ACER

Agency for the Cooperation of Energy Regulators

CEER

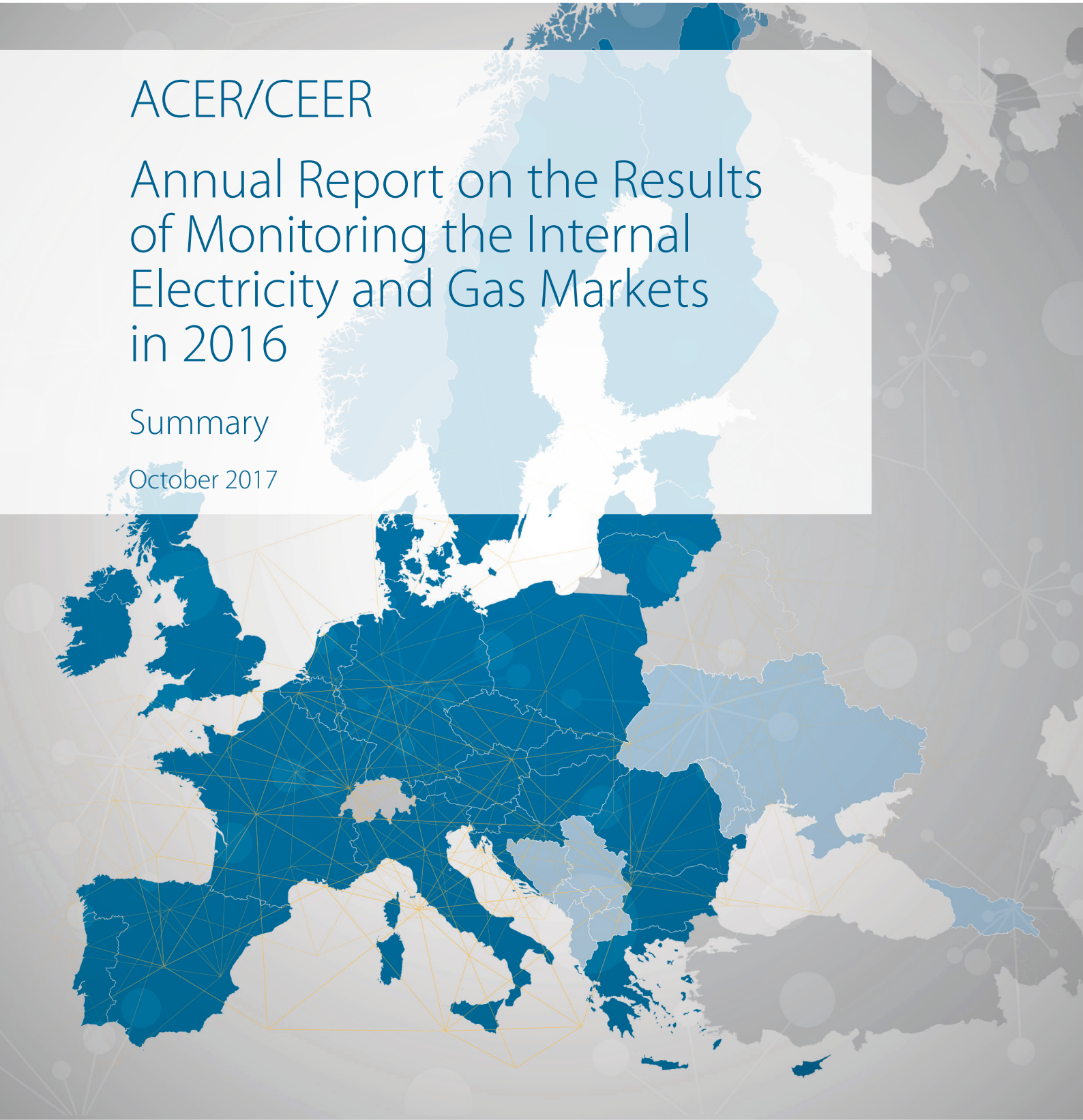
Council of European Energy Regulators

ACER/CEER

Annual Report on the Results of Monitoring the Internal Electricity and Gas Markets in 2016

Summary

October 2017



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.

