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Publishing date: 30/10/2019

Document title: ACER Market Monitoring Report 2018 – Electricity and Gas Retail Markets
Volume

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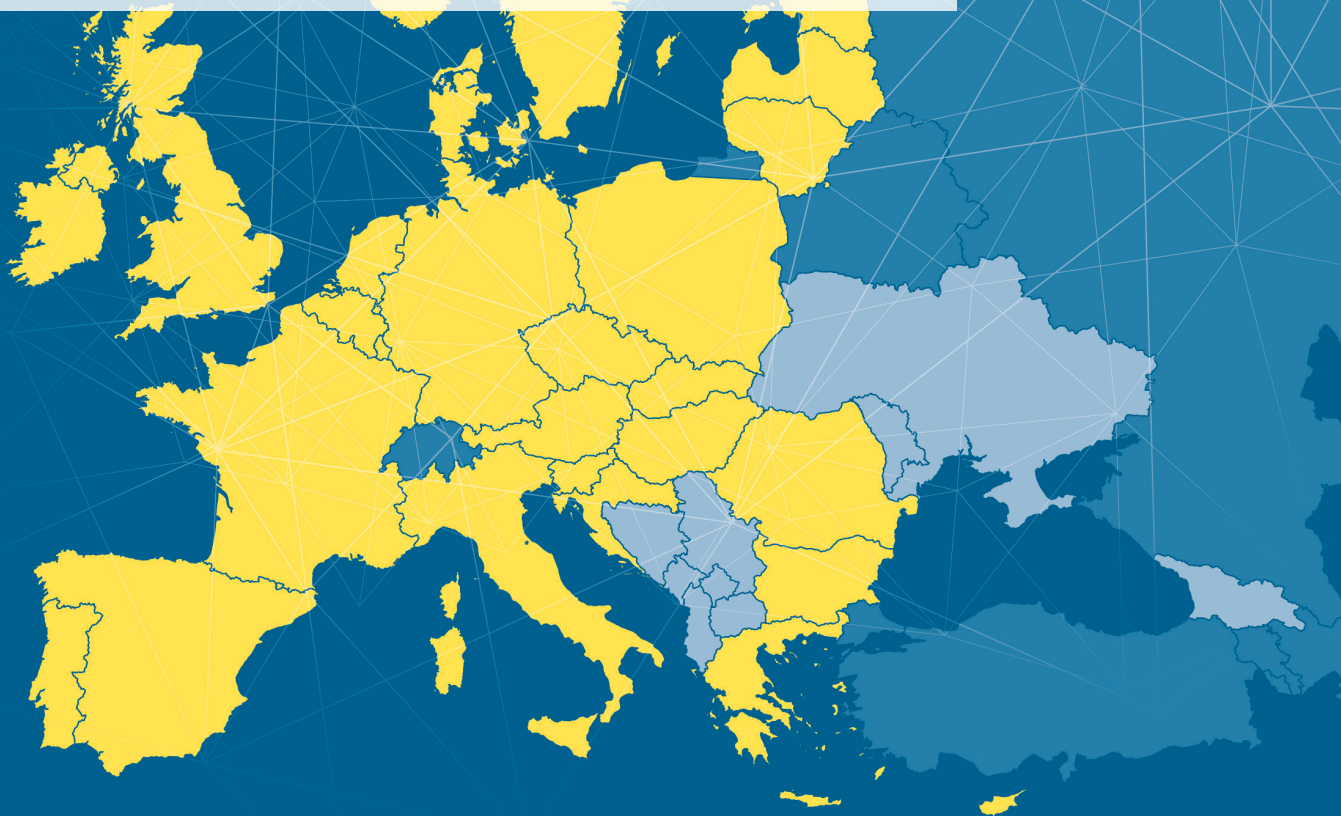


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Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2018

Electricity and Gas Retail Markets Volume

October 2019



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The support of the Energy Community Secretariat in coordinating the collection and in analysing the information related to the Energy Community Contracting Parties is gratefully acknowledged.

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Executive summary

1 This Volume of the MMR provides an assessment of the level of and trends in retail energy prices for households and industry in the Member States (MSs) of the European Union (EU) and the Energy Community Contracting Parties (EnC CPs)¹. In addition, for the household segment, the Volume examines the main price components and drivers behind the recent trends in retail energy prices, as well as the mark-ups and the responsiveness of the energy component of the retail prices to changes in wholesale energy prices.

EUROPEAN UNION

2 As in previous years, retail electricity and gas prices for both households and industrial consumers continued to vary greatly across Europe, reflecting the heterogeneity of market structures and national energy and taxation policies. For household consumers, the prices in the highest-priced MSs are still more than three times higher than those in the lowest-priced MSs. These differences are often even bigger in the industrial segment, with electricity and gas prices four and three times higher in the highest-priced MSs, respectively.

3 In 2018, contrary to 2017, EU household consumers saw, on average², increasing prices for both electricity and gas compared to the previous year. Indeed, the downward price trend that started in 2016 was short-lived. In the household segment, the EU average electricity price went up by 1.9% to 20.8 euro cents/kWh, while the EU average gas price increased by 3.5% to 6.3 euro cents/kWh. In the industrial segment, electricity prices fell, on average, by 2.2% to 10.2 euro cents/kWh while gas prices jumped to 2.9 euro cents/kWh, an increase of 13.4%.

4 Comparing 2018 to 2008, the first full year of retail contestability across the EU³, the EU average electricity price has risen by 28.2% and by 1.4% for household and industrial consumers, respectively. Gas prices have risen by 9.1% for household consumers, but have decreased by 19.0% for industrial consumers⁴.

5 When looking at the breakdown of the standard incumbent offer prices, the share of the energy component in the overall price seems to have stabilised in recent years for both electricity and gas. Over the 2015 - 2018 period, the EU average energy component share in electricity retail prices hovered around 37%, and around 50% in gas retail prices.

6 However, retail prices have not always been responsive to changes in wholesale prices. The variations in wholesale prices were not always and everywhere passed on to household consumers. Although, overall, price responsiveness is improving, the link between retail and wholesale prices is still weak in some countries. In line with the results from the previous years, the energy component of retail prices and wholesale prices seem to correlate better in two groups of countries but for different reasons. Prices correlate well in those markets characterised by lively competition where the offers available to consumers contain a direct reference to wholesale prices/costs. In addition, a good correlation is observed also in certain countries with regulated retail prices, where such regulated prices are indexed to wholesale prices.

7 Within a context of rising wholesale prices in 2018 compared to 2017, retail mark-ups in the gas household segment trended slightly downwards across the EU, whereas they remained stable in electricity.

1 The Energy Community is an international organisation dealing with energy policy, bringing together the EU and countries of South-East Europe and the Black Sea regions. At present, the Energy Community has nine Contracting Parties: Albania, Bosnia and Herzegovina, Georgia, Kosovo*, North Macedonia, Moldova, Montenegro, Serbia and Ukraine. Throughout this document the symbol "*" refers to the following statement: "This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Advisory Opinion on the Kosovo declaration of independence".

2 Average prices weighted according to the consumption of the household sector in each MS. In 2018, gas prices increased in 20 MSs, whereas electricity prices increased in 19 MSs.

3 Directives 2003/54/EC and 2003/55/EC introduced from July 2007 onwards the right to residential consumers to choose their own supplier.

4 These prices are in nominal terms. The cumulative inflation rate in the period calculated using the Eurostat Harmonised Index of Consumer Prices (HICP) was around 15%, whereas the Industrial Producer Price Index (PPI) variation was 7%. See Figure 1 and Figure 5.

ENERGY COMMUNITY CONTRACTING PARTIES

- 8 In 2018, the upward trend in final household prices continued, while industry prices increased in 2018 after a continuous decrease registered in the previous years. The average electricity price for households in the EnC CPs, excluding Ukraine, increased by 15% in the 2013–2018 period, while average industry prices increased by 1.5%. Over the same period, electricity prices for households in Ukraine registered an increase of 41% and industry prices a decrease of some 34%.
- 9 In the EnC, contrary to the trends observed in the EU, the industrial gas prices are, on average, higher than household prices. This is usually linked to historical cross-subsidisation of households by industrial consumers. Gas prices for households in Ukraine and other EnC CPs were developing in opposite directions. Average gas household prices in the EnC CPs, excluding Ukraine, decreased by 27% between 2013 and 2018, while the household gas prices in Ukraine increased by approximately 160%. On the other hand, industry prices decreased over the same period in all EnC CPs, by 40% in Ukraine and by 25% on average in the other EnC CPs.
- 10 When examining the price breakdown, the composition of the final household price for both gas and electricity varies across EnC CPs. There is a clear downward trend in the share of the energy component in the final electricity price for households in the EnC CPs. However, for gas, the weighted average breakdown of gas prices in the EnC CPs' capitals remained stable throughout the period.

Introduction

- 11 The Market Monitoring Report, which is in its eight edition and covers the year 2018, consists of four volumes, respectively on: Electricity Wholesale Markets, Gas Wholesale Markets, Electricity and Gas Retail Markets, and Consumer Protection and Empowerment. It covers the European Union Members States and, for selected topics, also the Contracting Parties of the Energy Community⁵.
- 12 The main objective of the Retail Market Volume is to report on the results of the monitoring of retail markets, in particular, the electricity and gas prices for household and industrial consumers throughout Europe⁶.
- 13 This document has three chapters. Chapter 1 examines the level and evolution of retail electricity and gas prices for households and industrial consumers in the EU and EnC CPs. Chapter 2 covers the structure of the final price for households in the EU and EnC CPs, based on the standard incumbents' offers in capital cities, and the evolution of its various components. Chapter 3 provides the results of the analysis of the mark-ups and the relationship between wholesale energy prices and the retail component of energy prices for households in the EU.
- 14 Time series of selected indicators are published in the "CHEST" database available on the ACER website⁷.

5 The analysis includes EnC CPs, for which the NRAs provided data. However, the data were not consistently available for all EnC CPs. For all the analyses presented in this volume, data availability is specified.

6 Throughout this volume, the 'EU' analysis refers to the 28 MSs of the EU (EU28), while 'Europe' refers to the EU28 and Norway. Where other European countries such as the CPs of the EnC are included in the analysis, this is explicitly mentioned.

7 See: <https://aegis.acer.europa.eu/chest/category/2/list>.

1. Level and evolution of retail energy prices

15 Retail energy prices are an important part of household and industrial consumers' expenditure. This Chapter examines the level of retail energy prices in 2018 and their trends over the 2008-2018 period at the EU and EnC CP level, as well as for individual countries. In this context, retail energy prices are final prices paid by consumers and consist of the energy commodity price, regulated transmission and distribution charges, levies and taxes (local, national, environmental, as applicable) and the value-added tax (VAT). Therefore, terms 'retail prices' and 'final prices' are used interchangeably through the Report.

