





## **Household Energy Price Index for Europe**

**DECEMBER 22, 2023** 

## **December 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 <a href="https://www.energypriceindex.com">www.energypriceindex.com</a> and subscribe to the free monthly update of the HEPI index for Europe.

# IN THIS MONTH'S EDITION

Significant electricity price increases in Oslo and Stockholm

Electricity price increases in Copenhagen, Helsinki, Madrid and Vilnius

Electricity price decreases in Amsterdam, Berlin, Dublin, Nicosia, Riga and Rome

Significant natural gas price increase in Tallinn

Natural gas price increases in London, Paris, Riga and Sofia

Natural gas price decreases in Amsterdam, Berlin, Brussels, Dublin, Lisbon, Rome and Vienna

Fixed vs variable tariff analysis: fixed prices are typically higher than variable.

Story of the month:

"Reforms in the horizon for the regulated electricity tariff in Spain"

## **European Energy Price Development**

Figure 1 shows the evolution of residential energy and distribution prices excluding taxes between January 2009 and December 2023 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 164 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 195 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 93 points. After a small hike up to 96 points in March 2017, a bigger one followed to 103 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 176 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, December 2022, the electricity bills in all EU capitals have decreased by 20% while the gas bills have decreased by 27%.

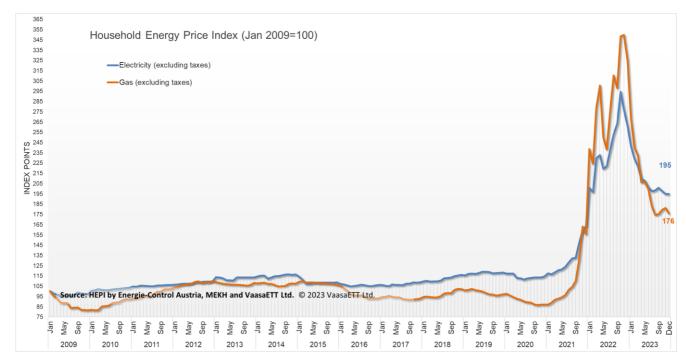
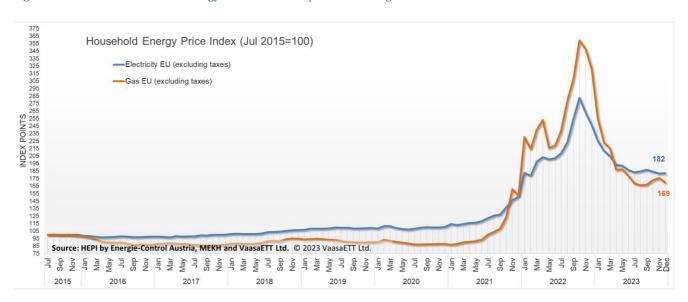


Figure 1: Evolution of residential energy and distribution prices excluding taxes in the EUR-15





<sup>&</sup>lt;sup>1</sup> 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 December 1st, 2023. It shows that depending on where a customer lives in Europe, the electricity price can vary by a ratio of over 6. Dublin and London are the most expensive cities for household customers in Europe, followed by Berlin, Copenhagen and Prague.

Kyiv appears to have the least expensive electricity price, followed by Budapest, Podgorica 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.

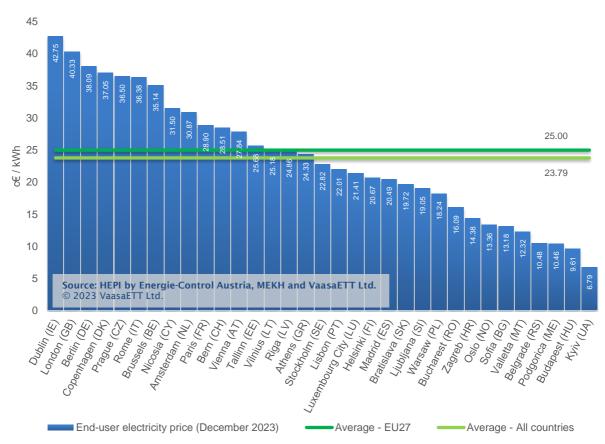


Figure 3: Residential electricity prices including taxes

The most significant changes that took place in the electricity market this month were as follows1:

- A 37% price increase in Oslo, due to an increase in the energy component;
- A 14% price increase in Stockholm, due to an increase in the energy component;
- An 8% price increase in Madrid, due to an increase in the energy component;
- A 7% price increase in Helsinki, due to an increase in the energy component;
- A 4% price increase in Copenhagen, due to an increase in the energy component;
- A 1% price increase in Vilnius, due to an increase in the energy component;
- A 4% price decrease in Amsterdam, due to a decrease in the energy component;
- A 3% price decrease in Berlin and Dublin, due to decreases in their energy components;
- A 2% price decrease in Riga and Rome, due to decreases in their energy components;
- A 1% price decrease in Nicosia, due to a decrease in the energy component.