If you have any queries relating to this report, please contact:

ACER

Mr David Merino
T +386 (0)8 2053 417
E david.merino@acer.europa.eu
Trg republike 3
1000 Ljubljana
Slovenia

CEER

Mr Andrew Ebrill
T +32 (0)2 788 73 35
E andrew.ebrill@ceer.eu
Cours Saint-Michel 30a, box F
1040 Brussels
Belgium

1. Introduction

- **Why market monitoring?** The Third Energy Package tasks the Agency for the Cooperation of Energy Regulators (ACER) with monitoring the internal markets for electricity and gas. Proper monitoring based on facts and analysis helps to understand the state of the Internal Energy Market better and also allows policy makers to identify any remaining barriers to its completion so that appropriate measures can be adopted. In addition, energy market monitoring provides greater transparency to the benefit of market participants and consumers.

- **What is monitored?** Since 2012 the Agency has been publishing annual Market Monitoring Reports (MMRs), prepared in cooperation with the Council of European Energy Regulators (CEER).The MMR presents the results of the Agency's monitoring of retail prices, consumer rights and wholesale market functioning, including network access. Such monitoring also includes an assessment of the market effects of the implementation of the electricity and gas Network Codes. Monitoring is still hampered by the difficulty of the Agency to collect the necessary data hence it should be given information gathering powers. The MMR consists of four volumes, respectively focusing on: the Gas Wholesale Market, the Electricity Wholesale Market, the Electricity and Gas Retail Markets, and Consumer Protection and Empowerment.

- **Which markets are monitored?** The Agency's monitoring activities, whose results are presented in the MMR, cover the EU MSs and the associated markets of Norway and Switzerland. For selected topics, the assessment is extended to the Contracting Parties of the Energy Community (EnC), thanks to the support of the Energy Community Secretariat.

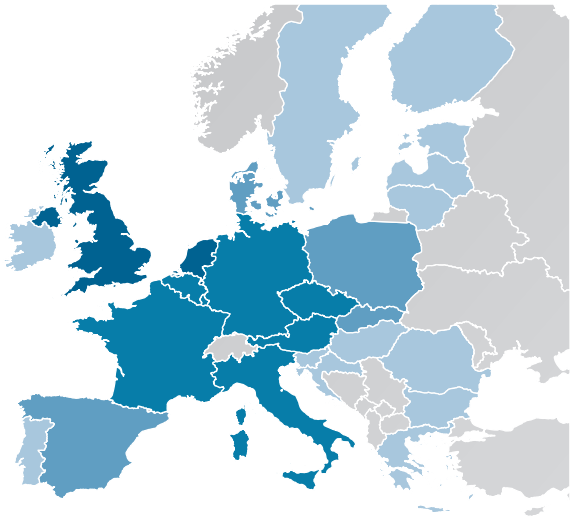
2. Gas wholesale markets

Most EU gas wholesale markets are advancing through better market functioning but market barriers persist. A few markets still do not meet the basic requirements.

- Better market functioning in 2016 was driven by increased supply-side competition, improved convergence of gas sourcing costs across MSs, enhanced use of recently deployed cross-border infrastructure and progress in the implementation of the Third Package. As a result, hub prices continued to converge across the EU.

- The assessment of EU gas markets, performed using the ACER Gas Target Model (AGTM) metrics, reveals an overall gradual improvement in the 2013–2016 period, although further progress towards more liquid and competitive markets is required. As shown by Figure 1, there is an important divide between North-West Europe and other regions. Overall, liquidity of forward products is still limited in most hubs.

