


# ACER

 Agency for the Cooperation  
of Energy Regulators

# CEER

Council of European  
Energy Regulators



## The 4<sup>th</sup> Annual Report on Monitoring the Electricity and Natural Gas Markets

### Main insights

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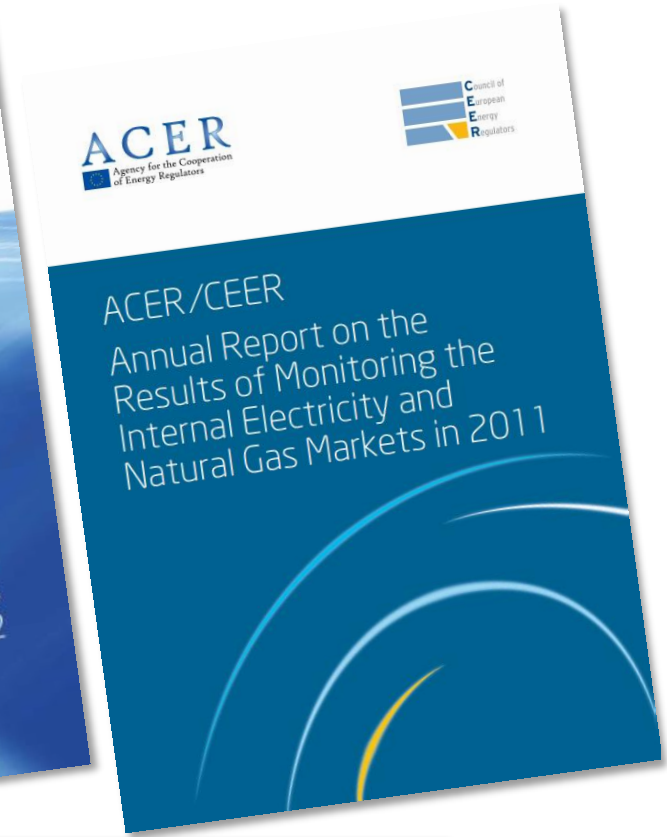
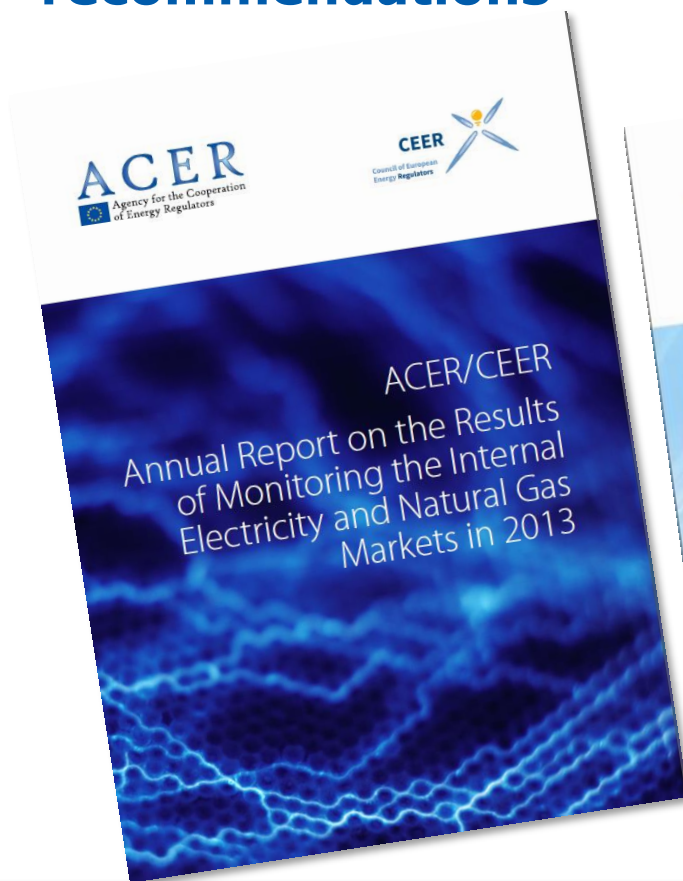
Team Leader, ACER

***Bart Vereecke***

Team Leader, ACER

**Brussels, 30 November 2015**

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



## Context

### Integrating the IEM

Network  
capacities  
calculation for  
trade

Use of the  
network

Wholesale  
markets

Retail  
markets

Consumer  
benefits

# Outline

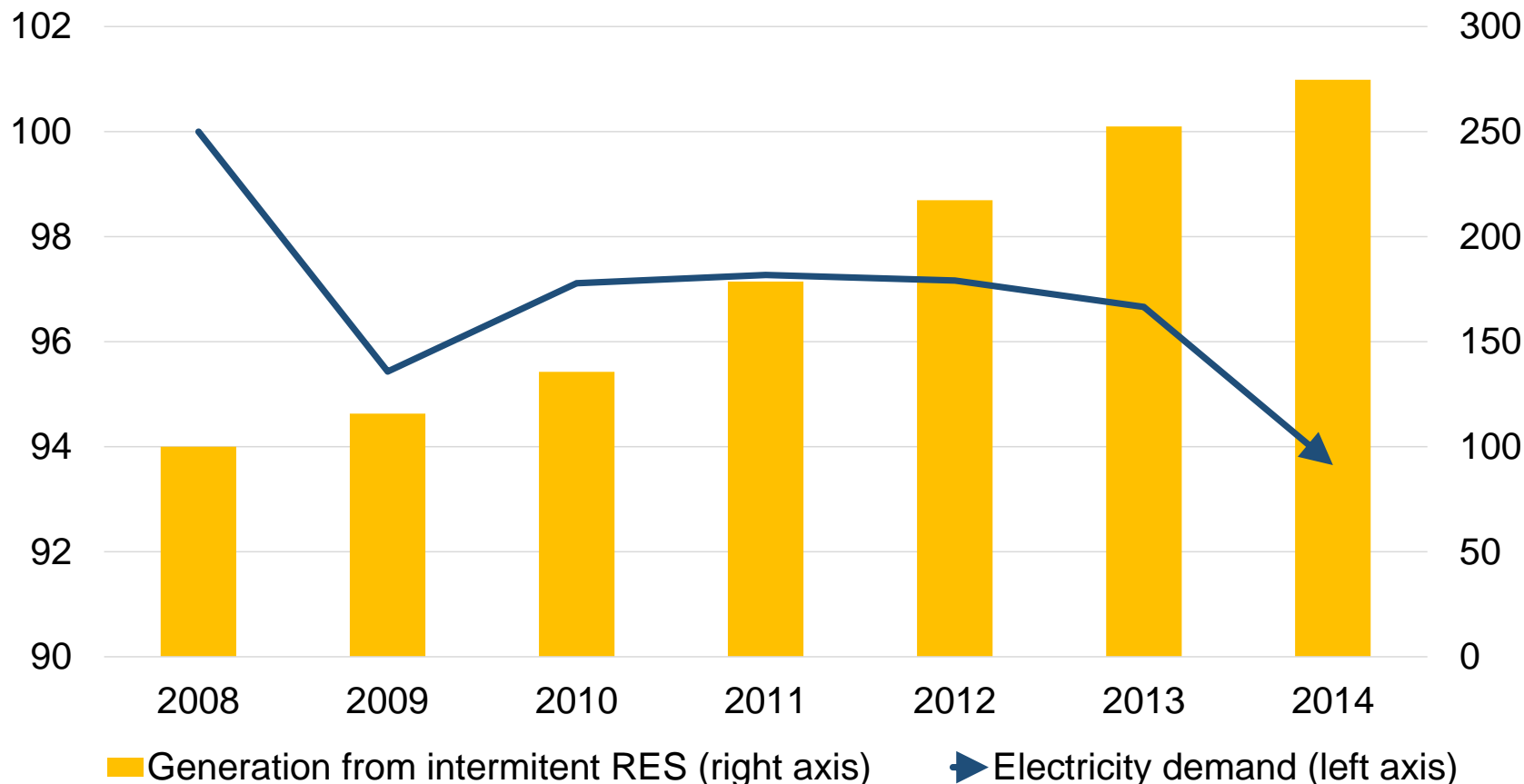
- Electricity and gas wholesale markets
- Electricity and gas retail markets
- Consumer protection and empowerment

