices, where available (in some markets they became unavailable since early or mid-crisis), were higher than variable prices, in some cases by a very large margin. However, this trend seems to be reversing again. In September 2025, the number of fixed offered contracts appears to be increased while their average price is higher than the average variable price by 2.16 c€/kWh. In three of the EUR15 markets when studied individually, it is observed that fixed contracts are on average cheaper than variable ones; in Germany, Great Britain and Netherlands.

Figure 6 and Figure 7 show the situation as of September 2025 for a selection of markets, the EUR-15 markets. Across all the markets shown, the average price for fixed prices was 30.60 c€/kwh while for variable prices it was 28.45 c€/kWh. Naturally, for those markets where fixed prices are both available and very different from variable prices, the average of the two is less representative than in other markets. If we adjust the variable prices for purchasing parity (Figure 8), we arguably gain a clearer picture of the relative significance of the most popular prices in September 2025.

Figure 7: All-in electricity end-user price including VAT (c€/kWh) for EUR-15, variable contracts only

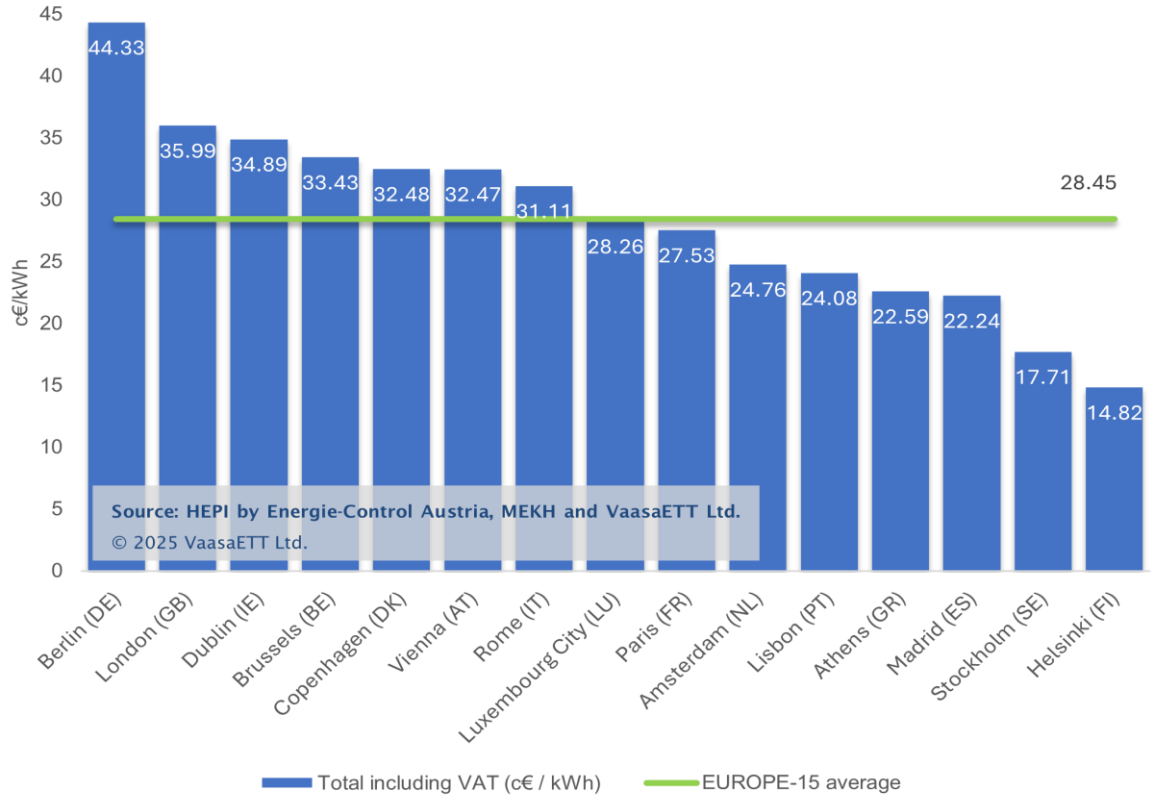
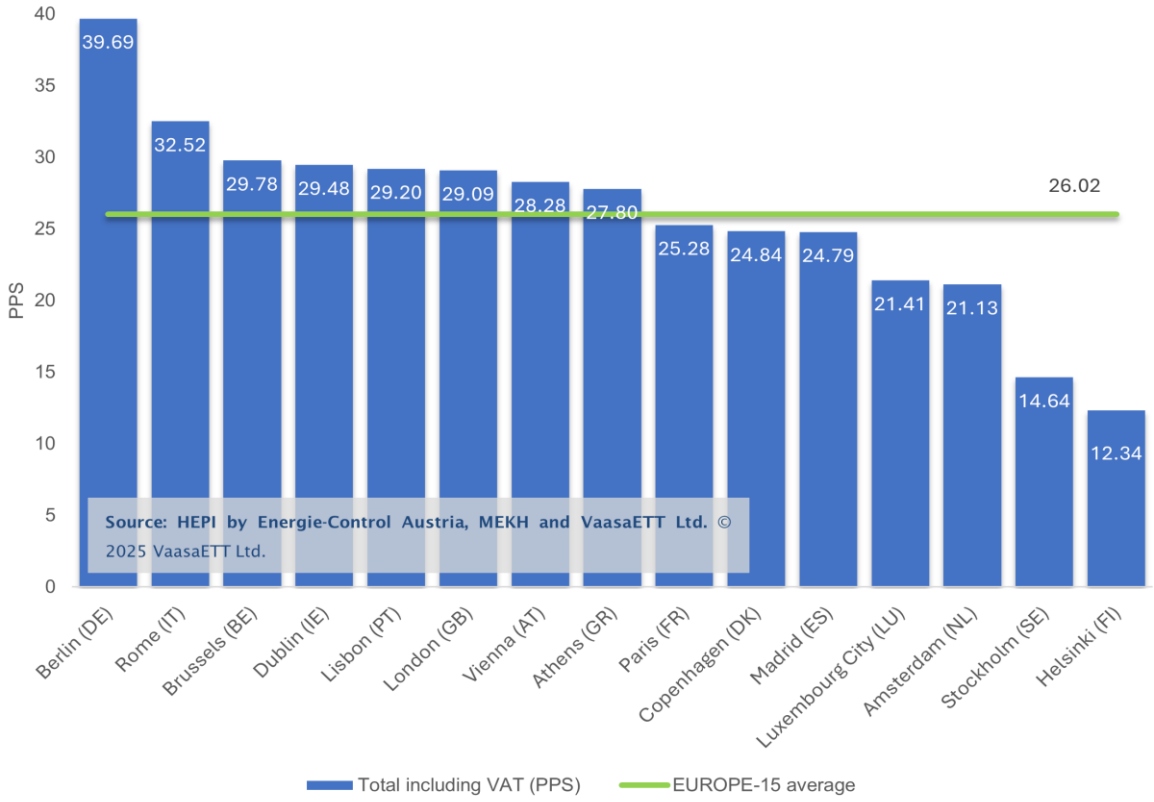


Figure 8: All-in electricity end-user price including VAT (PPS) for EUR-15, variable contracts only