Figure 1: Ranking of EU gas hubs - 2016



- **Established hub:** Broad liquidity with sizeable forwards and price reference indexes.
- **Advanced hubs:** Higher liquidity but 'spot/prompt' dominated.
- **Emerging hubs:** Low but improving liquidity. High reliance on long-term contracts.
- **Illiquid-incipient hubs:** Diverse group; some organised markets in early stage with embryonic liquidity while others lack entry-exit systems. Reliance on long-term contracts.

Source: ACER based on AGTM metric results.

- Some barriers continue to hinder the functioning of gas wholesale markets. Their nature and severity tend to differ by hub category. In established, advanced and emerging hubs they relate to market functioning, whereas in illiquid hubs they relate to the structural design of the market. Hence, MSs are urged to further implement relevant reforms in order to improve hub development, e.g. by following best-practice trading rules of more developed hubs. The presence of financial traders on hubs is essential to foster forward liquidity. Therefore, relevant authorities should make a clear distinction between supply and pure wholesale trading activities (e.g. for licensing) to attract financial traders. NRAs should also set proportionate requirements for small and new entrants so they can operate in the wholesale market.

- Security of supply policies need to be balanced, guaranteeing safe operation of the system while not restraining market competition. Also, transparency and market consultation processes should be guaranteed. NRAs shall take responsibility to enforce data provision requirements, including its quality dimension.

Network Codes are proven to have a positive impact on market functioning, although the effects of market fundamentals still prevail.

- The proper implementation of Network Codes is essential for promoting competition by guaranteeing fairer network access and transparent operation rules. Still, market factors including demand, decreasing oil prices, increased supply-side competition and suppliers' strategic reliance on hubs are seen as more decisive.

- The Balancing Network Code (BAL NC) has been implemented fully and beyond its basic requirements in North-West Europe. The results presented in the MMR reveal that more frequent and reliable information and a residual TSO role foster hub liquidity all over the trading curve. Therefore, the other MSs should fully implement the provisions of the BAL NC. Furthermore, given the positive examples of these MSs, NRAs and TSOs should consider assessing the benefits of tuning balancing system towards observed best practices.

- The market-orientation of the Capacity Allocation Mechanism (CAM) and Congestion Management Procedures (CMP) provisions, together with the harmonisation and transparency that they provide, have had a positive impact. The holistic analyses – on a few selected Interconnection Points (IPs) – looking at transportation tar-

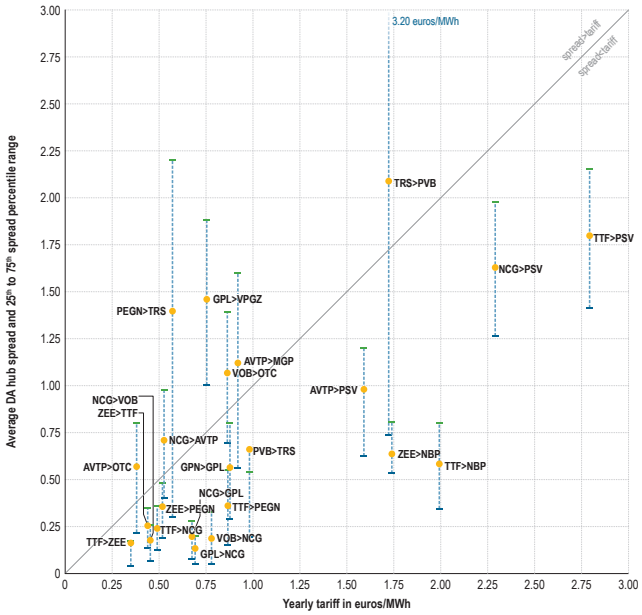
iffs, flows, capacity utilisation, auction results and hub spreads – reveal how CAM and CMP provisions are facilitating more market driven operation at IPs. They facilitate capacity acquisition where arbitrage on hubs spreads is profitable and facilitate the release of capacity in case of contractual congestion.

