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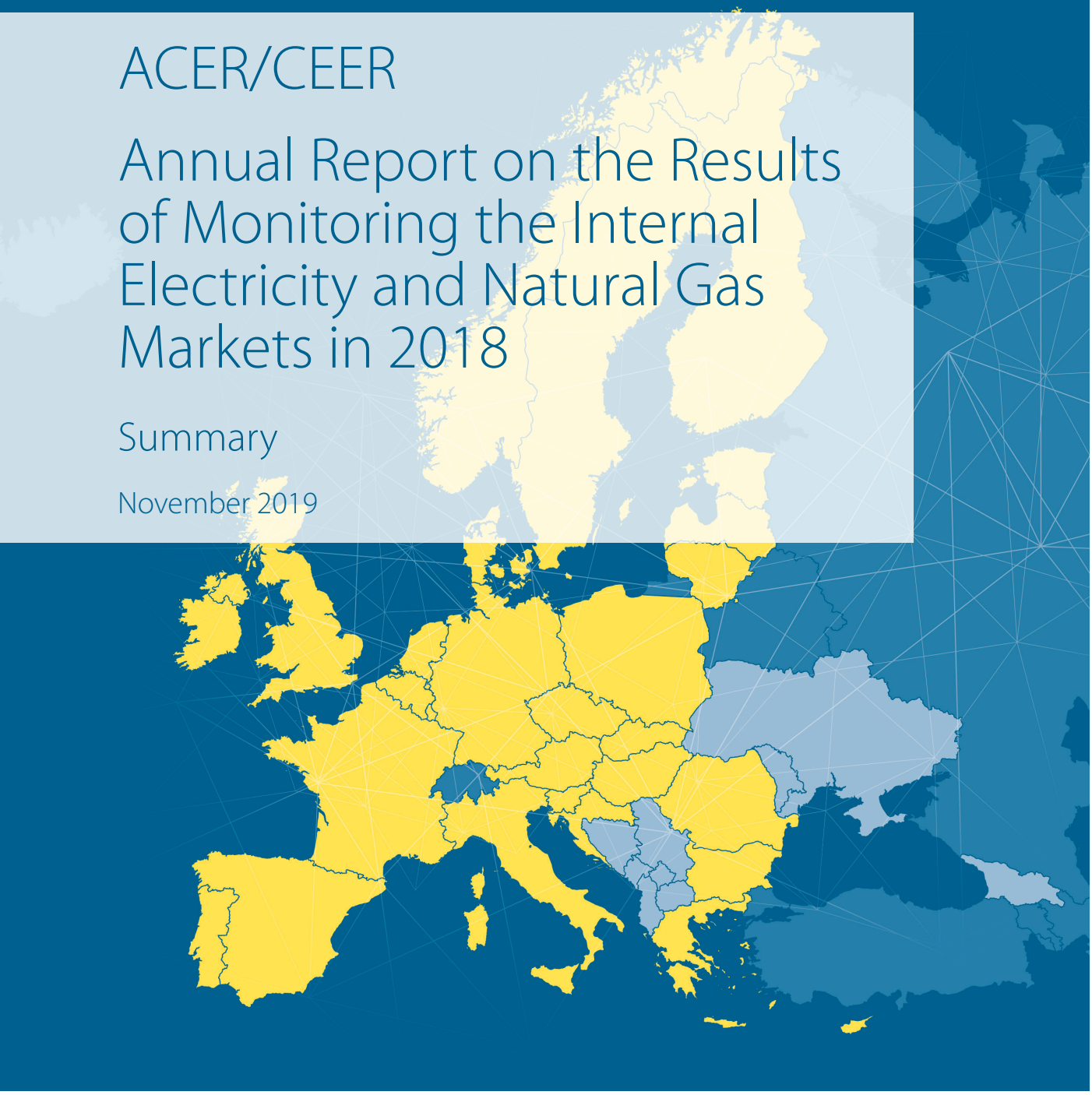
Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2018

Summary

November 2019



Introduction

Since 2012, ACER has presented the results of its monitoring activities in the annual Market Monitoring Reports (MMRs), produced and published in cooperation with the Council of European Energy Regulators (CEER). This year's MMR consists of four volumes, respectively on the Electricity Wholesale Market, the Gas Wholesale Market, the Electricity and Gas Retail Markets, and Customer Protection and Empowerment. The MMR covers EU Member States (MSs) and, for some topics, Norway, Switzerland and the Contracting Parties of the Energy Community (EnC CPs). This summary presents the highlights of this year's MMR.