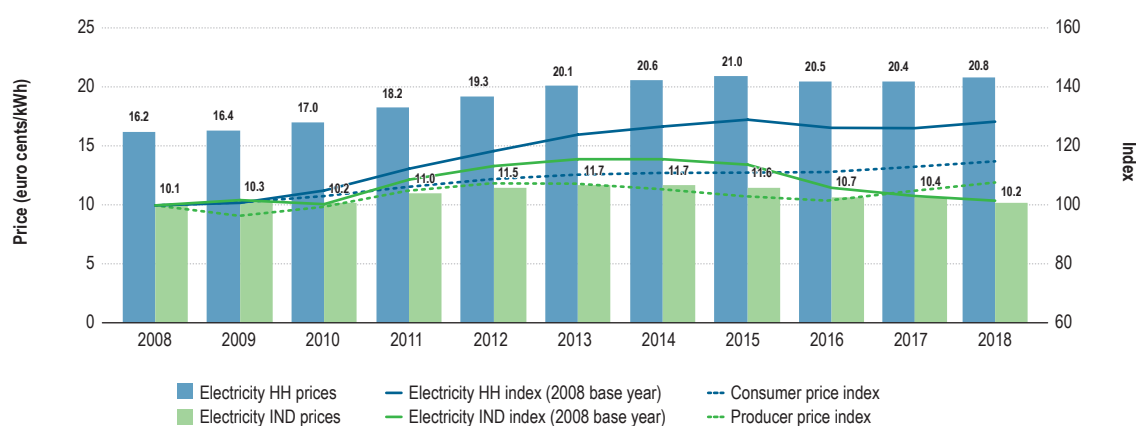
1.1 Electricity prices for households and industry

1.1.1 European Union

16 As shown in Figure 1, electricity prices for EU households increased slightly in 2018, on average⁸ by 1.9% to 20.8 euro cents/kWh with respect to the previous year. Over the same period, electricity prices for industrial consumers decreased for the fifth consecutive year, by an additional 2.2% to 10.2 euro cents/kWh, which is just over half the price paid by household consumers.

17 Compared to 2008, the first full year of liberalised retail markets in the EU, average electricity prices for household consumers across the EU increased significantly, by 28.4% in nominal terms, while industrial prices increased by only 1.4% over the same period. Household prices increased notably faster than inflation. The higher price increase for households mainly reflects increases in non-contestable charges like network costs, taxes and renewable energy-related (RES) charges. As shown in Figure 10, the average relative share of RES charges in final electricity prices for households has more than doubled over the 2012-2018 period

Figure 1: Trends in final electricity prices for household and industrial consumers in the EU – 2008–2018 (euro cents/kWh and index change, 2008 = 100)

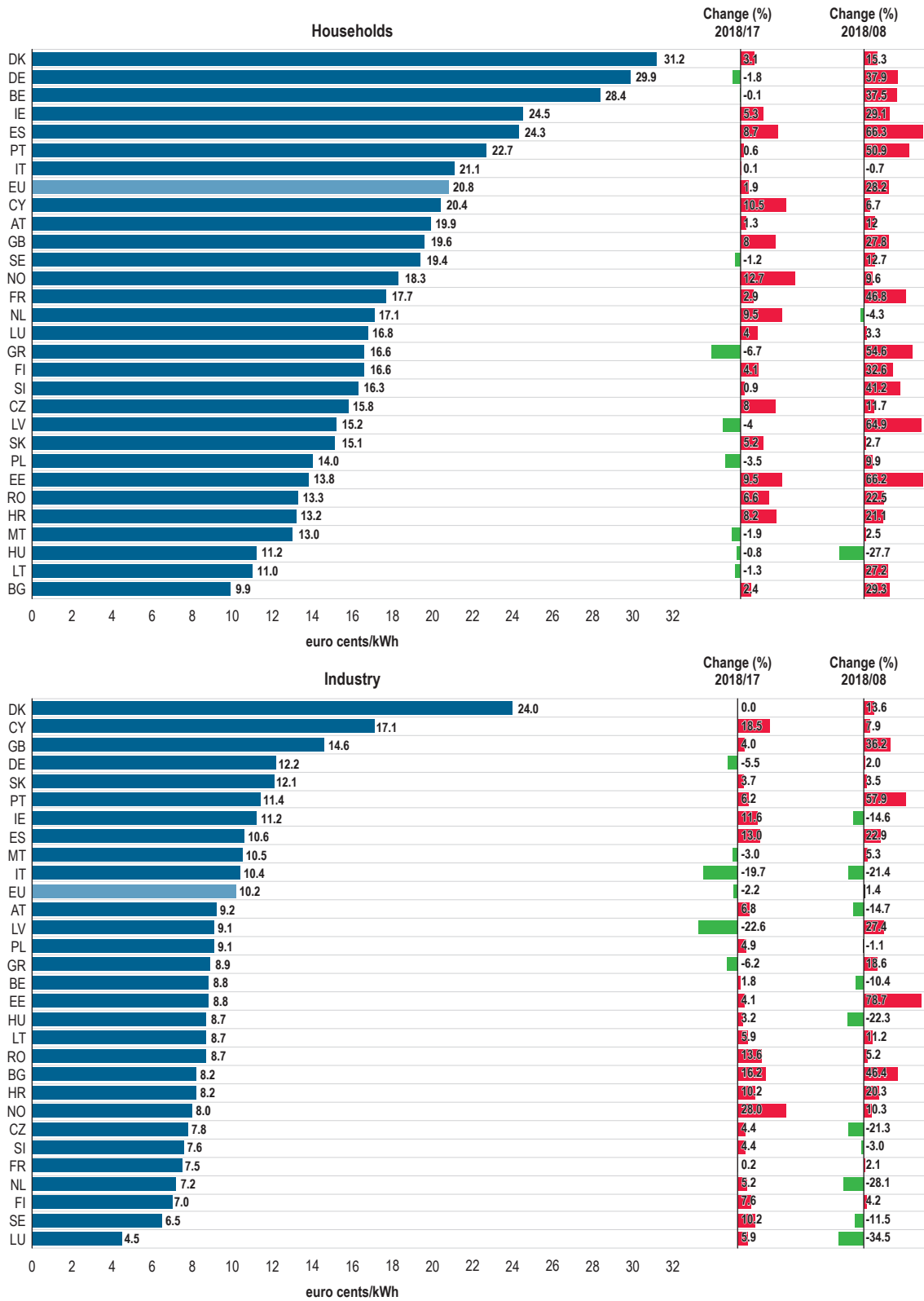


Source: ACER calculations based on Eurostat, Band DC: 2,500–5,000 kWh (household electricity consumption) and Band IE: 20,000–70,000 MWh (industrial electricity consumption) (May 2019).

Note: Prices in nominal terms. The consumer price index is the Harmonised Index of Consumer Prices; The producer price index covers the producer prices in industry. Both indexes are weighted in accordance to the size of the individual MSs.

18 In line with the findings in previous years, there are large differences in electricity price levels across the EU and Norway, as shown in Figure 2. In Denmark, the MS with the highest household prices (31.2 euro cents/kWh), consumers pay more than three times than Bulgarian consumers (9.9 euro cents/kWh). These differences are even higher in the industrial segment, as industrial electricity prices in Denmark (24.0 euro cents/kWh) are more than five times higher than those in Luxembourg (4.5 euro cents/kWh).

Figure 2: Final electricity prices for households and industrial consumers in the EU MSs and Norway in 2018 (euro cents/kWh) and changes compared to 2017 and 2008 (%)



Source: ACER calculations based on Eurostat, Band DC: 2,500–5,000 kWh (household electricity consumption) and Band IE: 20,000–70,000 MWh (industrial electricity consumption) (May 2019).

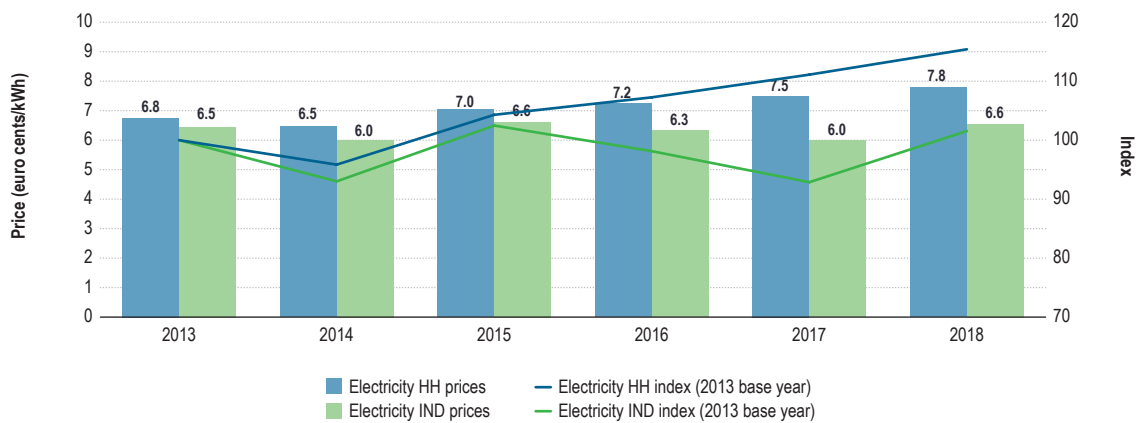
Note: Prices in nominal terms. For GB, Eurostat data only available for the UK as a whole.

- 19 Compared to 2017, the largest price decreases for household consumers were recorded in Greece (-6.7%) and Latvia (-4.0%), while in Norway and Cyprus electricity prices increased by 12.7% and 10.5%, respectively. In the industrial segment, prices increased in most countries, but decreased considerably in Italy (-19.7%) and Germany (-5.5%). For the EU as a whole, however, this results in a slight decrease year on year.
- 20 Over the 2008–2018 period, electricity prices for household consumers increased in all countries except three, with decreases recorded in Hungary (-27.7%), the Netherlands (-4.3%) and Italy (-0.7%). Over the same period, industrial prices increased in many countries. There were some notable price increases in Estonia (78.7%), Portugal (57.9%) and Bulgaria (46.4%).

1.1.2. Energy Community

- 21 In the EnC, the upward trend in final household prices continued in 2018. However, final industry prices increased, on average, in 2018 after several years of continuous decrease. This trend has different dynamics in Ukraine than in the other EnC CPs. In the period between 2013 and 2018, electricity prices for households in the EnC CPs excluding Ukraine increased, on average, by 15%, while industrial prices increased on average by 1.5%, as shown in Figure 3. Over the same period, electricity prices for households in Ukraine registered an increase of 41% and industry prices a decrease of around 34%. The unwinding of cross-subsidisation partially explains the average price dynamics in the two segments in Ukraine.
- 22 In 2018, the average electricity price for household consumers in the EnC CPs excluding Ukraine was 7.8 euro cents/kWh, which is 2.7 times less than the average EU electricity price for households in the same year. Household consumers in Ukraine paid in 2018, on average, almost two times less than in the other EnC CPs - only 4.1 euro cents/kWh.

Figure 3: Trends in final electricity prices for household and industrial consumers in EnC CPs excluding Ukraine – 2013–2018 (euro cents/kWh and index change, 2013 = 100)

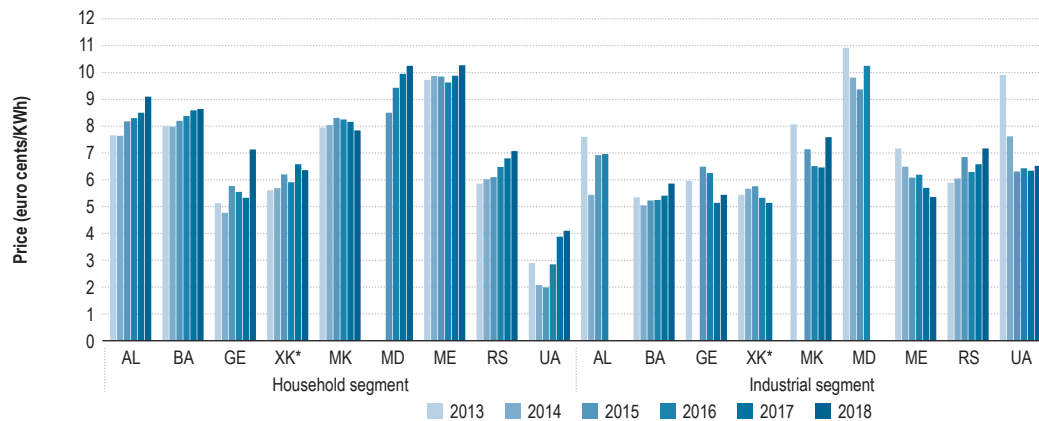


Source: ACER calculations based on Eurostat, NRAs, EnC Secretariat.