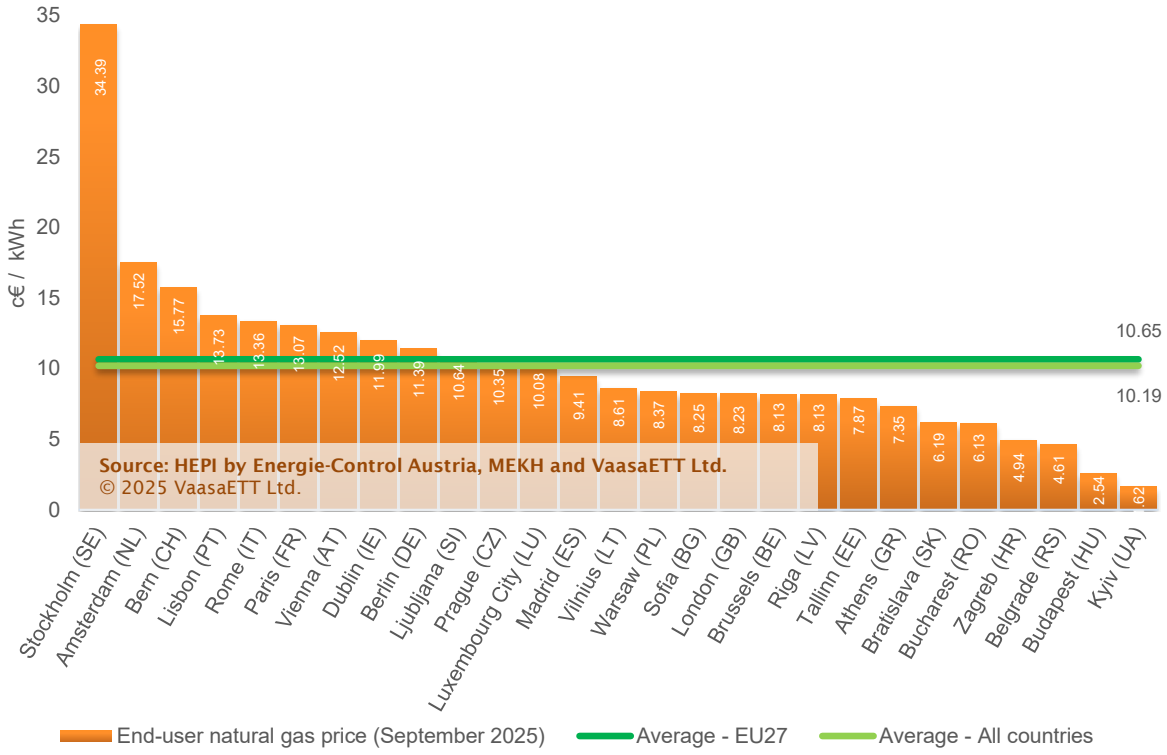


Residential Gas Prices

Figure 9 shows the price of natural gas paid typically by residential customers in 27 European capital cities as of September 1st, 2025. The highest price is paid by inhabitants of Stockholm who pay over 3 times the European average end-user price, followed by Amsterdam, which is the second most expensive capital city. This can be explained by the nature of the Swedish gas market; the small size of only 77,000 household gas customers in the whole of Sweden of which 50,000 in the isolated gas network in Stockholm[8]. Bern is currently the third most expensive capital city.

The price in Stockholm is almost 14 times as high as in Budapest, which is the cheapest city for gas in the EU, and over 21 times higher when compared to Kyiv. Household natural gas is usually cheaper in the CEE countries; this month, all the CEE countries, have a natural gas price that is lower than the European average.

Figure 9: Residential gas prices including taxes



[8] Sweden's electricity and natural gas market, 2023, Ei (Ei R2025:07)

The most significant changes that took place in the natural gas market this month were as follows[9]:

- A 1% price increase in Ljubljana and Rome, due to an increase in their energy component;
- A 2% price decrease in Brussels, due to a decrease in the energy component;
- A 1% price decrease in Amsterdam, Berlin, London, Paris, Prague, Riga and Sofia, due to a decrease in their energy component;
- A 1% price decrease in Vienna, due to decreases in the energy and energy taxes components.

In September, the average natural gas end-user price slightly decreased across Europe, continuing the downward trend observed since April. Among the 27 capitals under review, only 2 recorded signs of negligible price increase, while 9 markets experienced limited decreases. The remaining 16 capitals showed no variation in their natural gas end-user price. Meanwhile, the TTF benchmark price followed a decreasing trend, fluctuating within the 31-34 €/MWh range.

Overall, European gas markets suggest relative stability ahead of the next heating season. EU gas storage levels have reached 82%, even though still lower than the 89% five-year average for this time of the year. Increased LNG exports from the U.S., combined with weaker Chinese LNG demand are contributing to supply balance[10].