Electricity wholesale markets

Market coupling contributed to maintaining a high level of efficiency in the usage of available cross-border capacity in the day-ahead timeframe, reaching 87% in 2018. However, the margin available for cross-zonal trade is often much lower than the 70% target required by the Clean Energy Package.

In 2018, average day-ahead (DA) electricity prices increased in most of Europe. Scope for further price convergence remains.

- In 2018, average DA electricity prices increased in all bidding zones, except in the Romanian market. Compared to 2017, increases of more than 30% were observed in several regions.
- Average price differentials of more than 10 euros/MWh were observed on nine borders: all British borders, the Bulgarian borders with Greece and Romania, and the borders between Spain and France, between France and Italy and between Norway and the Netherlands.

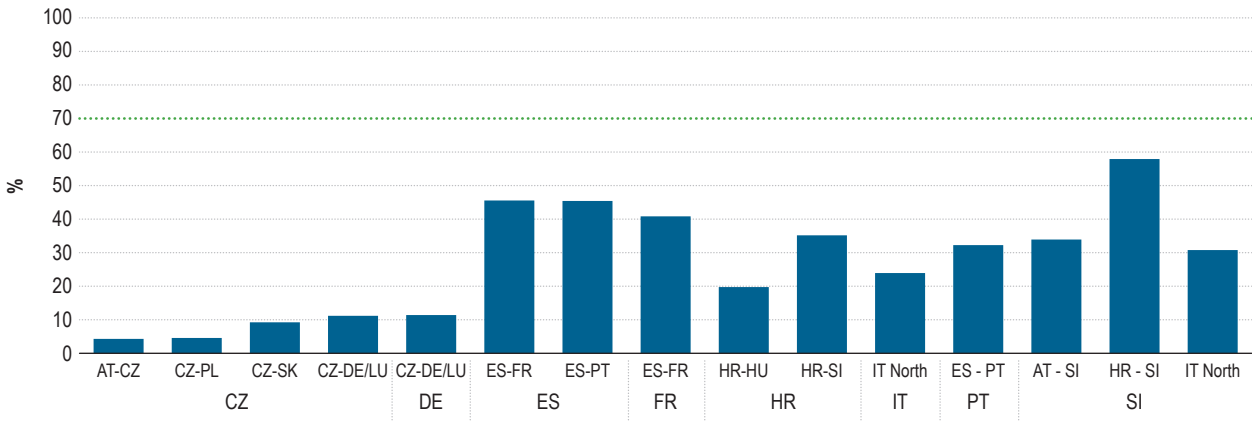
The level of efficiency in the use of available cross-border capacity in the DA timeframe remained high. However, several issues are still pending for single day-ahead coupling (SDAC) to be completed.

- The level of efficiency in the use of European interconnectors in the DA timeframe reached 87% in 2018.
- The main pending issues to finalise the completion of SDAC include the implementation of flow-based market coupling (FBMC) for the whole Core region and the integration of the various coexisting market coupling projects.
- The extension of DA market coupling to all European borders would yield additional benefits of more than 200 million euros per year.

Significant scope still remains for improvements in the use of capacity in the intraday (ID) and balancing timeframes.

- The launch of the Single ID Coupling (SIDC) in June 2018 was a major development towards completing the internal electricity market. It contributed to fostering ID liquidity and is expected to contribute to increasing liquidity even further.

Figure i: Average relative margin available for cross zonal trade (MACZT) on selected AC bidding-zone borders in Europe – 2016–2018



Source: ACER calculations based on ENTSO-E/TSOs and Nordpool data.