Note: This Figure is based on bi-annual data provided by Eurostat for consumption band DC: 2,500-5,000 kWh (household electricity consumption) for Albania (AL), Bosnia and Herzegovina (BA), North Macedonia (MK), Kosovo* (XK*), Montenegro (ME) and Serbia (RS) and consumption band IE: 20,000-70,000 MWh (industrial electricity consumption) for Bosnia and Herzegovina, North Macedonia, Kosovo*, Montenegro and Serbia. Information on prices in Georgia and Moldova is partially based on Eurostat, the remaining data is provided by the NRAs. Prices in nominal terms.

- 23 Figure 4 provides more clarity on the changes of household electricity prices for each EnC CP country between 2013 and 2018.

Figure 4: Final electricity prices in nominal terms for household and industrial consumers in EnC CPs – 2013–2018 (euro cents/kWh)



Source: ACER calculations based on Eurostat, NRAs, EnC Secretariat.

Note: This Figure is based on bi-annual data provided by Eurostat for consumption band DC: 2,500-5,000 kWh (household electricity consumption) for Albania (AL), Bosnia and Herzegovina (BA), North Macedonia (MK), Kosovo* (XK*), Montenegro (ME) and Serbia (RS) and consumption band IE: 20,000-70,000 MWh (industrial electricity consumption) for Bosnia and Herzegovina, North Macedonia, Kosovo*, Montenegro and Serbia. Information on prices in Georgia, Moldova and Ukraine is partially based on Eurostat, the remaining data is provided by the NRAs. Prices in nominal terms.

24 There are large differences in electricity price levels across the EnC CPs. In general, household electricity prices in 2018 were the highest in Montenegro (10.27 euro cents/kWh), where consumers paid, on average, 2.5 times the amount paid by consumers in Ukraine. With the exception of Kosovo* and North Macedonia, where household prices slightly decreased in comparison to the previous year, in all the other EnC CPs electricity prices for households increased. Over the period 2013-2018 the household electricity prices increased in all EnC CPs. End-consumer prices for households in all EnC CPs are still regulated, sometimes resulting in prices being below actual costs.

25 While in the majority of the EnC CPs, electricity prices for industrial consumers decreased between 2013 and 2017, 2018 saw an increase⁹. The biggest year-on-year increase (17%) was observed in North Macedonia, where prices rose from 6.46 euro cents/kWh in 2017 to 7.59 euro cents/kWh in 2018. The lowest electricity prices for industrial consumers were in Montenegro with 5.36 euro cents/kWh, while the highest industrial price was reported in North Macedonia (7.59 euro cents/kWh)¹⁰. On average, in 2018, electricity prices for the industrial segment in the EnC CPs were around 60% of the average electricity prices for industry in the EU MSs.

1.2. Gas prices for households and industry

1.2.1. European Union

26 In 2018, average gas prices across the EU increased by 3.5% for household consumers and strongly increased for industrial consumers by 13.4%, settling at 6.3 euro cents/kWh and at 2.9 euro cents/kWh respectively. These increases are a reflection of the higher gas wholesale prices which were observed in 2018. Since 2008, the average¹¹ final gas price for household consumers increased by 9.1%, but decreased by a significant 19.0% for industrial consumers. As such, for both households and industrial consumers, the price evolution over the same period was lower than the inflation trajectory.

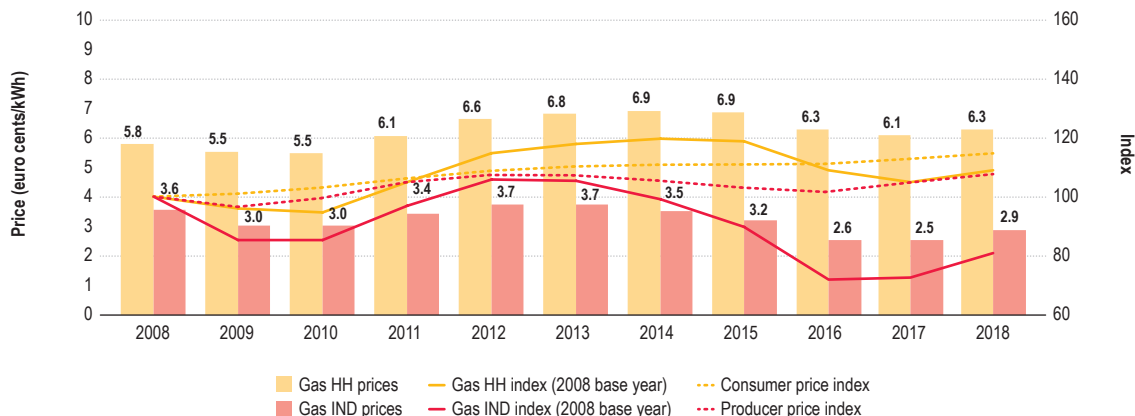
27 Figure 5 shows that household consumers in 2018 witnessed the first increase in the final price since 2015, reaching 2016 levels again. On the other hand, the industrial gas segment saw the first sharp upward change in prices reversing the downward trend since 2014.

9 In case of Albania, Kosovo* and Moldova, the information on electricity prices for industry was not available for 2017 and/or 2018.

10 It should be noted that in 2016 the highest electricity price for industry was registered in Moldova – 10.25 euro cents/kWh, which is close to the average EU level. The information for 2017 was not available.

11 See footnote 4.

Figure 5: Trends in final gas prices for household and industrial consumers in EU MSs – 2008–2018 (euro cents/kWh and index change, 2008 = 100)

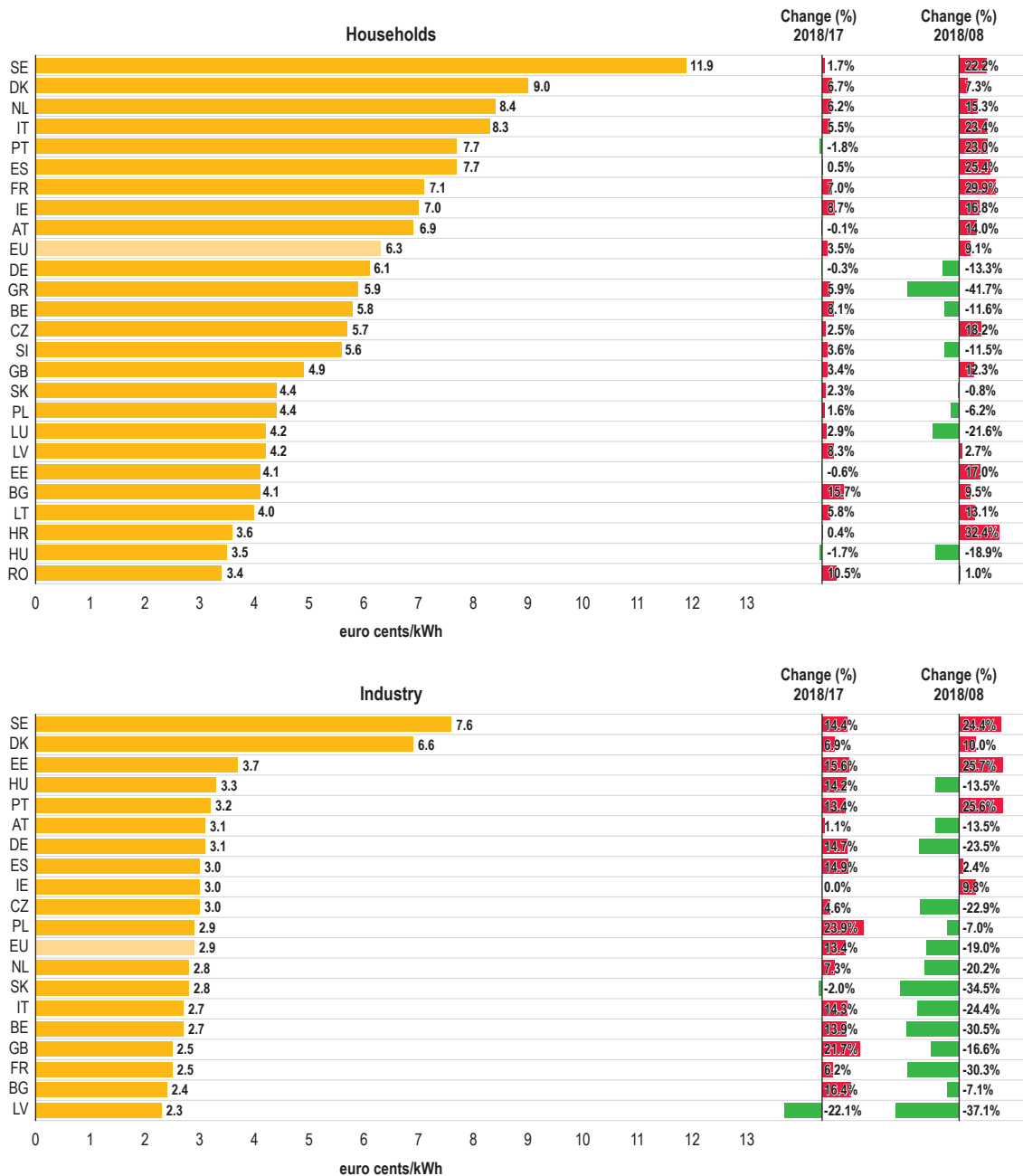


Source: ACER calculations based on Eurostat, Band D2: 20–200 GJ (household gas consumption) and Band I5: 1,000,000–4,000,000 GJ (industrial gas consumption) - (June 2019).

Note: Prices in nominal terms. The consumer price index is the Harmonised Index of Consumer Prices; The producer price index covers the producer prices in industry. Both indexes are weighted in accordance to the size of the individual MSs.

- 28 However, similarly to the electricity retail market, there are large discrepancies across the EU. Figure 6 shows that the final price paid by household gas consumers in Sweden (11.9 euro cents/kWh) was more than three times higher than the 3.4 euro cents/kWh paid by Romanian consumers. In the industrial segment, consumers in Sweden pay prices more than three times higher (7.6 euro cents/kWh) than the prices paid by consumers in Latvia (2.3 euro cents/kWh).
- 29 Figure 6 also shows that compared to 2017, gas prices for households increased by 3.5% on average, with increases recorded in the majority of the countries, with notable price increases in Bulgaria (15.7%) and Romania (10.5%). At the same time, industrial gas prices increased by 13.4% on average, with the highest increases recorded in Poland (23.9%) and Great Britain (21.7%). Latvia recorded a strong reduction in the industrial price year on year (-22.1%).
- 30 Over the 2008–2018 period, gas prices for households increased on average by 9.1%, with price increases and decreases recorded in the same number of countries (13). On the other hand, prices in the industrial segment decreased over the same period (-19.0 % on average) in all but six countries.

