Household Energy Price Index

Household Energy Price Index for Europe

AUGUST 5, 2024

July 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.

E-CONTROL

vaasaETT

MEKH Hungarian Energy and Public Utility Regulatory Authority

IN THIS MONTH'S EDITION

Significant electricity price increase in Warsaw

Electricity price increases in Athens, Brussels, Copenhagen, Rome and Sofia

Electricity price decreases in Amsterdam, Dublin, Helsinki, London, Madrid, Oslo, Stockholm and Vienna

Significant natural gas price increases in Tallinn and Warsaw

Natural gas price increases in Athens, Berlin, Brussels, Madrid, Paris, Riga and Vienna

Natural gas price decreases in Dublin, London and Sofia

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

Stories of the month

European Energy Price Development

Figure 1 shows the evolution of residential energy and distribution prices excluding taxes between January 2009 and July 2024 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 116 index points in October 2014. Since then, it faltered and remained around 108 index points in 2016 and 2017. During 2019, the index was fluctuating around 115 and 119 points. However, the recent 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 171 points in December 2021. After climbing the sharpest step in its historical data in January 2022 and its largest peak in October 2022, the HEPI electricity index has followed a decreasing trend and it currently stands at 185 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 92 points. After a small hike up to 95 points in March 2017, a bigger one followed to 102 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 ongoing energy crisis greatly affected the gas price index, which was almost doubled within 2021, going from 87 points in January 2021 to 163 points in November 2021. Since then, its value was doubled again in November 2022, reaching 350 points; it currently stands at 161 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, July 2023, the electricity bills in all EU capitals have decreased by 7%, while the gas bills have decreased by 3%.

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

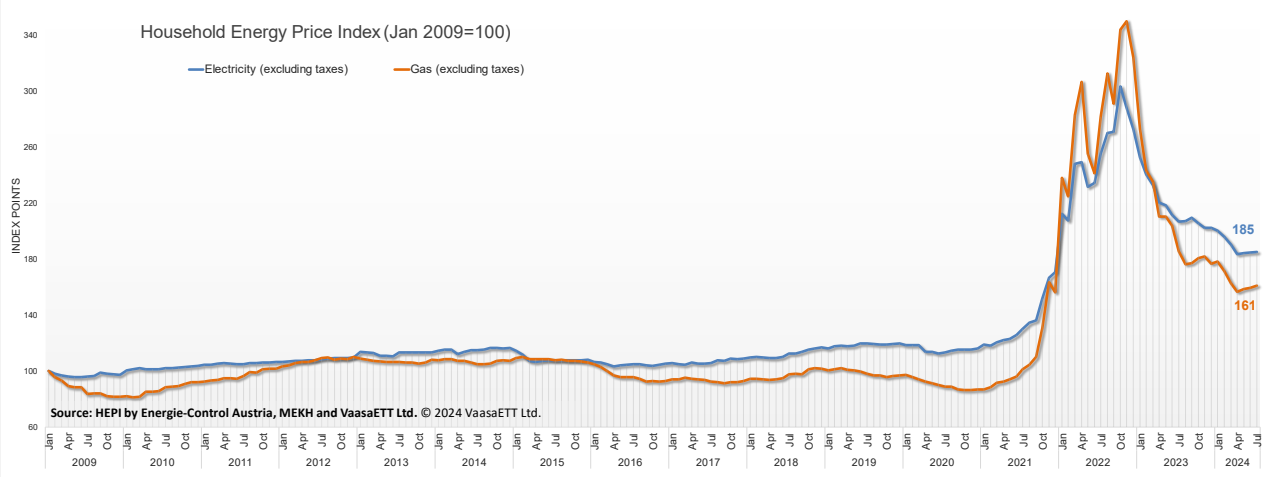
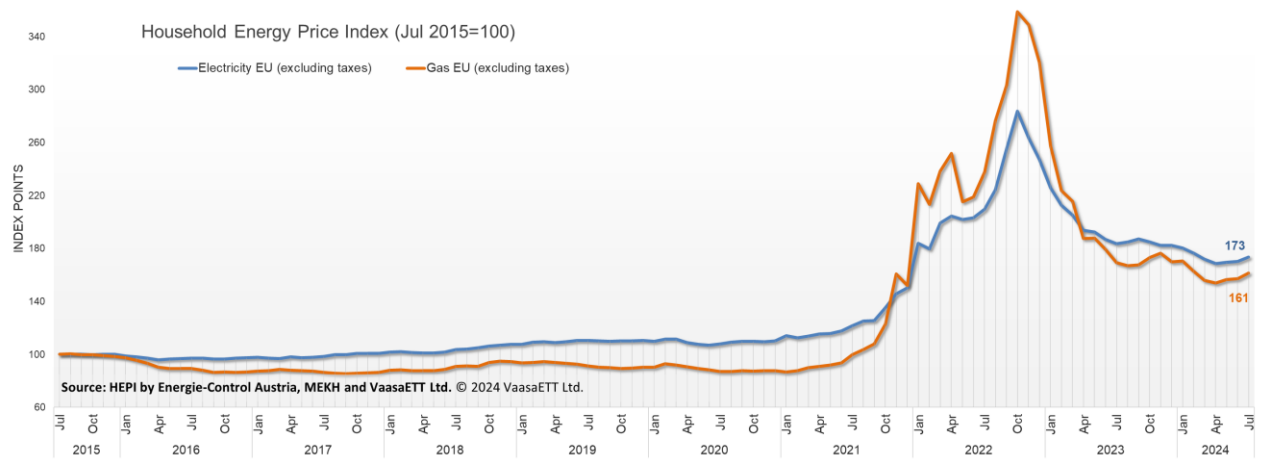


Figure 2: Evolution of residential energy and distribution prices excluding taxes in the EU[1]



