

The 5th Annual Report on Monitoring the Electricity and Natural Gas Markets

Main insights

Alberto Pototschnig
Director, ACER

Lord Mogg
President, CEER
Chairman, ACER Board of Regulators

Martin Godfried
Team Leader, ACER

Bart Vereecke
Team Leader, ACER

Brussels, 9 November 2016

Outline

- Introduction
- Electricity and gas wholesale markets
- Electricity and gas retail markets
- Consumer protection and empowerment

The Market Monitoring Report provides an in-depth year-on-year analysis of the remaining barriers to the well-functioning of the IEM and provides recommendations



Some background to the fifth MMR

Key milestones

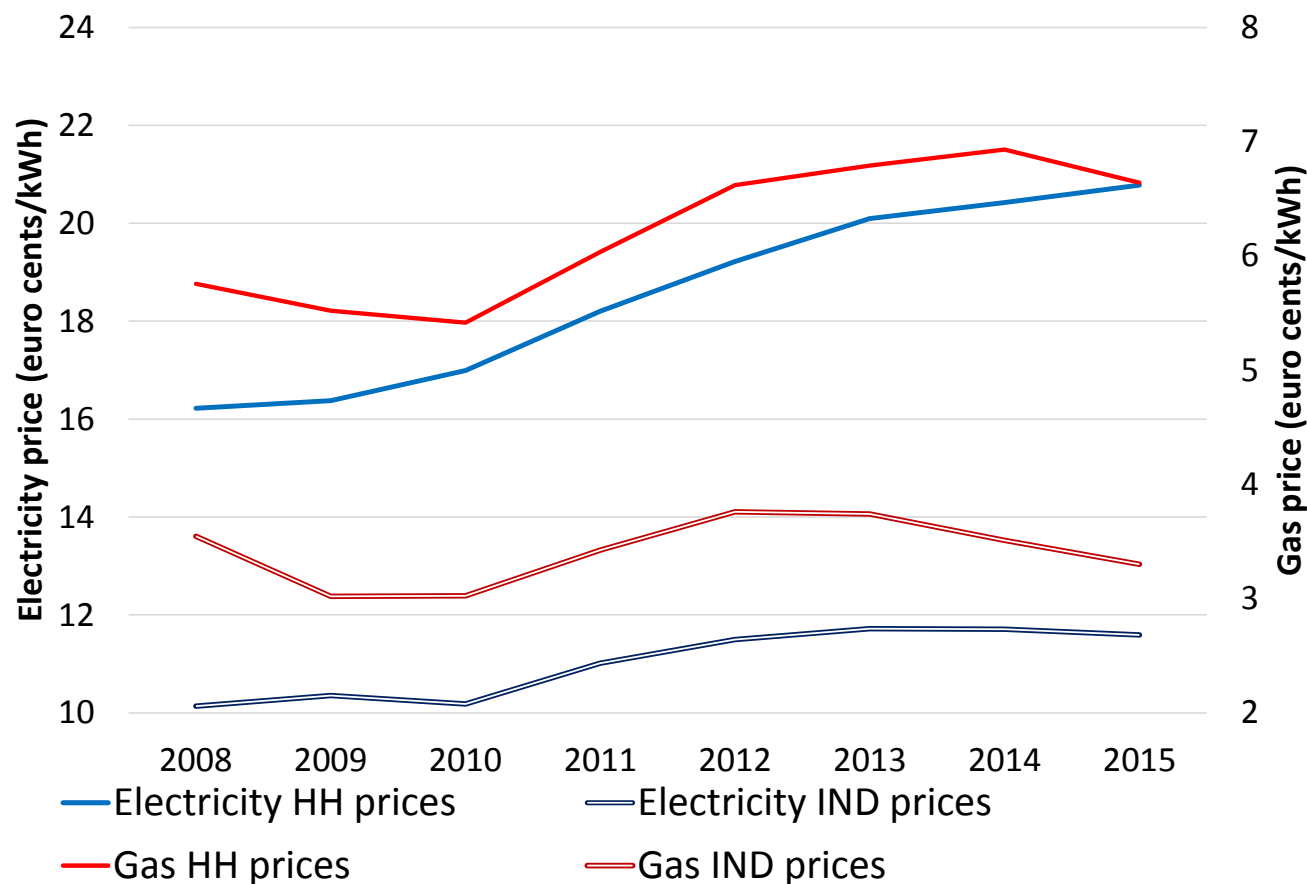
- 21 Sept: electricity and gas wholesale workshop
- 9 Nov: presentation of the MMR to the public
- 9 Nov: presentation to European Parliament, ITRE Committee

Novelties

- Development of policy volume complementing the technical volumes
- Earlier publication of wholesale volumes
- Use of aggregated REMIT data for assessing gas hubs, further enhancing analytical rigour
- State of play on implementing dynamic pricing

Consumers in 2015 finally saw some benefits in terms of lower prices, except for electricity HHs for whom, on average, final prices kept on increasing

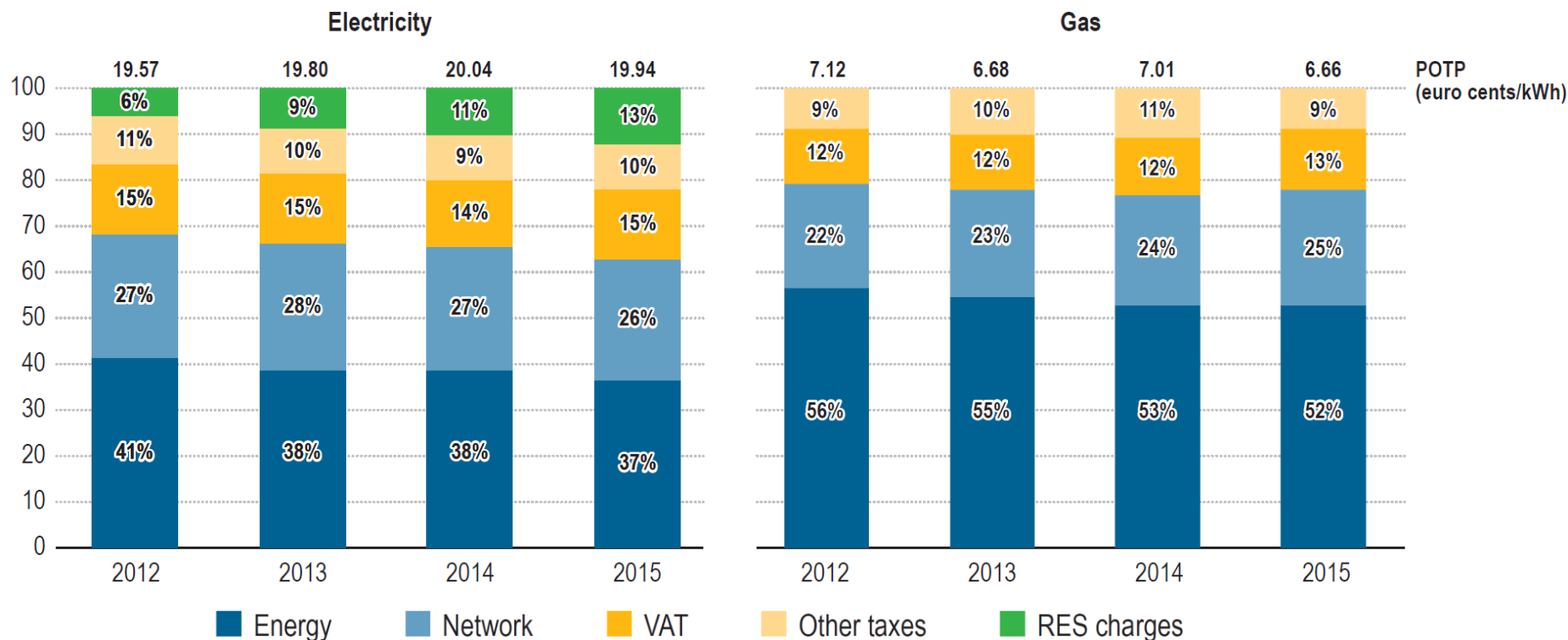
Electricity and gas post-tax price trends for household and industrial consumers in Europe – 2008–2015 (euro cents/kWh)



This indicates that the market is working albeit this is MS specific

The share of non-contestable charges in households' electricity and gas bills keeps rising, starting to squeeze competition out

Composition of electricity and gas post-tax price (POTP) for household consumers in Europe – 2012–2015 (euro cents/kWh)



Underlying better functioning market dynamics are to some degree offset by government intervention

The share of non-contestable charges in households' electricity

Recommendation on non-contestable charges

- Reduce the incidence of charges not related to supply costs in end-user prices.
 - MSs may wish to consider whether the costs of funding RES support and other similar schemes could be covered in ways other than through charges on energy prices.
- ➔ A lower incidence of the non-contestable part of end-user prices may promote consumers' interest in switching supplier.

government intervention

Outline

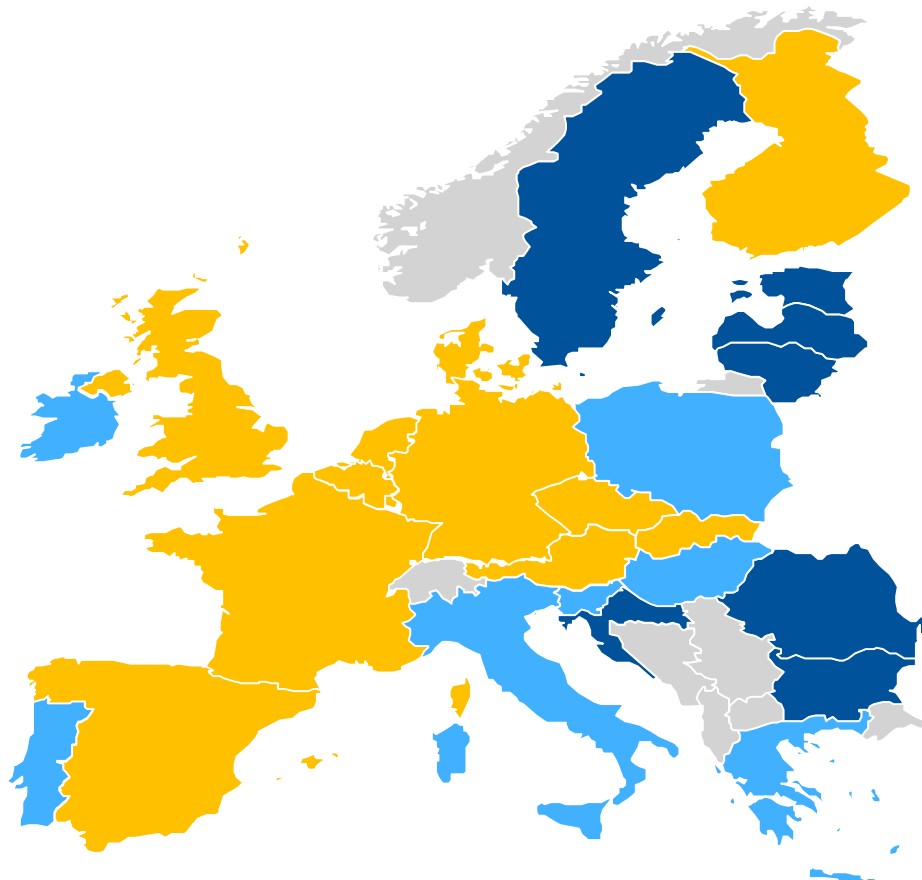
- Introduction
- Electricity and **gas wholesale markets**
- Electricity and gas retail markets
- Consumer protection and empowerment

Increasing levels of convergence in supply costs are being observed in recent years, indicative of further market integration

2015 calculated gas sourcing cost per EU MS compared to TTF (= 21.0 € /MWh)

- ≤ 1 euro/MWh
- 1-3 euro/MWh
- >3 euro/MWh

- Influence of lower oil prices and gas oversupply
- Impact of reverse-flows
- Hub functioning
- Improved LNG competitiveness



As such, the dispersion in the energy component of retail prices across EU MSs tends to be lower in gas than in electricity




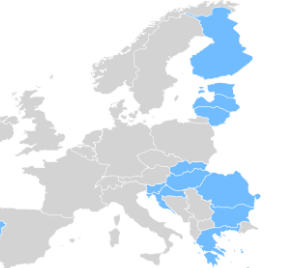


Recommendation on gas wholesale markets (1)

- Refrain from introducing new market model rules, pending the ongoing implementation of the Gas Target Model and of the Network Codes. The ongoing effort to redesign the electricity wholesale market may not necessarily warrant a (similar) change in the gas market model, which seems to be working well. The market needs to play fully without undue intervention.
- Address any remaining infrastructure bottlenecks. In a few EU MSs, the limited interconnection capacity seems to explain higher market concentration and supply sourcing costs. Examples of such critical gaps are the bi-directional corridors linking Greece-Bulgaria-Romania-Hungary and Poland-Baltics.
- Investments in new regulated infrastructure shall nonetheless be selective, have a regional perspective and be based on validated CBA methodologies to reduce the risk of any overinvestment.