The average electricity end-user price maintained its overall stability towards the end of the year, with December prices showing a negligible uptick from the previous month. The majority of the capital cities under examination showed no variation in the end-user price of electricity with only 6 cities showing increases, the most significant of which were observed in the Nordics. On the other hand, decreases of limited scale were noted in 6 out of 33 capitals. On average, retail electricity prices remain 20% lower compared to the levels of one year ago, while the relative milder weather in most of Europe, except for the Nordics², keeps storage facilities at high capacity³ for the season and facilitates renewable generation.

The largest price increases have been observed in the Nordics, mainly attributed to the extreme weather compared to the rest of the Europe, with the electricity end-user price of Oslo being 37% higher than the previous month, continuing the upward development after the significant price drops that have been noted from summer until October. The retail price follows the Norwegian spot market and this month's surge can be attributed to the cold weather, which led to increased demand, and low winds that reduced the production of renewables. However, prices currently remain below the levels of one year ago.

Stockholm (14%) and Helsinki (7%) marked notable electricity price increases, following extended outages in two large nuclear reactors, Ringhal 4 and Oikiluoto 3<sup>4</sup> respectively, that caused a spike in wholesale prices in the region. Sweden had to import energy to meet the high demand<sup>5</sup>, which was

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<sup>&</sup>lt;sup>1</sup> The change in each capital city is calculated using the prices in their local currency to exclude the impact of exchange rate fluctuations.

<sup>&</sup>lt;sup>2</sup> Bloomberg: "Europe's Winter Freeze Set to Give Way to Milder December", 01.12.2023

<sup>&</sup>lt;sup>3</sup> European Council: "Infographic - How much gas have the EU countries stored?"

<sup>&</sup>lt;sup>4</sup> Reuters: "Operators extend Finnish, Swedish nuclear reactor outages", 30.11.2023

<sup>&</sup>lt;sup>5</sup> SVT: "Höga elpriser en "tillfällig" smäll", 04.12.2023

amplified by the unusually cold weather. In both markets, end-user prices remain considerably lower compared to the levels observed one year ago, while local authorities claim<sup>6</sup> that the situation this winter will be more stable due to sufficient electricity supplies.

In Madrid, a raise in the regulated tariff (Voluntary Price for Small Consumer – PVPC) led to an average increase of 8% in the electricity end-user price. The increase comes right after a significant drop during the previous month, resulting in the current price level which is still the lowest since March 2021. The price is anticipated to further increase in January, due to the expected expiration of the end-user support measures<sup>7</sup>, including the VAT cut and the electricity tax reduction, along with other indirect ones such as the 'Iberian exception' and the suspension of tax on electricity production.

On the other hand, the extent of price drops has been limited in December, with the biggest decrease being observed in Amsterdam at 4%. According to the incumbent electricity supplier, Vattenfall<sup>8</sup>, the price decline can be attributed to high temperatures, adequacy of gas and the decrease in  $CO_2$  emission allowances due to the favourable weather which enables hydro and RES generation in place of fossil fuel power generation.

The price decrease in Dublin<sup>9</sup> continued this month at a lower rate of 3% after SSE Airtricity, one of the big four energy companies in the country, announced a second price drop, impelling competitors to do the same. Further reductions have already been announced for the next year<sup>10</sup>, while the first of the three credits from the government is set to subsidize electricity bills in December. However, if the credit refund is not taken into consideration since it will only compensate for a limited period, the end-user price of electricity in the Irish capital is still 47% higher than it was in December 2021 and remains the highest among those studied in this report.

Finally, smaller reductions, below 3%, that have been observed this month in Berlin<sup>11</sup> and Rome<sup>12</sup> are linked to the mild weather, high production from renewables and nearly full capacity of gas storage facilities, which led to lower wholesale prices and subsequently reduced end-user prices.