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

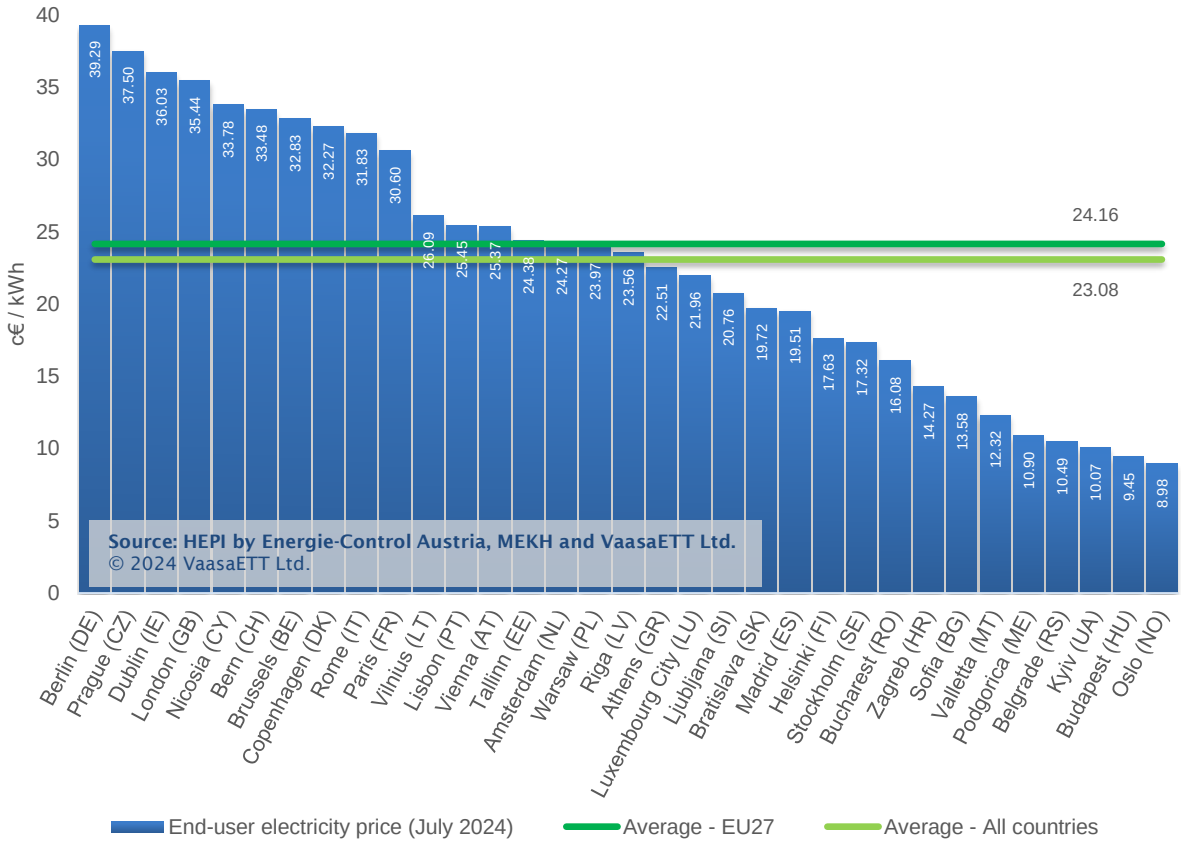
Residential Electricity Prices

Figure 3 shows the end-user price of electricity in the 33 European capital cities as of July 1st, 2024. It shows that depending on where a customer lives in Europe, the electricity price can vary by a ratio of over 4. Berlin and Prague are the most expensive cities for household customers in Europe, followed by Dublin, London and Nicosia.

Oslo appears to have the least expensive electricity price, followed by Budapest, Kyiv and Belgrade. In nominal terms, prices in the capital cities of Central and Eastern Europe (CEE) tend to be lower

than average; Prague, Tallinn and Vilnius are the only capital cities among the CEE countries in which the price of electricity is above the European average.

Figure 3: Residential electricity prices including taxes



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

- A 24% price increase in Warsaw, due to increases in the energy and distribution components;
- A 6% price increase in Athens, due to increases in the energy and energy taxes components;
- A 6% price increase in Rome, due to an increase in the energy component;
- A 3% price increase in Brussels, Copenhagen and Sofia, due to increases in their energy components;
- A 9% price decrease in Madrid, due to decreases in the energy and VAT components;
- A 9% price decrease in Oslo, due to a decrease in the energy component;
- A 5% price decrease in Helsinki, due to a decrease in the energy component;

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

- A 4% price decrease in Amsterdam, due to a decrease in the energy component;
- A 3% price decrease in London, due to decreases in the energy and distribution components;
- A 2% price decrease in Dublin and Stockholm due to decreases in their energy components;
- A 2% price decrease in Vienna, due to decreases in the energy and energy taxes components.

The average European electricity end-user price showed a marginal increase this month, maintaining the slight increasing trend that began in June. Out of the 33 markets analysed in this report, 7 marked increases in their electricity end-user prices while 11 showed some level of decrease. Currently, price discrepancies across Europe are primarily influenced by regional weather variations. Southern Europe and particularly the Balkans are facing an extended heatwave this summer, which increases demand and strains local power grids, resulting in soaring wholesale prices. In contrast, the Nordics are seeing price falls due to the wet weather and higher hydro-generation.

The largest price increase in electricity end-user prices this month was observed in Warsaw (24%) due to changes in the government-imposed protection scheme. Poland implemented a price freeze on electricity in 2023 to alleviate households from soaring bills. At the beginning of this year, the price freeze was set to 412 PLN/MWh until June 30th, for a bi-annual consumption of up to 1500 kWh. In July, the price was set to 500 PLN/MWh without any consumer type or consumption limitations and will remain in force until the end of the year. New distribution tariffs are also in effect, previously frozen to the 2022 levels, while the capacity fee is suspended for the next six months. Additionally, an energy voucher was introduced to further support low-income and vulnerable households [2].