- However, the effectiveness of CAM and CMP provisions is still limited. Changed market fundamentals, i.e. decrease of demand and larger availability of capacity, and persisting, long-term contracts are currently limiting the anticipated impacts. The sizeable shares of long-term booked capacity largely determine IP utilisation – e.g. the average booked capacity at EU IPs was around 60% in 2016, while average utilisation was around 50%. CMP measures were implemented only in seven MSs by the end of 2016, although in fact, only 13% of EU IPs are contractually congested at present.

- Moreover, there is very limited contracting of new bundled and short-term capacity because the price-spreads between hubs do not usually cover transportation costs. As a result, the prices of hub-placed orders tend to be determined by market players' short-run marginal costs.

- Figure 2 further illustrates this. Hub spreads that are higher than transportation tariffs are witnessed only in the market areas with lower liquidity and/or possible IP capacity constraints. Moreover, the fact that daily tariffs are usually higher than yearly tariffs further limits spot arbitrage opportunities. The re-alignment of short-term multipliers to limits set in the Network Code on Harmonised Gas Transmission Tariff Structure swill lead to further integration among hubs.Given the above, new infrastructure investment should not be a priority in most MSs, except for, inter alia, the bi-directional corridors of Greece-Bulgaria-Romania-Hungary and the Poland-Baltic interconnector that would enhance market integration. New investments should be subject to a validated cost-benefit analysis with a regional scope, so as to avoid stranded assets and undue tariff increases for end-consumers. Alternatively, the use of existing transportation infrastructures should be further optimised via enhanced operational cooperation.

Figure 2: Day-ahead price spreads compared to yearly transportation tariffs – 2016.



Source: ACER based on Platts and hub operators' data for prices and ENTSOG TP for transportation tariffs.

As an example, in 2016, new booked bundled capacity was less than 1% of total offered capacity at EU IPs. Issues deriving from lack of harmonisation between adjacent systems also played a part.

Cross-border capacity tariffs higher than hub-spreads are common in many EU liquid gas hubs

- The market situation where hub spreads are well below transportation tariffs is driven by suppliers' sourcing costs being of similar levels across many market areas and to a certain degree by the lock-in effect of existing (historical) long-term contracts .At present, these contracts constitute a sunk-cost for many over-contracted companies.

- Finally, TSOs should complete the implementation of the gas NCs in all MSs timely and properly. A coordinated implementation at cross-border/regional level shall foster effectiveness. In particular, TSOs should set rules to facilitate the transfer of capacity between network users, resulting in more market-based CMP provisions. Data reporting and quality shortcomings observed with the ENTSOG Transparency Platform (TP) need to be urgently overcome: ENTSOG should take responsibility for its members data, as the current status of the TP hinders the feasibility of achieving a deeper understanding of the effects of NCs on market functioning.

3. Electricity wholesale markets

The use of the available cross-border capacity in the day-ahead timeframe is close to optimal. However, for the intraday and balancing market timeframes it could be significantly improved.

- The level of efficient use of the available cross-zonal capacity (use in the economic direction when there is a price spread) in the day-ahead (DA) time frame reached 86% in 2016 (see Figure 3). An additional 203 million euros/year of social welfare gain is possible if DA market coupling is extended to the remaining cross-zonal borders.

- The level of efficient use of cross-zonal capacity in the intraday (ID) timeframe was 50% in 2016. The level was 100% on borders with implicit ID auctions, 49% on borders with implicit continuous trading, and 40% on borders with explicit capacity allocation methods. In recent years, ID liquidity has improved in markets where measures aligned with the Agency's recommendations (such as ensuring full balancing responsibility for all technologies and cost-reflective balancing charges) were implemented.

Cross-zonal exchanges are discriminated against internal (intra-zonal) ones, limiting the cross-border capacity available for trade.