<sup>&</sup>lt;sup>6</sup> FINGRID: "Sähkön riittävyys tulevana talvena näyttää hyvältä", 07.09.2023

<sup>&</sup>lt;sup>7</sup> OCU: "Evolución del precio de la luz en 2023", 01.12.2023

<sup>&</sup>lt;sup>8</sup> Vattenfall: "MarktRapport week 50 2023"

<sup>&</sup>lt;sup>9</sup> Irish Independent: "Second cut from big energy firm will pull rivals into price war", 12.12.2023

<sup>&</sup>lt;sup>10</sup> The Irish Sun: "Huge energy company slashes prices in major boost as over 300,000 Irish households to save almost €380 on bills", 12.12.2023

<sup>11</sup> Agrarheute: "Strompreise fallen im Dezember kräftig – Neukunden zahlen nur 28 Cent", 05.12.2023

<sup>&</sup>lt;sup>12</sup> La Repubblica: "Bollette, crolla il prezzo dell'energia: ecco come le rinnovabili ci faranno spendere di meno", 13.12.2023

## Reforms in the horizon for the regulated electricity tariff in Spain

The electricity end-user price in Madrid increased by 8% in December after experiencing an 11% drop last month. Still, it remains below the European average and 30% lower than it was in December 2022. The price hike is mainly attributed to a notable rise in the Spanish regulated tariff (PVPC), which is established by the government, covers about 1/3 of all residential customers and is currently indexed to the price set every hour by the wholesale electricity market based on three consumption time bands (peak, valley and flat hours).

Starting on January 1<sup>st</sup>, a new method for calculating the price of PVPC will come into force, initially reducing the weight of the daily price from 100% to 75%, to also consider futures prices. Specifically, the monthly, quarterly and annual prices will be also part of the calculations, with their shares increasing progressively. Until 2026, the weight of the daily market will drop to 45%, resulting in less volatile retail prices which will protect consumers from wholesale fluctuation that may occur.

The reform, which was approved in June 2023 by the Council of Ministers and came as a requirement from the European Commission during the approval of the "Iberian Exception", is expected to promote the domestic renewable generation in place of fossil fuels. Although this is perceived as a step in the right direction, it does not necessarily translate into cheaper retail prices since the new model will diminish the time discrimination of the regulated tariff by introducing the futures prices system. Thus, the impact of shifting consumption throughout the day to lower demand periods will be reduced.

Furthermore, prices are expected to rise substantially in 2024 as the measures introduced by the government during the energy crisis, to protect consumers from rising prices, are set to expire. The Spanish Organization of Consumers and Users (OCU) foresees that the removal of these measures will have a strong impact on the end-user price, anticipating a 20% hike in electricity bills.

Author: Konstantina Lazarina, Energy Market Analyst

#### Sources:

[1] OCU: "La reforma del PVPC", 11.12.2023

[2] Diario AS: "¿Excepción ibérica en 2024? Así subirá el precio de la luz y el gas a partir del 1 de enero de 2024".

17.12.2023

[3] OCU: "Evolución del precio de la luz en 2023", 01.12.2023

In an effort to shield consumers from continuous soaring energy prices, European governments have adopted multiple measures during the energy crisis, which are incorporated in the prices shown in the HEPI methodology. Nevertheless, in some cases occasional or seasonal energy schemes are introduced to end users as one-time refunds and compensations, that in fact correspond to a longer period of consecutive high prices. The impact of such measures is compared separately, in Figure 4.



Figure 4: Comparison of electricity end-user price with and without energy refund incorporated

In Ireland¹³, residential consumers are eligible for a €450 credit, applied in 3 instalments of €150, starting from December 2023. The first credit concerns the period between 1 December and 31 December 2023, the second between 1 January and 29 February 2024 and the third between 1 March and 30 April 2024. The credit will be transferred directly through suppliers to their customers' electricity bills. Assuming a typical electricity customer in the Republic of Ireland, the compensation exceeds the amount of the monthly cost, resulting in a fully compensated and even negative (-0.11 €cent/kWh) monthly charge.

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<sup>14</sup>. 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, Valletta, Budapest and Luxembourg city, while the highest are currently in Prague, Rome and Dublin. 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 5).

<sup>&</sup>lt;sup>13</sup> Citizens Information: <u>Electricity Account Credit (citizensinformation.ie)</u>

<sup>&</sup>lt;sup>14</sup> Eurostat: <u>Purchasing power parities - Overview</u>

However, this is not the case in December; 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.