In Athens, a 6% increase in electricity end-user prices is mainly attributed to the extended heatwave affecting the country and neighbouring Balkan countries, which has driven up demand for cooling[3]. Additionally, the Greek government decided on an energy subsidy for households in August, which will be funded through a special levy imposed on electricity producers using natural gas.

In Italy, the protected service came to an end this month, which along with the shift of customers towards the free market and the increase in wholesale prices led to a 6% increase in end-user prices

[2] Infor: "Bon energetyczny 2024 - wnioski od 1 sierpnia. Kiedy będzie wypłata? Komu przysługuje? Ile? Kwota bonu zależy nie tylko od dochodów", 22.07.2024
[3] Ienergia: "Γιατί αυξήθηκαν οι τιμές του ρεύματος μέσα στον Ιούλιο – Δέκα ερωτήσεις και απαντήσεις", 17.07.2024

in the capital. You can read more about the termination of the protected electricity tariff in the story below.

On the other hand, the largest price decrease in July was observed in Oslo (9%), after a significant drop in wholesale prices due to increased hydro generation from a rainy June. Hourly spot prices did not exceed the 73 ore/kWh threshold, above which the energy subsidy scheme is activated, meaning that there will be no subsidy paid to end consumers this month. This in only the second time since the introduction of the subsidy in 2021[4] that the support scheme has not been activated.

In Spain, VAT on electricity dropped from 21% to 10% due to the average wholesale price in June exceeding the 45 €/MWh limit[5], leading to a 9% drop in electricity end-user prices in Madrid. This support mechanism was introduced in January and will stay in effect until the end of the year.

The wholesale price was significantly lower compared to the previous month in Finland, where several electricity tariffs are linked to the spot market. As a result, the average electricity end-user price decreased by 5% in Helsinki.

[4] NRK: "Juli-straumprisen i Sør-Noreg på sitt lågaste sidan 2020", 22.07.2024
[5] El Debate: "La luz, más cara: las olas de calor se comen con creces la bajada del IVA", 30.07.2024

Advancing retail competition in the EU: Italy's termination of protected tariffs

Competitiveness in energy markets has consistently been on European Commission's agenda, seen as a tool to lower prices, engage consumers and enhance the energy transition. To further promote retail competition, the European Commission is guiding reforms specifically targeting the abolition of protected tariffs. Regulated energy tariffs, adhering to specific regulations, will be preserved as a public service obligation and provided by appointed "suppliers of last resort" to ensure an uninterrupted energy supply to all customers. In this regard, the European Commission has requested that Member States submit reports detailing the purpose and price formation of these regulated tariffs.

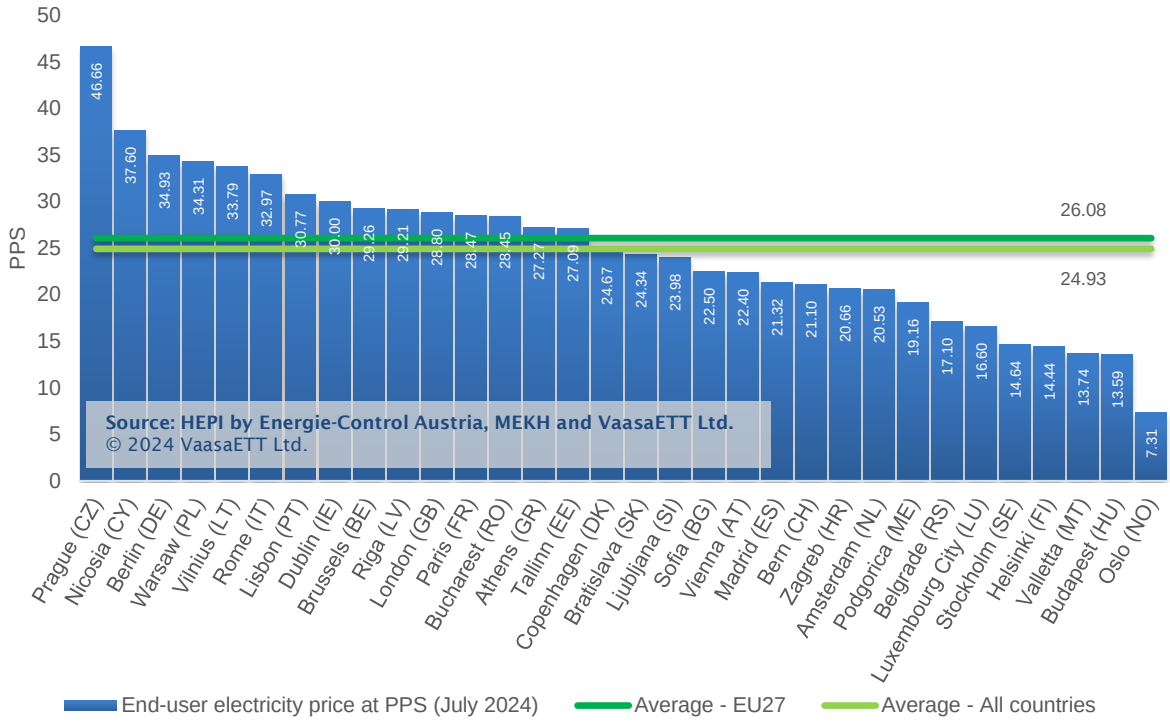
While retail competition has already been established in several European energy markets, more EU countries have begun phasing out regulated electricity and gas tariffs, lately. Most recent examples include Romania, France, and Denmark during 2020-23, followed by Italy and Estonia in 2024. Notably, in Italy, the deregulation of the electricity and gas markets was completed in July 2024 with the abolition of the protected electricity tariff for domestic customers, following the removal of the protected gas tariff in January 2024.

Italian electricity consumers who did not choose an offer on the free market by the deadline, accounting for about 20% of the market, were transferred to the Gradual Protection Service. This service replaced the regulated tariff, which is now available only to vulnerable customers. It will serve as a transitional option for up to three years or until customers select a market offer. The contractual conditions and price structure of this service are determined by ARERA, with the price of electricity based on the wholesale price (PUN). Customers previously supplied under the protected service were assigned to a single supplier in each regional area through low-bid auctions. This reverse auction system resulted in lower protected service tariffs, however, the average electricity end-user price in Italy increased in July due to the rise in wholesale prices combined with the recent shift of customers towards free market offers.