While the gas hub model is working better, the heterogeneity in hub development impacts retail competition

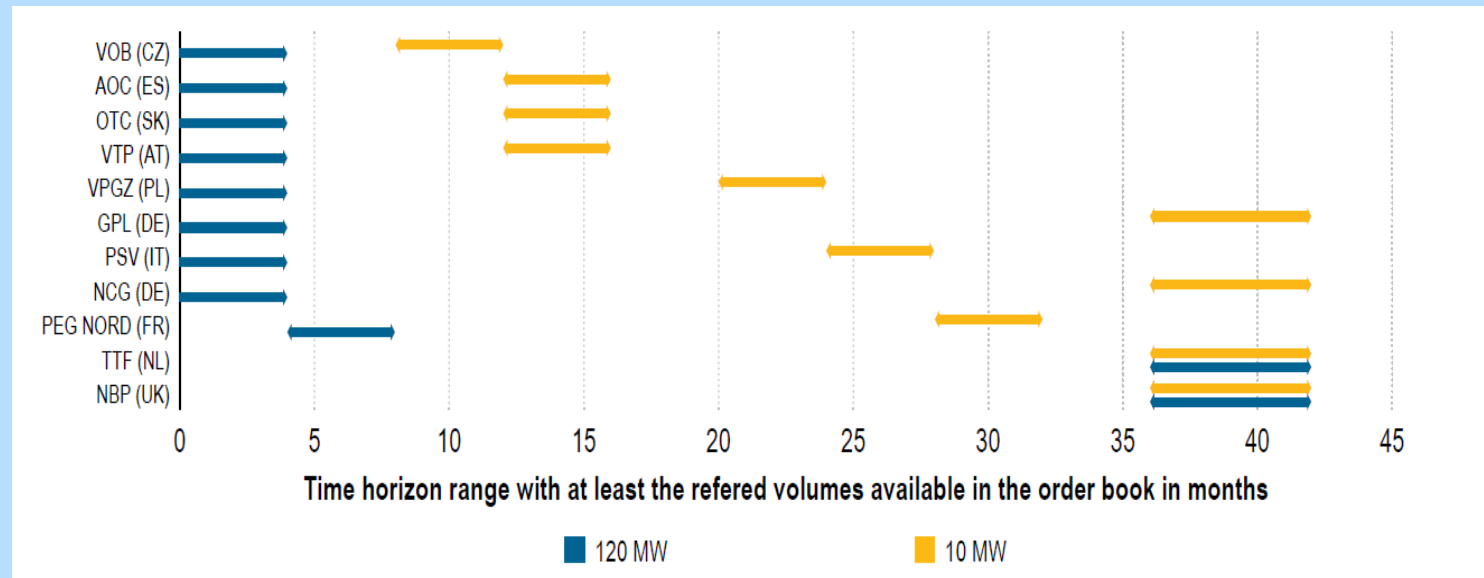
A ranking of EU hubs based on 2015 monitoring results

Established hubs	Advanced hubs	Emerging hubs	Illiquid hubs
<p>Broad liquidity</p> <p>Sizeable forward markets which contribute to supply hedging</p> <p>Price reference for other EU hubs and for long-term contracts indexation</p>	<p>High liquidity</p> <p>More reliant on spot products and balancing operations</p> <p>Progress on supply hedging role, but relatively lower longer-term products liquidity levels results in weaker price risk management role</p>	<p>Improving liquidity from a lower base, taking advantage of enhanced interconnections</p> <p>Liquidity partially driven by market obligations imposed on incumbents</p> <p>Still significant reliance on long-term contracts</p>	<p>Reliance chiefly on long-term contracts</p> <p>Early-stage organised market places or lack of a hub</p> <p>Absence of an entry-exit system in some markets</p>
			

Well-functioning hubs provide more options to hedge supplies, which also helps to promote competition in retail markets

The assessment of how well EU gas markets function – based on Gas Target Model metrics - confirms the leading position of NBP and TTF hubs

Example: Order book horizon in ranges of months for bids for forward products for different blocks of MWs – November 2015 - April 2016



Longer liquidity on the curve enables more supply hedging and price risk management opportunities

Recommendation on gas wholesale markets (2)

- A well-functioning, independent Virtual Trading Point (VTP), built on an entry-exit system, is key for a competitive gas market to develop. Bulgaria, Greece and Romania are called upon to implement their pending VTP legislative proposals as soon as possible.
- Promote contractual supply mechanisms based on shorter-term hub-based transactions, especially in regions with still less functioning market dynamics.
- To this aim, facilitate cross-border trading by revising those regulatory obligations that go beyond security of supply needs and may hamper trade (e.g. distortive storage obligations, capacity booking requirements for financial players).
- In MSs where incumbent players have limited incentives to provide hub liquidity, gas resale obligations could initially trigger competition. The presence of market makers in those less liquid hubs could help raise market liquidity.

Outline

- Introduction

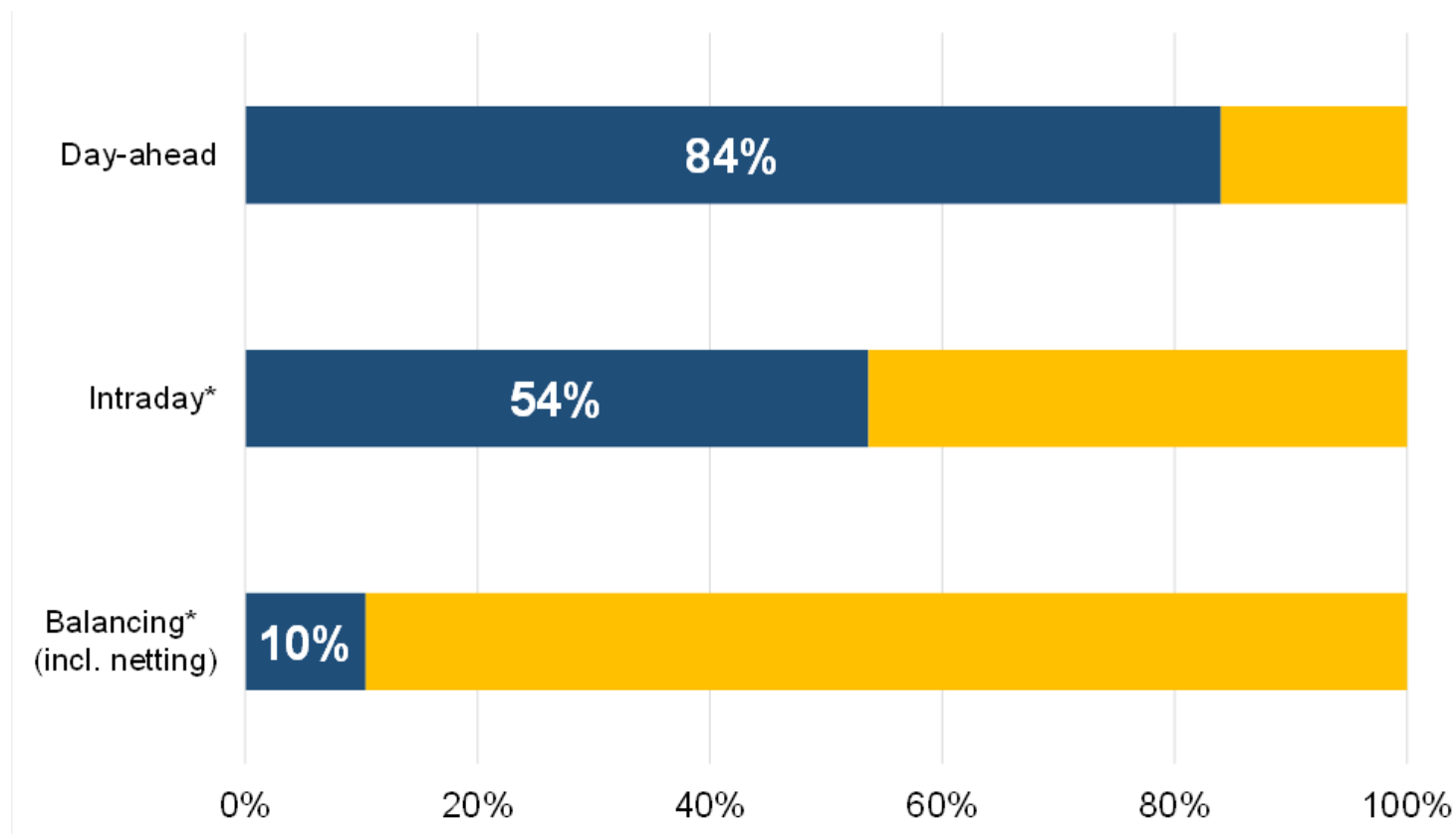
- **Electricity and gas wholesale markets**

- Electricity and gas retail markets

- Consumer protection and empowerment

The use of cross-zonal capacity in the Day-Ahead timeframe is close to optimal, but in the Intra-Day and balancing market timeframes it could be significantly improved

Efficient use of interconnectors in the different timeframes in 2015



Source: ENTSO-E, NRAs, EMOS and Vulcanus (2016).

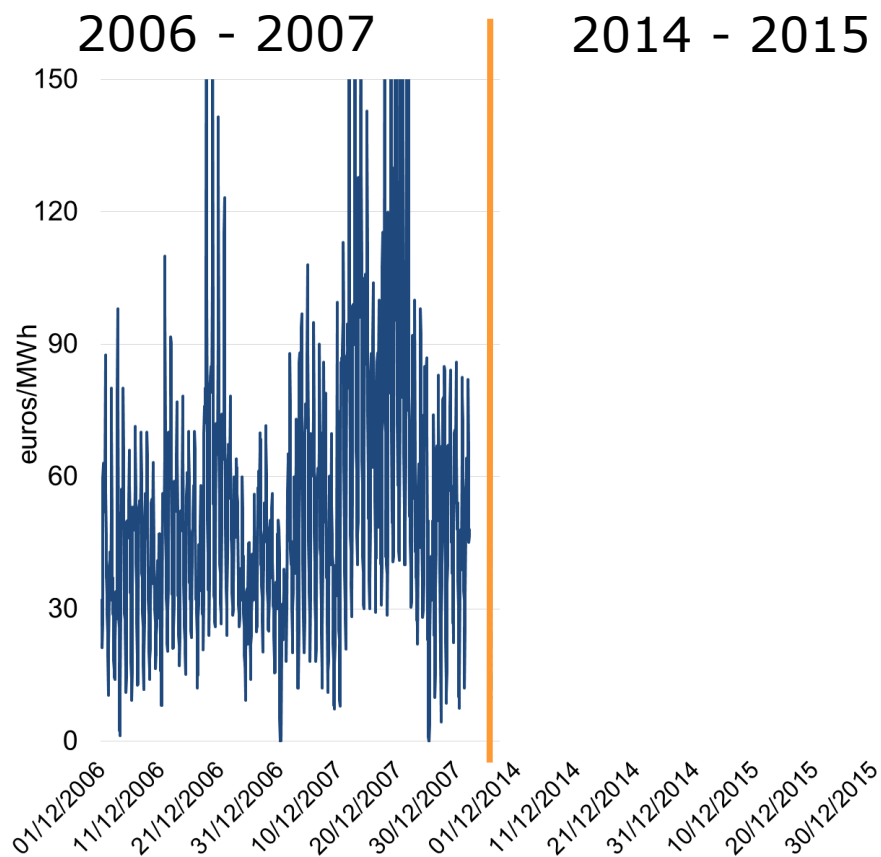
Note: * ID and Balancing values are based on a selection of EU borders.

Recommendation on electricity wholesale markets (1)

- Implement day-ahead market coupling on the remaining (12) EU borders (out of 40) - 250 million euro/year welfare benefit still to be gained
- In the intraday and balancing timeframes, there is scope to improve both the performance of national markets and the use of cross-border capacities by:
 - measures that support and foster intraday liquidity, such as full balancing responsibility for all technologies and cost-reflective balancing charges.
 - optimise the procurement of balancing capacity, as this will support balancing energy prices to accurately reflect the real-time conditions of the system, including at times of scarcity.
 - increase the exchange of balancing resources, including balancing energy, balancing capacity and cross-border sharing of balancing reserves.
 - early implementing the Network Code on Electricity Balancing.

Against 'predictions', the increasing frequency of overall low-price periods is not accompanied by an increased frequency of price spikes

Hourly Day-Ahead prices in the Netherlands - December 2006 – 2007 and 2014 - 2015 (euros/MWh)



Why do we see low price levels?

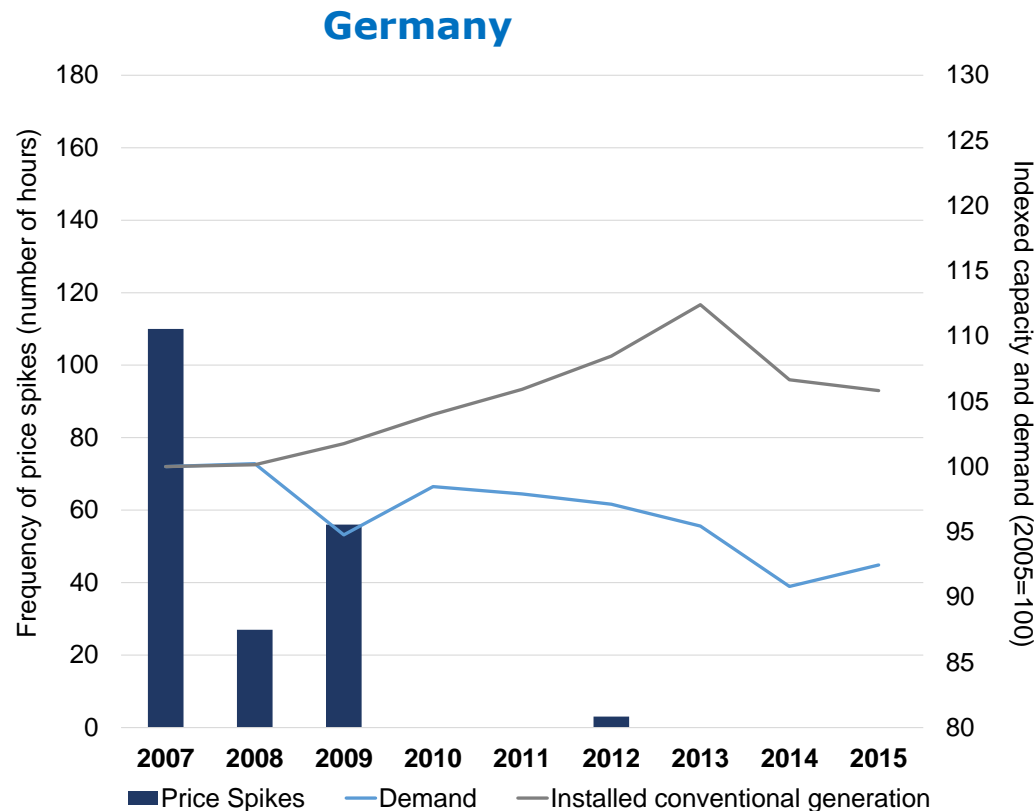
i. Market failure (sometimes argued)