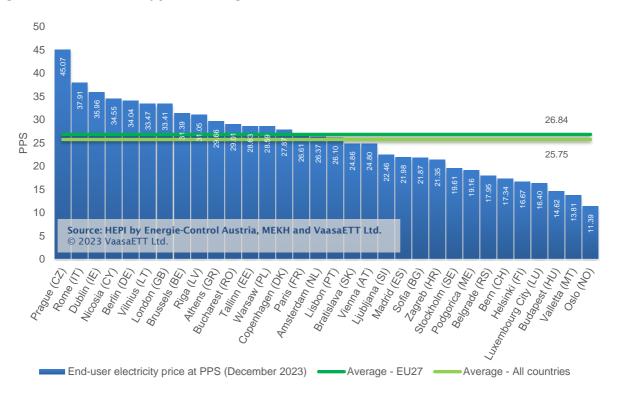


Figure 5: Residential electricity prices including taxes at PPS

Figure 6 shows the breakdown of the electricity price in the 33 analysed capitals, into energy, distribution, energy taxes<sup>15</sup> and VAT. Our survey shows that on average, energy (the contestable component of the price) represents 56% of the end-user price of electricity bill, distribution 24%, energy taxes 5% and VAT 14% for the EU capitals.

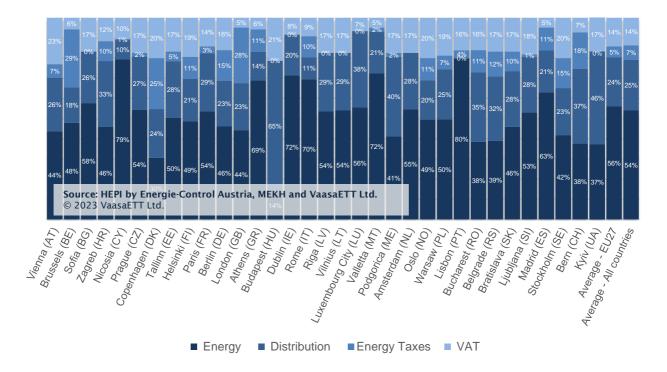
If we focus on the cost of energy as a commodity, in Budapest it currently represents just 14% of the end-user electricity price, which is the lowest among all surveyed cities. On the contrary, Lisbon has the greatest energy percentage, reaching 80% of the end-user price in December 2023.

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.

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<sup>&</sup>lt;sup>15</sup> Energy taxes component is the sum of all the taxes, fees and levies.

Figure 6: Residential electricity price breakdown<sup>16</sup>



In the same manner, in Luxemburg City<sup>17</sup>, 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.

Likewise, in Vilnius, starting from January 2023, a typical customer appears to receive compensation through the energy taxes, to partly offset the increase, since the State Regulatory Authority set a higher minimum limit above which prices are being compensated.

<sup>&</sup>lt;sup>16</sup> 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 66%, distribution 34%, energy taxes -18%, and VAT 17%. For Vilnius (LT), 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 56%, distribution 30%, energy taxes -3%, 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 81%, distribution 55%, energy taxes -43%, and VAT 7%.

<sup>&</sup>lt;sup>17</sup> 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

50 45 40 35 30 c€/kWh 25 20 15 10 5 Source: HEPI by Energie-Control Austria, MEKH and VaasaETT Ltd. © 2023 VaasaETT Ltd. Ω LINERBOURE CHYTUN PaistR Total incl. VAT, Fixed contracts ■ Total incl. VAT, Variable contracts - EUROPE-15 average, Fixed contracts - EUROPE-15 average, Variable contracts

Figure 7: 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), now tend to be higher than variable prices, in some cases by a very large margin.

Figure 7 and Figure 8 show the situation as of December 2023 for a selection of markets, the EUR-15 markets. Across all the markets shown, the average price for fixed prices was 32.26 c€/kwh. For variable prices it was 29.93 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. This is especially the case in Athens where most customers have variable contracts and therefore the variable price is more representative of the typical price paid.

If we adjust the variable prices for purchasing parity (Figure 9), we arguably gain a clearer picture of the relative significance of the most popular prices in December 2023.