Author: **Despoina Antoniadou,** Energy Market Analyst

Sources:
[1] European Commission: "Directive (EU) 2024/1711"
[2] REC NEWS: "Fine mercato tutelato luce e gas: cosa succede alle nostre bollette?"
[3] ARERA: "Il Servizio a Tutele Graduali"

Figure 4: Residential electricity prices including taxes at PPS



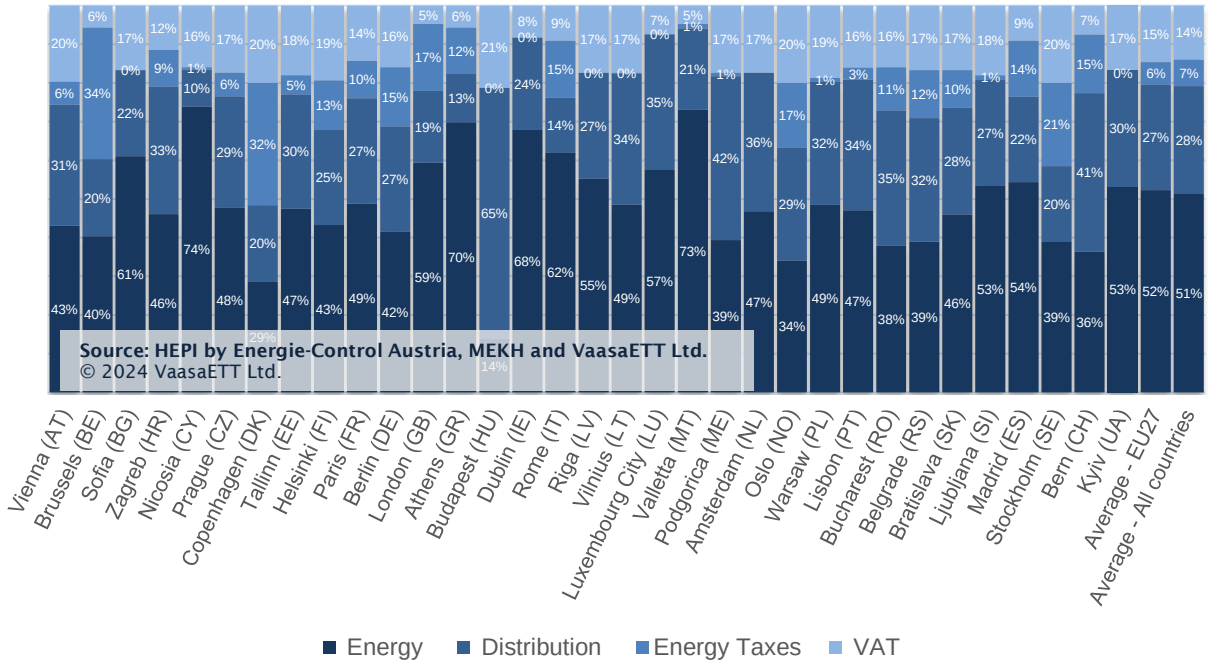
When adjusted to purchasing power standards (PPS) in each country, the picture changes dramatically. PPS is an artificial common reference currency that eliminates general price level differences between countries[6]. When expressed in PPS, energy prices are thus shown in relation to the cost of other goods and services. The lowest adjusted household electricity prices are found in Oslo, Budapest, Valletta, and Helsinki while the highest are currently in Prague, Nicosia, 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 the European average (Figure 4). However, this is not the case in July; Bucharest, Prague, Riga, Tallinn, Vilnius and Warsaw are the capital cities among the CEE countries in which the price of electricity is above the European average.

Figure 5 shows the breakdown of the electricity price in the 33 analysed capitals, into energy, distribution, energy taxes[7] and VAT. Our survey shows that on average, energy (the contestable component of the price) represents 52% of the end-user price of electricity bill, distribution 27%, energy taxes 6% and VAT 15% for the EU capitals.

[6] Eurostat: Purchasing power parities - Overview

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

Figure 5: Residential electricity price breakdown[8]



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 74% of the end-user price in July 2024.

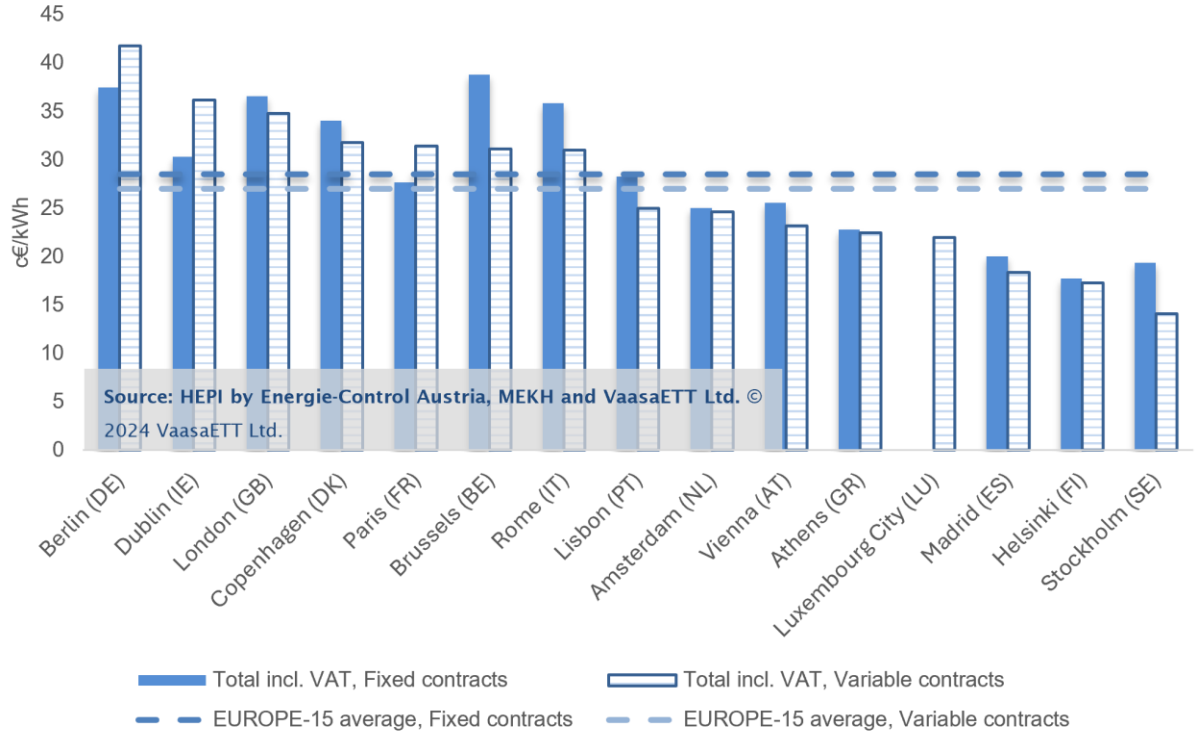
Additionally, starting from January 2020, a typical consumer in Amsterdam pays zero energy tax due to the increased amount of tax credit, which exceeds the indicated energy tax amount. On the contrary, they receive a refund on the exceeding tax credit amount. The aim of this refund is to encourage consumers towards electrification and switching away from gas heating and appliances.