Figure 6: Final gas prices for households and industrial consumers in the EU MSs in 2018 (euro cents/kWh) and changes compared to 2017 and 2008 (%)



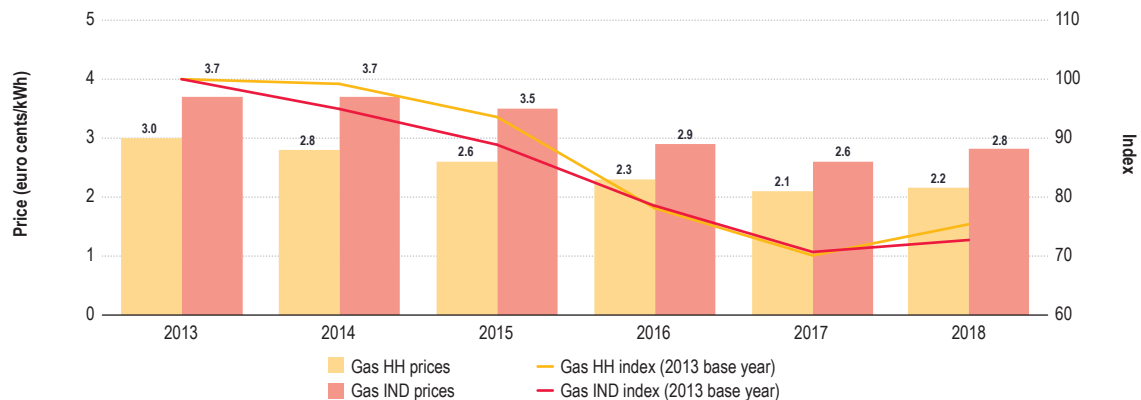
Source: ACER calculations based on Eurostat, Band D2: 20–200 GJ (household gas consumption) and Band I5: 1,000,000–4,000,000 GJ (industrial gas consumption) – (June 2019).

Note: Prices in nominal terms. For Greece (households) and Ireland (industry), the ‘change 2018/08’ is with respect to 2012 and for Austria (industry) with respect to 2009 as the data for earlier years are not available. Data on industrial prices in Croatia, Lithuania, Luxembourg and Slovenia are not available. Prices in nominal terms. For GB, Eurostat data available only for the UK as a whole. Prices for Finland are not available.

1.2.2. Energy Community

- 31 In the EnC, contrary to the trends observed in the EU, industrial gas prices are, on average, higher than household prices. the same period. Average prices for the industry segment in the EnC CPs excluding Ukraine are close to industry gas prices of the EU MSs.
- 32 Figure 7 shows the trends in final gas prices for industrial and household consumers in the EnC CPs, excluding Ukraine, over the past six years. Between 2013 and 2018, average gas household prices in these CPs decreased by 27%.

Figure 7: Trends in final gas prices for industrial and household consumers in EnC CPs excluding Ukraine – 2013–2018 (euro cents/kWh and index change, 2013 = 100)



Source: ACER calculations based on Eurostat, NRAs, EnC Secretariat.

Note: This Figure is based on bi-annual data provided by Eurostat for consumption bands D2: 20–200 GJ (household gas consumption) and consumption band I5: 1,000,000–4,000,000 GJ (industrial gas consumption). Household prices for North Macedonia are available only as of 2017. Prices in nominal terms.

- 33 Over the same period, households in Ukraine saw an increase of gas prices of almost 160%, as shown in Figure 8. Gas household prices in Ukraine have been changing since 2014 following the Cabinet of Ministers' resolution to stepwise increase gas household prices in line with an agreement made with the International Monetary Fund¹². In 2018, these prices increased again in comparison to 2017; by 1.38% when expressed in local currency. However, this rise corresponds to a 5% YoY decrease expressed in euros¹³.
- 34 Between 2013 and 2018, average industrial gas prices decreased in the EnC CPs, by 25% on average. In Ukraine, industrial prices registered a decrease of 40% over the same period. Average prices for the industry segment in the EnC CPs excluding Ukraine are close to industry gas prices of the EU MSs.
- 35 Figure 8 shows that, like in the EU, national discrepancies are observed in the level of household and industrial gas prices across the EnC CPs. The final price paid by household gas consumers in North Macedonia (5.06 euro cents/kWh) was more than three times higher than the 1.51 euro cents/kWh paid by Georgian households. In the industrial segment, the prices paid by consumers in Moldova (2.24 euro cents/kWh) were only 50% of the prices paid by consumers in Bosnia and Herzegovina (4.17 euro cents/kWh).
- 36 The observed discrepancies are partly due to different regulatory approaches to and levels of cross-subsidisation in consumer gas prices between the industrial and household segments. For example, in 2018, household gas prices were regulated in all EnC CPs except North Macedonia, while industrial gas prices were regulated in Moldova and to some extent in Bosnia and Herzegovina¹⁴ and Serbia¹⁵.

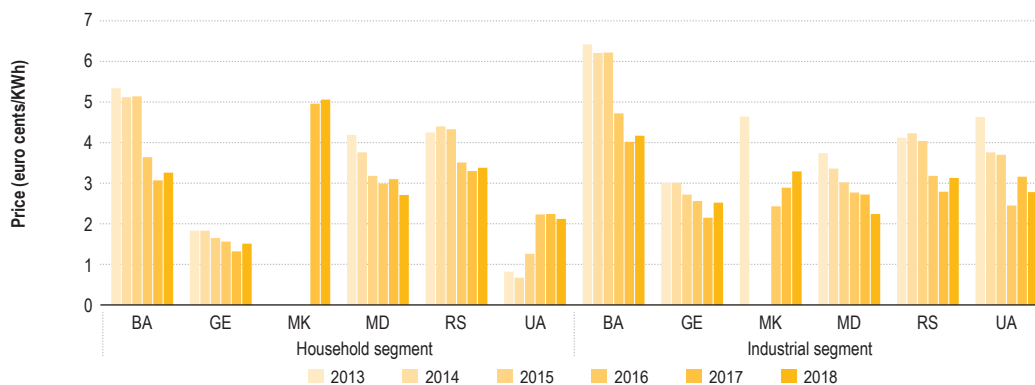
12 This resolution is updated every year. See the latest version here: <https://zakon.rada.gov.ua/laws/show/867-2018-%D0%BF>.

13 According to the NRA's 2018 Annual Report (http://www.nerc.gov.ua/data/filearch/Catalog3/Richnyi_zvit_NKREKP_2018.pdf), the end-user prices for households (in national currency) remained stable throughout the three quarters of 2018, but increased by 22% in the last quarter due to the amendments to the abovementioned public service obligation act, taking into consideration, *inter alia*, also the increase in weighted average import price.

14 For metering points lower than 95 kW.

15 In 2018, industrial gas prices were regulated in Serbia for small non-household customers connected to the distribution network and consuming less than 100,000 m³ per year.

Figure 8: Final gas prices in nominal terms for household and industrial consumers in EnC CPs – 2013–2018 (euro cents/kWh)



Source: ACER calculations, based on Eurostat, NRAs, EnC Secretariat.

Note: This figure is based on the data listed in the note under Figure 7. Prices in nominal terms.

2. Structure and drivers of energy prices for households

37 Electricity and gas prices depend on their constituent components, which include energy costs, network charges, charges for renewable energy (RES charges), other taxes and charges and value added tax (VAT).

Main components of the electricity and gas prices paid by household consumers

- **Energy costs** - reflect mainly the cost of purchasing electricity and gas on the wholesale market, but also suppliers' operating costs to run the business, including sales and billing, and profit margin.
- **Network costs** – the rates charged for transmitting and distributing energy to end users, including transmission and distribution losses, system operation costs (excluding imbalance charges) and metering and meter rental.
- **RES charges** – levies paid for government policies to support renewable energy sources.
- **Other taxes and charges** – including: (i) taxes and charges for promoting and improving energy efficiency and combined heat and power generation, (ii) taxes and charges related to air quality and environmental proposes, (iii) taxes and charges related to CO2 and other greenhouse gas emissions, (iv) taxes and charges related to the nuclear sector, capacity payments, energy security and generation adequacy, (v) energy consumption tax, and (vi) other taxes and charges not covered by any of these points and/or not linked to the energy sector.
- **VAT** – value added tax.

38 In order to understand the main reasons for the changes in the final prices, this Section presents the results of an analysis of the structure of the final prices and the relative changes of each component over time. The analysis is based on the data on the breakdown of the standard incumbent electricity and gas offers available in the capital city of each country to household consumers with an annual consumption of 3,500 kWh for electricity and 11,000 kWh for gas. The Agency collects the data directly from publicly available price comparison websites validated by the National Regulatory Authorities (NRAs)¹⁶.

16 Where a price comparison tool is not available data is directly supplied by the NRA.

39 In the analysis of EU electricity and gas offers, the standard incumbent offer is one of usually dozens of offers that a consumer can select from when consulting, for example, a price comparison tool. A general observation is that there are large discrepancies between the lower priced and higher priced offers available to a consumer in his respective country and across all MSs. In the offers used for this Market Monitoring Report covering November-December 2018 the difference between the highest and the lowest price was on average for both electricity and gas roughly 300 euro on a yearly basis¹⁷. In addition, the standard incumbent offer was almost always in the highest price quartile. Even when compared with the average prices that are published by Eurostat the price of the standard offer would be invariably somewhat higher on average.

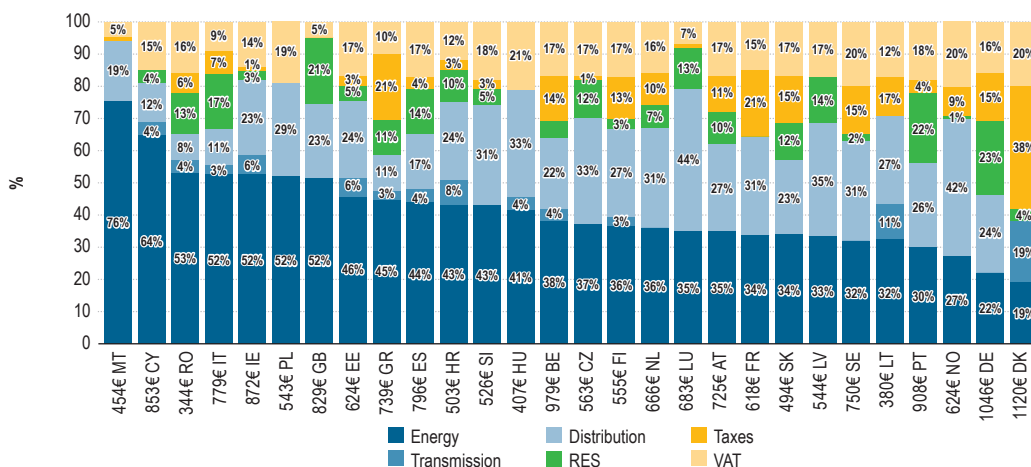
2.1. Electricity price breakdown

2.1.1. European Union

40 Figure 9 illustrates the breakdown of the final electricity price, based on the standard incumbent offer available in each EU capital city and Oslo at the end of 2018. It shows that the composition of the final electricity bill for household consumers continued to vary greatly across countries. For example, the energy component accounted for 76% of the final bill in Malta, but only for 19% in Denmark.

41 The highest share of network charges in the final price was in Luxembourg, where they accounted for 44% of the standard incumbent offer, and the lowest share was in Romania and Greece, accounting for 12% and 14%, respectively, of the final price. RES charges accounted for more than 20% in the total incumbent offer in Germany, Portugal and the UK, while retail electricity markets in Hungary, Norway and Denmark had the highest share of VAT in the final price. In addition, other taxes ranges from less than 1% of the final price in Luxembourg to 38% in Denmark¹⁸.