Note: The average relative MACZT is computed over all declared CNECs, taking EU bidding-zone borders into account. The margin available for trade on a given border is displayed from the perspective of the two MSs at both sides of the border, subject to data confidence. MSs and borders are selected based on the confidence in data, i.e. only borders for which the confidence was sufficient are displayed.

- Despite this major step, the level of efficiency in the utilisation of cross-zonal capacity in the ID timeframe remained low (50%). A further increase in the level of efficient use of ID capacity is expected from the extension of SIDC to the whole of Europe and from the implementation of pan-European ID auctions.

- The consolidation of existing initiatives and the upcoming go-live of various platforms for exchanging balancing services across Europe is expected to improve the efficient use of cross-zonal capacity in the balancing timeframe, which remains low (23%).

On most of the analysed bidding-zone borders, the margin available for cross-zonal trade (MACZT) is much lower than the 70% target required by the Clean Energy Package. Important efforts to meet the minimum target that will apply from 1 January 2020 are needed.

- The average MACZT between 2016 and 2018 was significantly below 70% on most analysed borders with alternate current (AC) lines (see Figure i).

- In the Central West Europe (CWE) region, where flow-based capacity calculation is implemented, the average MACZT is above 70%. However, the percentage of hours when the 70% level is reached on all critical network elements (CNECs) is generally low, while the relevant Agency's Recommendation requires that 70% of the MACZT is offered on all CNECs at all times.

- On most borders with direct current (DC) lines, at least 70% of the MACZT is available most of the time. Significant room for improvement exists on at least the Polish borders with Sweden and Lithuania.

- Internal lines continued frequently to constrain available capacity for trade, e.g. they still accounted for more than half of the total elements constraining capacity in the CWE region in 2018. The recent introduction of a minimum capacity margin in the CWE region is a step in the right direction.

- There is significant room for improving capacity calculation methodologies, especially with respect to non-discrimination of cross-zonal exchanges and transparency. To monitor the MACZT, transparency and the quality of data provided should be significantly improved.

- All the findings above raise concerns on the efficiency of the current configuration of bidding zones.

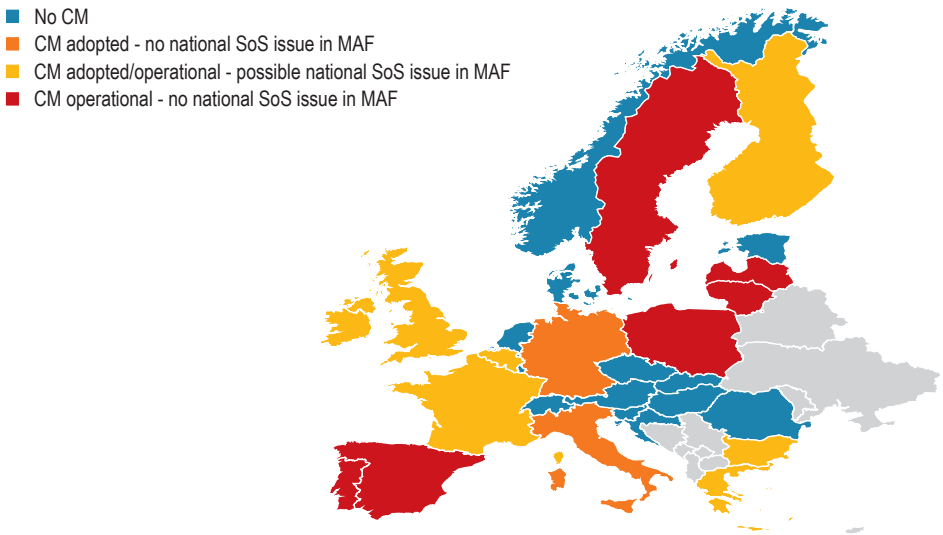
Several MSs continued to apply or plan to apply a Capacity Mechanism, whereas a number of these MSs do not seem to face an adequacy problem in 2020 or 2025.

- Various uncoordinated national Capacity Mechanisms (CMs) continued to operate throughout Europe in 2018. The costs related to CMs reached 2.5 billion euros in Europe in 2018 and are expected to increase further. In some MSs, capacity payments account for a significant share of total energy costs.