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

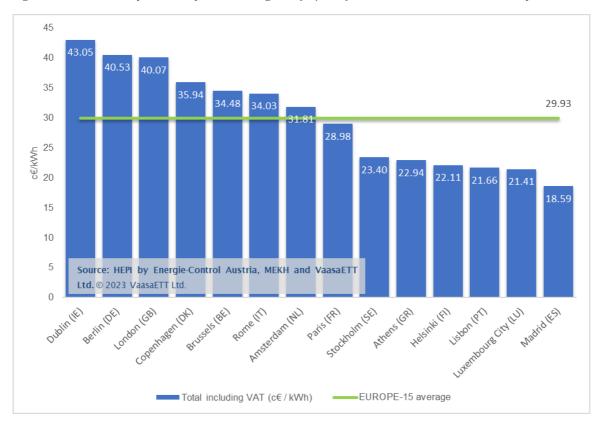
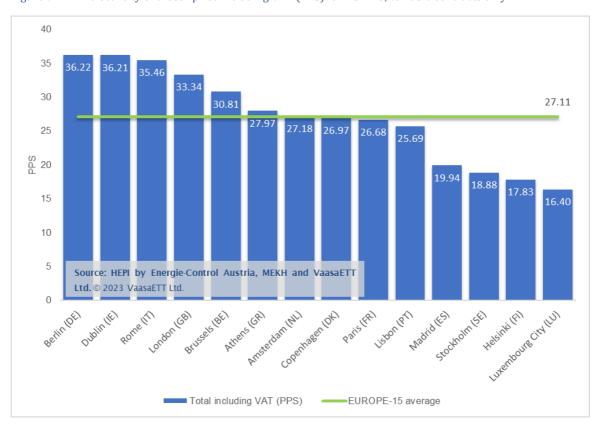


Figure 9: All-in electricity end-user price including VAT (PPS) for EUR-15, variable contracts only



#### **Residential Gas Prices**

Figure 10 shows the price of natural gas paid typically by residential customers in 28 European capital cities as of December 1st, 2023<sup>18</sup>. The highest price is paid by inhabitants of Stockholm who pay almost 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.<sup>19</sup> Amsterdam is currently the third most expensive capital city.

The price in Stockholm is almost 11 times as high as in Budapest, which is the cheapest city for gas in EU, and over 14 times as high if we include Kyiv. Household natural gas is usually cheaper in the CEE countries; Ljubljana is the only capital city among the CEE countries in which the price of natural gas is above the European average.



Figure 10: Residential gas prices including taxes

<sup>&</sup>lt;sup>18</sup> Please note that 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.

<sup>&</sup>lt;sup>19</sup> 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 <sup>20</sup>:

- A 16% price increase in Tallinn, due to an increase in the energy component;
- A 4% price increase in Sofia, due to an increase in the energy component;
- A 3% price increase in Paris, due to an increase in the energy component;
- A 1% price increase in London;
- A 1% price increase in Riga, due to an increase in the distribution component;
- A 9% price decrease in Berlin, due to a decrease in the energy component;
- An 8% price decrease in Dublin, due to decreases in the energy and distribution components;
- A 3% price decrease in Brussels, due to a decrease in the energy component;
- A 3% price decrease in Lisbon, due to a decrease in the energy component;
- A 2% price decrease in Rome, due to a decrease in the energy component;
- A 2% price decrease in Vienna, due to decreases in the energy and energy taxes components;
- A 1% price decrease in Amsterdam, due to a decrease in the energy component.

The general stability which is observed in the European natural gas end-user prices since the start of the summer continued in December. More than half of the analysed markets showed no change in their prices while only 5 of them saw a price increase, most of which were marginal. On the contrary, 7 markets experienced a decline this month, mainly of a small extent, with the primary factors behind this being the mild weather on most parts of Europe that led to moderate demand for heating purposes and storage facilities retaining their high-capacity levels. In addition, the TTF benchmark index dropped below 40 €/MWh for the first time since January 2022, almost 4 times lower when compared to the peak observed a year ago, in December 2022.

The highest price surge this month has been noticed in Tallin where Eesti Gaas, the largest domestic gas supplier, announced new higher prices for residential customers starting from December 1st<sup>21</sup>. According to the company, this is attributed to a higher purchase price during the winter period, however, despite the rise, the end-user price is 30% lower than last year.

Similarly, in Sofia the energy regulator approved the increase of the regulated gas price<sup>22</sup> for a second consecutive month which resulted in a 4% hike of the natural gas end-user price. Bulgaria has managed to keep prices at a relative low level so far, compared to other markets, due to the long-term gas contract with Azerbaijan. Nonetheless, increased demand during the heating season

<sup>&</sup>lt;sup>20</sup> The change in each capital city is calculated using the prices in their local currency to exclude the impact of exchange rate fluctuations.