...or just

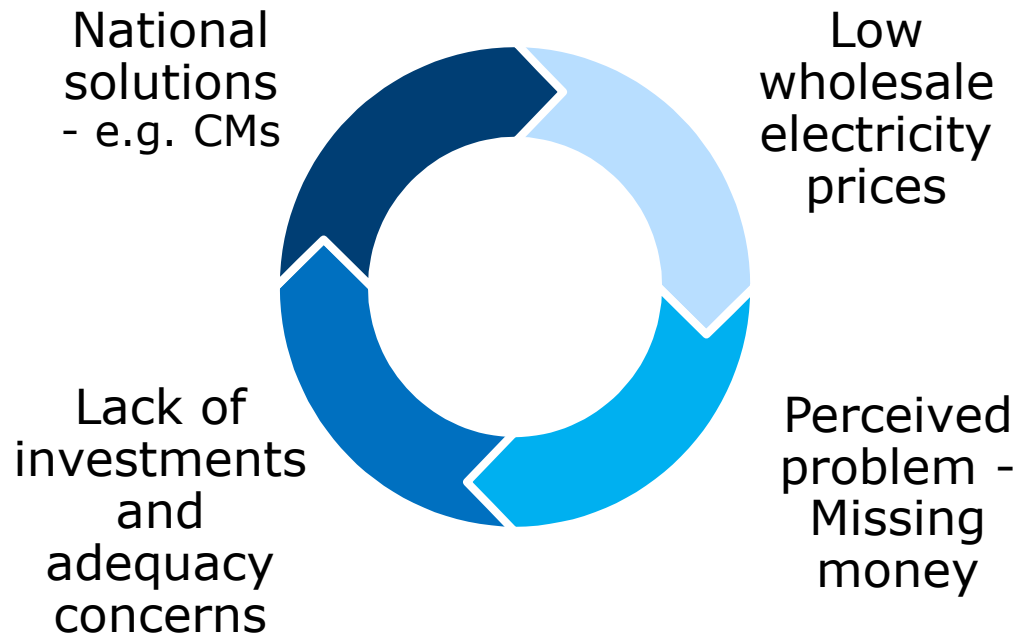
ii. Markets are reflecting fundamentals

Market prices seem to reflect generation over-capacity, which explains the lack of price spikes

Evolution of the aggregated installed conventional generation capacity and aggregated energy demand (indexed to 2005 = 100) and the frequency of price spikes (number of hours per year) in the Netherlands and Germany – 2007 to 2015

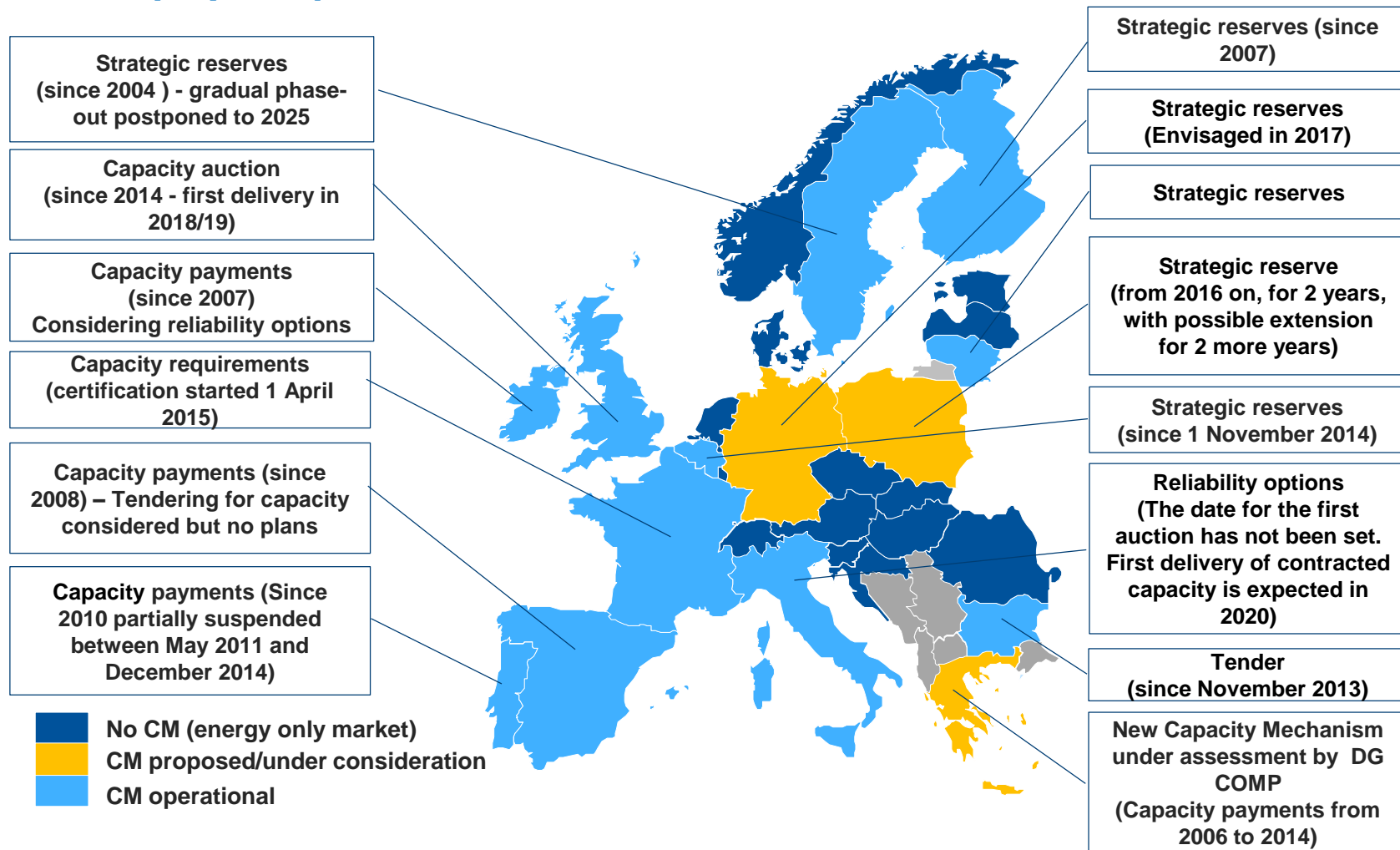


National solutions tend to address a “missing-money” problem, but these uncoordinated policies are creating a vicious circle away from an efficient IEM design



Uncoordinated development of capacity mechanisms (CM)

State of play – September 2016

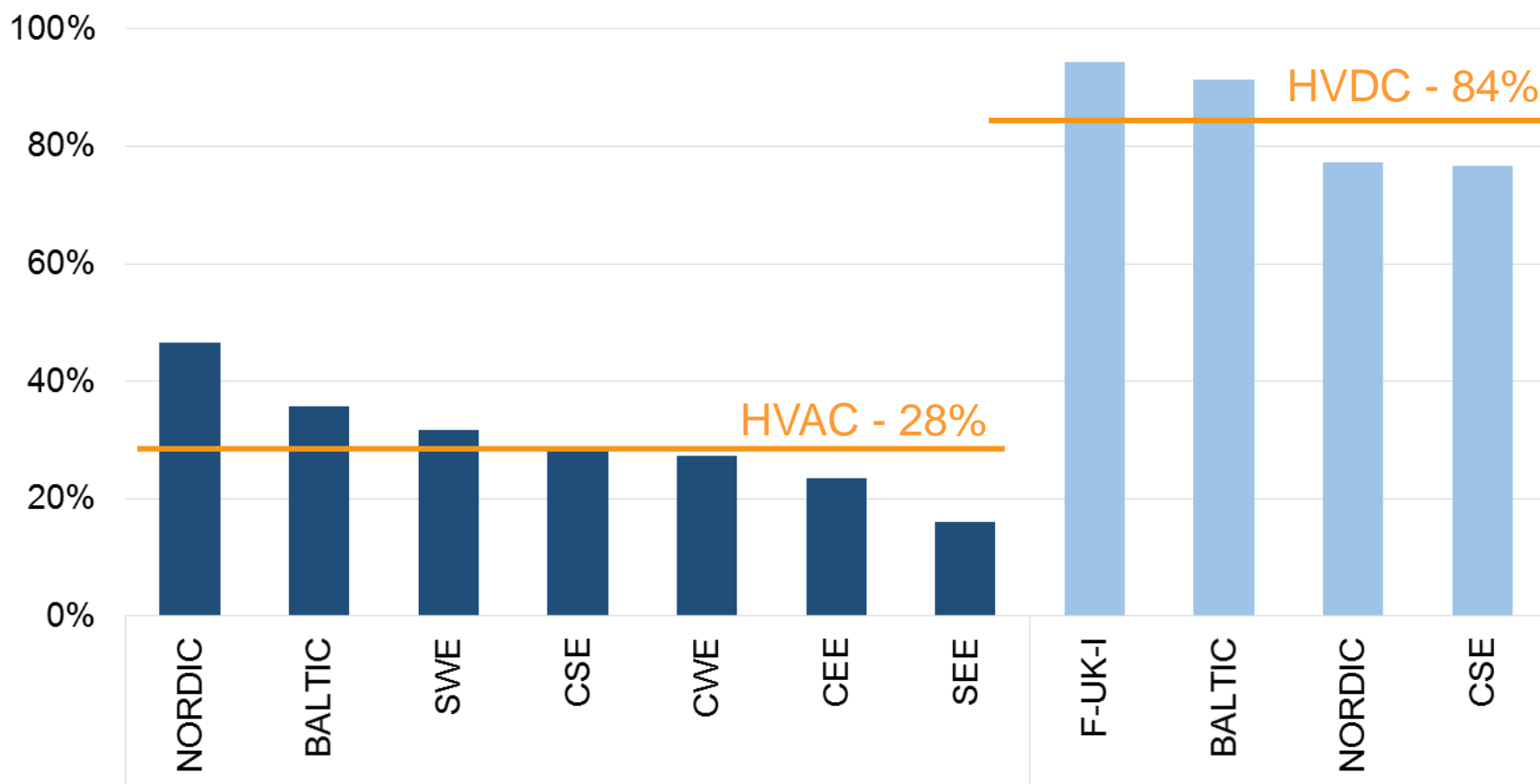


Recommendation on electricity wholesale markets (2)

- The use of non-market based support and other mechanisms that inhibit the market to render a price that reflects the true value of the electricity supplied should be limited, especially if national in scope and uncoordinated.
- When considering or implementing a capacity mechanisms, MSs should present a credible action plan, with the following elements:
 - coordinated national approaches to Security of Supply, including a European-wide coordinated adequacy assessment.
 - an assessment of remaining barriers and regulatory failures.
 - an assessment of the reasons why these failures have not yet been addressed.
 - a roadmap to remove these failures.
 - the design of the CM should minimise distortion to the IEM.

In Europe, a large share of the physical interconnection capacity is not used for trading

Share of the between aggregated thermal capacity of interconnectors made available for trading – 2015 (%)



Limitations of cross-zonal capacity

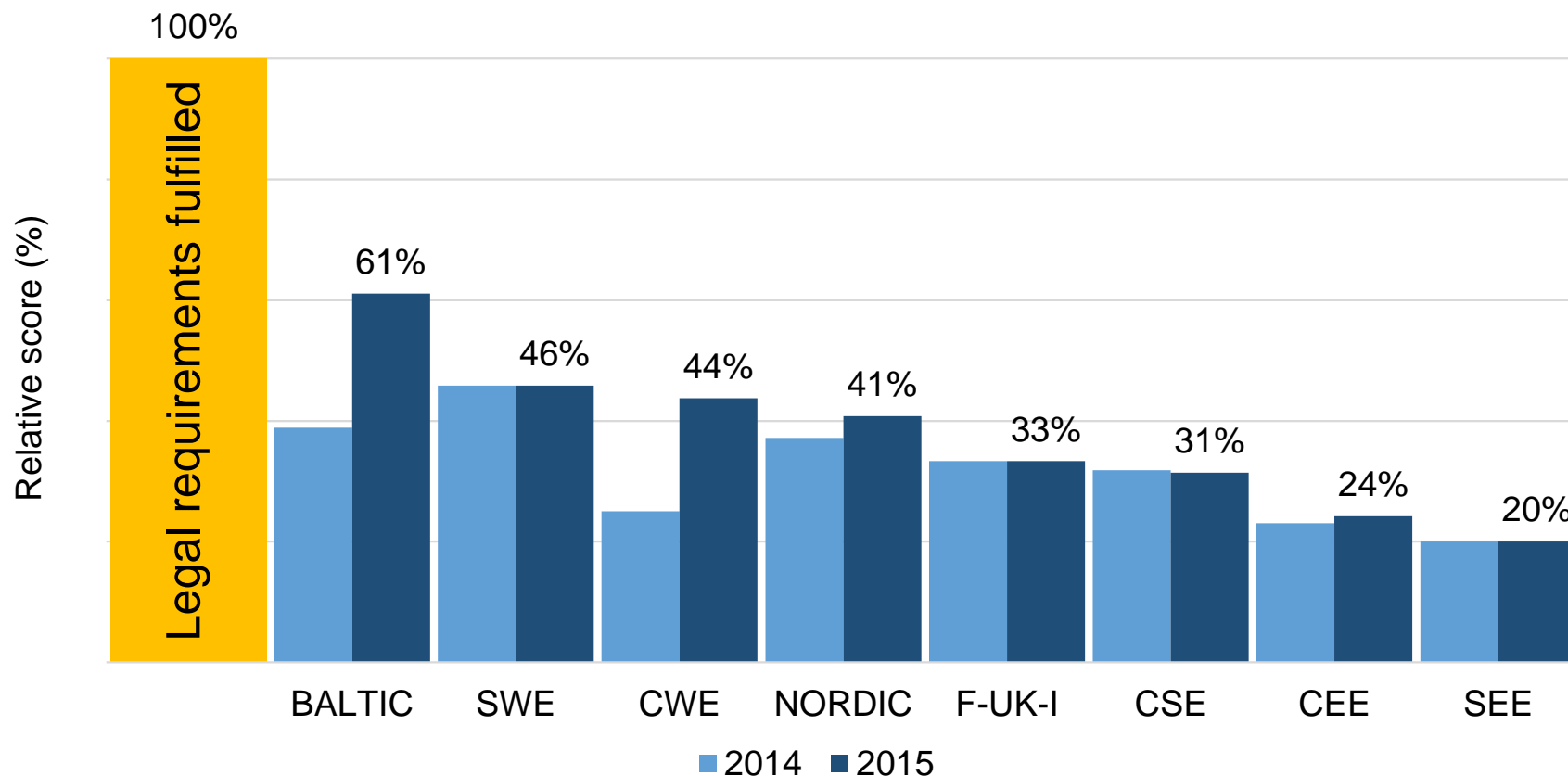
Physical cross-zonal capacity can be limited during the capacity calculation process*:

- for grid maintenance during a certain period
 - to accommodate flows resulting from internal exchanges (i.e. Loop Flows) and flows resulting from non-coordinated capacity allocation on other borders (i.e. Unscheduled Allocated Flows)
 - to relieve congestion inside a bidding zone (control area)
 - to account for a lack of coordination between TSOs
- ➔ Empirically disentangling these reasons would require detailed data, which are currently not available.