- Austria, Bulgaria, the Czech Republic, Latvia, Norway, Romania and Spain still do not take the contribution of interconnectors into account in their national adequacy studies.

- Based on the results of ENTSO-E's Mid-term Adequacy Forecast 2018, eight MSs that have introduced or are planning to introduce a CM, i.e. Germany, Italy, Latvia, Lithuania, Poland, Portugal, Spain and Sweden, do not seem to face an adequacy problem at national level in 2020 or 2025.

Figure ii: Perceived need for Capacity Mechanisms based on the MAF 2018 results



Source: ACER.

Note: In Spain (*), the CM used to comprise "investment incentives" and "availability payments". The availability payments were removed in June 2018 and the investment incentives only apply to generation capacity installed before 2016. In Italy (**) the analysis suggests potential adequacy issues at the bidding zone level, in Italy-Centre-North and Italy-Sicily, rather than at the national level.

Gas wholesale markets

Gas wholesale markets in MSs representing 70–80% of EU gas consumption have driven the continued improvement of the European internal gas market; however, progress in some of the least developed EU gas wholesale markets has been stagnant for years.

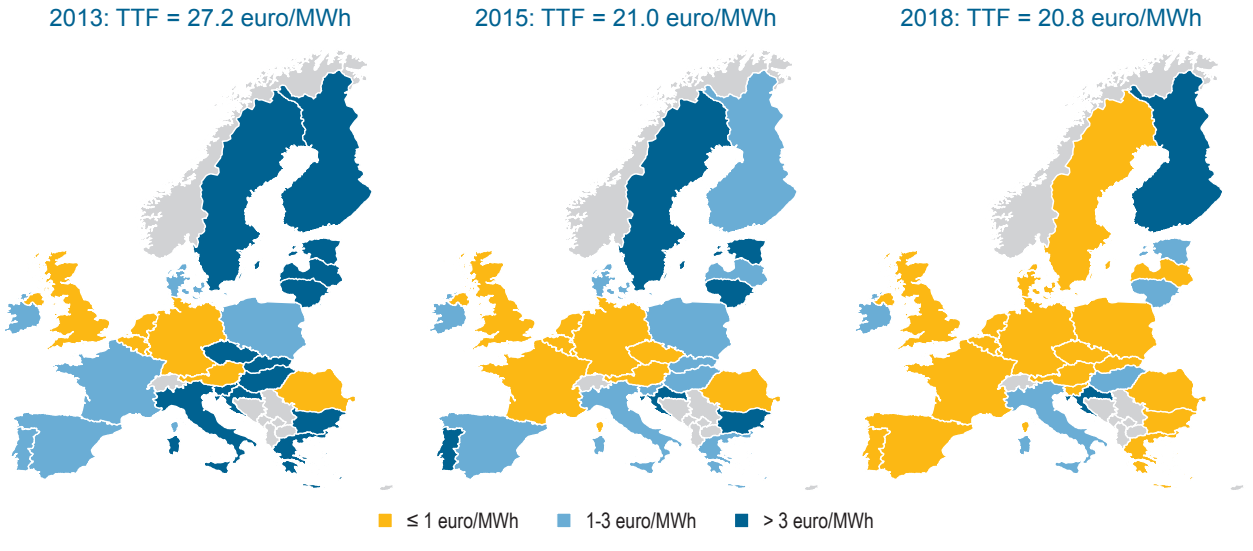
Over recent years, MSs' gas sourcing costs have converged to a significant extent, bringing tangible benefits to consumers.

- The differences in gas supply sourcing costs between MSs in 2018 were below 1 euro/MWh in most cases. Just four years ago, differences of more than 5 euros/MWh were common.
- The liberalisation of gas markets, antitrust pressure and infrastructure development have all helped to align gas import prices across the EU, as well as pressured the overall price for natural gas in the EU downwards. The move away from pricing long-term gas contracts based on oil prices in favour of gas hub prices and the rise of direct hub sales by gas producers means that the majority of gas supplied in the EU is now hub-price-linked. Only in a few MSs, where oil-price-linked contracts are still dominant, sourcing costs show a different pattern.
- Similarly, prices at EU hubs have converged to a significant extent. On most days, the difference in the market price for gas is below the price for transporting gas between hubs, indicating high levels of market integration. Unfortunately, gas markets in some MSs are yet to develop any liquidity and therefore do not have a daily market gas price.