- As Figure 4 shows, only an average 50% of the benchmark cross-zonal capacity, i.e. the capacity which could be made available while preserving operational security, is offered to the market on HVAC EU interconnectors. Approximately two thirds of the 'gap' between the commercial and the benchmark cross-zonal capacity is caused by the prioritisation of internal (intra-zonal) over cross-zonal exchanges.

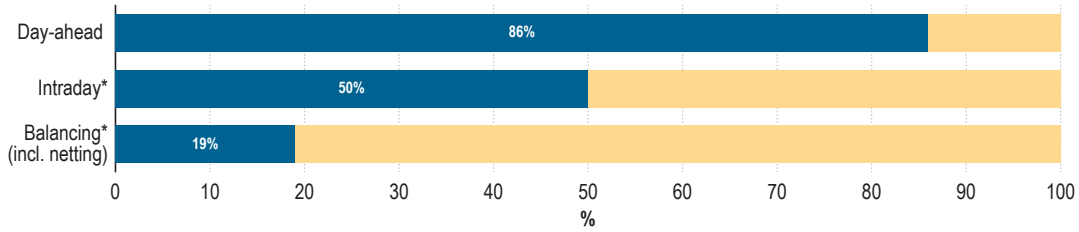
- In the CWE region, the flow-based (FB) method allows monitoring capacity calculation more closely. In this region, cross-zonal trade is most frequently limited, approximately 70% of the times, by internal lines. Moreover, only around 16% of the capacity of critical network elements (CNEs) is made available for cross-zonal trade, whereas the remainder is 'consumed' by internal flows. Where NTC (Net Transfer Capacity) applies, equivalent data is not available and the room for discrimination may be higher.

- TSOs often use cross-zonal capacity as an adjustment variable to address various internal market or network issues.

- The Agency recommends that the three high-level principles proposed in the Agency's Recommendation No 02/2016 be followed by TSOs and NRAs when developing, approving, implementing and monitoring capacity calculation methodologies.

- Where the use of remedial actions is not sufficient to ensure an appropriate level of cross-border capacities, the Agency recommends that a reconfiguration of bidding zones be applied.

Figure 3: Level of efficiency in the use of interconnectors in Europe (% use of available commercial capacity in the 'right economic direction') – 2016



Source: ACER based on ENTSO-E, NRAs, EMOS and Vulcanus.

*Note: *Intraday and Balancing values are based on a selection of EU borders.*

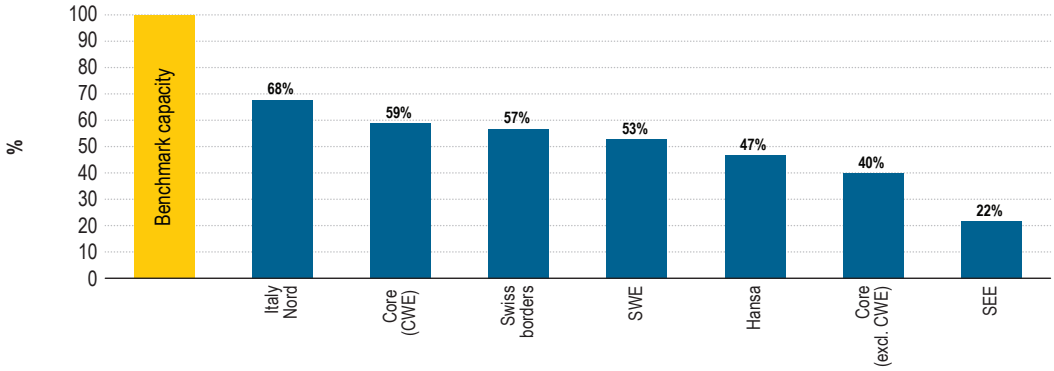
- For the balancing timeframe, the level of efficiency in the use of cross-zonal capacity was 19% in 2016, almost twice the 2015 level. The improvement is the consequence of an increasing trend in the exchange of balancing services.