* Beyond what is needed for the application of the N-1 criterion and a reasonable level of reliability margin.

Coordination in capacity calculation can be further improved

Regional performance based on fulfilment of capacity calculations requirements – 2014-2015 (%)



Bilateral or partly coordinated capacity calculation methods are applied on many borders; on some borders, capacity is not recalculated in all timeframes

Recommendation on making more capacity available for trading

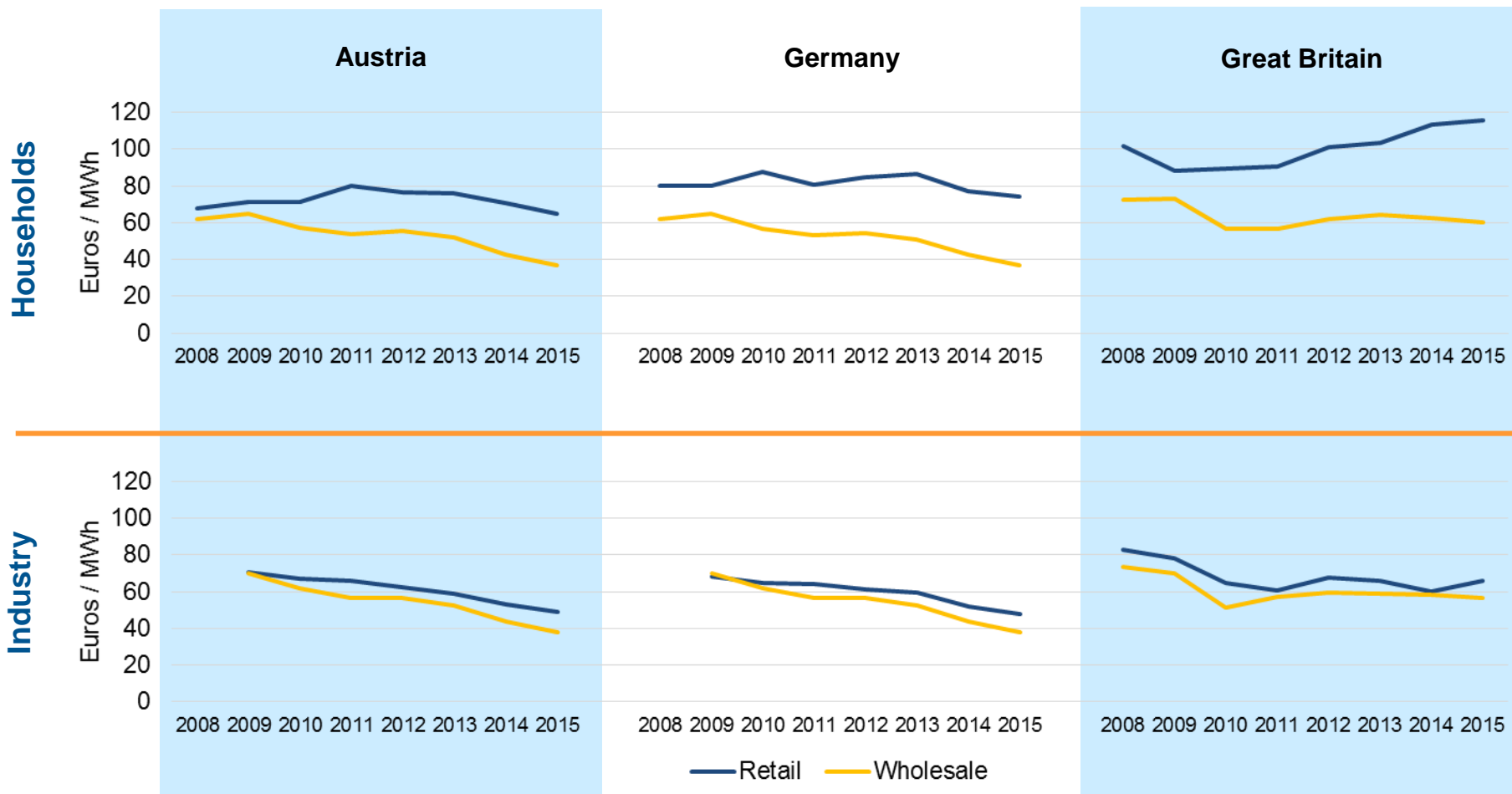
- Perform more coordinated capacity calculation in all timeframes.
- Implement flow-based capacity calculation methods where appropriate.
- Ensure an equal treatment of internal and cross-zonal exchanges through improved capacity calculation methods.

Outline

- Introduction
- Electricity and gas wholesale markets
- Electricity and gas retail markets
- Consumer protection and empowerment

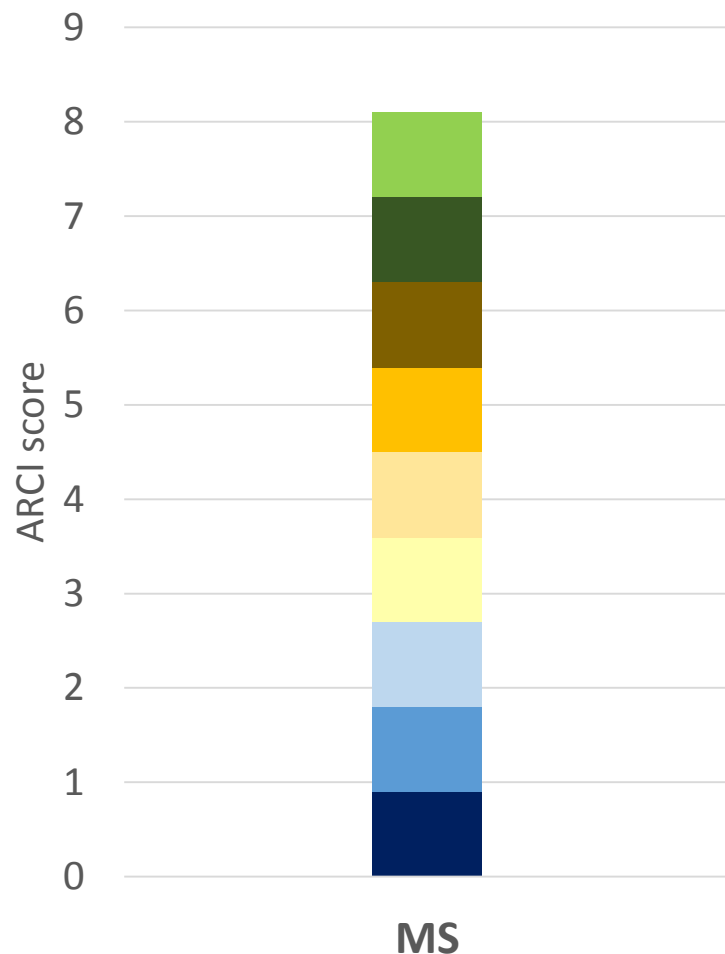
Industry tends to benefit much more from retail competition than household consumers

Relationship between the wholesale price and the energy component of the retail electricity price for households and industrial consumers in a selection of countries 2008 to 2015 - (euros/MWh)



Assessment of relative competition – ACER retail competition index (ARCI)

Example of how the ACRI score is built up



Competition performance

- Does the market meet expectations (2015)
- Mark-up (2013-2015)
- Net entry (2013-2015)

Market conduct

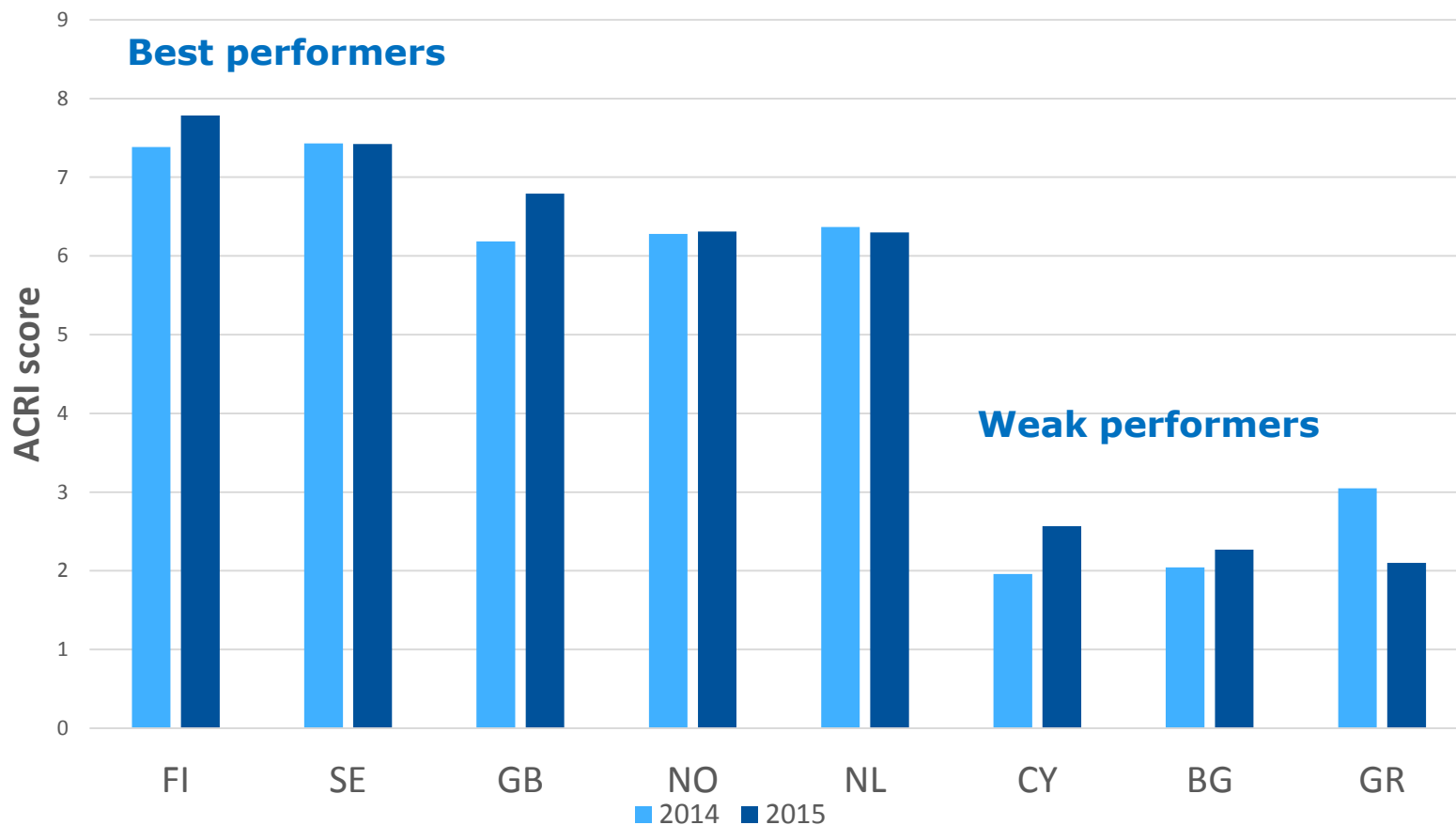
- Switching rates (supplier + tariff) (2011-2015)
- Percentage of consumers who have not switched (2015)
- Number of offers per supplier (2015)

Market structure

- Ability to compare price easily (2015)
- Suppliers with market share >5% (2015)
- CR3 (2015)