In the same manner, in Luxemburg City[9], 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.

[8] 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 68%, distribution 52%, energy taxes -37%, 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 90%, distribution 55%, energy taxes -52%, and VAT 7%.

[9] 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

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. Since the crisis, the situation has mostly reversed. Fixed prices, where available (in some markets they have been 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 July 2024, the number of fixed offered contracts appears to be increased while their average price is higher than the average variable price by 1.53 c€/kWh. This is also observed in the majority of the EUR15 markets when studied individually, with fixed contracts being on average cheaper than variable ones in only three of the EUR15 individual markets.

Figure 6 and Figure 7 show the situation as of July 2024 for a selection of markets, the EUR-15 markets. Across all the markets shown, the average price for fixed prices was 28.53 c€/kwh while for variable prices it was 27.00 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 July 2024.

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

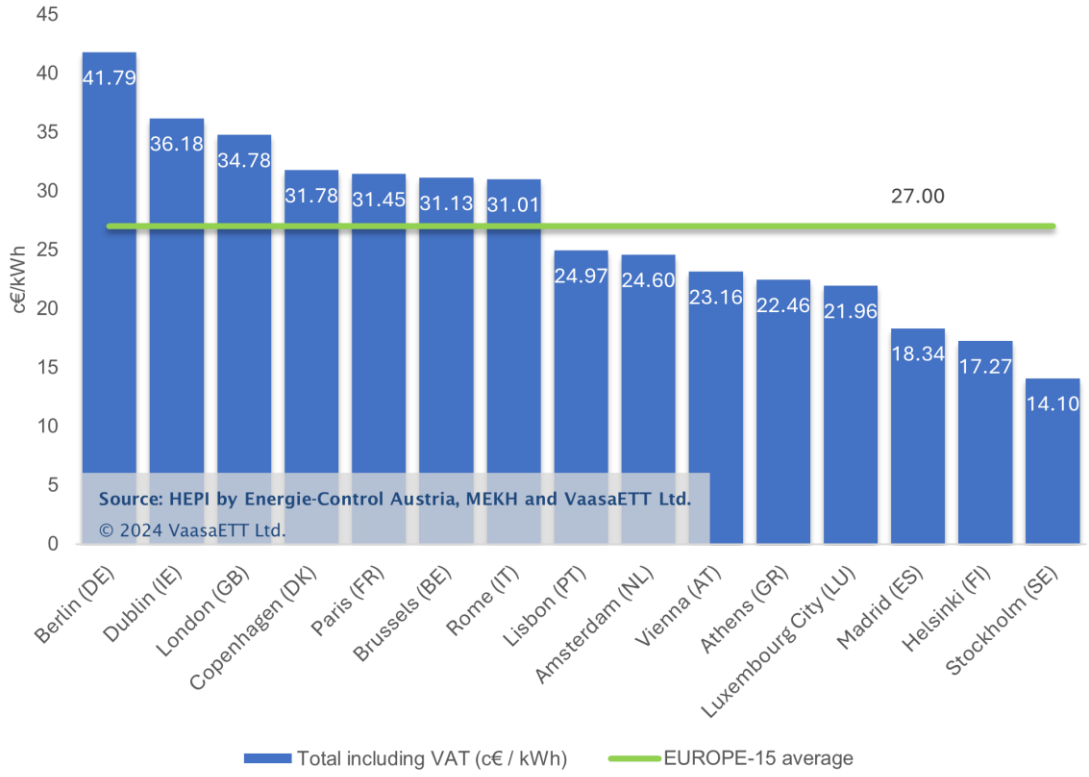
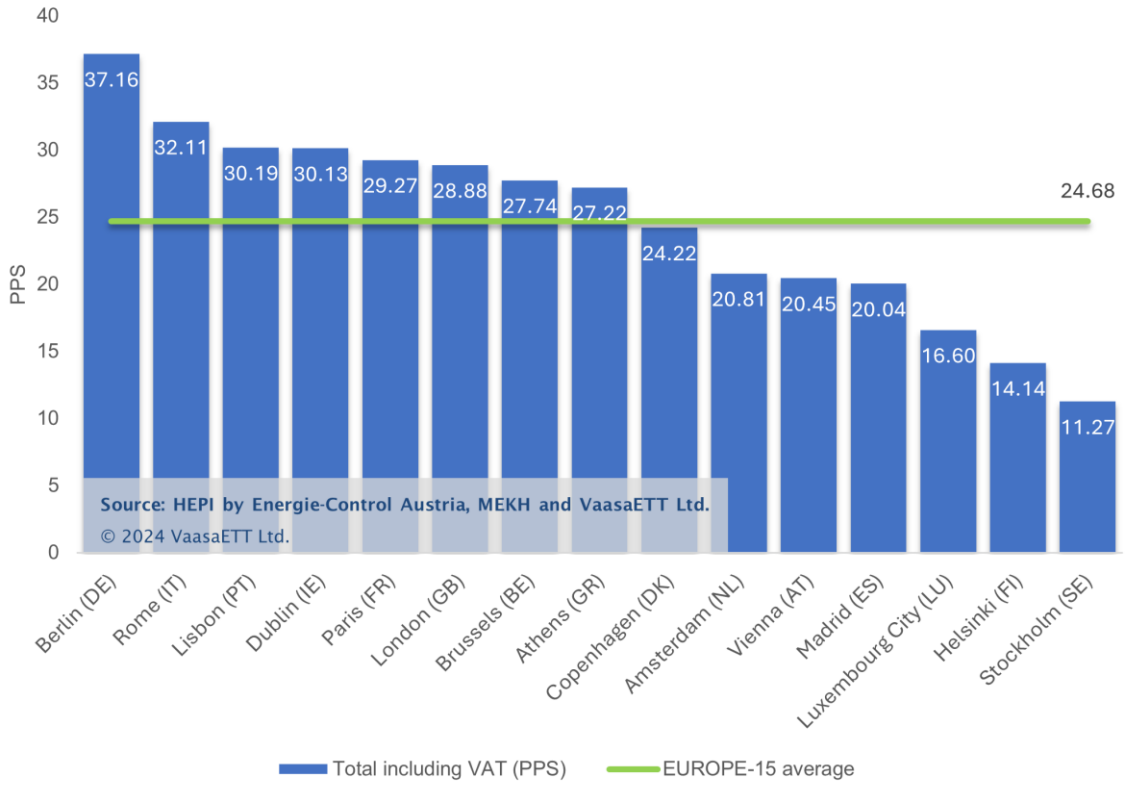