<sup>&</sup>lt;sup>21</sup> ERR: "Eesti Gaas raising prices from December 1", 31.10.2023

<sup>&</sup>lt;sup>22</sup> Sofia Globe: "Bulgaria utilities regulator raises gas prices by 6.5% for December 2023", 01.12.2023

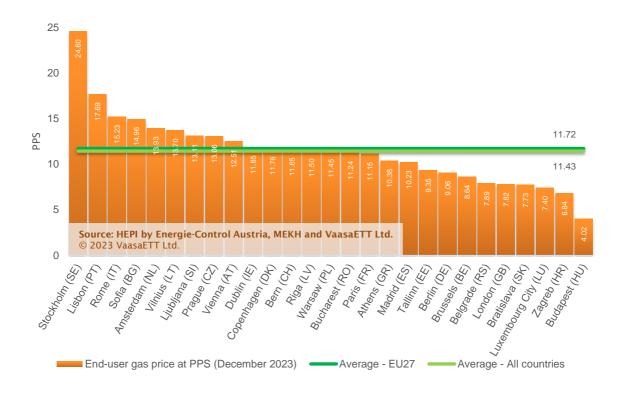
prompted the use of alternative gas sources, aligning prices more closely with other European gas hubs.

On the contrary, Berlin saw a notable drop of 9% with most suppliers offering contracts with prices below the price brake, which is the government's relief measure that is set to expire on December 31. The natural gas end-user price this month reached a two-year low, following the downward trend of wholesale spot and futures markets<sup>23</sup>.

The gas prices dropped in Dublin for a second consecutive month after multiple suppliers applied new reductions in their gas tariffs, while already announced additional cuts for the upcoming months. However, the end-user price, including the recent reductions, remains well above the European average and 72% higher compared to December 2021.

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 Luxembourg City were the cheapest cities when adjusted to PPS (Figure 11).

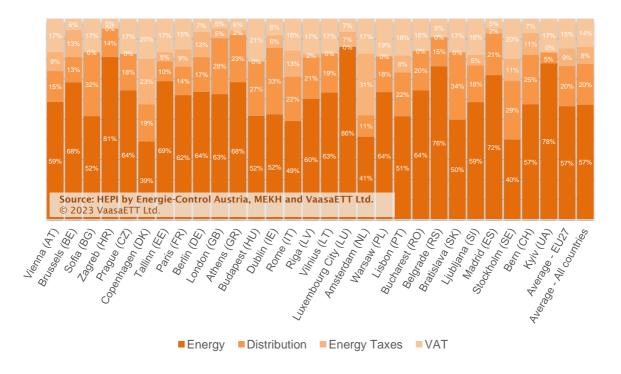




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<sup>&</sup>lt;sup>23</sup> Agraheute: "Gaspreise fallen heftig – Preise für Neukunden auf 2-Jahrestief", 13.12.2023

Figure 12: Residential gas price breakdown



Our survey shows that on average, energy (the contestable component of the price) represents 57% of the end-user price of natural gas, distribution 20%, energy taxes 9% and VAT 15% for the European capitals. In the Netherlands, energy taxes are used for nudging the consumers' behaviour and energy use. Even more so starting from January 2020, the energy tax for residential natural gas user is typically around 31%. The aim is to encourage the use of electric heating and appliances instead of gas.

Overall, results show that market forces represent about 57% of the end-user price both for electricity and gas, whereas national fiscal and regulatory elements are responsible for the remaining 43% through distribution tariffs, energy taxes and VAT. The current energy crisis has led to significant increase of the average energy component in EU capitals. The energy share of end-user price of electricity used to be 51% back in December 2021, then climbed at 65% a year later and is currently standing at 56%. Likewise, in the natural gas market, the energy component percentage of the end-user price used to be 55% back in December 2021 before reaching 68% in December 2022 and 57% this month. In places where the energy component is lower, so is the incentive for customers to look for more competitive offers<sup>24</sup>.

<sup>24</sup> Latest utility customer switching data can be accessed in the most recent version of Capgemini's <u>World Energy Markets Observatory</u>, 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.

Visit our project webpage at <a href="http://www.energypriceindex.com">http://www.energypriceindex.com</a> and subscribe to the free monthly update of the HEPI index for Europe.

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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. Andreas Eigenbaueras 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: <u>www.e-control.at</u>



## 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