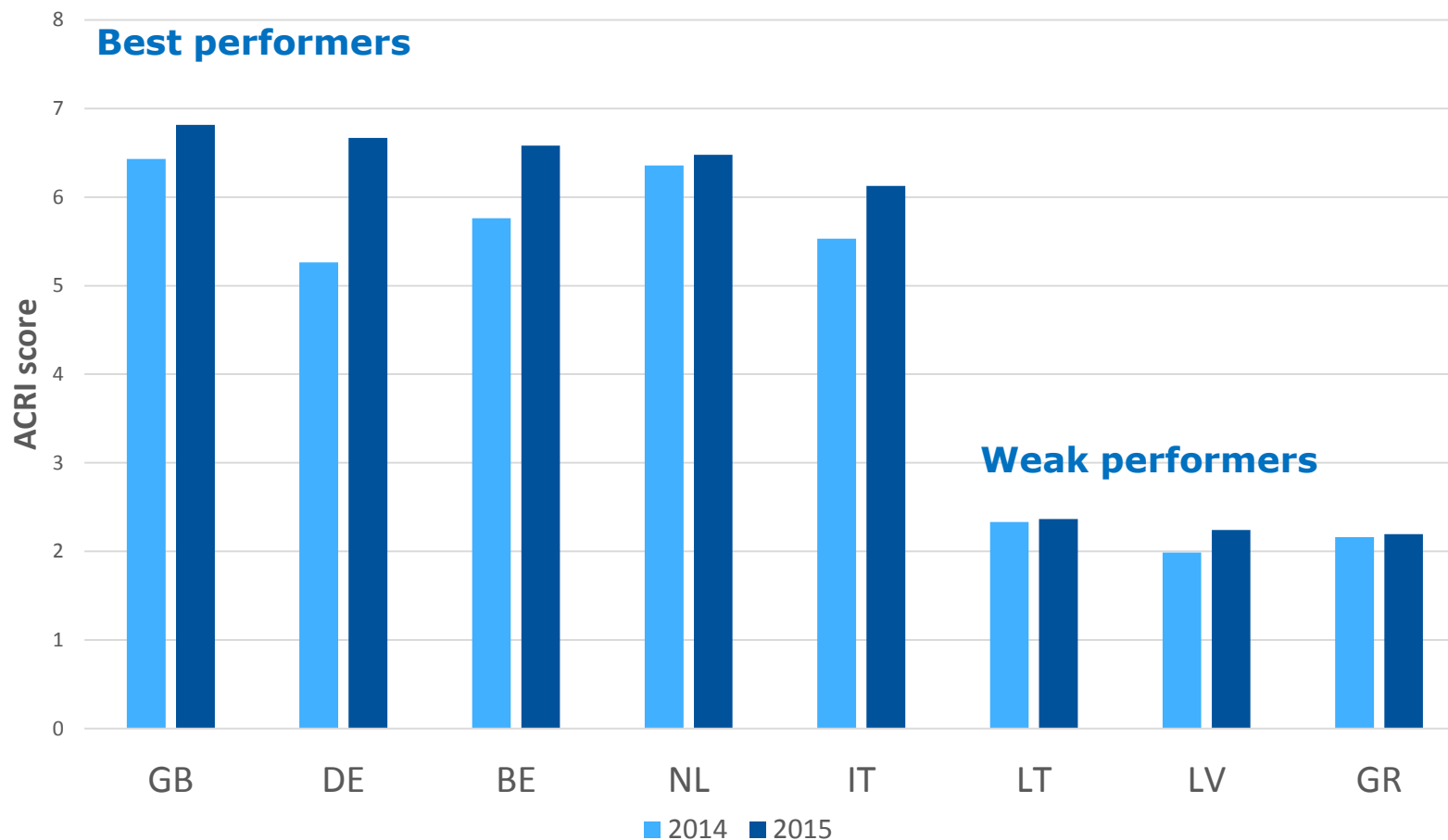
Large discrepancies in relative competition levels of retail markets – electricity

ACER retail competition index (ARCI) – electricity household segment (2014-2015)



Large discrepancies are observed in relative competition levels of retail markets - gas

ACER retail competition index (ARCI) – gas household segment (2014-2015)

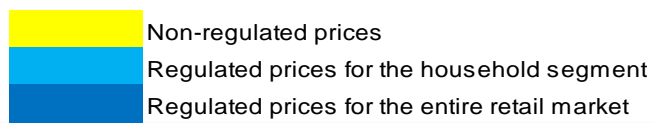
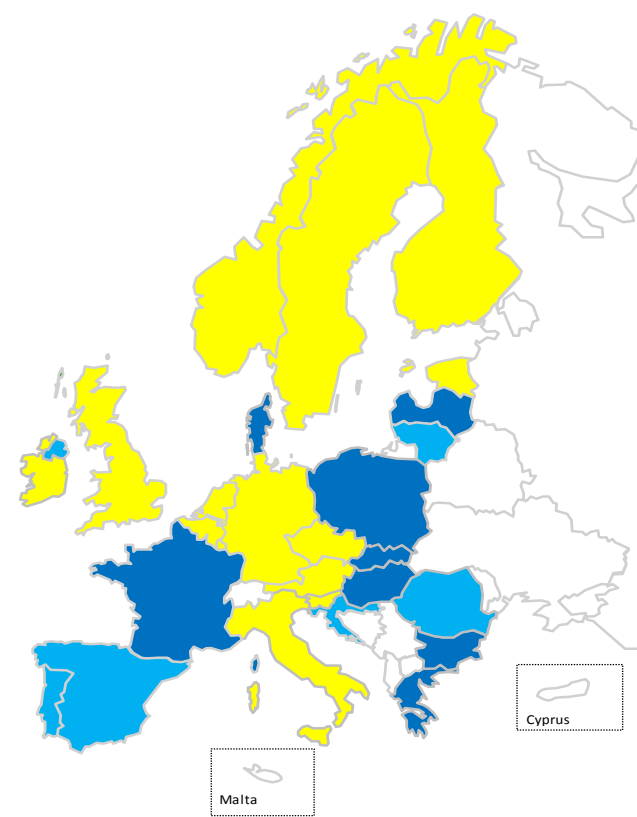
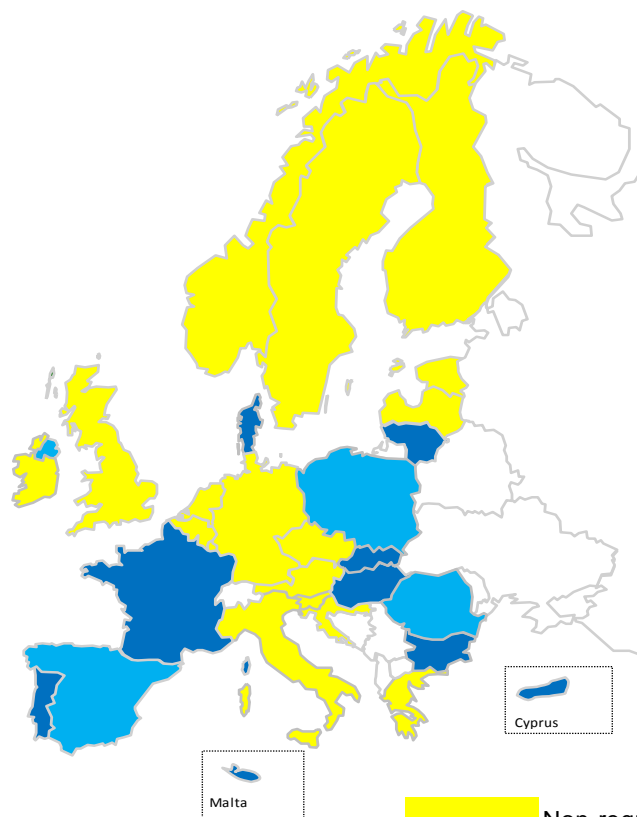


The existence of regulated prices is still a main barrier to competition...

Application of regulated prices – households and industry (2015)

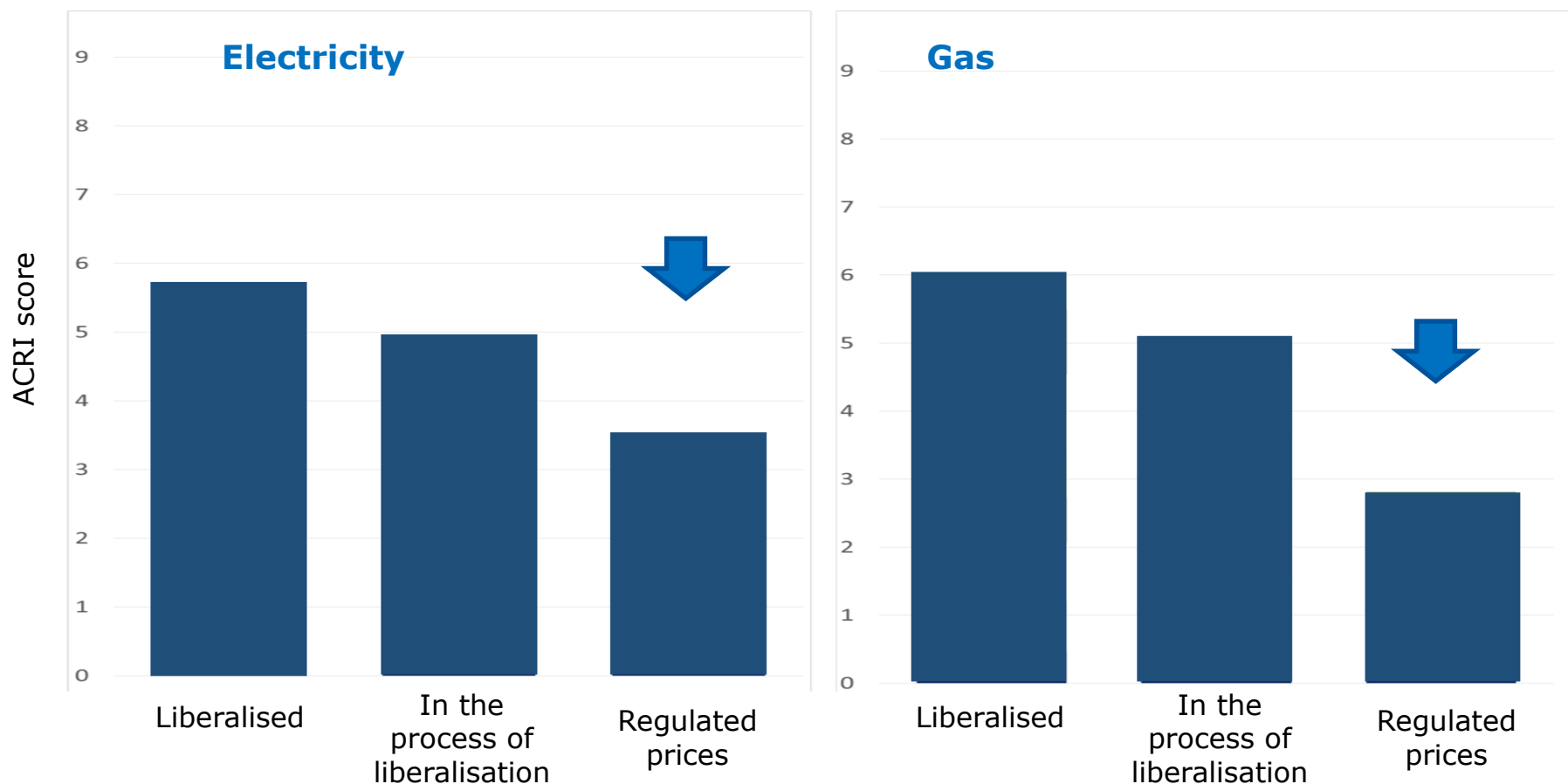
Electricity

Gas



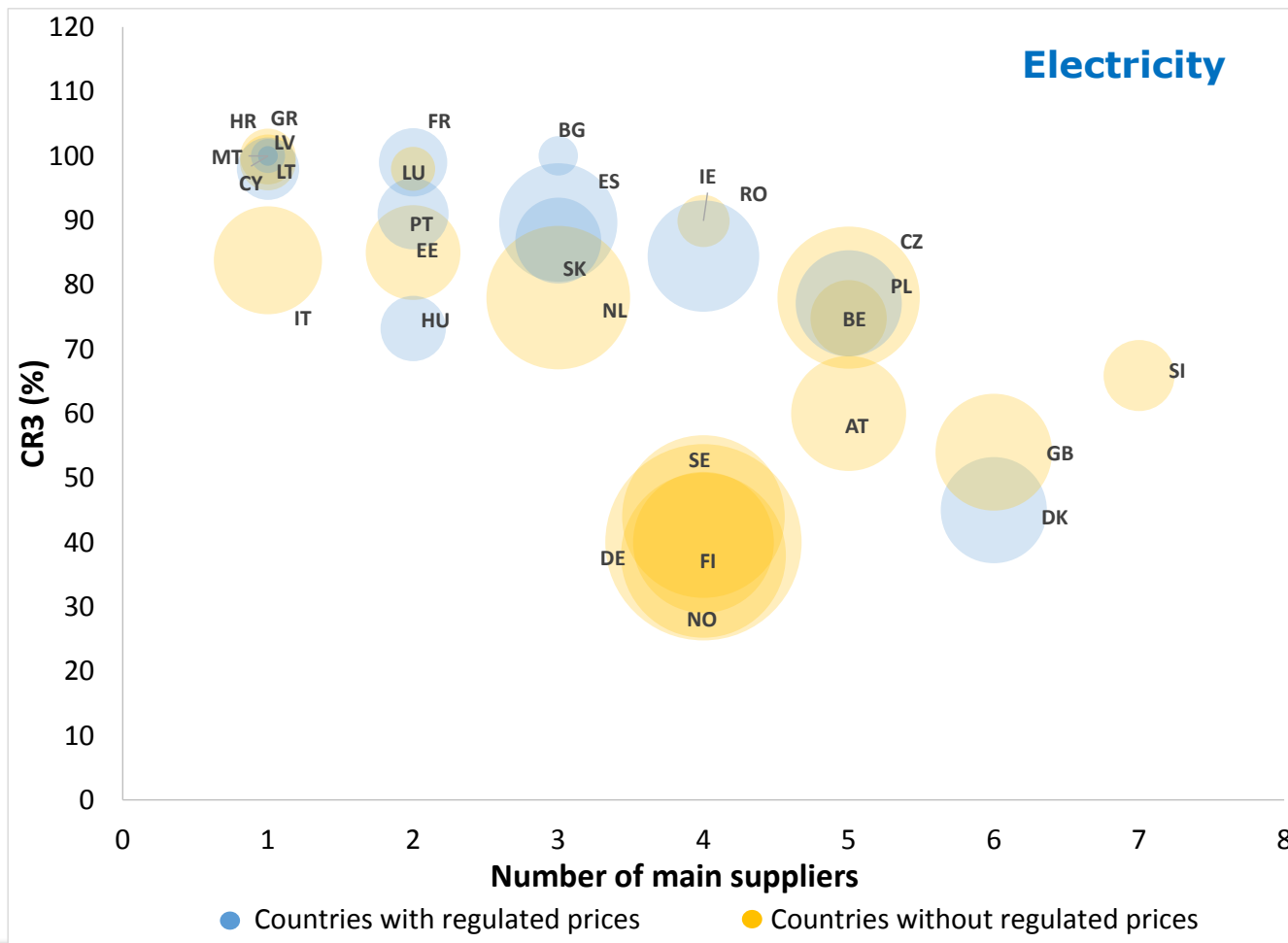
... which is reflected in the ARCI scores; countries with regulated prices tend to score lower