Figure 8: All-in electricity end-user price including VAT (PPS) for EUR-15, variable contracts only



Innovative network pricing models: The example of Norway, Sweden and Slovenia

Energy pricing models are constantly evolving to more accurately reflect consumer costs while facilitating efficient energy procurement and load management on the grid. Dynamic energy pricing models have already been a reality in several markets, concerning the energy part of the bill. Moreover, there is an evolving tendency towards more dynamic and cost-reflective network tariff components, lately. Countries such as Norway, Sweden and Slovenia have adopted such innovative approaches, enabling consumers to influence their costs and promoting more efficient energy usage.

Norway has introduced a multi-component grid rent system comprising a fixed component, an energy component and public taxes. The fixed component is determined by the consumer's highest usage hours from the previous month, incentivising consumers to spread their electricity usage throughout the day. The energy component fluctuates based on the time of day and season, promoting off-peak usage. Additionally, public taxes also form a significant part of the grid rent, making costs transparent.

Sweden has aligned transmission fees with the spot price of electricity. Starting in 2024, for the DSO C4 Elnät, the transmission fee will partially depend on the hourly spot price, making part of the cost variable. This model includes both fixed and variable components, determined by a formula that considers both energy consumption and the spot price. This incentivises consumers to use electricity during off-peak hours, facilitating load balancing on the grid.

Slovenia will introduce a new tariff system on October 1, 2024, based on 15-minute intervals and seasonal variations. This system incorporates the concept of agreed and excess power, allowing consumers to set an agreed billing power based on historical consumption. If the usage surpasses this amount, excess charges will apply. This encourages effective energy management to avoid additional costs and promotes shifting usage to less busy times.

These dynamic models for network electricity charges highlight a growing trend towards more flexible and consumer-responsive pricing structures, aiming to create a more efficient and sustainable energy system. As these changes take effect, they are likely to influence broader trends in electricity pricing and consumption globally.

Author: **Anastasia Zafeiriou,** Energy Market Analyst

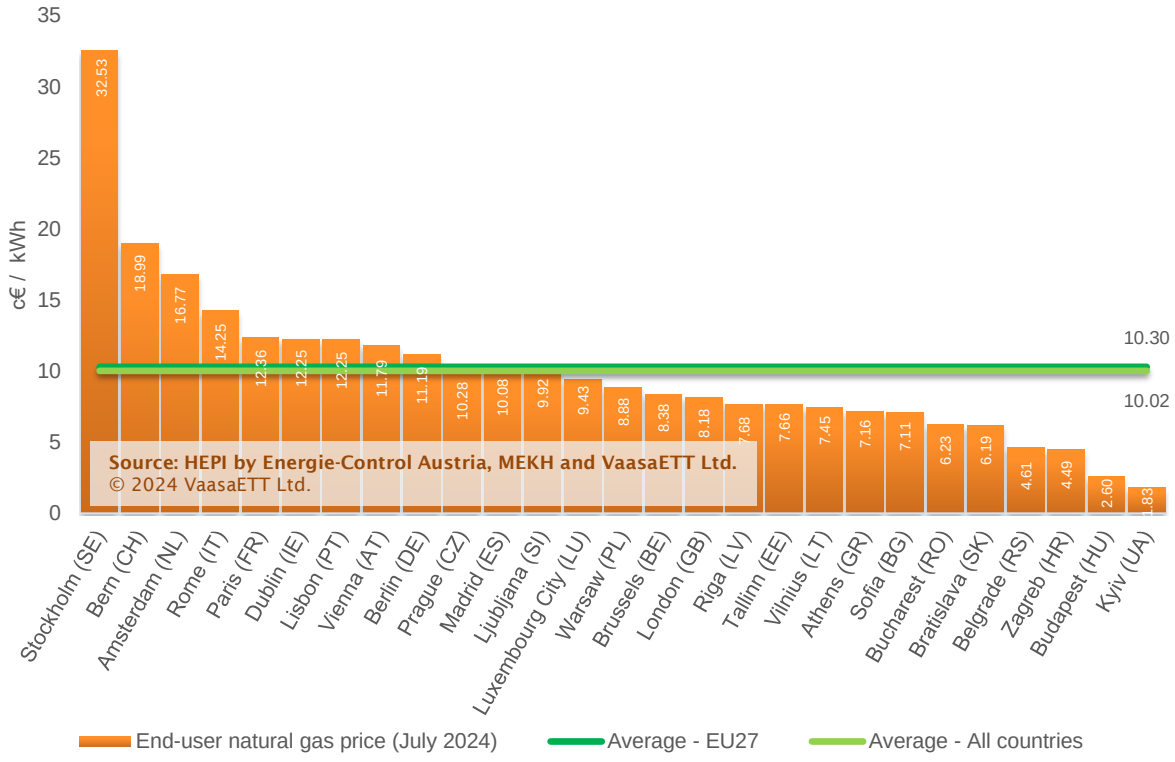
Sources:
[1] Elvia: "Nettleiepriser for privatkunder | Elvia", 12.01.2024
[2] C4energi: "Prisjusteringar och prismodell 2024"
[3] Uradni: "Vsebina Uradnega lista | Uradni list ", 24.11.2023
[4] Eles: "Nov obračun omrežnine", 2024