Figure 9: Breakdown of incumbents' standard electricity offers for households in capital cities – November/December 2018 (%)



Source: ACER calculations based on data collected via ACER Retail Database (2019).

Note: Where the breakdown of grid costs in transmission and distribution is not available, all costs are included in distribution. The breakdown for Germany refers to the national average, instead of the standard incumbent offer, which is collected by the German NRA. The Bulgarian NRA did not provide input for 2018 and is not included.

42 Figure 10 shows that in 2018, on average, 37% of the final price consisted of the energy component (contestable charges), while the remaining 63% of the electricity bill consisted of non-contestable charges, i.e. the sum of network costs, taxes, levies and other charges.

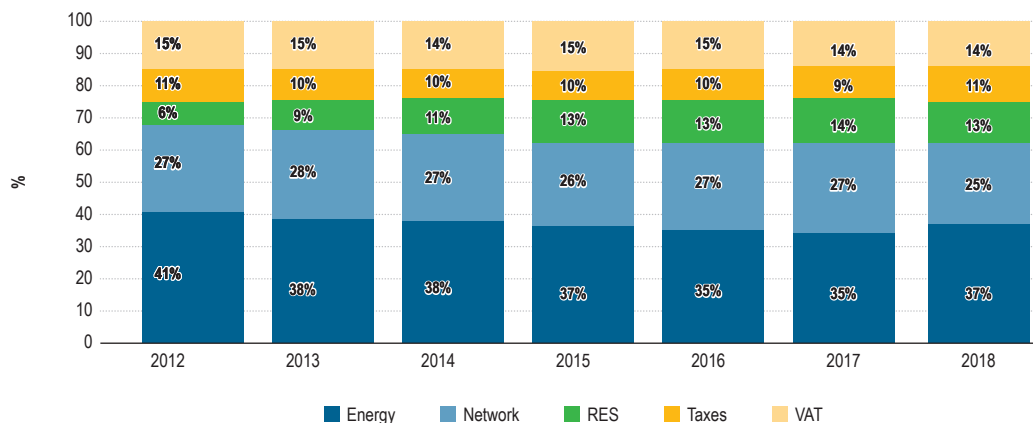
17 Average across all the EU MSs of highest priced offers and lowest priced offers.

18 Including support for electricity production from local CHP, compensation for CO2 tax and subsidies for energy research.

43 Figure 10 also shows that the relative share of the energy component in the final price has stabilised over the last couple of years, albeit at a lower level than in 2012-2014, between 35% and 37%. The increase in 2018 to 37% is closely linked to the increased wholesale prices. On the other hand, the share of RES charges increased almost every year over this period and has more than doubled since 2012, from 6% to 13% in 2018.

44 At the same time, the share of the network component saw a reduction of 2 percentage points.

Figure 10: Weighted average breakdown of incumbents' standard electricity offers for households in capital cities – 2012–2018 (%)



Source: ACER calculations based on data from price comparison tools, incumbent suppliers' websites, NRAs, collected via ACER Retail Database (2019). Bulgaria is not included in the average calculations due to unreported data by the NRA.

Note: For the purpose of this analysis, the average electricity price for household consumers in the EU is based on the standard incumbent offers for an annual pan-European average consumption of 3,500 kWh/year, weighted by total household consumption in each MSs, which is provided by CEER.

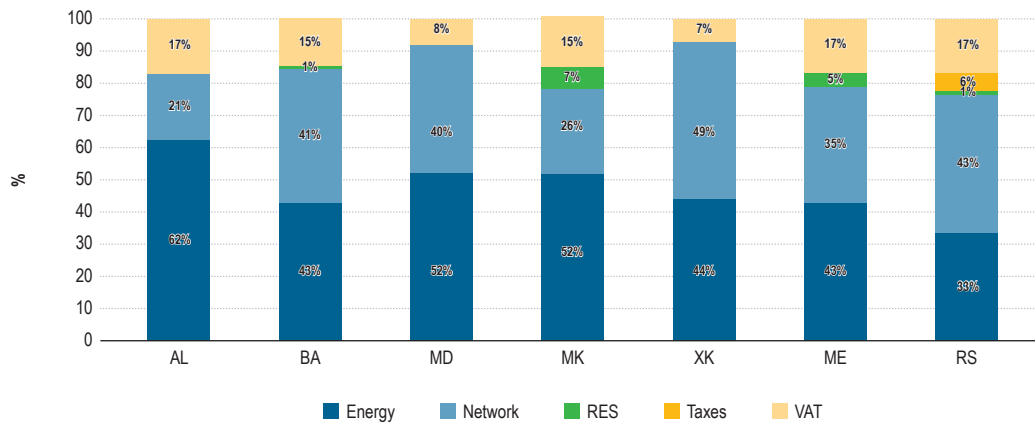
2.1.2. Energy Community

45 Figure 11 shows the breakdown of the final electricity price for households in capital cities of the EnC CPs in November-December 2018, based on a consumption profile of 3,500 kWh per year. The composition of the final household electricity price varies widely across EnC CPs. The share of the energy component in the final bill was the highest in Albania (62%) and the lowest in Serbia (33%).

46 In the EnC CPs, the share of network costs in the total household electricity price ranged between 21% in Albania and 49% in Kosovo*.

47 Finally, the share of RES charges in the final price gives an indication of the support for renewable electricity production to the extent that it is financed by the electricity tariff. In Albania, Kosovo* and Moldova, no RES support mechanism was reported by the NRAs for 2018. In other EnC CPs, RES support amounts to 1% of the final household electricity price in Bosnia and Herzegovina and Serbia, 5% in Montenegro and 7% in North Macedonia.

Figure 11: Breakdown of incumbents' standard electricity offers for households in EnC capital cities – November-December 2018 (%)

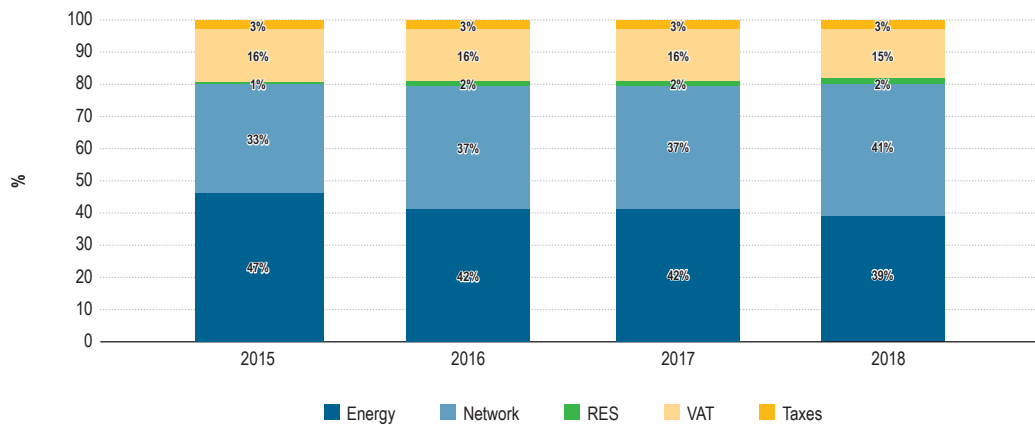


Source: EnC Secretariat calculations, based on ACER's methodology and data provided by NRAs (2019).

Note: The NRAs of Georgia and Ukraine do not have the information for calculating the electricity price breakdown.

48 Figure 12 shows the weighted average final price breakdown of the incumbents' standard offers for electricity household consumers in EnC capitals in the period 2015–2018. Compared to 2015, the structure of household electricity prices evolved towards a lower share of the energy component (39% instead of 47%) and a higher share of the network component (41% instead of 33%). The share of RES charges slightly increased in the same period, from 1% to 2%.

Figure 12: Weighted average breakdown of incumbents' standard electricity offers for households in EnC capitals – 2015–2018 (%)



Source: EnC Secretariat calculations, based on ACER's methodology and data provided by NRAs (2019).

Note: This Figure is based on data provided by the respective NRAs for the electricity breakdown for Albania, Bosnia and Herzegovina, North Macedonia, Kosovo*, Moldova, Montenegro and Serbia, weighted by the total household electricity consumption in each country. The NRAs of Georgia and Ukraine did not provide the required data for calculating the electricity price breakdown.

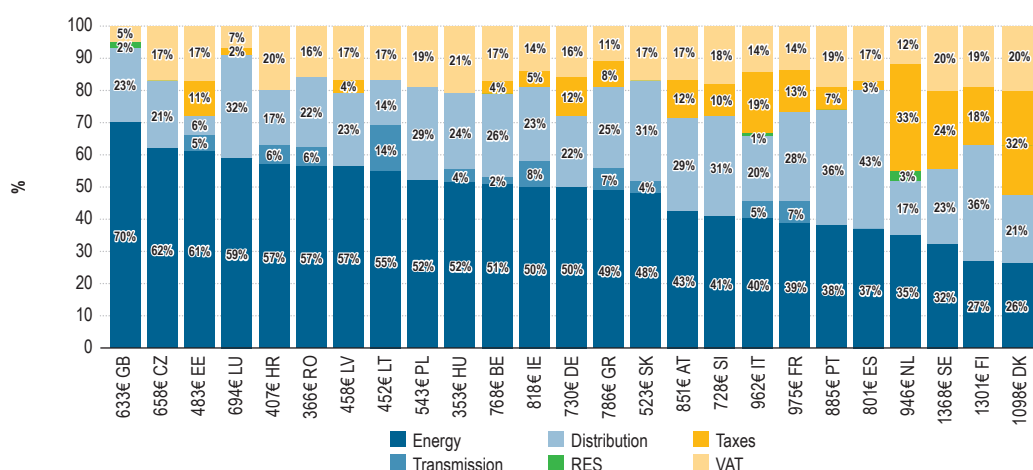
2.2. Gas price breakdown

2.2.1. European Union

49 Figure 13 shows the breakdown¹⁹ of final gas prices based on the standard incumbent gas offer available to households in each capital city at the end of 2018, where data were available and where a gas retail market exists. It illustrates that the composition of the final gas bill for household consumers continued to vary greatly across MSs. For example, the energy component accounted for 70% of the final bill in Great Britain, while it represented only 27% of the final bill in Finland.

50 Network costs, including both distribution and transmission network costs, accounted for the largest share in the final price in Spain (43%) Portugal (36%) and Finland (36%). Hungary, Croatia, Sweden and Denmark have the highest share of VAT in the final gas price (21% and 20%), while the Netherlands, Denmark and Sweden are the countries with the highest proportion of taxes and charges.

Figure 13: Breakdown of incumbents' standard gas offers for households in EU capitals – November/December 2018 (%)



Source: ACER calculations based on data from price comparison tools, incumbent suppliers' websites and NRAs, collected via ACER Retail Database (2019).