The EU's internal gas market is becoming more reliant on imports, as domestic natural gas production continues to decline and renewable gasses are yet to be produced in significant quantities.

- This raises the question of MSs gas supply dependency: although in 2018 almost all MSs had access to three different gas sources and most had sufficient residual supply capacities to be independent of their largest supplier, concentration of gas supplies continues to be high in many MSs.
- Major gas producers from outside the EU are becoming more active across the value chain of European gas markets. They are increasing trading at EU gas hubs and growing their holdings of capacity rights at the EU's gas interconnector points.
- In the context of falling domestic production and growing presence of gas producers from outside the EU, gas wholesale markets with fewer market entry barriers and strong competitive pressure on suppliers have fared better in terms of gas prices. For instance, in the most competitive markets, suppliers seem to adapt their profit margins in order to compete (or keep market share) by pricing gas without necessarily passing on the full transportation costs to buyers.

Figure iii: Calculated gas supply sourcing cost* compared to TTF – estimates



Source: ACER estimates based on NRA input, Eurostat Comext, BAFA, ICIS.

Note: Suppliers' sourcing cost assessment based on a weighted basket of border import and hub product prices.*

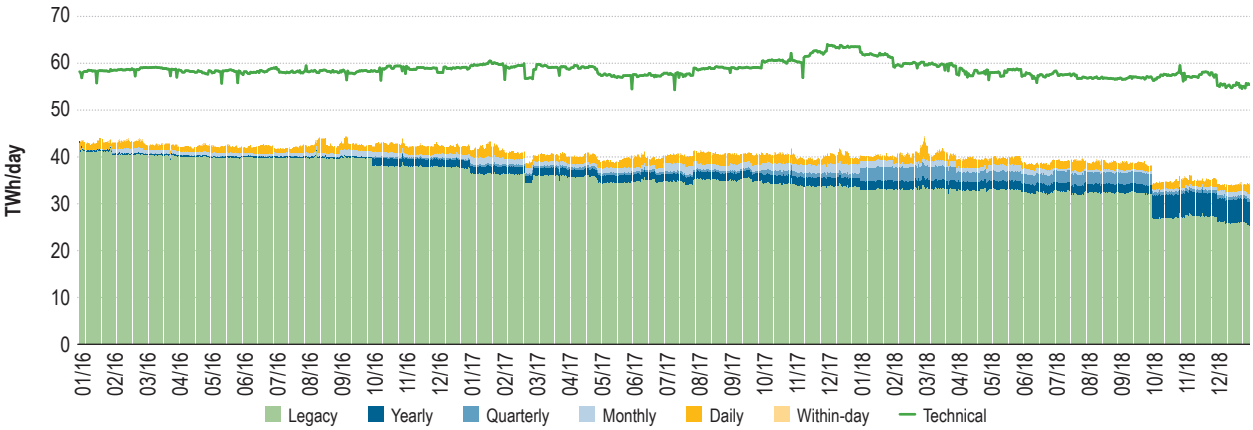
The Gas Target Model of liquid, interconnected virtual gas hubs is, at least in the spot timeframe, now well realised for markets that cover a large majority of EU's gas consumption; however, most of the smallest or previously isolated EU gas markets are yet to implement the hub model or attract liquidity to their virtual trading points.

- In 2018, there were notable positive developments in hub functioning of, *inter alia*, Spain, Italy and Austria: spot liquidity improved and a growing number of market participants helped increase competition.
- The Dutch TTF and the British NBP continued to have the most liquid forward markets for gas in the EU. The differing fortunes of the two hubs in terms of trading volumes indicate that TTF has established itself as the *de facto* forward market for gas in the EU.
- Gas wholesale markets in, *inter alia*, Portugal, Greece, Bulgaria and Croatia still lacked a hub in 2018. Gas wholesale markets in, *inter alia*, Slovakia, Romania and the Baltics have some hub dynamics but are far from reaching the GTM targets even in the spot timeframe. In order to catch up with better performing hubs, both the latter and former groups will likely need to adjust their gas market's design.