Residential Gas Prices

Figure 9 shows the price of natural gas paid typically by residential customers in 27 European capital cities as of July 1st, 2024[10]. The highest price is paid by inhabitants of Stockholm who pay over 3 times the European average end-user price, followed by Bern, 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.[11] Amsterdam is currently the third most expensive capital city.

The price in Stockholm is almost 13 times as high as in Budapest, which is the cheapest city for gas in EU, and almost 18 times as high if we include 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



[10] Please note that Copenhagen, Helsinki, Nicosia, Oslo, Podgorica and Valletta have been left out of this analysis on gas prices as there is virtually no residential gas market in these cities.

[11] The Swedish electricity and natural gas market 2022 Ei (Ei R2023:13)

The most significant changes that took place in the natural gas market this month were as follows [12]:

- A 15% price increase in Warsaw, due to an increase in the energy component;
- An 11% price increase in Tallinn, due to increases in the energy and energy taxes components;
- A 7% price increase in Paris, due to increases in the energy, distribution and distribution taxes components;
- A 6% price increase in Vienna, due to increases in the energy and energy taxes components;
- A 5% price increase in Riga, due to increases in the energy, energy taxes and distribution components;
- A 4% price increase in Brussels, due to an increase in the energy component;
- A 2% price increase in Athens, Berlin and Madrid due to increases in their energy components;
- A 4% price decrease in Sofia, due to a decrease in the energy component;
- A 3% price decrease in Dublin;
- A 2% price decrease in London, due to a decrease in the energy component.

In July, the average natural gas end-user price marked a 2% increase across Europe. Only 3 out of the 27 capital cities under review showed a price decrease this month, while 10 of them noted increases of different magnitude, the most significant of which being in Warsaw (15%). The TTF benchmark index fluctuated below the 35€/MWh mark for most parts of July but rose back to the previous month's levels towards the end of the month, indicating potential unpredictability for the remainder of the summer.

In Poland, a natural gas price freeze at 200 PLN/MWh was in force since January 1st, 2023. Since July 1st, the prize freeze is no longer applicable, however, gas suppliers[13] are required to set their prices at the level of the country's largest supplier, PGNiG Obrót Detaliczny sp. z o. o. PGNiG announced that the new price of natural gas will be 239.65 PLN/MWh, effective until June 2025[14]. These changes resulted in a 15% increase in natural gas end-user price in Warsaw.

An 11% increase is observed in Tallinn after Eesti Gaas and Alexela, two of the largest suppliers in the country, implemented tariff raises which were already announced during the previous month.

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[12] The change in each capital city is calculated using the prices in their local currency to exclude the impact of exchange rate fluctuations.
[13] INFOR: "Rachunki za gaz wzrosną o ponad 50% od 1 lipca 2024 r.? Wszystko to za sprawą wygasających tarcz osłonowych", 13.06.2024
[14] PGNiG: "Taryfa - cennik dla klientów indywidualnych oraz podmiotów objętych ochroną taryfową"

Disruptions in international gas supplies and increased demand for cooling due to warm weather are the main reasons behind the new price spikes, according to sources.

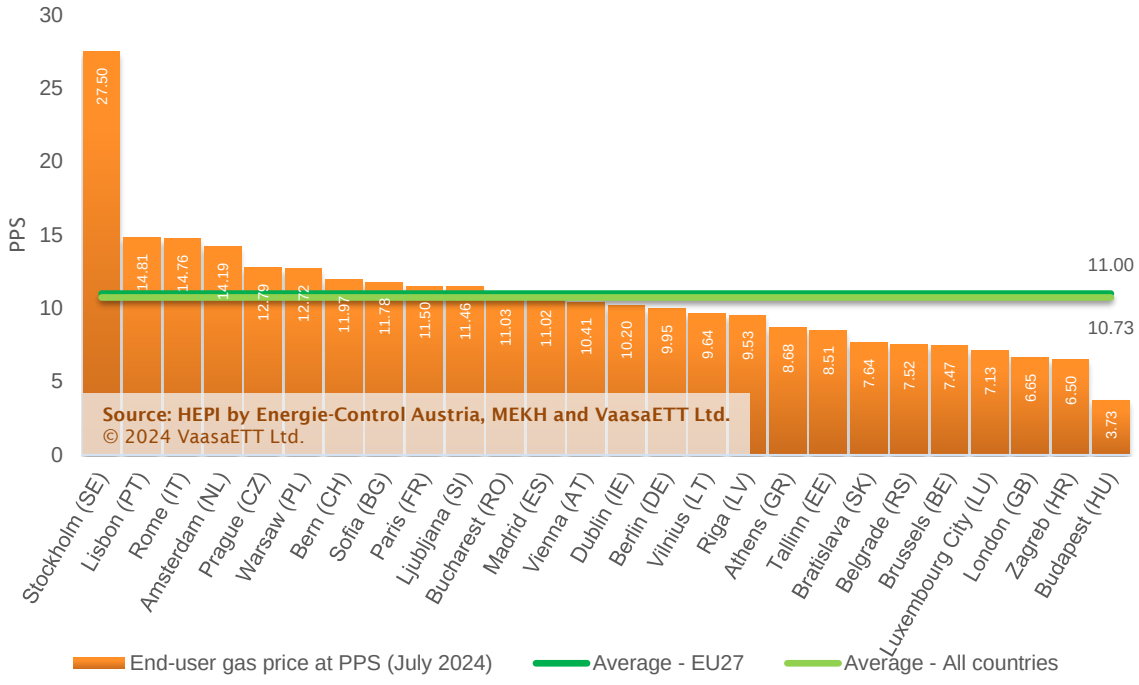
The natural gas end-user price in Paris increased by 7% mainly due to the newly imposed distribution tariffs and higher wholesale prices[15].