# Outline

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

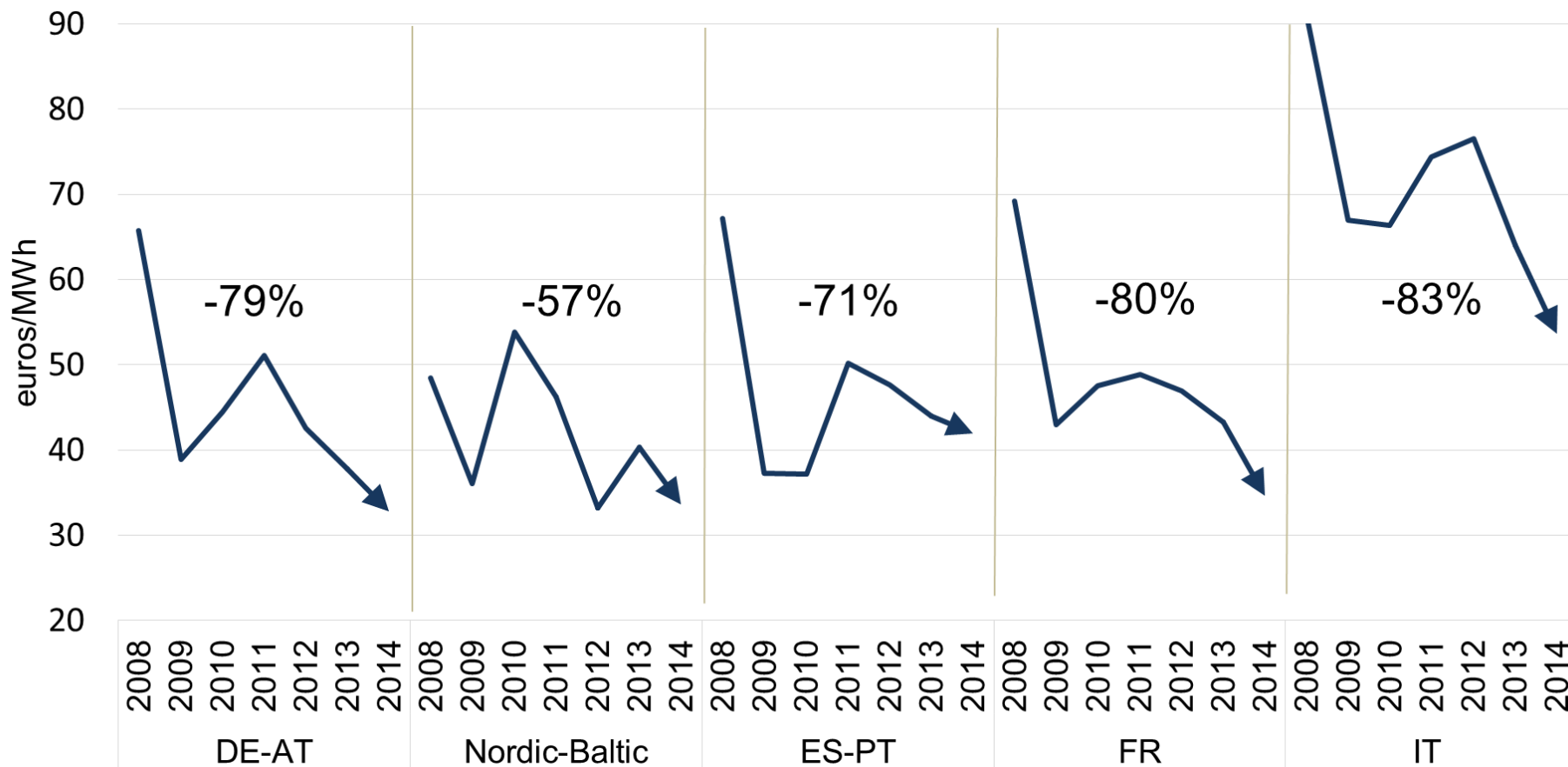
## In 2014 electricity demand decreased (-6% since 2008) while RES generation continued to increase (almost tripled since 2008)

Evolution of electricity demand and generation from RES in Europe - for both demand and RES generation – 2008 = 100



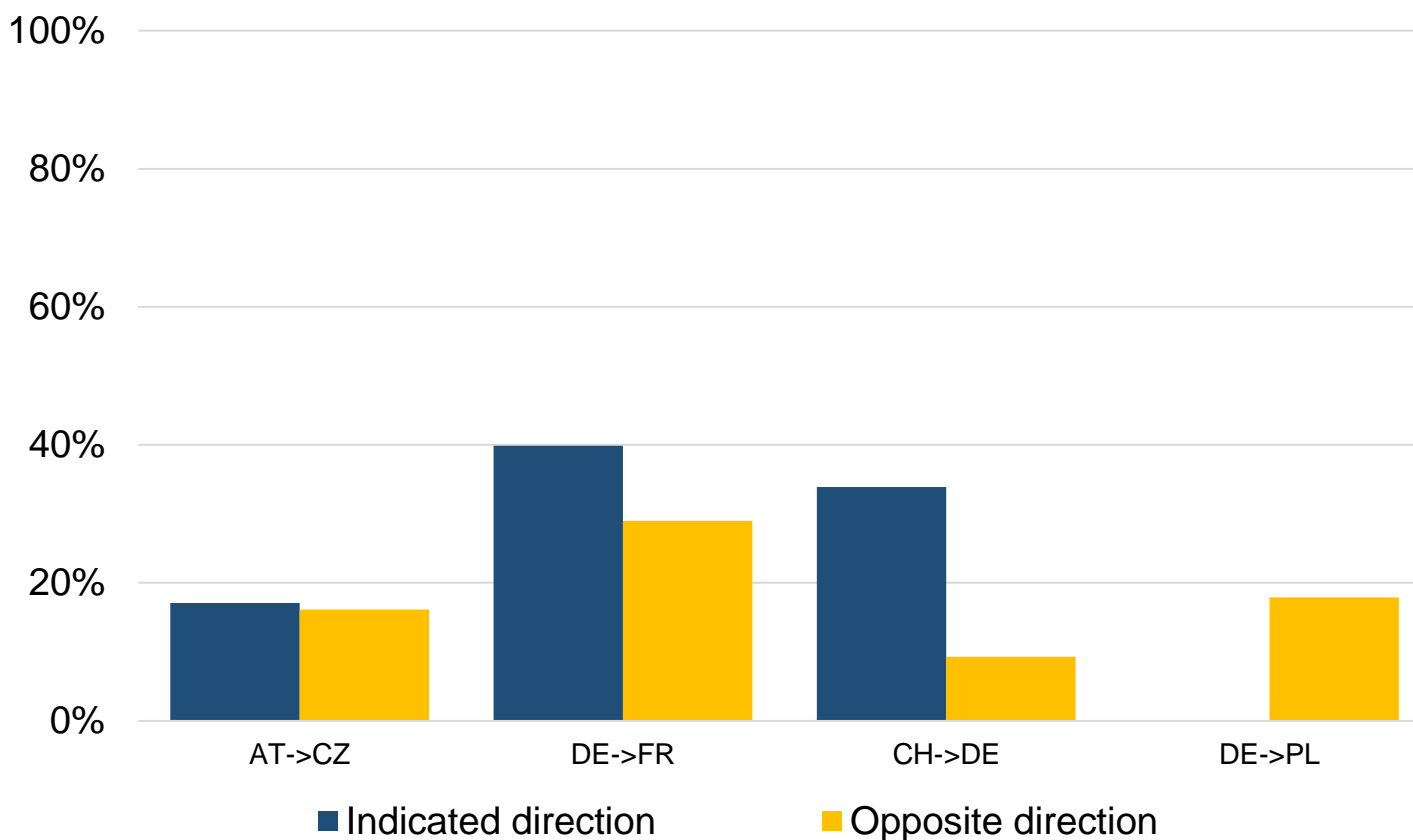
**...in combination with generation overcapacity and 'cheap coal',  
drove wholesale prices further down in 2014 (minus 50-80%  
since 2008)**