- Therefore, NRAs and TSOs should urgently implement DA market coupling on the remaining 16 European borders, including the Swiss borders.

- When developing and approving a cross-zonal ID capacity pricing methodology, TSOs and NRAs should take into account that ID auctions increase the level of efficient use of cross-zonal capacity.

- NRAs and TSOs should ensure full balancing responsibility for all technologies and cost-reflective balancing charges. TSOs should ensure an effective and rapid implementation of the Electricity Balancing Guideline, with a focus on optimising the procurement of balancing capacity and the exchange of balancing resources.

Figure 4: Ratio between available cross-border capacity and the benchmark capacity of HVAC interconnectors per region – 2016 (%)



Source: ACER based on data provided by NRAs, ENTSO-E and Nordpool Spot.

Note: Available cross-border capacity refers to average Net Transfer Capacity (NTC) values, except for the Core (CWE) region, where available capacity relates to the size of the actual FB domain and the benchmark capacity relates to the size of a benchmark domain.

- MSs could set a binding target for the availability of existing and future cross-border capacity, e.g. by defining a minimum share of physical cross-zonal capacity which should be made available for cross-zonal trade.

Insufficient TSOs' coordination also reduces the cross-border capacity available for trade.

- Commercial capacity could be increased by approximately 30% if the level of TSO-coordination were to be enhanced. On meshed networks, a higher level of coordination (e.g. with flow-based (FB) capacity calculation) improves price convergence, social welfare and in general the efficient use of cross-border capacity.

- NRAs and TSOs should ensure the effective and rapid implementation of all legal provisions related to TSO coordination for the Regional Security Centres, as introduced by the System Operation Guideline, or potentially for Regional Operation Centres in the future. They should also ensure the effective and rapid implementation of FB capacity calculation, as required by the Capacity Allocation and Congestion Management (CACM) Guideline.

Insufficient transparency in capacity calculation

- A more in-depth monitoring of the capacity calculation processes for the 2016 MMR was enabled by FB. However, access to available data on capacity calculation remains an issue for the Agency.

- NRAs and/or the EC should request TSOs to publish all data generated for cross-zonal capacity calculation in a timely and user-friendly manner. This could be done on a voluntary basis or by amending the existing "Transparency Regulation".

Fragmented national adequacy assessments underestimates the contribution of interconnectors to security of supply.

- Efficient price formation in the wholesale energy market has the potential to contribute to the security of supply. It allows generation and demand to see the benefits of responding to the adequacy needs. For example, in 2016, the re-emergence of price spikes (above marginal costs) in the EU seems to be correlated to the presence of tighter adequacy margins.

- One third of the national adequacy assessments, where a decision was taken on whether to implement a capacity mechanism (CM), ignore the contribution of interconnectors to adequacy. In most of the other countries, national adequacy assessments tend to underestimate this contribution.

- Hence, before implementing a CM, MSs should exhaust all possible no-regret measures, including the removal of price caps, ensuring the equal treatment of generation technologies regarding balance responsibilities, increasing demand-side participation, removing undue limitations on cross-zonal trade and removing any other barrier to efficient price formation in the wholesale electricity markets.

- MSs, the EC and NRAs should seek ways to strengthen the role of European adequacy assessments. In particular, the estimated contribution of interconnectors when considering the implementation of a CM should be based on regional or pan-European assessments, as they have a clear potential to provide better results than fragmented national assessments.

4. Retail energy markets, consumer protection and empowerment

Both gas and electricity retail prices for household and industrial consumers declined in 2016. However, the share of the energy component in the final price for household consumers continued to decrease.