Average ARCI score in countries with and without regulated prices – households (2015)



Another factor impacting competition is market concentration

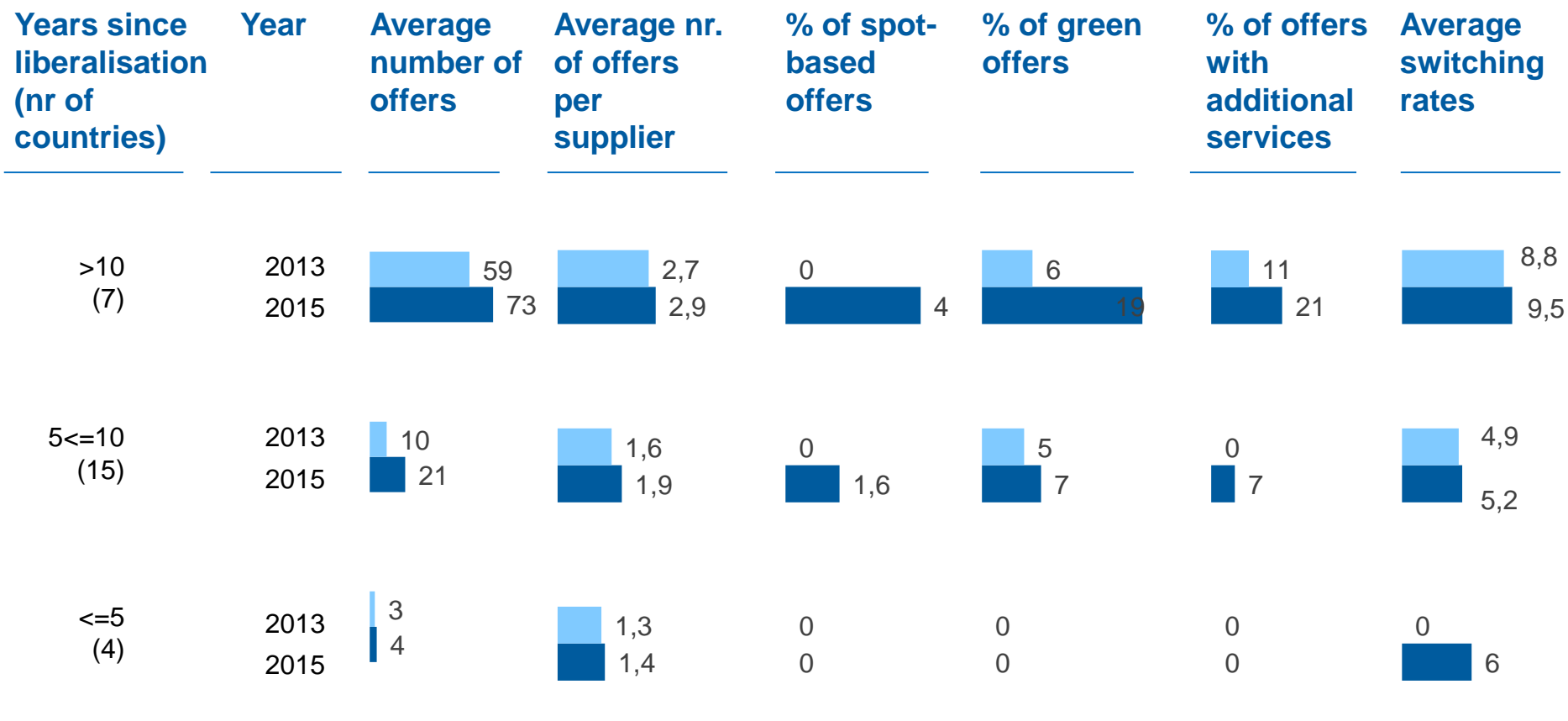
Market share of the three largest suppliers (CR3), the number of main suppliers and the number of nationwide suppliers in retail markets for households – 2015



Differentiation in retail supply offers is greater in markets with a longer liberalisation history - electricity

Years since liberalisation (nr of countries)	Year	Average number of offers	Average nr. of offers per supplier	% of spot-based offers	% of green offers	% of offers with additional services	Average switching rates
>10 (9)	2013	12	2,8	7	33	10	9,8
	2015	719 1	3,4	10	46	7	9,9
5<=10 (17)	2013	20	2	0	17	2	4,4
	2015	33	2,7	3	15	9	4,6
<=5 (3)	2013	1	1	0	0	0	0
	2015	1	1	0	0	0	0

Differentiation in retail supply offers is greater in markets with a longer liberalisation history - gas



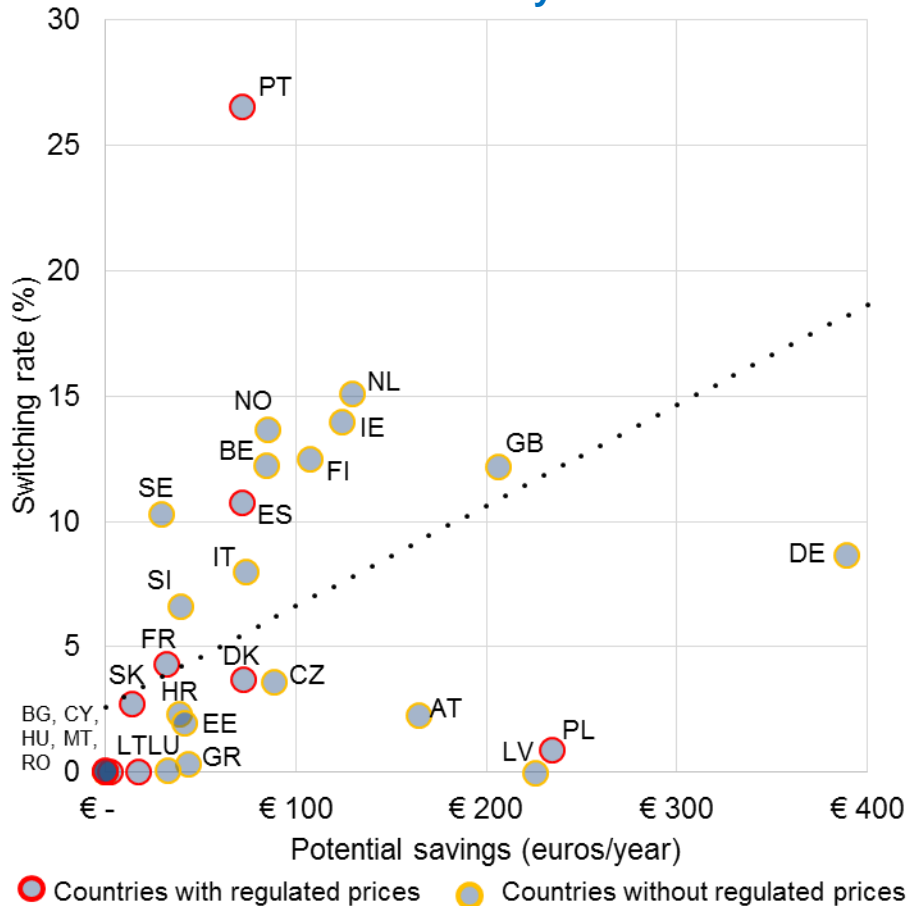
Recommendations on improving competition in retail market

- Facilitate the entry of new suppliers into the market and ensure broader choice for consumers by removing entry barriers.
- Phase-out end-user regulated prices in the retail energy markets as soon as markets reach an adequate level of competition, while ensuring effective and targeted protection of vulnerable consumers.
- Where regulated end-user prices are not yet phased out, make sure that they are set consistently with the provision of the 3rd Package at levels that do not hamper the development of competitive retail energy markets, i.e. above new-entrants' energy sourcing costs.

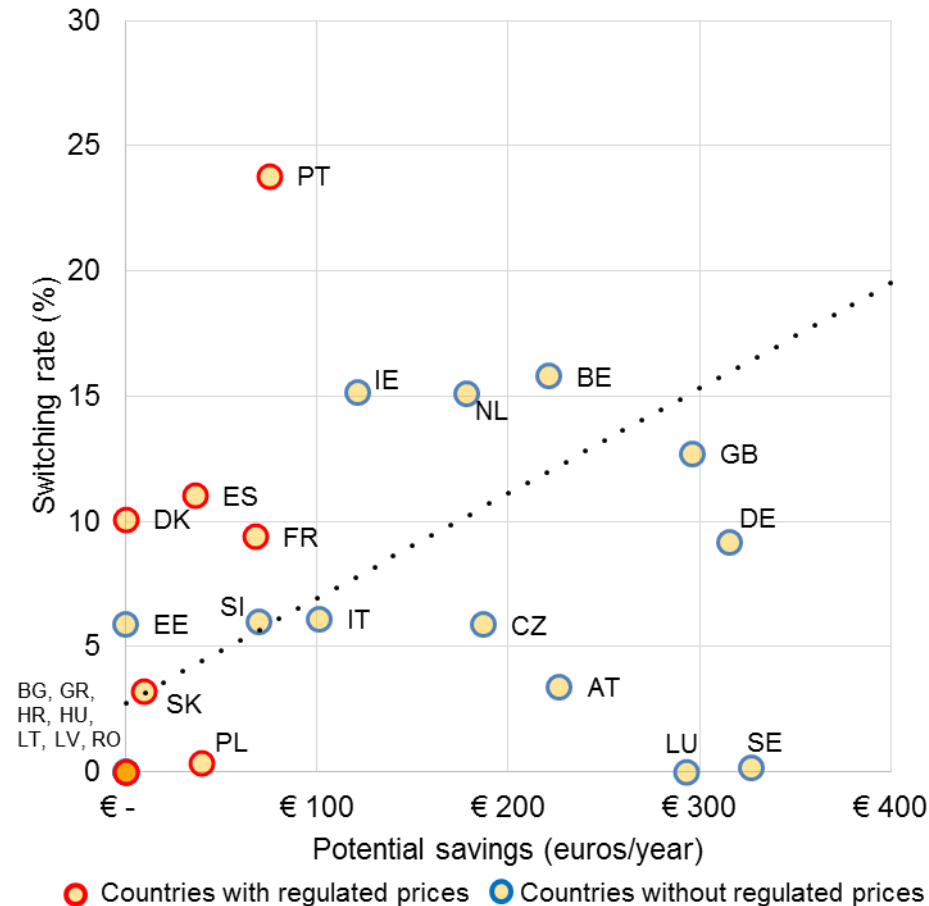
The possibility of paying lower prices is an important switching trigger, but not the only one

Potential savings to electricity and gas consumers and switching rates

Electricity



Gas



State of play in dynamic pricing: progressing slowly

Overview of standard household consumers supplied under dynamic pricing (DP) for the supply of electricity – 2015 (%)

Time of use pricing

Most representative method of DP in EU MSs



In Italy, the NL and Croatia the share of households covered exceeds 50%. Up to 50% of households in many MS

Hourly real time pricing

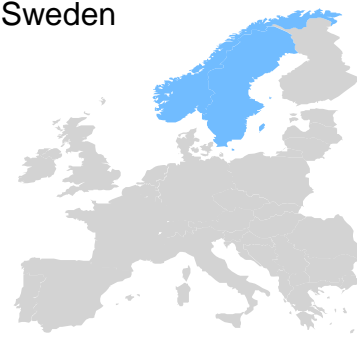
Most representative method of DP in two MS: Spain and Estonia (25–50%)