Evolution of day-ahead prices in Europe – 2008-2014



## Electricity exchanges inside zones and those originating from cross-zonal exchanges should compete for the capacity of the network elements on equal terms

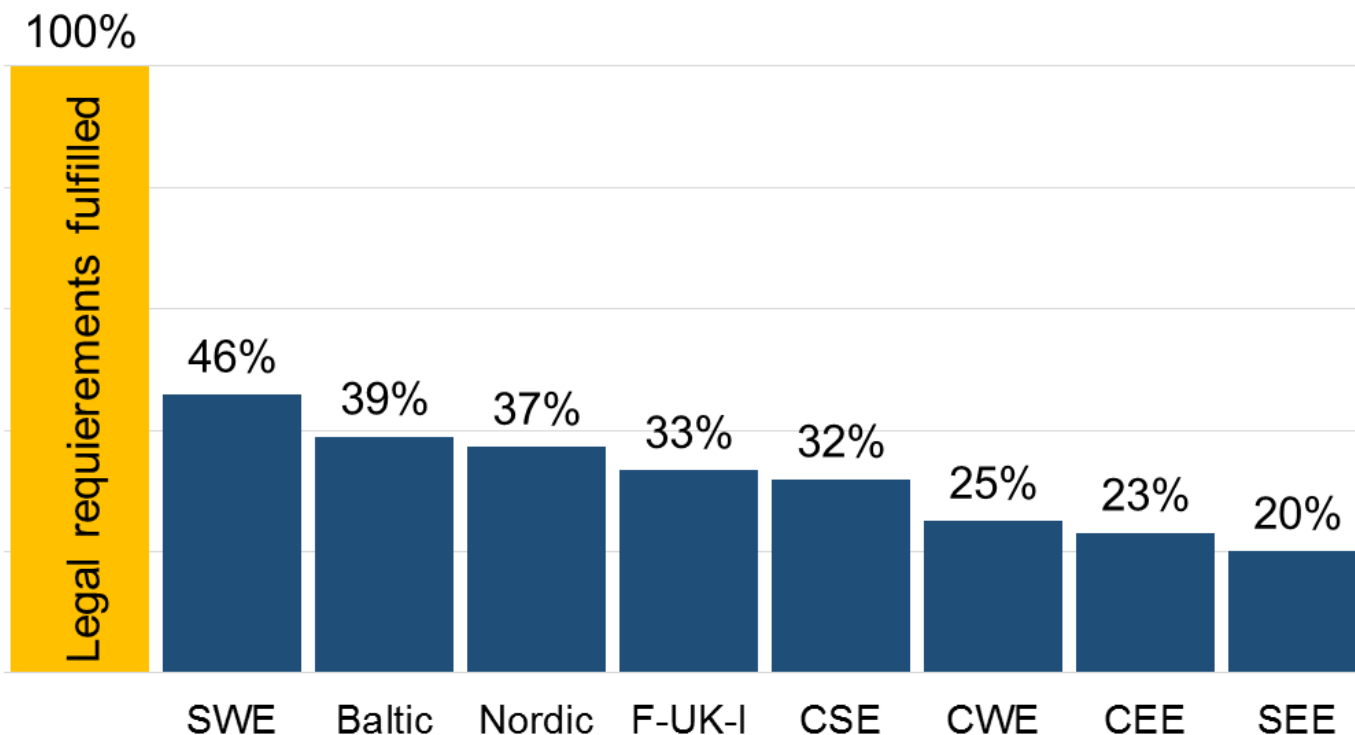
Ratio between available net transport capacities (NTC) and aggregated thermal capacity of interconnectors – 2014 (% - MW)





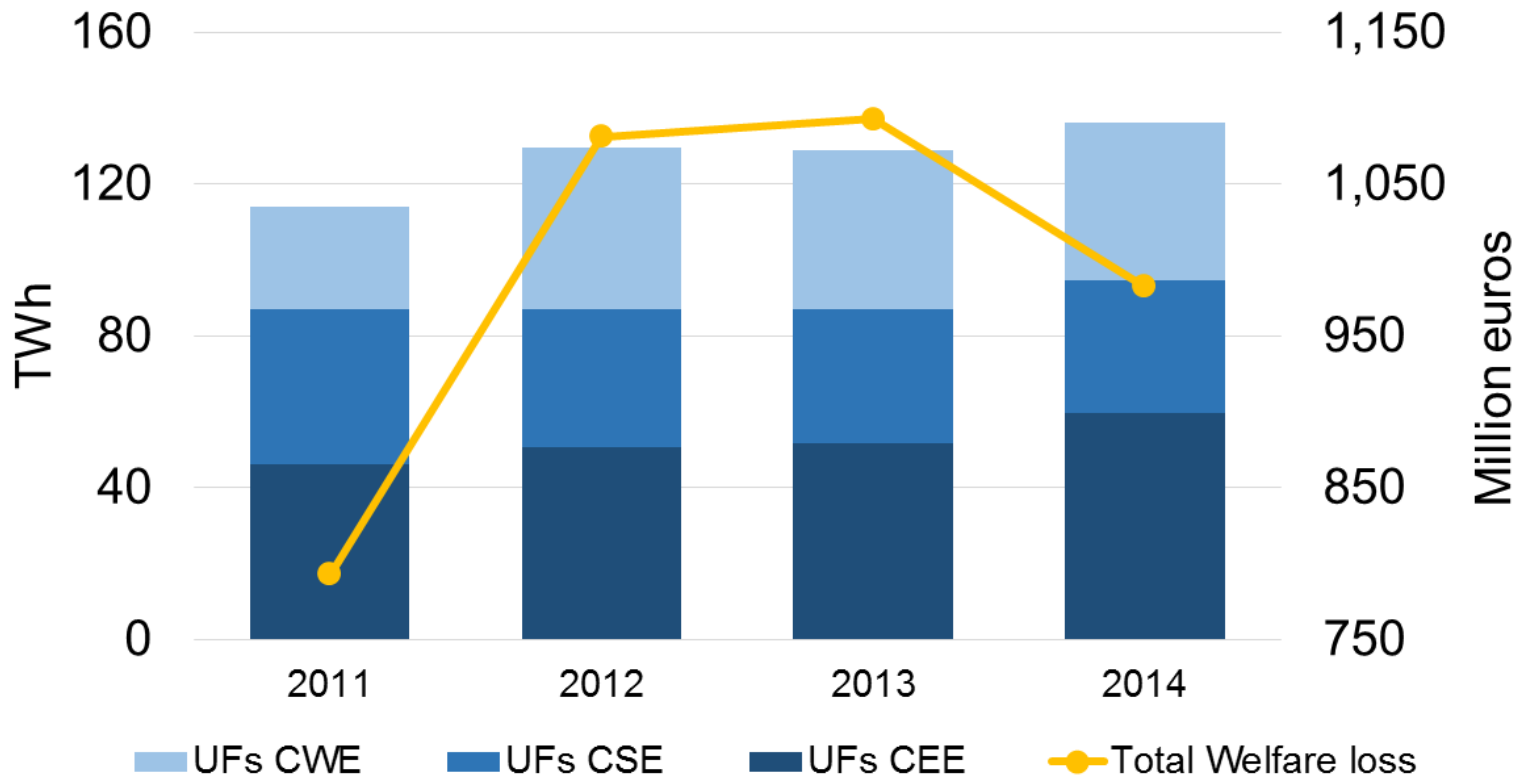
## Cross-zonal capacity calculation methods could be significantly improved both in terms of coordination and efficiency