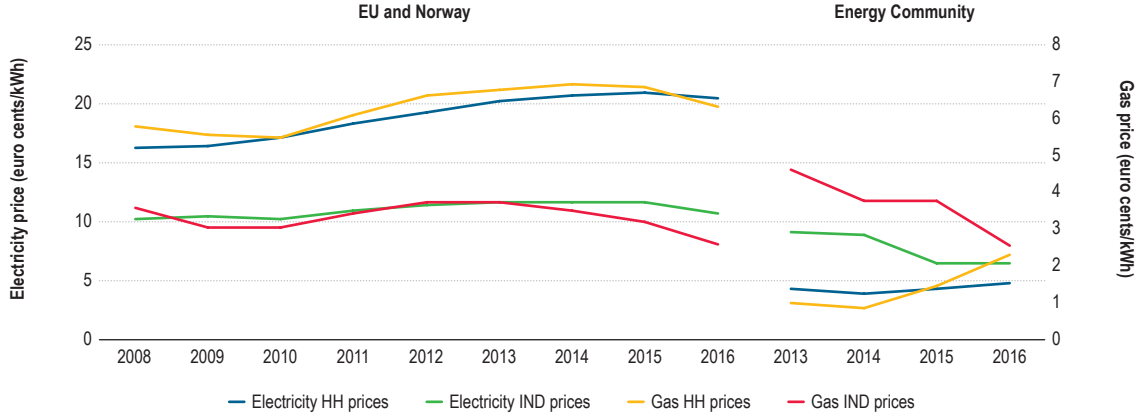
- In 2016, compared to 2015, both electricity and gas retail prices fell on average for both household and industrial consumers throughout the EU, as shown in Figure 5. For electricity industrial consumers, this decreasing trend (-7.1%) was observed for the third consecutive year, whereas electricity household consumers saw the first price decrease (-2.1%) in the past eight years. Average gas prices fell considerably for both household (-8.4%) and industrial consumers (-20.1%) for the second and fourth consecutive year, respectively.

- In the Energy Community Contracting Parties, electricity and gas prices paid by industrial consumers tend to be higher than household prices. In the 2013–2016 period, the price convergence between the two retail segments is mainly driven by developments in Ukraine.

- In 2016, the share of the contestable part (i.e. the energy component) of the final energy price paid by household consumers across EU capital cities was only 35% for electricity and 50% for gas, while the remainder consisted of non-contestable charges, i.e. the sum of network costs, taxes, levies and other charges (Figure 6). Moreover, the energy component in the final price decreased gradually over the past five years, leaving less room for competition among retail suppliers. In the 2012–2016 period, the energy component fell from 41% to 35% for electricity, while it fell from 56% to 50% for gas.

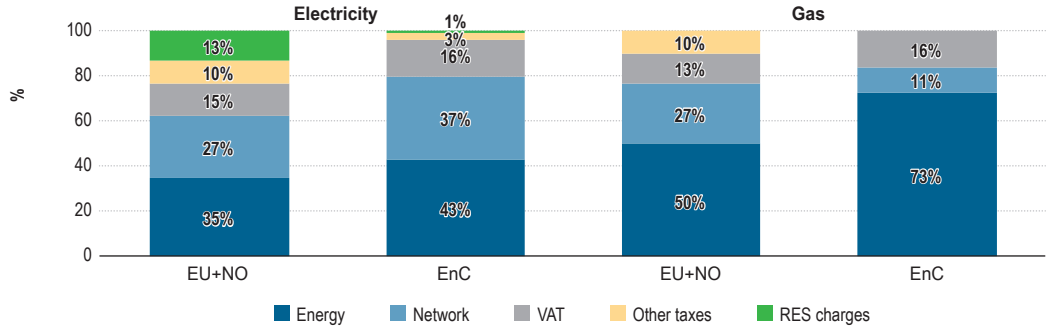
- In the Energy Community Contracting Parties, the average share of the contestable charges paid by households represented 43% for electricity and 73% for gas (Figure 6).