In Vienna, new tariffs introduced by Wien Energy led to a 6% increase in end-user prices in July. However, these prices are significantly lower compared to the corresponding ones from a year ago. Thus, the company announced that it will reduce the prices for all customers who have concluded a 12-month fixed contract that is set to expire in the upcoming weeks.

On the contrary, a 4% decrease was noted in Sofia, which the regulator attributes to the long-term agreement the country holds with Azerbaijan, that is influenced by oil prices[16].

Finally, Dublin saw a 3% price drop in natural gas end-user prices after SSE Airtricity reduced its prices this month, while it is expected that other major suppliers will follow suit[17].

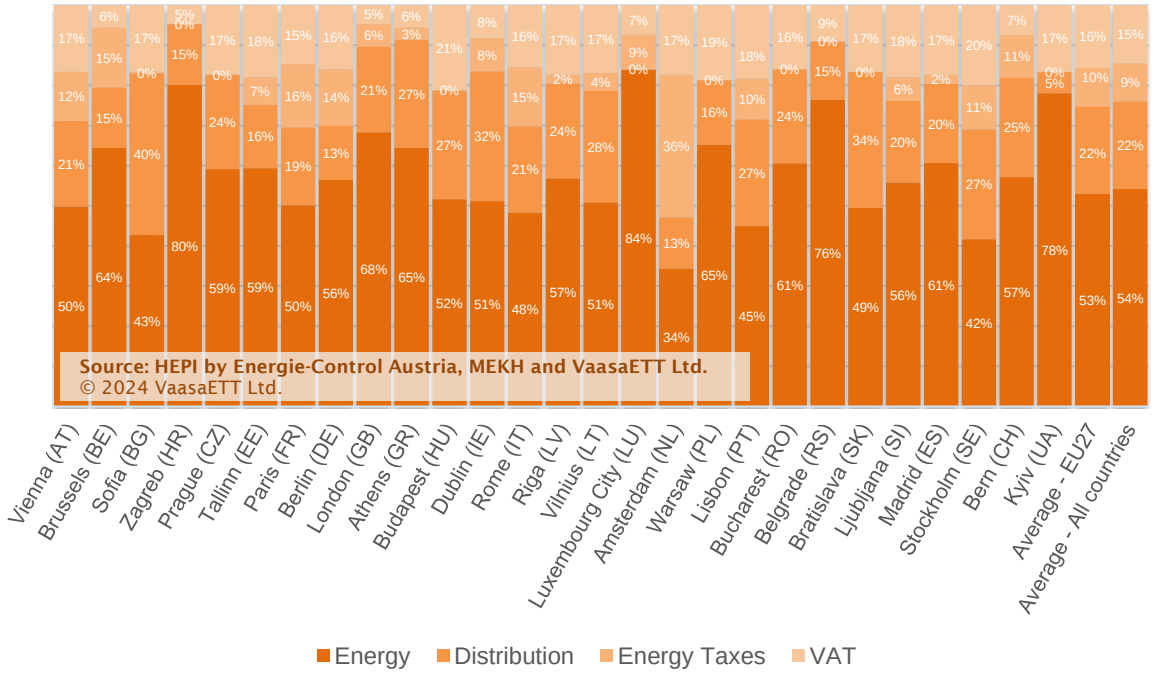
Figure 10: Residential gas prices including taxes at PPS



[15] Selectra: "Augmentation des prix du gaz en 2024 : s'en protéger", 19.07.2024
[16] Sofia Globe: "Bulgaria utilities regulator cuts gas prices by 2.4% for July 2024", 01.07.2024
[17] Irish Examiner: "Energy suppliers set to drop prices again but future increases likely ", 01.07.2024

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

Figure 11: Residential gas price breakdown



Our survey shows that on average, energy (the contestable component of the price) represents 53% of the end-user price of natural gas, distribution 22%, energy taxes 10% 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 36% of the end-user price in Amsterdam. The aim is to encourage the use of electric heating and appliances instead of gas.

Overall, results show that market forces represent for electricity about 52% of the end-user price and 53% for gas, whereas national fiscal and regulatory elements are responsible for the remaining 48% and 47% 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 62% in July 2022 and 57% in July 2023, while it is currently standing at 52%. Likewise, in the natural gas market, the energy component percentage of the end-user price used to be 66% back in

July 2022 before reaching 57% in July 2023 and 53% this month. In places where the energy component is lower, so is the incentive for customers to look for more competitive offers[18].

[18] Latest utility customer switching data can be accessed in the most recent version of Capgemini's World Energy Markets Observatory, created with partnership with VaasaETT, De Pardieu Brocas Maffei and Enerdata. VaasaETT contributes with data on the retail markets sections.

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 previous 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