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



## The level of Unscheduled Flows (UF) continues to increase in the CEE region

Level of unscheduled flows and total social welfare loss in the CWE, CSE and CEE between 2011 and 2014



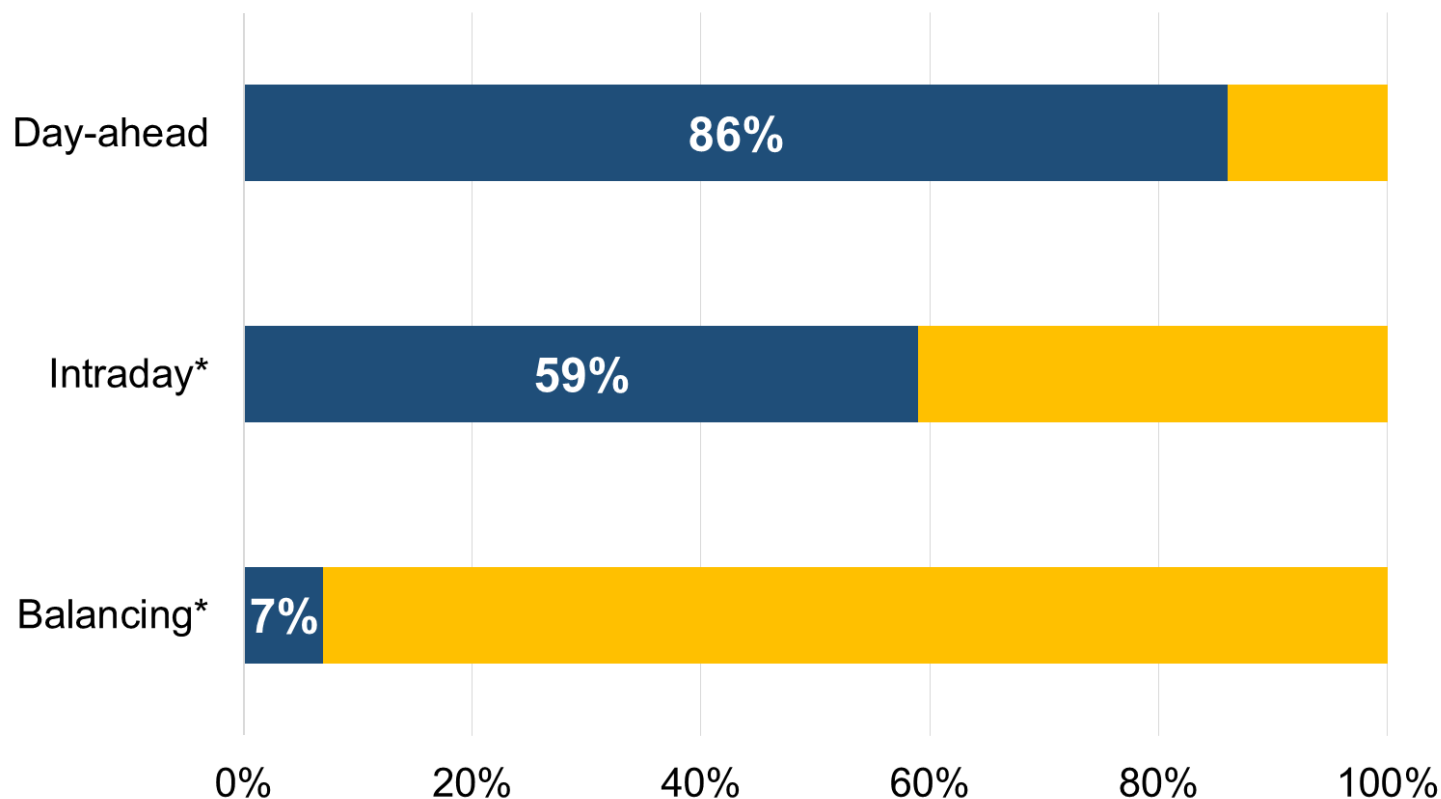
## Recommendations – use of the network

### More capacity could be made commercially available by

- Performing more coordinated capacity calculation in all timeframes
- Implementing flow-based capacity calculation methods where appropriate
- Ensuring a more equal treatment of internal and cross-zonal exchanges through:
  - » a comprehensive review of bidding zones
  - » improve capacity calculation methods.