Figure 5: Trends in final electricity and gas prices for household and industrial consumers in the EU, Norway and the Energy Community – 2008–2016



Source: ACER based on Eurostat (14 June 2017) for consumption band DC, IE, D2 and I5, NRAs, EnC Secretariat.

Figure 6: Electricity and gas breakdown of the incumbents' standard offer for households in capitals of the EU, Norway and the Energy Community – 2016



Source: ACER and CEER databases, price comparison tools, incumbent suppliers' websites, NRAs, EnC Secretariat.

Consumer protection & empowerment rights mostly transposed into national and regional law.

- Supplier of last resort (SoLR) mechanisms are generally used to replace failing suppliers, but often perform other functions, including protecting inactive consumers or those with payment difficulties. SoLR mechanisms are widely in place across the EU. However, in some MSs, large shares of households are supplied by SoLRs, which raises questions about why so many households either remain inactive or need protection. Therefore, it is recommended that SoLR mechanisms be designed in ways that enable and promote consumer engagement in the liberalised market.

- Information on energy bills should be clear and transparent. The current practice of presenting, on average, ten distinct information items may be too much for consumers to deal with. It is recommended that consumers are provided with only essential information on bills, such as price, energy consumption, payment options and the details of the single point of contact. Detailed consumer information could be provided through various other communications channels.

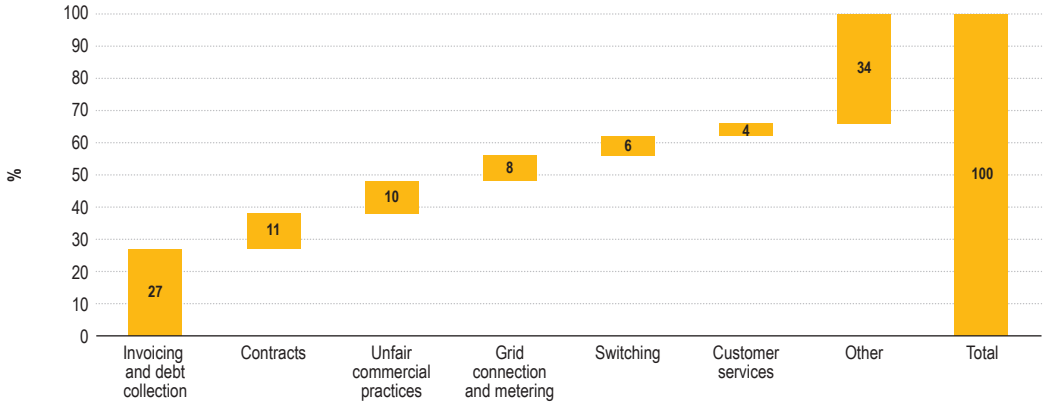
- From a European-wide perspective, approximately 25% of household consumers are equipped with electricity smart meters, while, for gas, the use of smart meters remains negligible. MSs are encouraged to ensure that smart meters are equipped with functionalities which enable consumers easily to benefit from and participate in energy efficiency and demand response/ flexibility schemes.

- Most MSs have at least one reliable comparison tool (CT) which consumers can use to make an informed supplier choice. The MSs lacking reliable CTs should make a reliable CT available to consumers without delay. NRAs are also strongly invited to assess the effective functioning of CTs and, where necessary, work towards improving it.

- In order to exercise their switching right, consumers must experience a smooth process. In 2016, the average switching time in the EU was, on average, 12 working days, lower than the EU three-week switching target. In the ACER-CEER Bridge paper, a 24-hour target for technical supplier switching, to be achieved by 2025, was proposed. Given the massive roll-out of IT solutions, this target could be achieved by an earlier date (e.g. 2022).

- Around half of consumer complaints received by NRAs for both electricity and gas relate to invoicing, contracts and unfair commercial practices exhibiting improvement potential (Figure7).

Figure 7 Consumer complaints to NRAs from households by main categories for gas across the EU (%) – 2016



Source: CEER Database, National Indicators (2017).