Used in 5 other MSs, but not as the predominant method of DP

Spot-based pricing

Most representative method of DP in Norway and Sweden

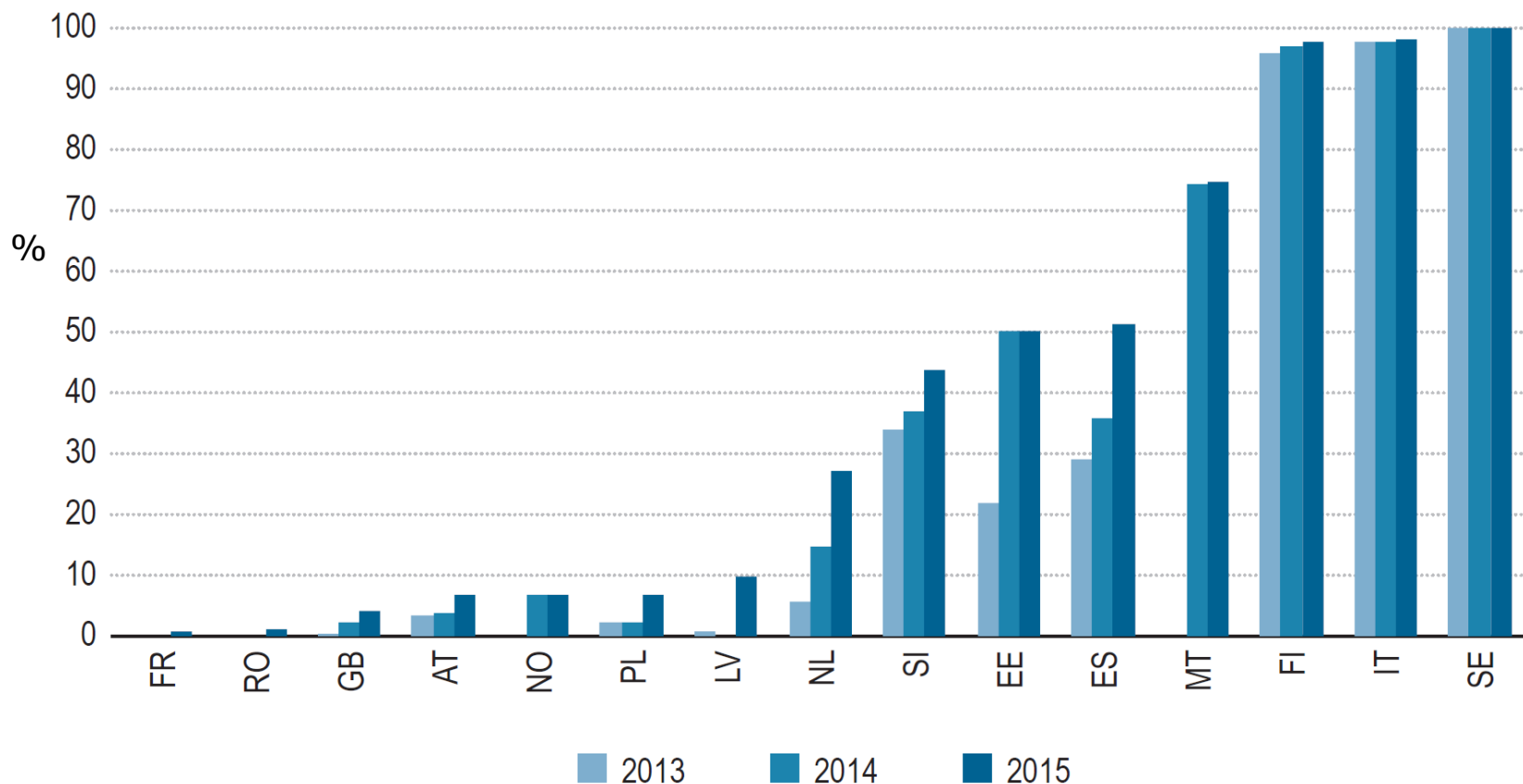


Barely used in any other EU state

In all MSs where dynamic network pricing exists, time of use is the predominant method of DP.

Smart meter roll-out has begun in half of the EU MS...

Share of households with electricity smart meters



Recommendations on dynamic pricing

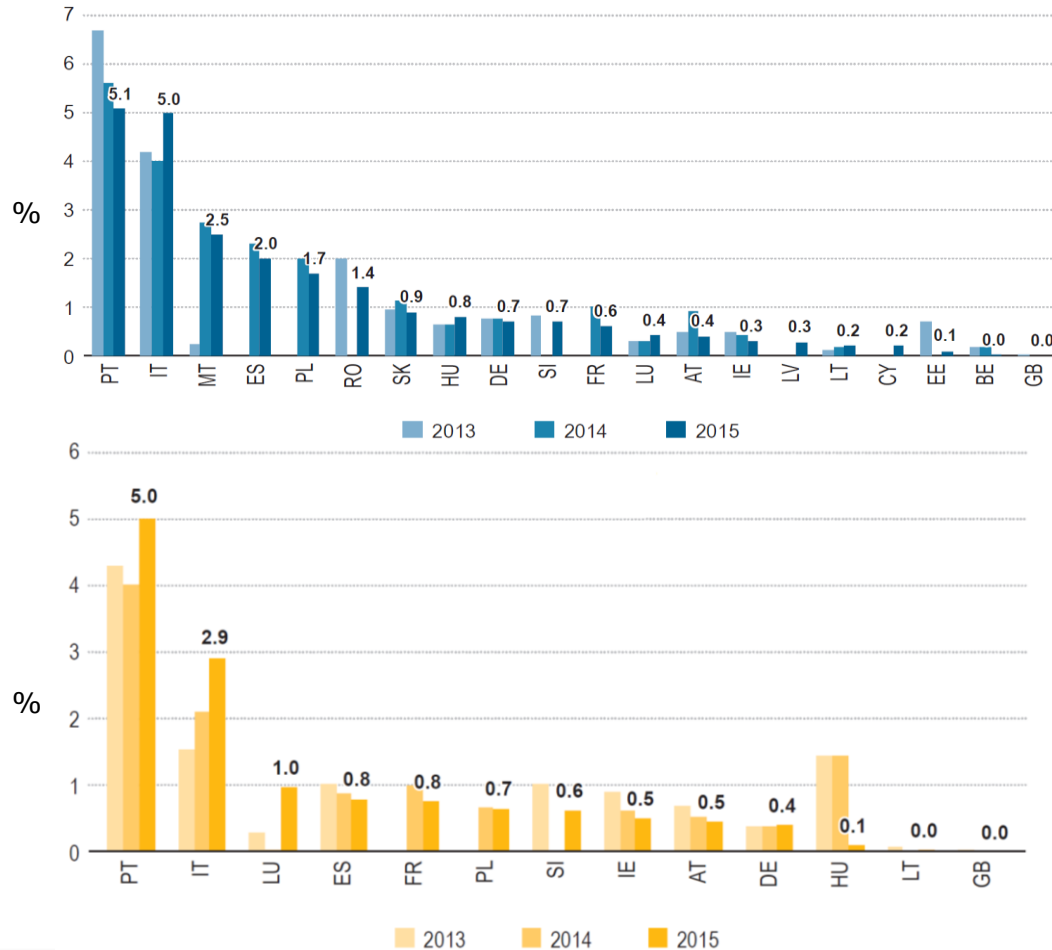
- MSs should promote the efficient use of energy and network infrastructure by further exploring the possibilities of introducing dynamic pricing, which facilitates demand response by:
 - assessing the status quo of dynamic pricing and the prerequisites for its development for households (and industrial) consumers.
 - performing research to assess how further to engage the demand side more actively in energy retail markets.
 - performing a cost-benefit analysis of smart meters and other enabling technology and sharing the results with other MSs.
- ➔ If there is a value for society, MSs should encourage the development of enabling technologies which can support demand response.

Outline

- Introduction
- Electricity and gas wholesale markets
- Electricity and gas retail markets
- Consumer protection and empowerment

The number of disconnections due to non-payment are generally low and decreasing

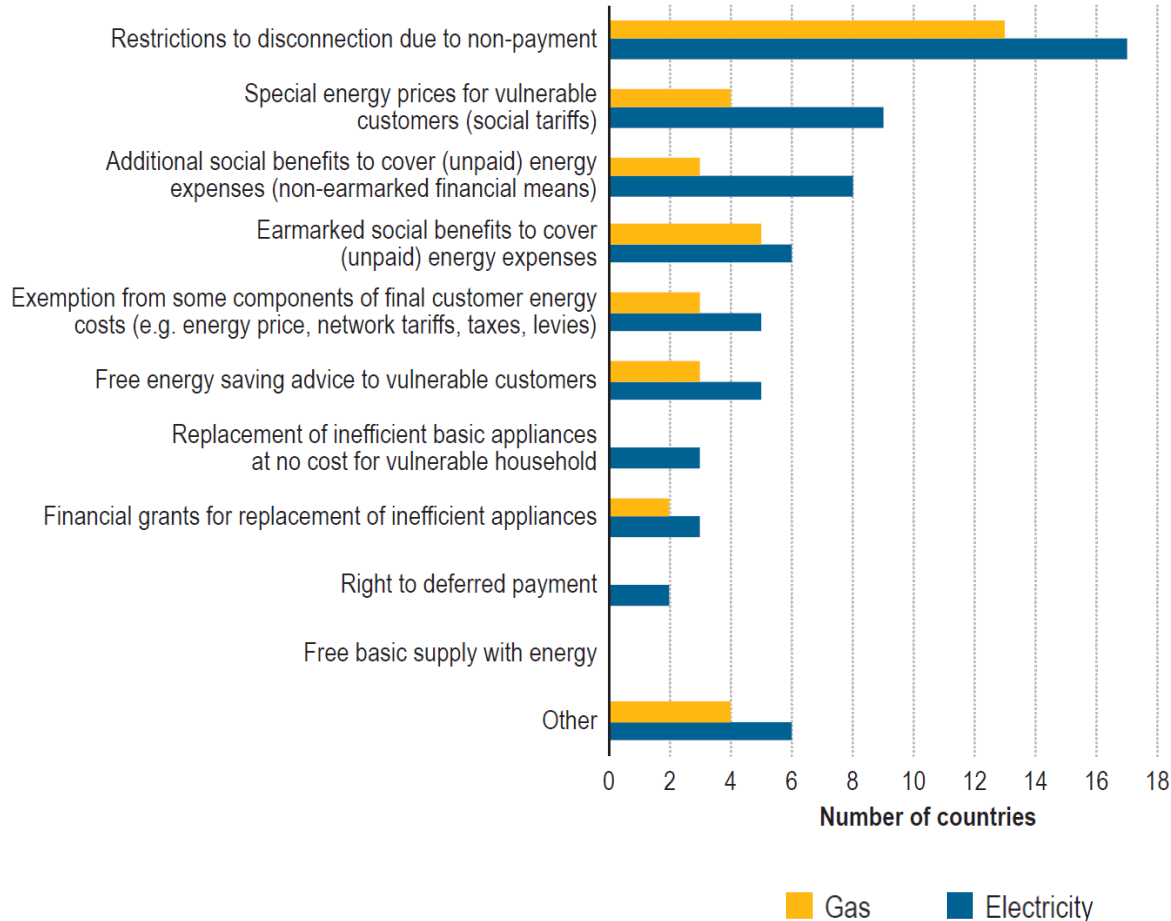
Share of electricity (blue) and gas (yellow) disconnections due to non-payment – 2013-2015



- Consumers seem sufficiently protected from disconnection throughout Europe as indicated by disconnection rates of 2% or lower in most MSs.
- Reasons for higher rates span from financial hardship to cultural patterns
- Reasons for low rates include alternative responses to non-payment (e.g. prepayment meters) and prohibitions of disconnections

Vulnerable consumers are defined in all but 3 MS for electricity, in all but 6 MS for gas

Consumer protection measures – 2015

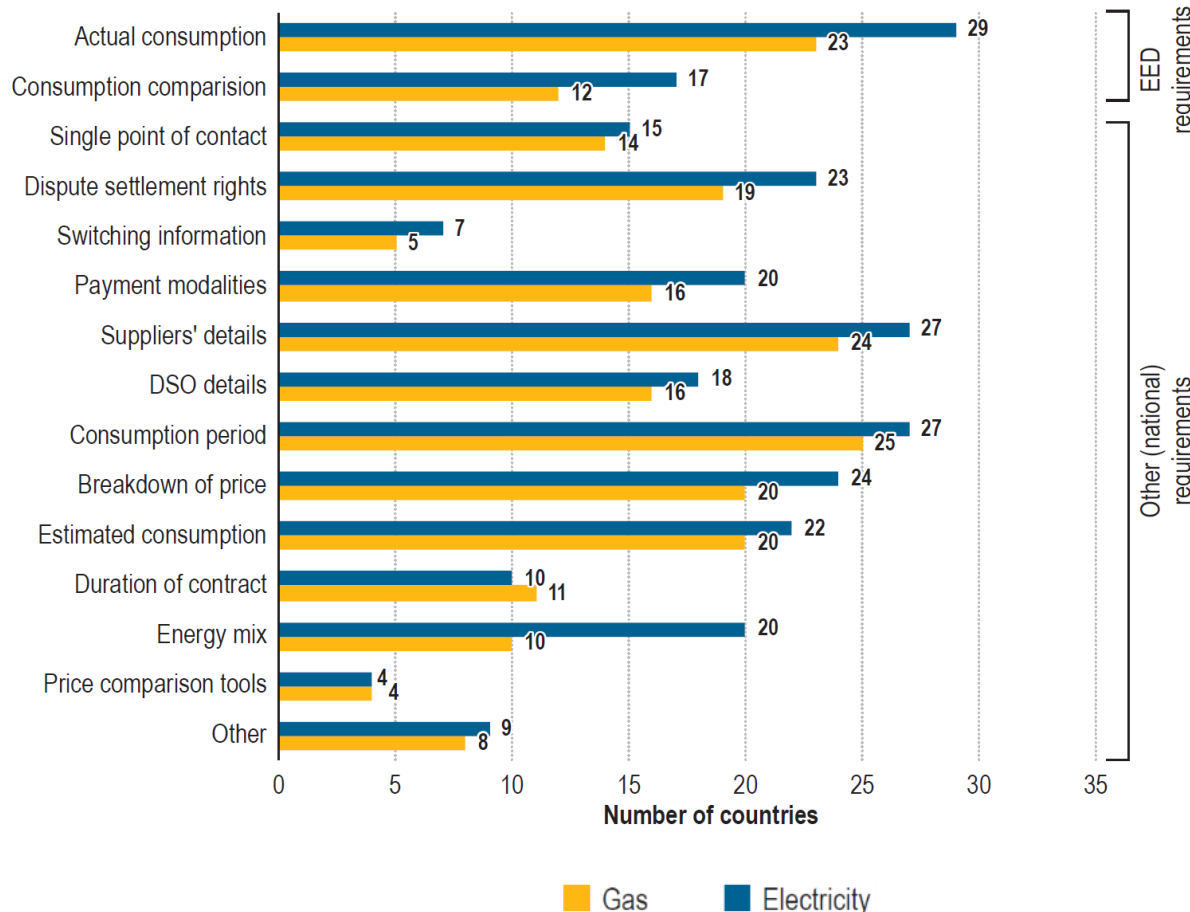


- Low-income and chronically ill are the most often protected types of household
- Types of measures are manifold; most common are restrictions to disconnections, social tariffs, and (general) social benefits to cover energy expenses

3

Invoices are an important interface through which information can be provided to consumers

Information on household consumer bills - 2015



EED requirements

Other (national) requirements

- MSs' information requirements often go beyond the 3rd Package*
- There is a fine balance between informing consumers and overwhelming consumers with information