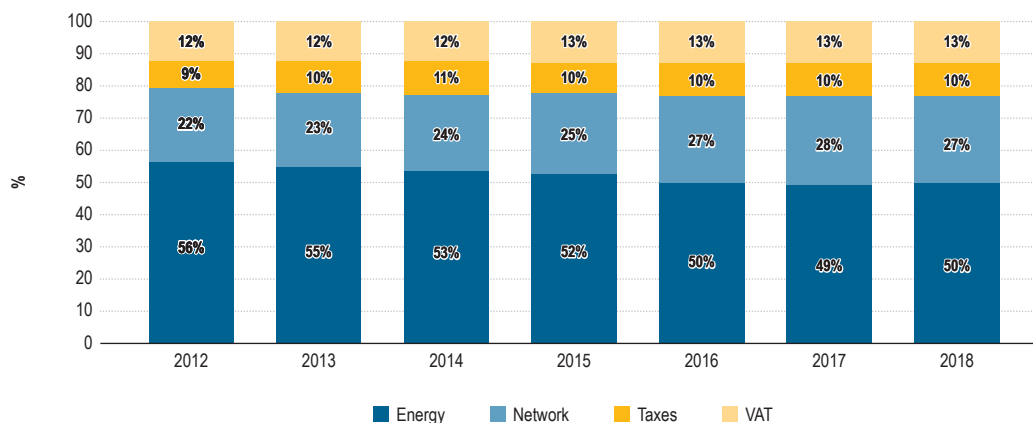
Note: Where the breakdown of grid costs in transmission and distribution is not available, all costs are included in distribution. Cyprus, Malta and Norway are not included in this Figure, due to small or non-existent gas markets for household consumers. Bulgaria is not included due to lack of data and input by the NRA. Natural gas prices for Sweden refer to Gothenburg. The breakdown for Germany refers to the national average, instead of the standard incumbent offer, which is collected by the German NRA.

51 As shown in Figure 14, on average, half of the final price paid in 2018 by end consumers covered the energy component of their annual gas bill, while the other half covered the sum of the network costs, taxes, levies and other charges.

52 The energy component showed a small increase in 2018. But by and large, the share of energy in the total costs has been stable over the last three years reversing a trend of decline witnessed between 2012 and 2016. While from 2012 until 2017 the non-contestable component saw an upward trend, it is stabilising in the past years.

19 The analysis for is based on an annual pan-European consumption profile of 11,000 kWh.

Figure 14: Weighted average breakdown of incumbents' standard gas offers for households in capital cities of the EU – 2012–2018 (%)



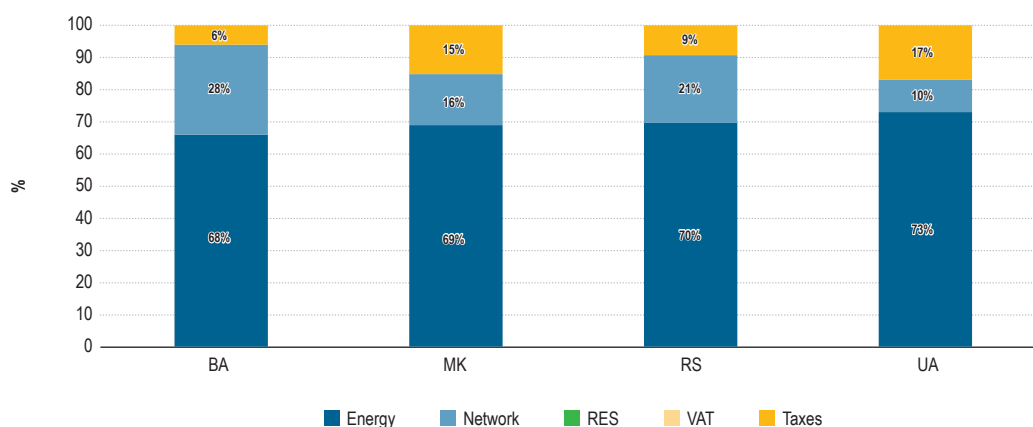
Source: ACER calculations based on data from price comparison tools, incumbent suppliers' websites, NRAs, collected via ACER Retail Database (2019). Bulgaria is not included due to lack of data and input from the NRA.

Note: For the purpose of this analysis, the average gas price for household consumers in the EU is based on the standard incumbent offers for an average consumption of 11,000 kWh/year, weighted by total household consumption in each MSs, which is provided by CEER.

2.2.2. Energy Community

53 Figure 15 illustrates the breakdown of gas incumbents' standard offers to households in capital cities of the EnC CPs, where information was available and a gas market exists, for an annual consumption profile of 11,000 kWh/year. The share of the energy component in the final gas price in 2018 ranged from 66% in Moldova to 73% in Ukraine. The share of network charges, both transmission and distribution, ranged from 10% of the final gas price for consumers in Kiev to 28% for households in Chisinau.

Figure 15: Breakdown of incumbents' standard gas offers for households in EnC capitals – November–December 2018 (%)

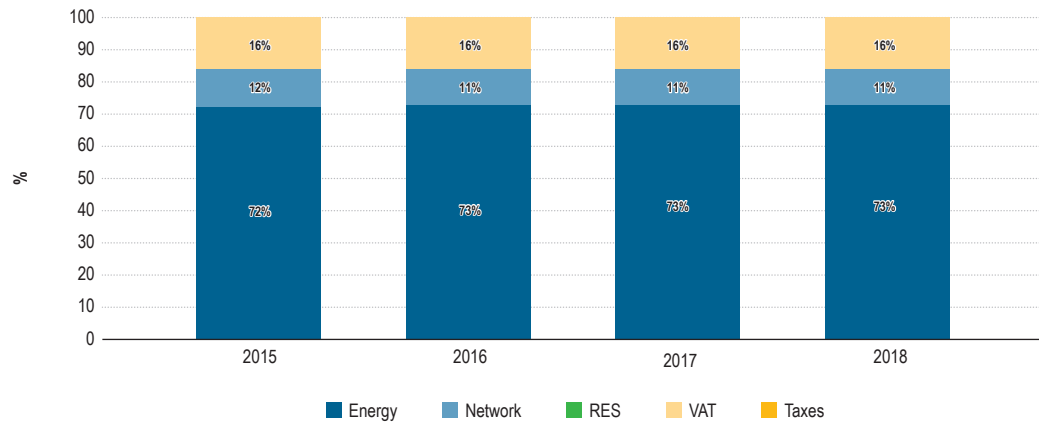


Source: EnC Secretariat calculations, based on ACER's methodology and data provided by NRAs (2019).

Note: Bosnia and Herzegovina and Georgia are not included in this figure due to insufficient data. Other EnC CPs have no gas market.

54 The weighted average breakdown of gas prices in the EnC CPs' capitals remained stable throughout the covered 2015–2018 period. Compared to 2015, the relative share of the energy component increased by one percentage point in 2018, while the share of network charges decreased.

Figure 16: Weighted average breakdown of incumbents' standard gas offers for households in EnC capitals – 2015–2018 (%)



Source: EnC Secretariat calculations, based on ACER's methodology and data provided by NRAs (2019).

Note: This Figure is based on data provided by the respective NRAs for the gas breakdown for Moldova, North Macedonia, Serbia and Ukraine, weighted by the total household gas consumption in each country. For North Macedonia the information on final gas price breakdown is available only as of 2017.

3. Relationship between the wholesale price and the energy component of the retail price for households in the European Union

55 This Chapter assesses the evolution of mark-ups from 2012 to 2018 and the responsiveness of the energy component of retail prices to changes in the wholesale price from 2008 to 2018 for electricity and from 2012 to 2018 for gas. The analysis focuses on the household segments.

56 The mark-up is an indicator of the theoretical gross 'profitability' of suppliers, as well as an indicator of the level of responsiveness of retail energy prices to changes in prices on wholesale markets. Mark-ups are not the same as profits, because suppliers have additional operating costs (e.g. marketing, sales, consumer services, overhead, etc.) in bringing a product to the market. The gross 'profitability' level is the difference between prices charged to consumers and the estimated costs to supply them with energy. This analysis assumes that suppliers are rational and employ a 'close-to-optimal' procurement strategy, as detailed in the methodology and data underlying mark-ups in retail markets²⁰.

57 The degree of alignment between the evolution of the energy component of retail prices and wholesale prices over time could be used as an indicator of the effectiveness of competition in retail energy markets.

3.1. Mark-up

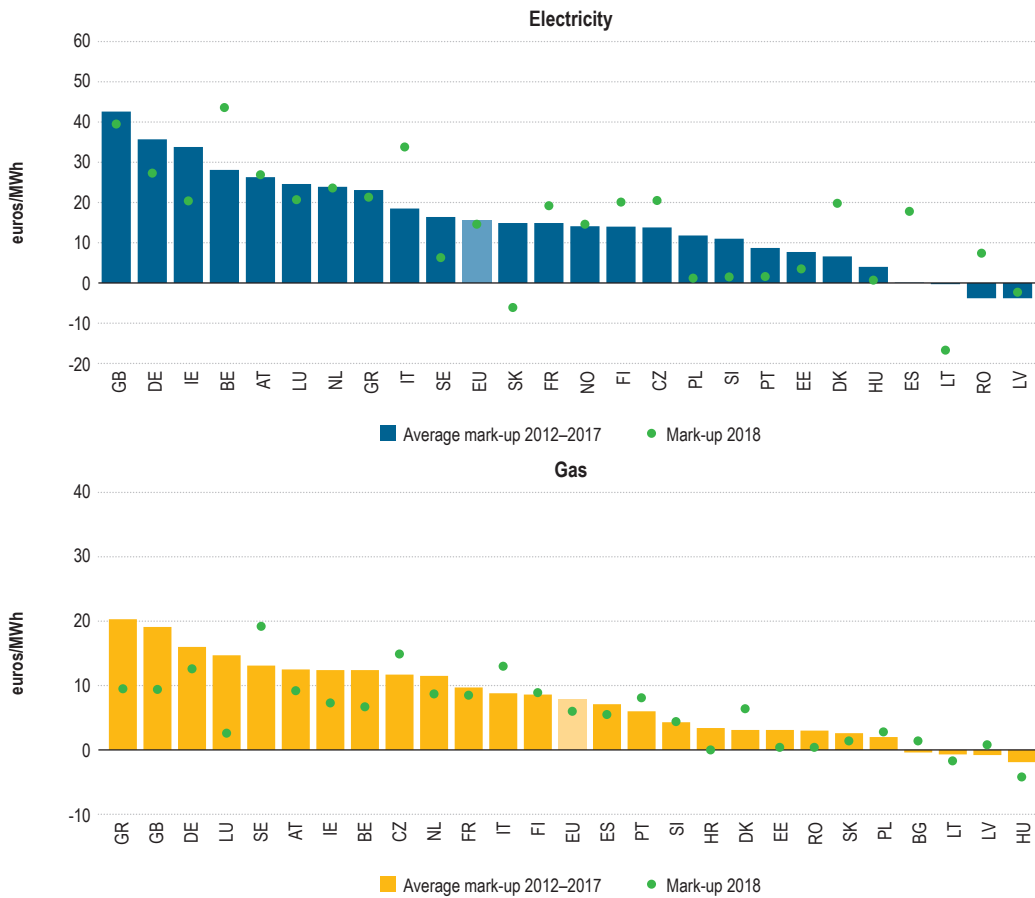
58 Figure 17 shows that the estimated average mark-ups in the retail electricity and gas markets for the household segment vary widely across countries. The average retail mark-ups in the gas household segment across the EU fell in 2018 compared to the 2012-2017 average. In the electricity household segment, average retail mark-ups kept stable.

59 The highest mark-ups in the household segment of the electricity retail markets over the 2012-2018 period were observed in Great Britain, Germany, Ireland and Belgium, whereas the mark-ups in Belgium, Great Britain and Italy were the highest in 2018. In the gas markets, the mark-up in Sweden was the highest in 2018, whereas Greece, Great Britain and Germany had the highest average values over the 2012-2018 period. The lowest positive mark-ups in 2018 were observed in the household segment of the electricity markets of Hungary and Poland and of the gas markets in Croatia, Romania and Estonia.