The access to and use of gas transmission systems is increasingly being governed by gas network codes (NCs) to the benefit of cross-border trade and gas markets functioning.

- The rules introduced by the Capacity Allocation Mechanisms NC (CAM NC) have simplified cross-border trade, enabling network users better to profile their capacity bookings and thus to respond to evolving market conditions more effectively.
- Legacy, long-term transportation contracts, which are expiring, are generally being replaced by short-duration products introduced by the CAM NC. In 2018, the expired volumes of long-term contracts were replaced by new bookings in most MSs. However, capacity at a few large IPs failed to attract buying interest from shippers after the expiration of legacy contracts; therefore overall booked transportation capacity at EU IPs decreased year-on-year.
- In the coming years, the rate of replacement of expiring long-term transportation contracts is likely to show diverse patterns, i.e. some contracts will be replaced while others will not. Non-replacement might, under certain conditions, have a negative impact on hub's price convergence. However, cross-border tariffs are only one of the drivers of hub price differentials. In 2018, there was no evidence of price divergence between markets where long-term contracts had already expired.
- The rules introduced by the Harmonised Gas Transmission Tariff Structures NC have increased transparency, but are likely to maintain some level of tariff competition among MSs, as shown by NRAs' current proposals on reference price methodologies. The risk is that this could result in undue cost transfers to neighbouring markets.
- The rules introduced by the Gas Balancing NC (BAL NC) have benefited spot markets' liquidity, even in MSs where spot gas markets were illiquid before the NC's implementation. This finding should embolden the MSs where gas balancing is still reliant on interim, transitional measures to bring forward the implementation of the core provisions of the BAL NC.

Figure iv: Type of capacity booked at selected CAM-relevant EU IP sides for the 2016–2018 period (TWh/d)



Source: ACER calculation based on data from GSA, PRISMA, RBP, ENTSOG TP.

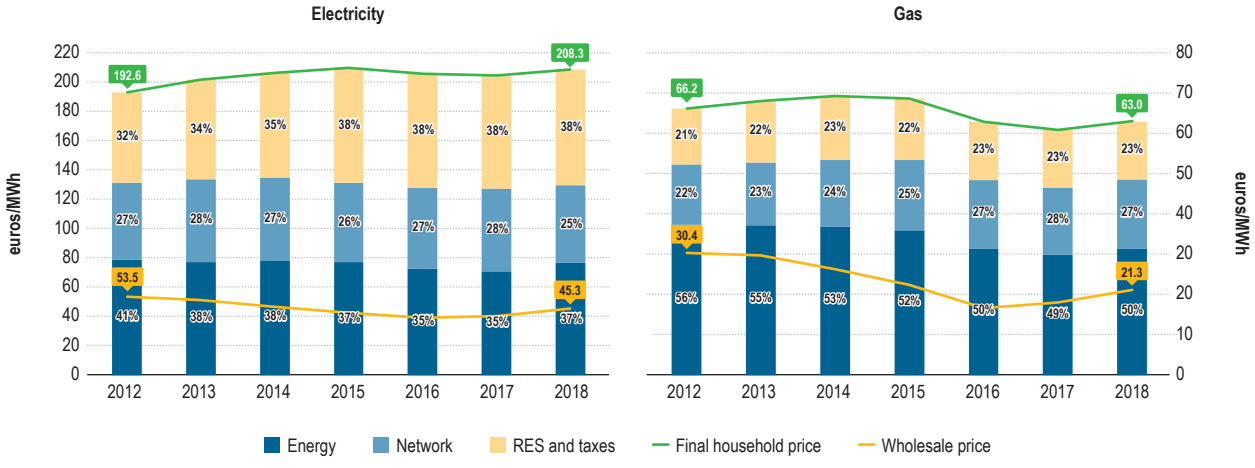
Notes: PRISMA covers products auctioned in 2016, 2017 and 2018; GSA applies to 2015, 2016, 2017 and 2018, while RBP time period is from May 2017 to end of December 2018.