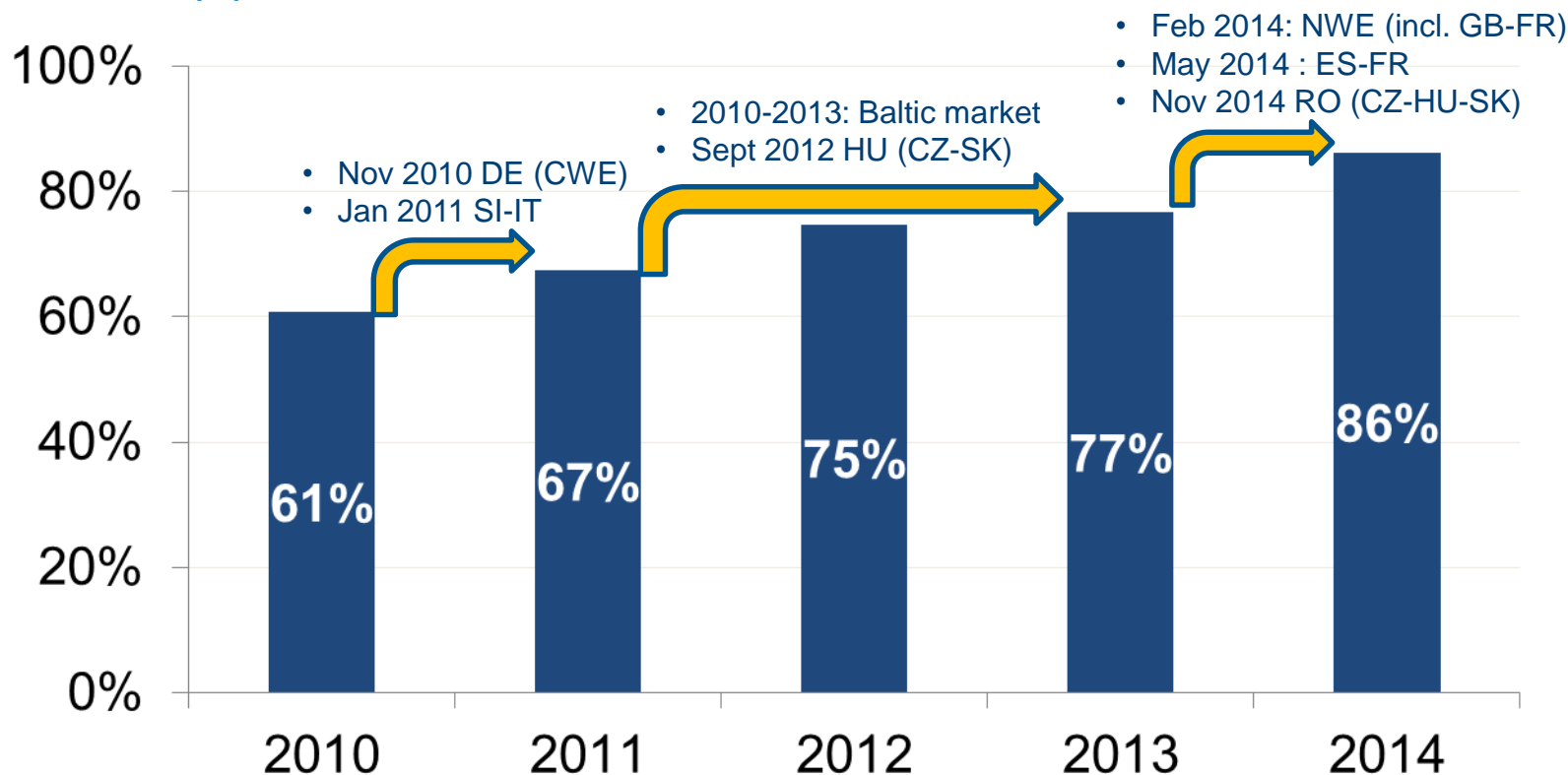
## The use of cross-zonal capacity in the day-ahead timeframe is close to optimal, but in the intraday and balancing market timeframe it can be significantly improved

Level of efficiency (% use of commercial capacity available in the 'economic' direction) in the use of interconnectors in Europe – 2014



## Day-ahead market coupling has enabled a more efficient use of available cross-zonal capacity and helps price formation of hedging products

Percentage of available capacity (NTC) used in the ‘right direction’ on all EU electricity borders – 2010-2014 (%)



## Intraday liquidity is low though the highest levels are observed in markets with the highest RES penetration

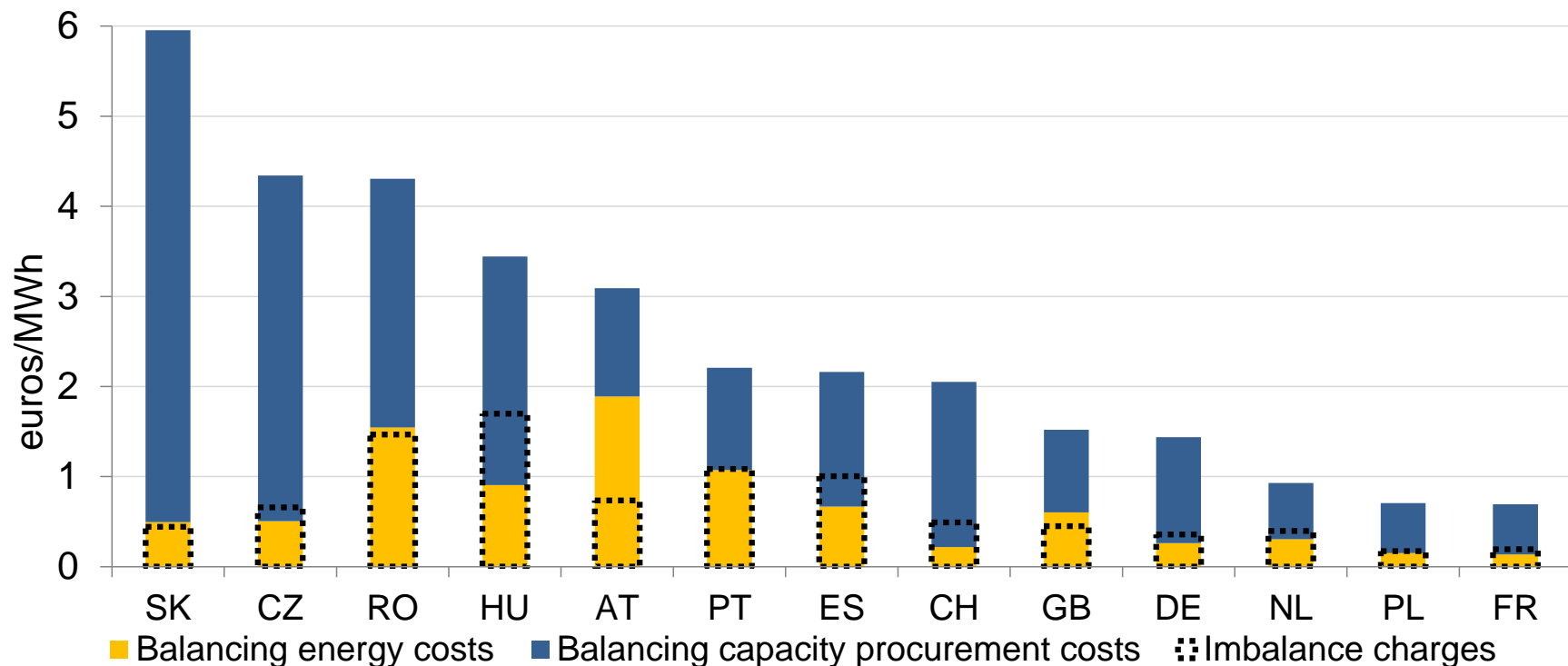
### Intermittent generation and intraday liquidity in a selection of Member States – 2014 (%)

Market	Intermittent generation (% installed capacity)	Ratio ID volumes/demand
Spain	22%	12.1%
Italy	18%	7.4%
Portugal	21%	7.6%
Germany	28%	4.6%
Great Britain	12%	4.4%
Slovenia	7%	1.0%
Belgium	19%	1.0%
Sweden	11%	1.0%
Lithuania	8%	1.0%
France	10%	0.7%
Czech Republic	10%	0.7%
Netherlands	10%	0.2%
Poland	9%	0.1%