60 Figure 17 also shows that, on average in the EU, the electricity mark-up is about twice the gas mark-up, when expressed in euros/MWh. However, as a principal factor driving the level of mark-ups are, *inter alia*, differences in average consumption levels (i.e. 3.500 kWh for electricity and 11.000 kWh for gas) the average mark-up per consumer would actually be higher in gas than in electricity. Similarly, the average electricity mark-up over the 2012-2018 period in Sweden measured in euros/MWh ranks relatively low, but measured in euros/consumer it would be higher than that in Great Britain as the average annual electricity consumption per household consumer in Sweden of approximately 9,000 kWh is much higher than in Great Britain (i.e. 3,100 kWh).

20 See Annex 6 of 'ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2014': https://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER_Market_Monitoring_Report_2015.pdf.

Figure 17: Average annual mark-up in retail electricity and gas markets for household consumers in EU MSs and Norway from 2012–2017 and annual mark-up in 2018 (euros/MWh)



Source: ACER calculations based on ACER Retail Database (2019), Eurostat (July 2019), NRAs, European power exchanges data, Eurostat Comext and ICIS Heren.

Note: This Figure includes the average annual mark-ups in the retail electricity and gas markets for household consumers for the 2012–2018 period. Bulgaria (no electricity wholesale market) and Croatia (day-ahead wholesale market was launched in February 2015) are not included in the analysis for electricity. Cyprus and Malta are not included, because they have neither wholesale electricity markets nor significant retail gas markets. Norway has no significant gas market, so is not included in the chart.

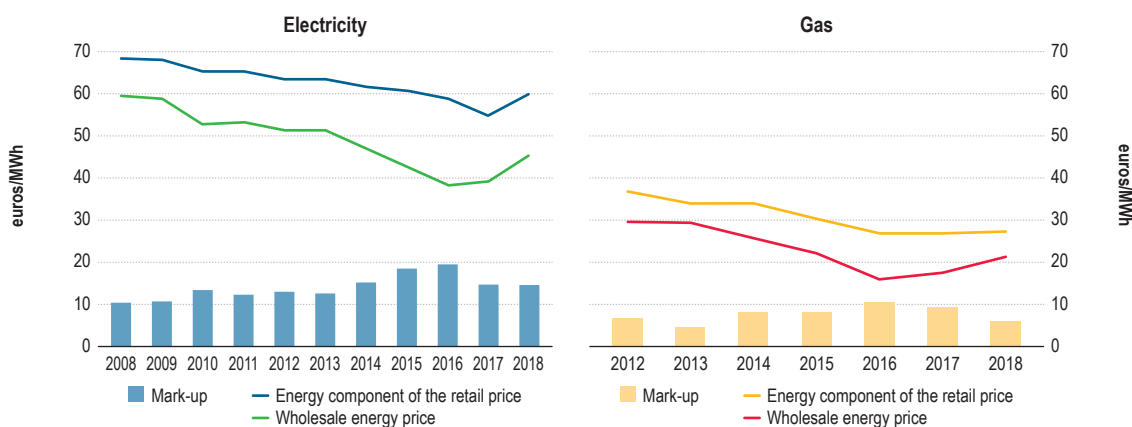
- 61 In some countries with regulated prices²¹, average mark-ups for the monitored period were negative because the energy component of the retail prices was set at a level below wholesale energy costs. For the average mark-up over the 2012-2018 period, this is the case in Lithuania, Romania and Latvia for electricity and in Bulgaria, Hungary, Latvia and Lithuania for gas. Annex I provides more details on the evolution of the mark-ups in each country.
- 62 Regulating end-user prices below energy sourcing costs may seem attractive to consumers in the short term. However, such a policy is an absolute barrier to market entry for suppliers, and hence, to competition. In markets with persistent negative mark-ups, market participants do not receive the right signals, eventually to the detriment of consumers. On the one hand, consumers do not pay the actual cost for the energy they consume, and therefore, do not receive the correct price signals regarding their consumption, which may also lead to wasteful consumption. On the other hand, negative mark-ups may hinder product and service innovation, deter new suppliers from entering the market and lead to losses for existing suppliers.

21 The distinction between countries with regulated and non-regulated prices is based on 'CEER Retail Markets Monitoring Report', December 2018 (Chapter 3): <https://www.ceer.eu/documents/104400/-/31863077-08ab-d166-b611-2d862b039d79>.

3.2. Responsiveness of the energy component of the retail price to wholesale energy price

63 Figure 18 shows the responsiveness of the energy component of retail prices to changes in the wholesale energy price and the evolution of the mark-up over the 2008–2018 period for electricity and the 2012–2018 period for gas at EU level²².

Figure 18: Responsiveness of the energy component of the retail prices to changes in wholesale prices and evaluation of mark-ups in the household segments from 2008 to 2018 for electricity and from 2012 to 2018 in gas (euros/MWh)



Source: ACER Retail Database, Eurostat, NRAs, European power exchanges data, Eurostat Comext, ICIS Heren and ACER calculations.

Note: The EU average mark-up is assessed as the arithmetic average of MSs mark-ups. Gas data available only from 2012 onwards. Data about the energy component of gas retail prices are obtained from the ACER Retail Database up to the year 2016 and from Eurostat for 2017 and 2018 except for Finland, Germany, Italy and Spain due to unavailability in Eurostat. Prices in nominal terms.

64 In electricity, the data show a relatively strong relation between the two components from 2008 to 2013 and from 2017 to 2018. The main divergence from this trend was observed over the 2013–2016 period, where the decrease in wholesale prices was not followed by a similar decrease in the energy component of the retail prices. Overall, the energy component of electricity prices decreased, on average, by 15.0% over the 2008-2018 period, while at the same time wholesale prices decreased by 24.6%. This led to a 40.8% increase in mark-ups over this period.

65 Over the 2012 – 2018 period in the household gas market, the average retail energy component and the average wholesale price decreased by 27.1% and 30.1% respectively, while the average mark-up decreased by 13.8%. The downward slope of the average wholesale price and of the average energy components of retail price diverged in 2015 and 2016, when the average retail energy component did not follow the sharp downward trend in the average wholesale gas price. In 2017 retail prices decreased, on average, despite higher wholesale prices.

66 When comparing the evolution of gas and electricity retail and wholesale prices over time, the responsiveness of the energy component of retail prices to wholesale energy prices for gas is higher than for electricity. This is also clearly visible in the evolution of the mark-ups for electricity.

67 Figure 19 illustrates the relationship between the change in the energy component of retail prices and the change in wholesale prices in electricity and gas markets for household consumers in MSs and Norway, expressed by the correlation coefficient of these two variables²³. If two variables in a country correlate well, this should be reflected in a positive high value of the correlation coefficient, while the negative and low value imply a weak correlation.

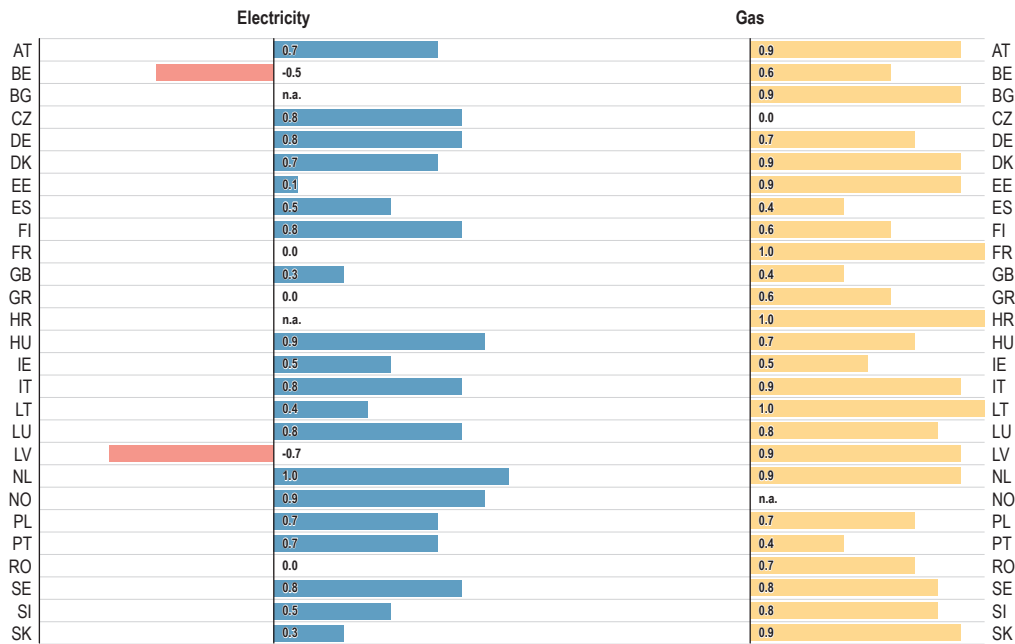
22 Based on 24 countries in electricity and 25 in gas for which data was available. In the case of electricity, Norwegian prices are also considered.

23 Figure 19 is based on the individual charts presented in Figure A1-1 and Figure A1-2 in the Annex 1.

68 Figure 19 is based on the data behind the charts for individual countries presented in Annex 1, which show the degree of correlation between the energy component of retail prices and wholesale prices for households at national level.

69 It shows that, on average, there was a better link between sourcing costs and the energy component of retail prices in gas markets than in electricity markets (i.e. more countries with a higher correlation coefficient).

Figure 19: Correlation between the retail energy component price for household consumers and wholesale price in electricity (2008 – 2018) and gas markets (2012-2018) in EU MSs and Norway – (correlation coefficient)



Source: ACER Retail Database, Eurostat, NRAs, European power exchanges data, Eurostat Comext, ICIS Heren and ACER calculations.