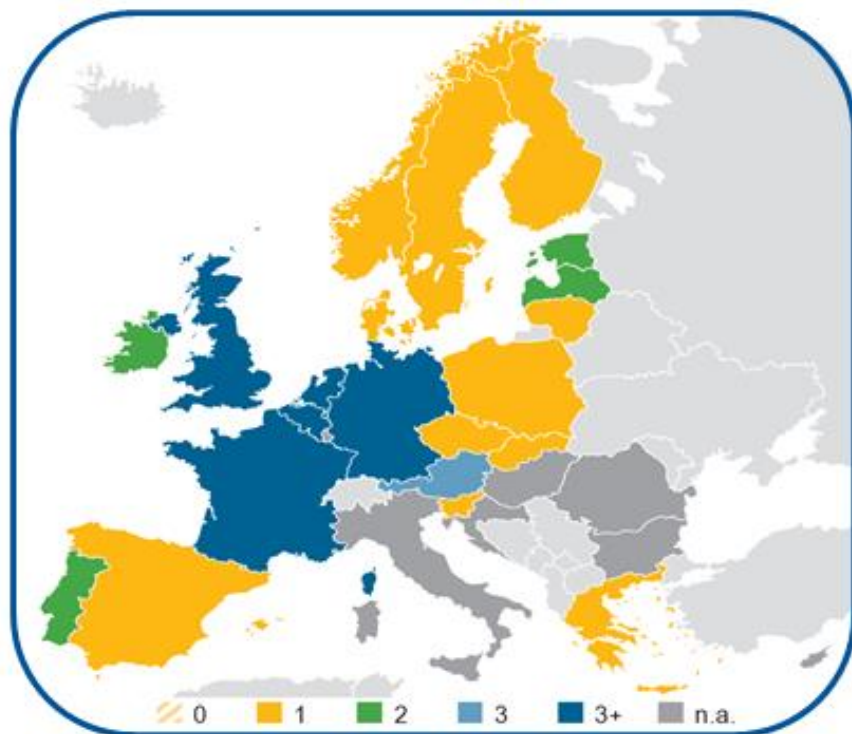
3

* and other EU legislation (e.g. the Energy Efficiency directive) that impose information elements on a standard energy invoice

Source: CEER Database, National Indicators (2016).

Comparison tools are very valuable to consumers that want to explore the marketplace for energy supply offers

Number of reliable electricity comparison (CT) tools in MSs



- There is a wide variety of CTs which are either offered publicly by the NRA or other authority, or are privately owned.
- Countries with the highest number of reliable CTs are GB (12), DE (10) and NL (9).

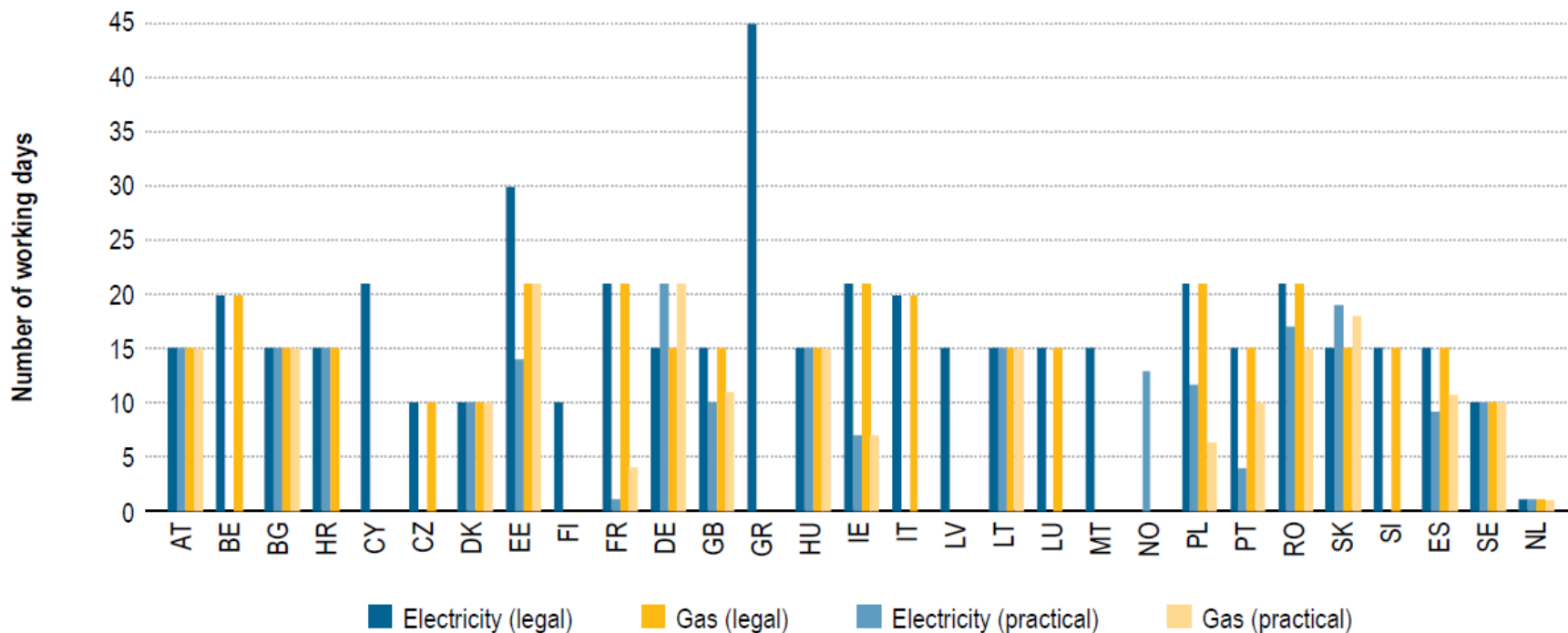
3

Recommendations information provision to households

- Bills should not be the one and only source of information for consumers.
- Adding more information elements to bills as a legal requirement, either at European and or national level, could be counterproductive for the consumer.
- The creation of reliable online comparison tools should be promoted.
- The standardisation of fact-sheets for retail offers that present easy-comparable prices should be monitored.

The average duration of the supplier switching process in EU MSs is around 14 working days

Legally maximum and average actual switching times - 2015



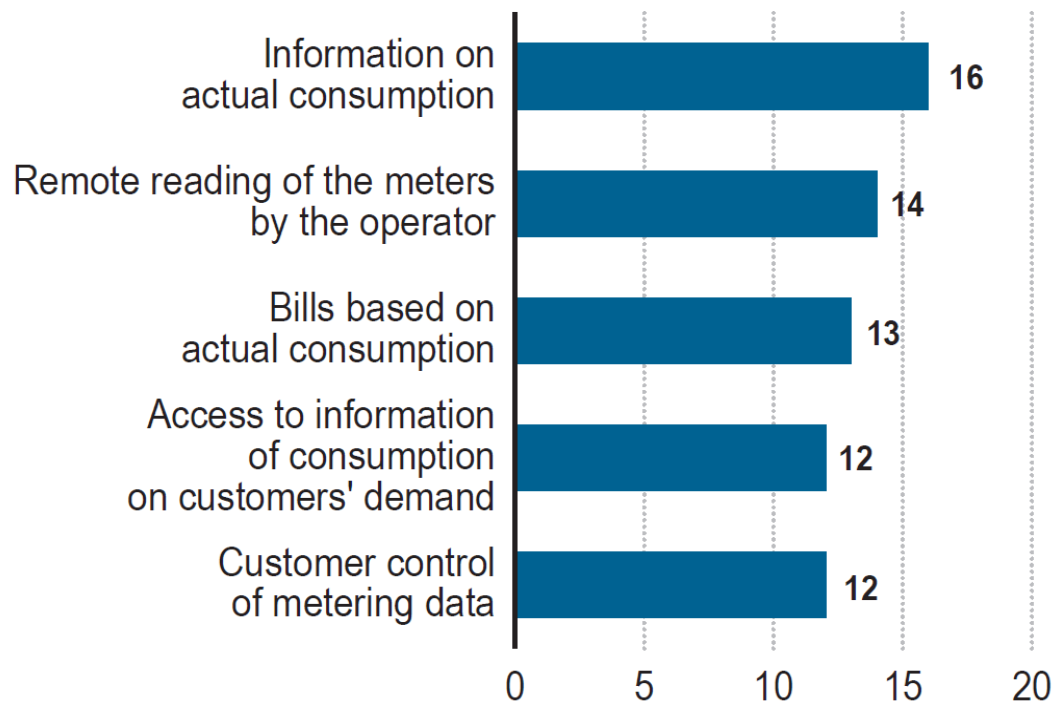
It takes around five weeks to receive the final bill after switching supplier

Recommendations on improving switching

- MSs should clearly define a common starting point for the switching period to guarantee all European consumers similar treatment when switching supplier.
- DSOs and suppliers are encouraged to achieve further progress in reducing switching time for customers below the 3 weeks limit.

Smart meter roll-out has begun in half of EU MSs

Top five functionality requirements of electricity smart meters in EU MSs



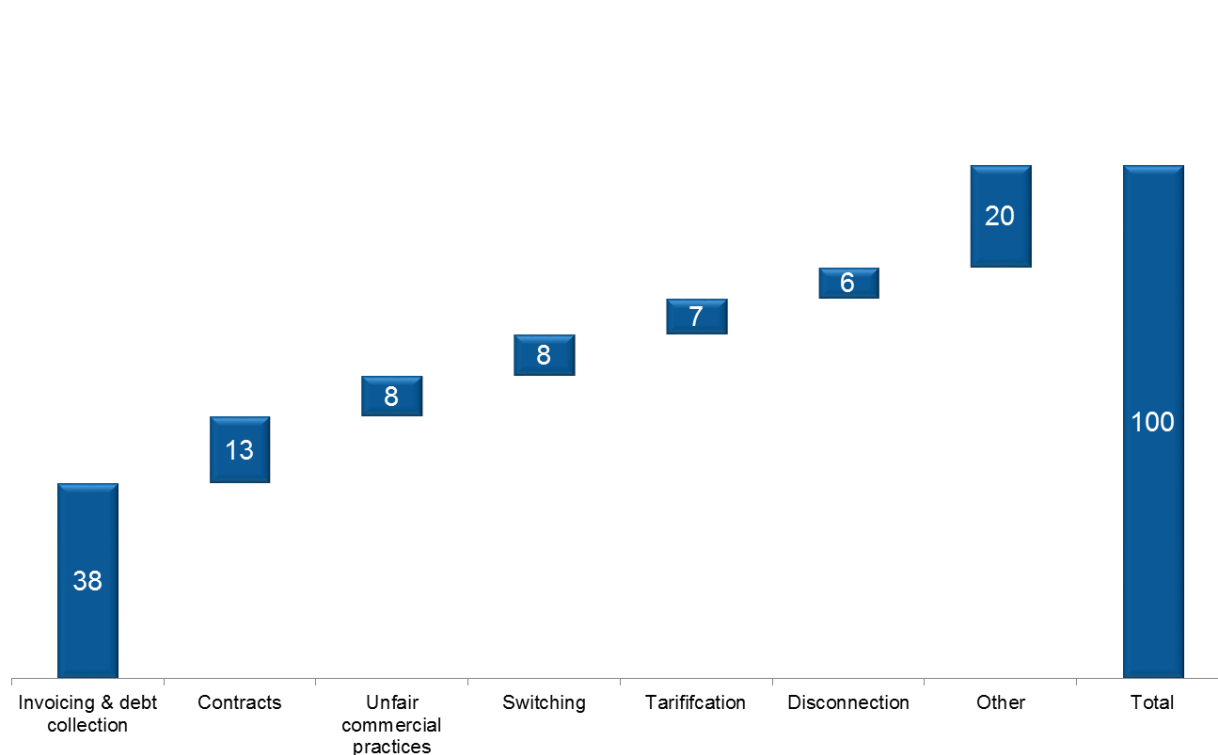
- 17 MSs have minimal technical and other requirements for smart meters in their legislation, to ensure benefits to household consumers.
- Compared to last year, three more countries have initiated the roll-out of smart meters.

Recommendations on smart meters

- Smart meters should preferably be equipped with functionalities that enable consumers to easily benefit from and participate in energy efficiency and demand response/flexibility schemes.

Consumer complaints mostly relate to billing and contracts

Consumer complaints addressed to NRAs by households and related to electricity supply - 2015



- The number of household consumer complaints per 100,000 inhabitants received by suppliers, DSOs and ADRs as reported to NRAs in electricity and gas varies considerably across MSs, mainly due to diverse handling and reporting cultures.
- It is still challenging to evaluate complaints received by DSOs and suppliers, as DSOs and/or suppliers do not have the obligation to classify complaints

Recommendations on complaint handling

- All MSs should implement ADR. In those MSs where the NRA is not the entity responsible for ADR, it should non the less have easy access to relevant statistics arising from it.

While DSOs generally meet connection recommendations, planned supply interruptions appear to last longer than recommended

Indicators of DSO service quality - legal standards and practice

Indicator	CEER Recommendation	Electricity (median value)		Gas (median value)	
		Legal	Practice	Legal	Practice
Number of days to provide a price offer for a grid connection	1 week (2 weeks for complex connections)	15 days	12 days	17 days	9 days
Number of days to connect to the network and activate energy supply to a consumer (in the case of minor works)	2 working days (unless a longer period is requested by the consumer)	15 days	8 days	28 days	25 days
Number of days to disconnect the energy following a consumer request	1 working day (unless a longer period is requested by the consumer)	5 days	4 days	6 days	5 days
Duration of a planned supply interruption	6 hours for electricity and 12 hours for gas	10 hours	18 hours	8 hours	24 hours

3

Recommendations on monitoring

- A common understanding and approach toward commercial quality would enhance monitoring and comparability of monitoring data at the European level.

Thank you for your attention

www.acer.europa.eu

www.ceer.eu

MMR link

<http://www.acer.europa.eu/en/Electricity/Market%20monitoring/Pages/Current-edition.aspx>