**Liquid ID markets facilitate RES integration in EU electricity markets.**

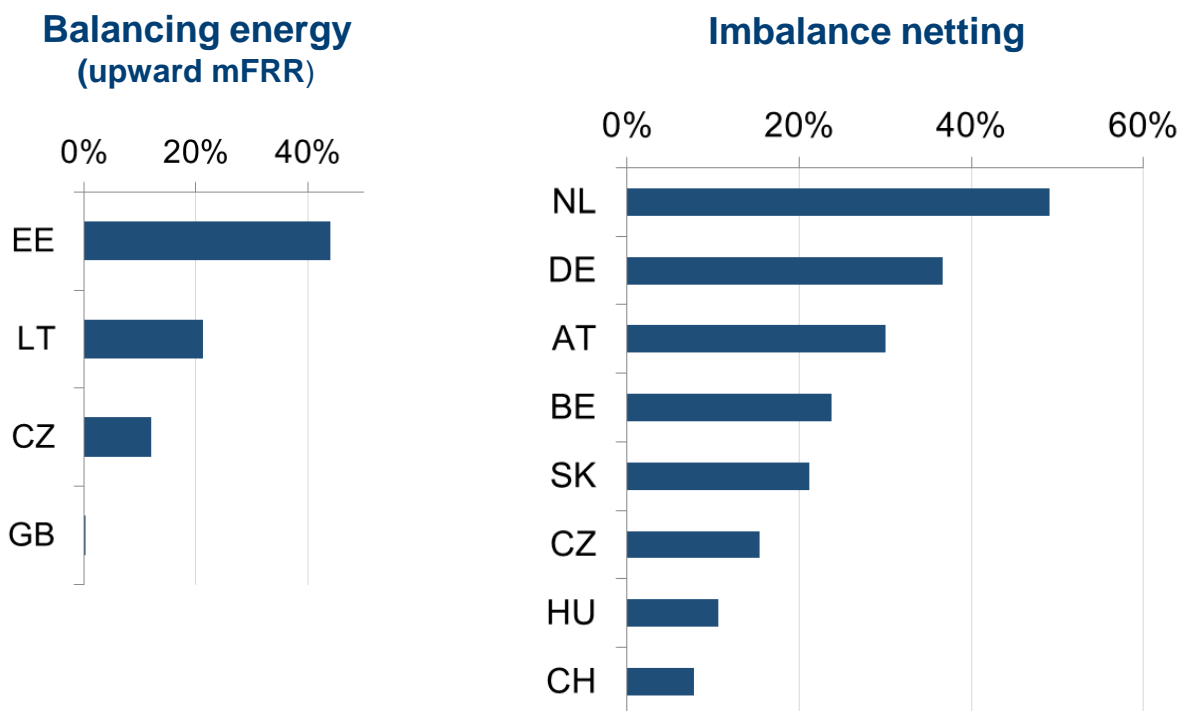
## The costs of balancing services are becoming a relevant part of the energy bill. Cross-zonal exchanges of balancing services can reduce costs...

Overall costs of balancing (capacity and energy) and imbalance charges over national electricity demand in a selection of European markets – 2014 (euros/MWh)



**... though exchanges of balancing services in the EU is limited. The main exception is imbalance netting which is successfully applied across more than one third of EU borders**

Cross-border exchange of balancing services: balancing services activated abroad as a percentage of national needs

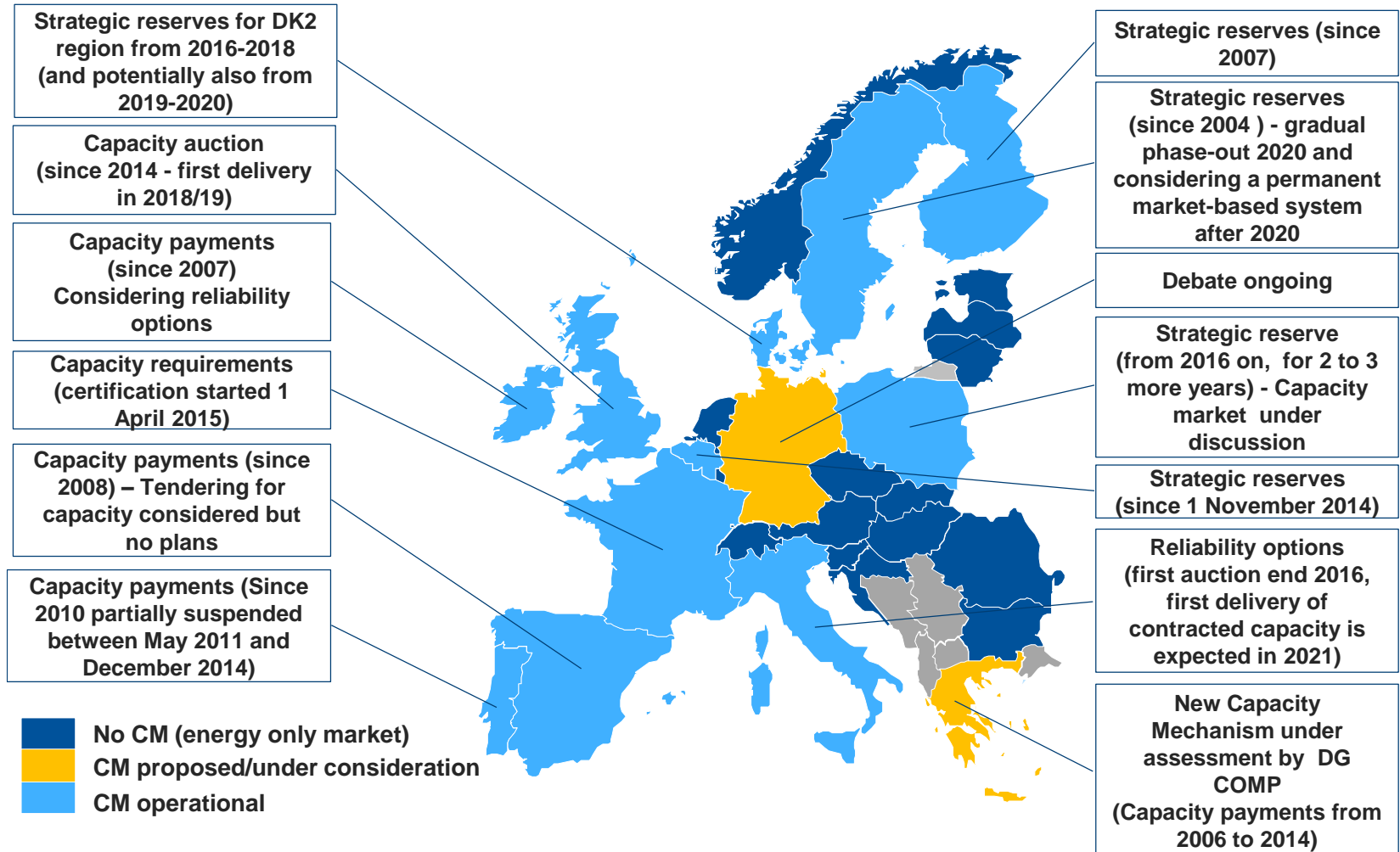


**The potential benefits from imbalance netting and a further exchange of balancing energy are estimated to be higher than 1 billion euros/year for the whole EU.**



# Uncoordinated development of capacity mechanisms (CM)

## State of play – September 2015



## Recommendations

- **Use of the day-ahead cross-border capacities can be further improved by**
  - » Implementing market coupling on the remaining borders (12 out of 40 borders)
- **Intraday liquidity can be further improved by**
  - » Moving gate-closure-time closer to real time
  - » Applying balancing responsibility to renewable resources
  - » Aligning intraday and balancing market time units
  - » Ensuring TSOs perform intraday capacity recalculation
  - » Ensuring imbalance charges fully reflect the costs of balancing
- **Efficiency in the provision of balancing services can be further improved by**
  - » Ensuring that imbalancing charges reflect the value of flexibility
  - » Implement the balancing network code
- **When considering or implementing capacity mechanisms**
  - » Remove the remaining barriers in “energy only markets”
  - » Coordinate national SoS approaches including a pan-European wide coordinated adequacy assessment
  - » When implementing capacity mechanisms, do not distort the IEM