Energy retail markets

In the 2012–2018 period, final household prices were not always responsive to changes in wholesale energy prices due to, *inter alia*, growing charges to fund renewable energy support schemes and higher network costs. However, the connection between wholesale and retail prices seems to have improved over the last couple of years.

- In 2018, EU household consumers saw, on average[1], a price increase for both electricity (+1.9%) and gas (+3.5%) compared to 2017, ending the trend of decreasing energy retail prices that started in 2016. For industrial consumers, electricity prices decreased, on average, by 2.2% while gas prices increased by 13.4%.
- Over the 2012–2018 period, lower wholesale electricity prices (-15%) did not result in lower retail electricity prices for households (+8%). Two factors explain this outcome:
  - The proportion of the final consumers' bill made-up by wholesale energy prices has been getting smaller at the expense of growing charges to fund renewable energy support schemes, which more than doubled over this five-year period (i.e. from 6% in 2012 to 13% in 2018).
  - Electricity mark-ups rose, on average, by 15% since 2012.
- In the 2012–2018 period, gas retail prices for households were, on average, responsive to changes in gas wholesale prices. Both the wholesale price and the energy component of the gas retail price decreased, on average, by some 10 euros/MWh over the 2012–2018 period, indicating a relatively stable mark-up. Similar to electricity retail prices, the share of the energy component in the final gas household price has gotten smaller at the expense of non-contestable elements. In the final gas retail price, the most relevant increase was for the network charges component.
- Despite the fact that final household prices have not always been responsive to changes in wholesale prices, it seems that their correlation has improved in the past couple of years. The shares of the energy component and of non-contestable charges have been more stable in both electricity and gas since 2015. Therefore, the energy component has become a more relevant driver of yearly variations in final retail prices paid by household consumers across the EU. However, differences among MSs persist, and the link between retail and wholesale prices is still weak in some countries.
- In the EnC CPs (excluding Ukraine), household electricity retail prices increased for the fifth consecutive year, while household gas prices rose in 2018, after four years of continuous decline. In Ukraine, both electricity and gas prices have risen sizeably since 2013.
- Contrary to the situation observed in the EU, in the EnC CPs industrial prices are higher than household prices. The historical cross-subsidisation of households by industrial consumers tends to explain this. However, this situation is starting to change, particularly in Ukraine where electricity retail prices for industrial consumers have decreased by 34% over the period 2013–2018, while electricity retail prices for households rose by 40%.

Figure v: Breakdown of final energy prices for electricity and gas household consumers in the EU – (euros/MWh and %) – 2012–2018



Source: ACER calculations based on Eurostat, Band DC: 2,500–5,000 kWh (household electricity prices), Band D2: 20–200 GJ (household gas prices) European Power exchanges (electricity wholesale prices), Eurostat Comext and ICIS Heren (gas wholesale prices) and ACER Retail database (household prices components).

Note: Prices in nominal terms.

1 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.

Consumer protection and empowerment

Most MSs have largely transposed the body of energy consumer protection rights of the Second and Third Energy Packages. The Clean Energy Package of 2019 has further strengthened the electricity consumers' active role in the market and in energy communities.

- The EU provisions on energy consumers' rights have evolved since the Second Energy Package introduced consumer protection rules in 2003. The Third Energy Package of 2009 significantly expanded electricity and gas consumer rights and the Clean Energy Package (CEP) of 2019, and its Recast Electricity Directive, increased the active role and rights of the electricity consumers.

- The body of energy consumer protections rights established in the Second and Third Energy Packages has been largely transposed in most MSs. This MMR's edition also includes some new CEP's concepts in its scope, in order to begin to examine their application across Europe.