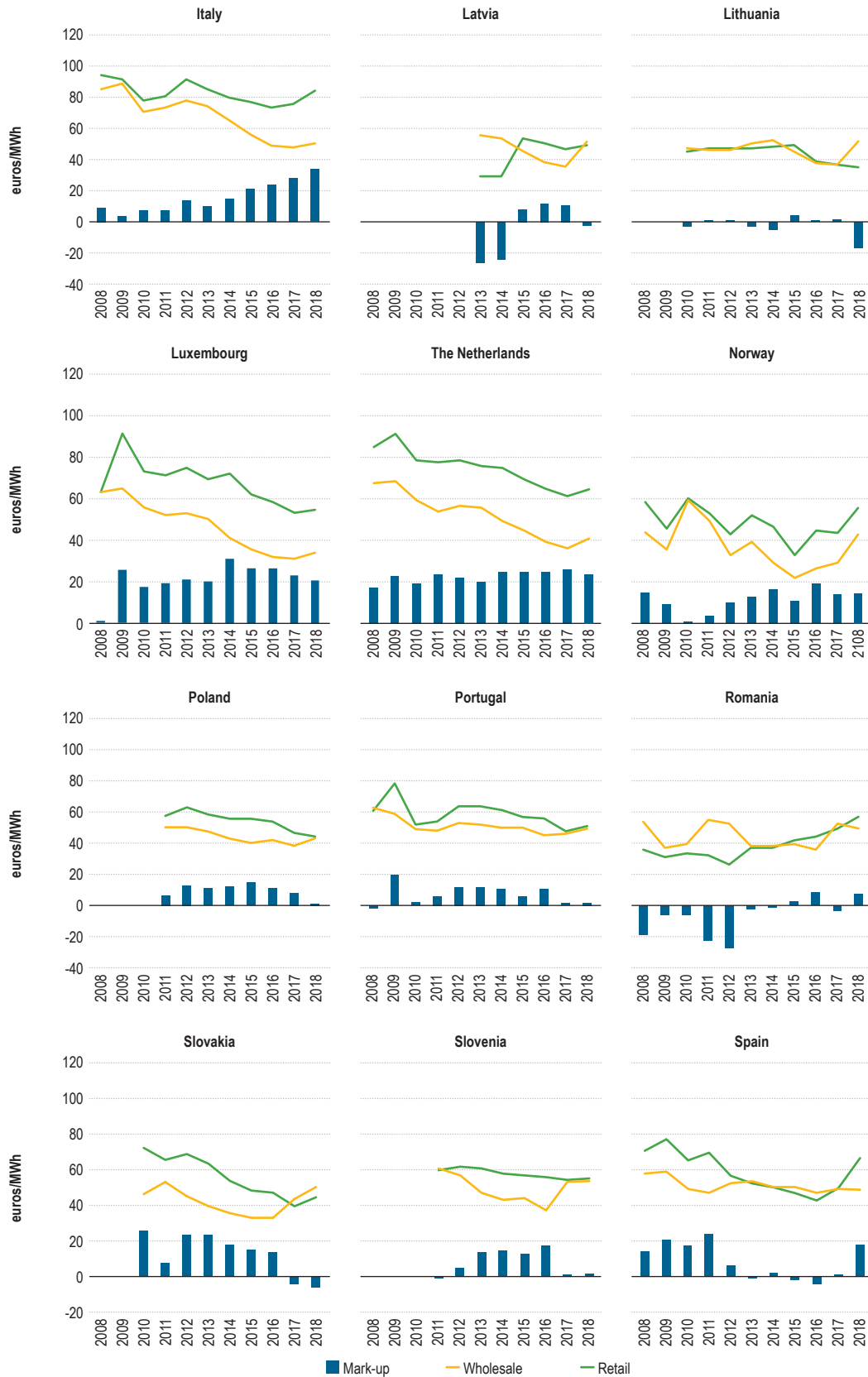
70 However, the link between wholesale and retail energy markets is weak in several countries as retail prices have not responded to changes in the wholesale price.

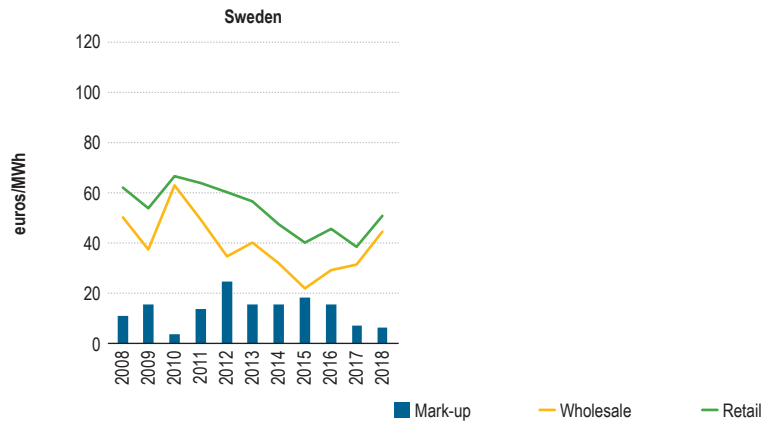
71 As indicated in previous reports, the energy component of retail prices and wholesale prices seem to correlate better in two groups of countries, but for different reasons. Prices correlate well in those markets characterised by lively competition, where final retail prices closely follow the wholesale market price, i.e. the offers available to consumers contain a direct reference to wholesale costs and a mark-up, e.g. electricity markets in Norway, Sweden, and Finland. In addition, a good correlation is observed in certain countries with regulated retail electricity prices, e.g. in Hungary and Poland. In these countries, retail household prices are set closely to follow changes in wholesale prices.

Annex 1: The relationship between retail and wholesale prices in electricity and gas markets for households by country

Figure A1-1: Responsiveness of the energy component of retail electricity prices to wholesale electricity prices and evaluation of mark-up in the household segment from 2008 to 2018 (euros/MWh)





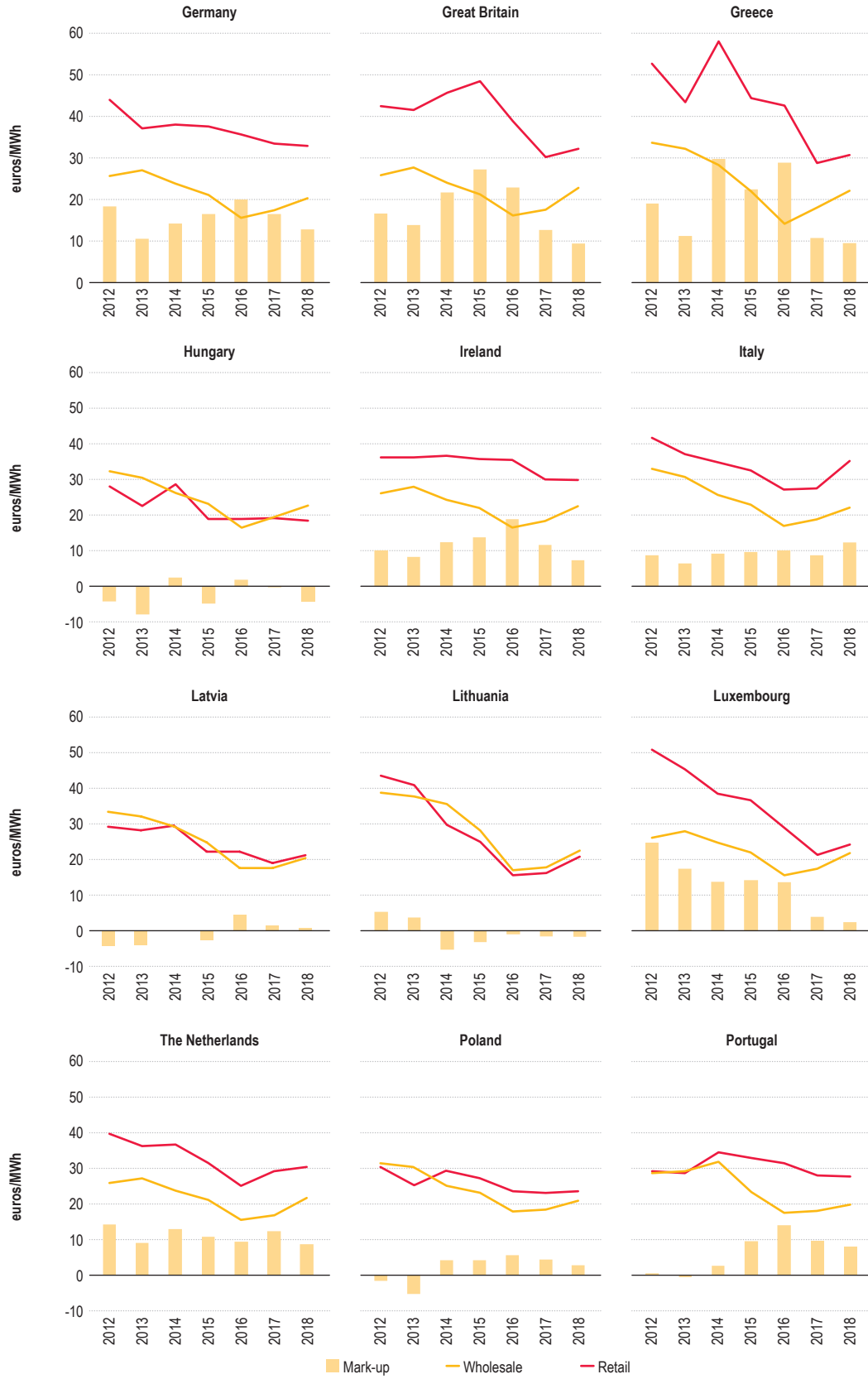


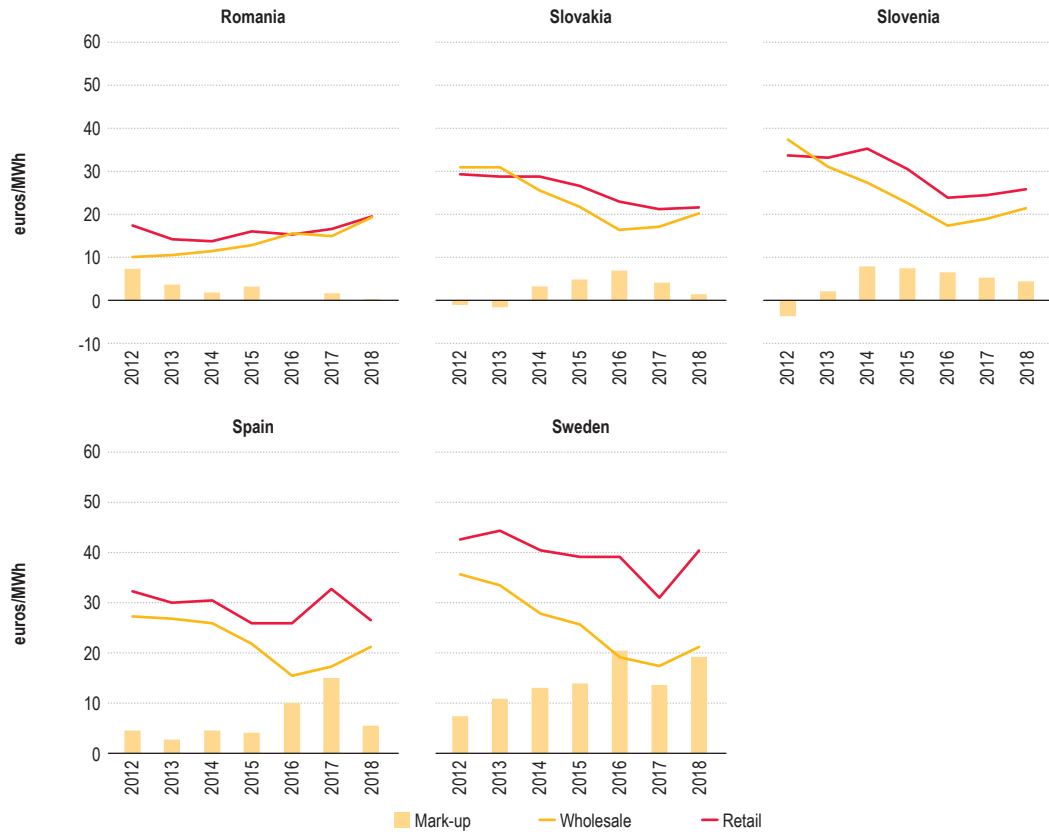
Source: Eurostat, European power exchanges, NRAs and ACER calculation.

Note: In the legends to all charts, the term 'Retail' refers to the 'Energy component of the retail price' and term 'Wholesale' to the 'Wholesale energy price'.

Figure A1-2: Responsiveness of the energy component of retail gas prices to wholesale gas prices and evaluation of mark-up in the household segment from 2008 to 2018 (euros/MWh)







Source: ACER Database, Eurostat, Eurostat Comext, ICIS Heren, NRAs and ACER calculations.

Note: In the legend to all charts, the term 'Retail' refers to the 'Energy component of the retail price' and the term 'Wholesale' to the 'Wholesale energy price'.

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