In the same vein as for electricity, gas prices at PPS have a very different outcome from the actual prices. This month Budapest, London and Zagreb were the cheapest cities when adjusted to PPS (Figure 10).

Our survey shows that on average, energy (the contestable component of the price) represents 50% of the end-user price of natural gas, distribution 24%, energy taxes 11% and VAT 16% for the European capitals. In the Netherlands, starting from January 2020, energy taxes are used for nudging the consumers' behaviour and energy use. Currently, the energy tax for a residential natural gas user represents around 34% of the end-user price in Amsterdam. The aim is to encourage the use of electric heating and appliances instead of gas.

[9] The change in each capital city is calculated using the prices in their local currency to exclude the impact of exchange rate fluctuations.

[10] FX Street: "EU Gas storage at 83%, below 5-year average – ING", 30.09.2025

Figure 10: Residential gas prices including taxes at PPS

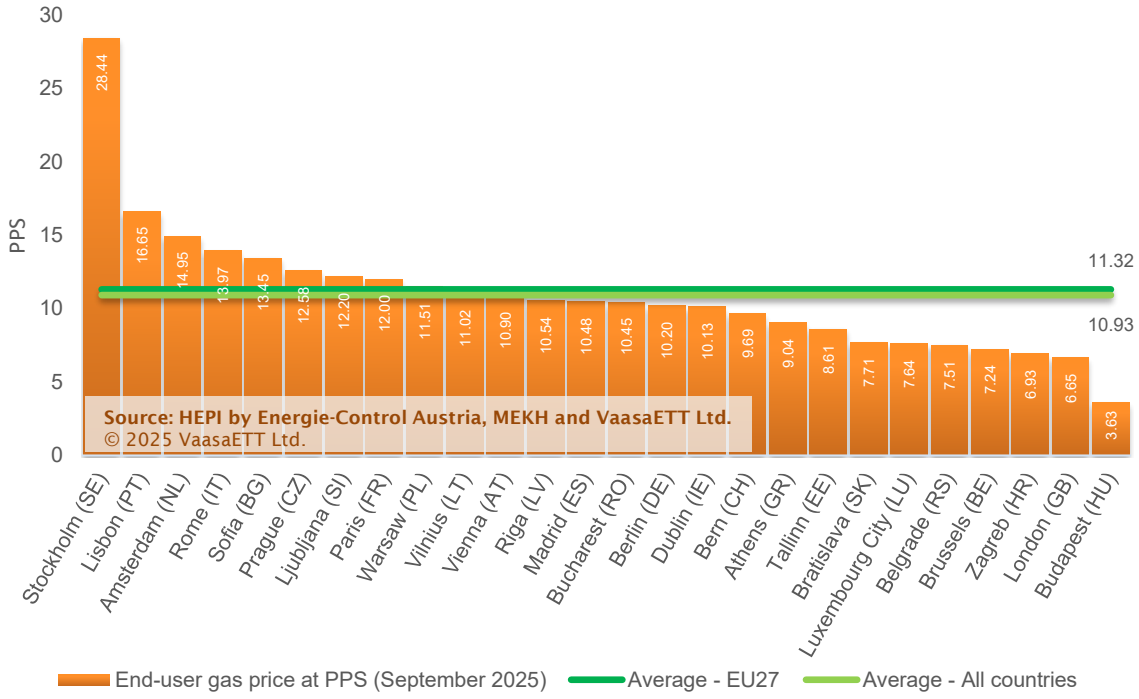
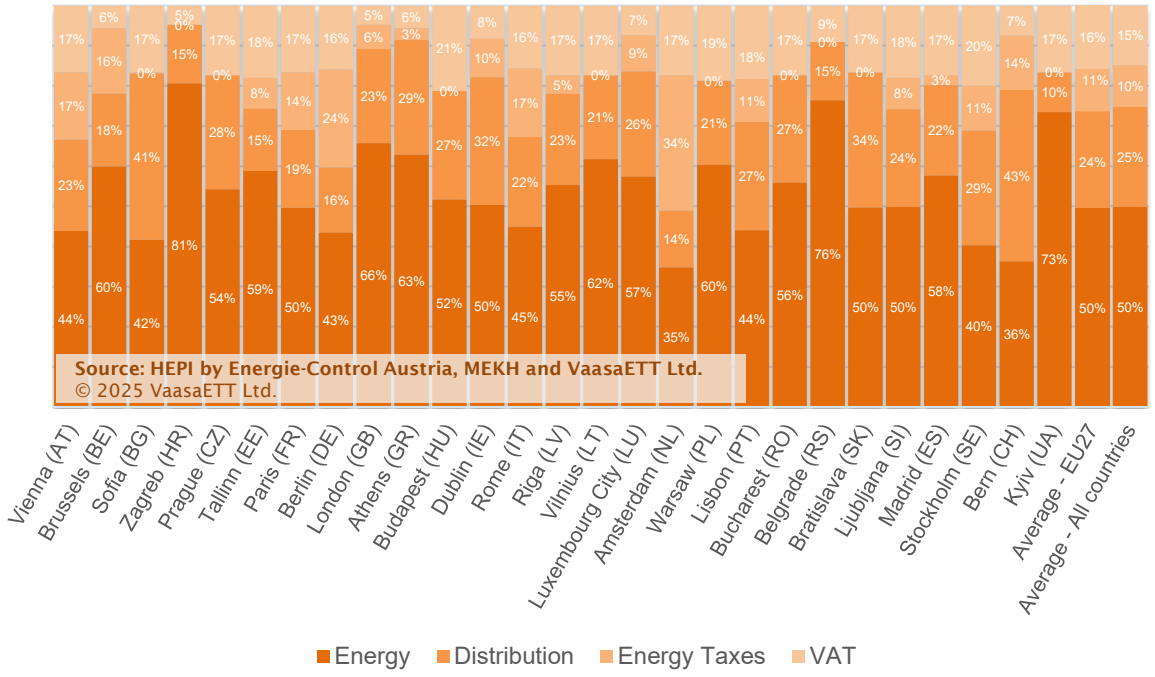