# Outline

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

# The completion of the gas IEM is progressing, but national markets are at different stages of development

**Gas price formation is more and more driven by gas-on-gas competition factors**

**Renegotiation of existing long-term contracts to include hub indexations**

**Lower demand within the EU**

**Lower demand for LNG globally**

Still, in many MSs long term contracts drive the price

**Supported by...**

**Hub development progresses**

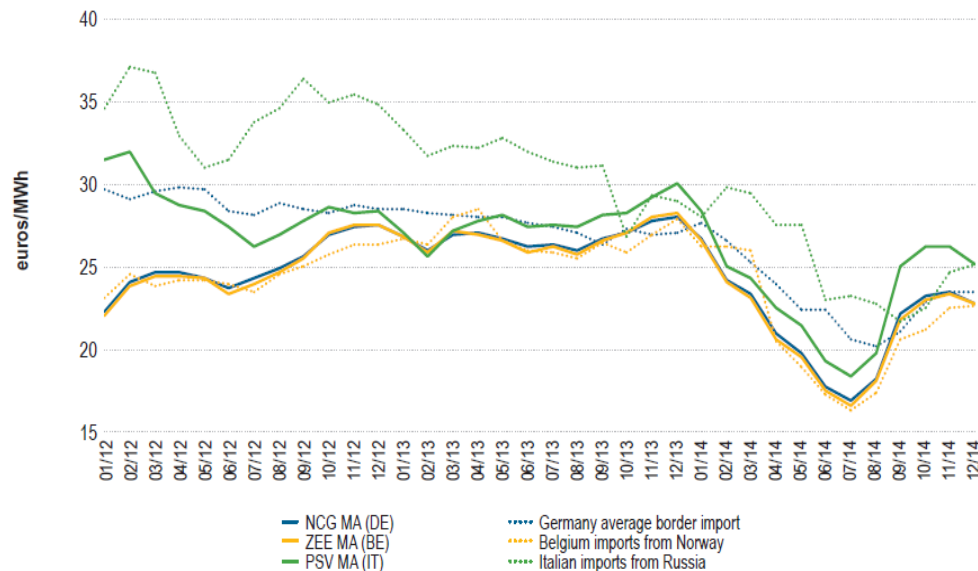
But some MSs have illiquid hubs

**Enhanced infrastructure interconnectivity**

But some MSs still depend on one supply source

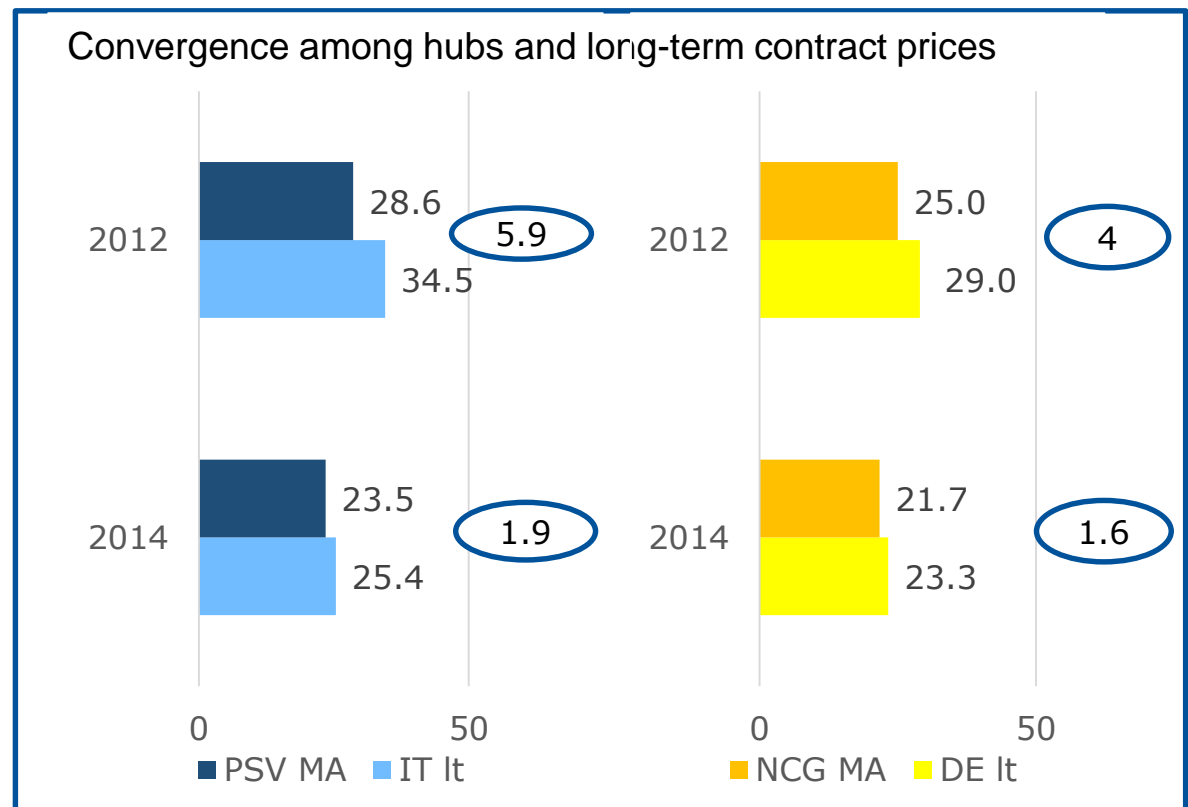
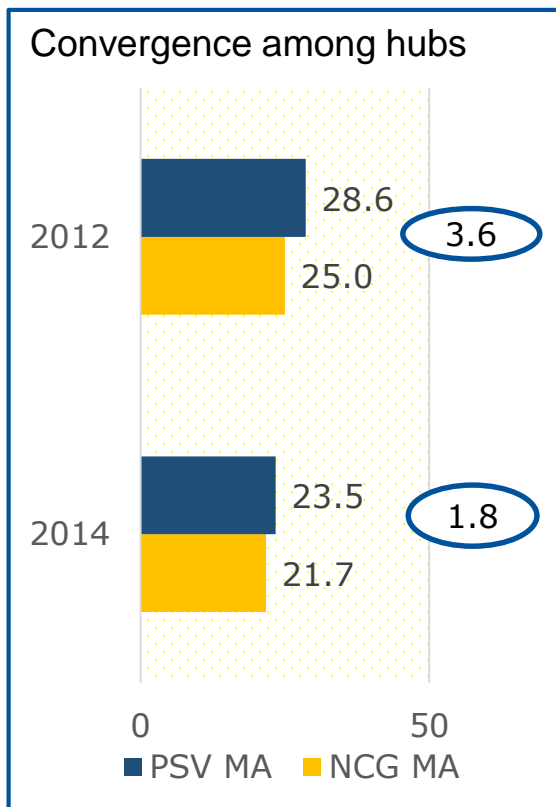
**Overall EU gas wholesale prices decreased in 2014, also driven by lower oil prices**

**Comparison of selected EU MSs hub and cross-border import prices – 2012 to 2014 (euros/MWh)**



## There is an increasing price convergence among EU hubs as well as a narrowing gap between hub and long-term contract prices