- Almost all EU MSs have a Supplier of Last Resort (SOLR) mechanism in order to replace a failing supplier for both electricity and gas. The SOLR usually charges higher prices in order to incentivise consumers quickly to switch to another supplier. However, in most countries, the SOLR often also performs other functions (e.g. protecting inactive consumers or those with payment difficulties) and in some cases serves a very large proportion of consumers, who do not necessarily seem to need protection.

- Disconnection rates for electricity and gas in the EU rarely exceeded one to two percent in 2018, with a share of around 4% in only two MSs. Legal minimum length for a disconnection due to non-payment varied between three weeks and two months.

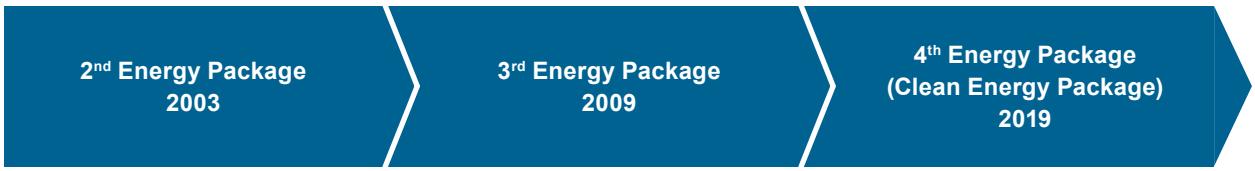
- The CEP reinforces calls on MSs to define the concept of energy poverty and to assess its level of importance according to specific criteria. So far, only seven MSs have defined energy poverty, with their share of energy-poor consumers varying between 4% and 14% for both electricity and gas. Many other MSs need to establish a clear definition of energy poverty in order to track its relevance and to apply effective solutions.

- Some 100 million retail consumers (one-third of the EU total) have an electricity smart meter. In 12 MSs over 50% of consumers are reached by smart meters, while six MSs meet the EU 2020 target of reaching at least 80% of consumers. Several MSs had a negative cost-benefit analysis, resulting in no mass roll-out. The roll-out of gas smart meters, where EU rules are less prescriptive, is still in an initial phase and has started in five MSs.

- Retail smart meter-related offers are emerging in an increasing number of EU countries. Options include time-of-use contracts, with intra-day/weekdays/weekend energy price differentiation (available in 16 MSs) and real-time or hourly energy pricing contracts (available in eight MSs). Such ongoing innovation increases the active role of energy consumers as foreseen in the CEP.

- While the National Regulatory Authority (NRA) is responsible for handling complaints in most EU countries, in half of the cases its role is only to forward complaints to another body. In 2018, as in the previous years, the main share of consumer complaints received by NRAs

Figure vi: Evolution of EU rules on energy consumer protection and empowerment rights



2nd Electricity and Gas Directives **introduced notion of consumer protection**, e.g.

- First public service obligations (e.g. obligation to protect vulnerable consumers)
- Measures for consumers to be able to switch
- Right to file a complaint

3rd Electricity and Gas Directives **expanded the scope of consumer rights to reflect full retail contestability**, e.g.

- Ability for consumers to choose own supplier
- Right to get minimum information
- Availability of comparison tools
- Smart meters roll-out

Recast Electricity Directive **aligns electricity consumer rights to a decarbonised energy system**, e.g.

- Direct participation of the consumer in the market (e.g. demand response, aggregation contracts) and/or in Energy Communities
- Some existing provisions to become more prescriptive (e.g. minimum requirements for comparison tools, energy poverty)

for both electricity and gas related to invoicing, contracts and connection issues. While the EU-mandated legal maximum time to respond to a complaint is two months, it ranged between one and two months in most EU countries in 2018.

- Many MSs meet the EU target of a maximum of three weeks to switch supplier and many outperform on the average time for the consumer to receive the final bill (five weeks, both for electricity and for gas, while the maximum legal requirement is six weeks). According to the Recast Electricity Directive, by 2026 the switching time should be completed within 24 hours.

- Electronic billing and price comparison tools (CTs) are available and well established in most EU retail markets. Reliable CTs are available in 18 EU countries for electricity and in 15 EU countries for gas. The Recast Electricity Directive explicitly defines the quality requirements of a CT, which have been met in seven MSs.

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