Figure 11: Residential gas price breakdown[11]



[11] Please note that proportions appearing in the graph are rounded, and due to this may not add up to 100%.

Overall, results show that market forces represent about 50% of the end-user price both for electricity and for gas, whereas national fiscal and regulatory elements are responsible for the remaining 50% through distribution tariffs, energy taxes and VAT. The energy crisis led to significant increase of the average energy component in EU capitals while now the prices appear to be decreased when compared to the two previous years. The energy share of end-user price of electricity used to be 57% in September 2023 and 53% in September 2024, while it is currently standing at 50%. Likewise, in the natural gas market, the energy component percentage of the end-user price used to be 57% back in September 2023 before reaching 53% in September 2024 and 50% this month. In places where the energy component is lower, so is the incentive for customers to look for more competitive offers.

HEPI Data Attributes

All prices and other statistics relate to:

- The prices being offered to customers actively searching for an offer at the time of data collection
- The first day of the month
- Residential customers with a typical consumption for the national capital city
- Standing fees are added to the price per kWh so that the entire end-user cost is taken into account.
- In case of spot-based tariffs the month's average price is considered in the calculations to smooth day-to-day extreme changes

HEPI prices do not relate to:

- The prices paid by customers on fixed price contracts agreed prior to the time of data collection
- The price paid by customers on tariff contracts set at a level no longer available at the time of data collection
- Sign in and other temporary bonuses and other forms of non-monetary benefits are not taken into account since they can distort the overall tariff offered, especially in cases where they are offered on a "one-off" basis
- Contracts with extra services (e.g. insurance, maintenance, etc.) and prepaid contracts are also omitted from the analysis.

Note on retrospective price adjustments:

In cases of retrospective adjustments to previous months' price (i.e. application of support measures or review of regulated price where applicable) changes are integrated retrospectively in the prices of the month(s) for which the adjustments apply. This might create a difference between the HEPI price and the actual bill amount for a given month.

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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. Alfons Haber 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

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

VaasaETT

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 organises 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 organisations 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