Comparison of Italian and German hub and border import prices – 2012 to 2014 – yearly average price in euros/MWh



# Price levels are also impacted by the level of development of hubs

## Benchmark of gas market places

### Advanced hubs: NBP and TTF

**Broad** liquidity

**Sizeable forward markets** which contribute to their role in supply hedging

Larger presence of financial players

**Price reference for other EU hubs** and for long-term contracts indexation

### Advancing hubs: NWE region

**Ongoing increasing** liquidity

More reliant on spot products and balancing operations

Progress on supply hedging role although relatively lower liquidity levels for longer-term products results in weaker price risk management role

### Developing hubs: CEE region

**Improving liquidity from a lower base** taking advantage of enhanced interconnectivity

Liquidity partially driven by market obligations imposed on incumbents

Markets still significantly more reliant on long-term contracts

### Illiquid hubs: SSE, Iberia, Baltic

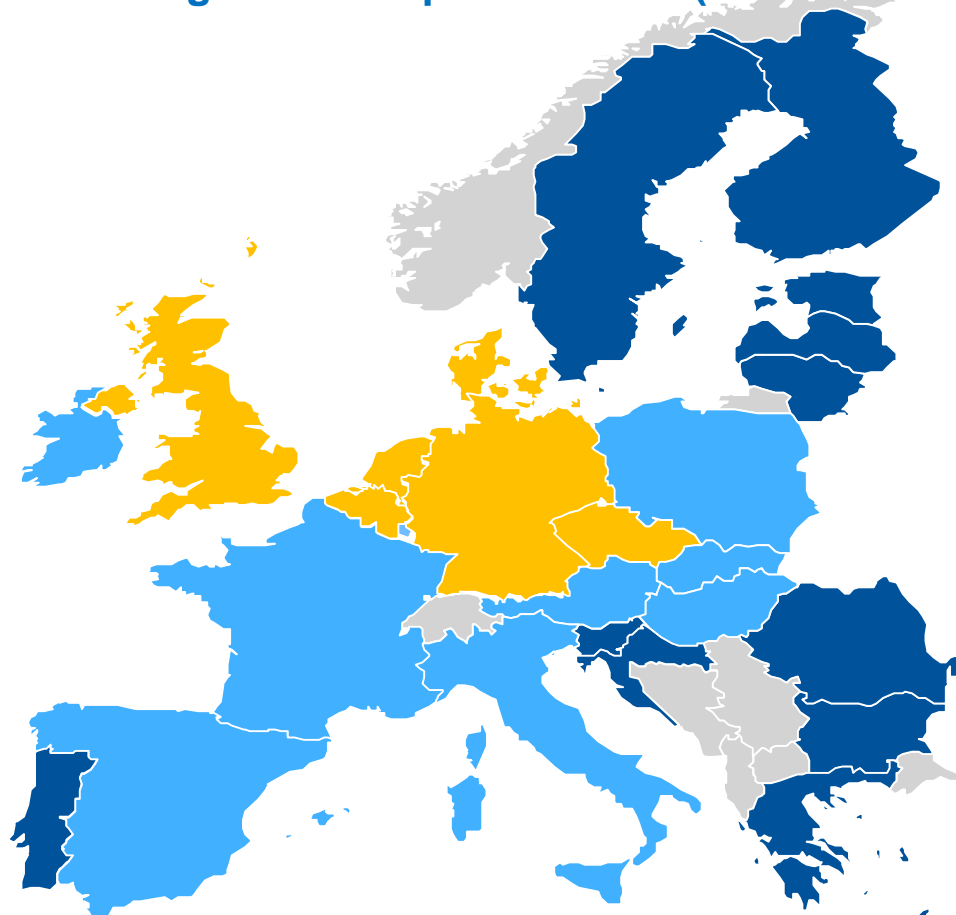
Markets **chiefly relying on long-term contracts**

**Embryonic** organised market places

## As a result, MSs supply sourcing costs are further converging, although some differences persist leading to welfare losses

2014 calculated gas sourcing cost\* compared to TTF (= 23.7 €/MWh)

- <1 euro/MWh
- 1-3 euro/MWh
- >3 euro/MWh



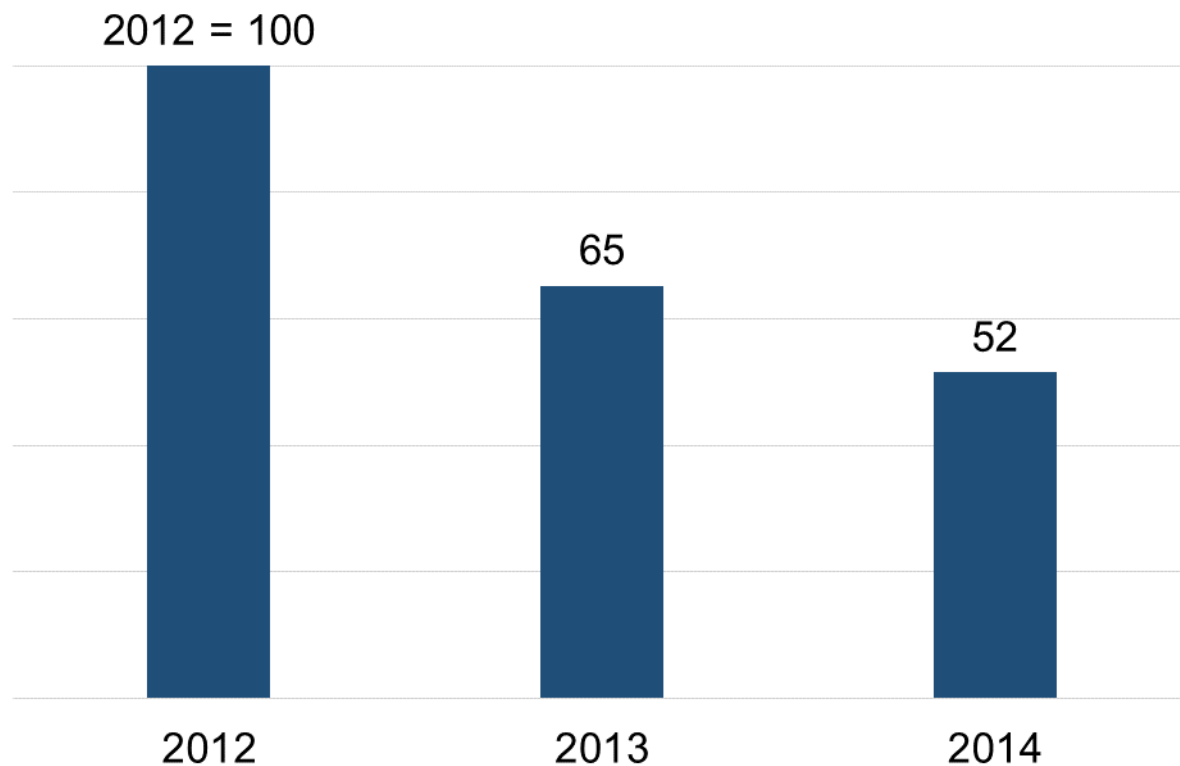
Price levels are higher in those regions with

- less developed hubs
- weaker inter-connection
- less competitive market frames

\* Suppliers' sourcing costs take into account both border import and diverse hub-product prices. A weighted average of monthly sourcing costs and demand is performed to obtain the yearly figure.

## Welfare losses have decreased substantially over the last three years

### 2012-2014 estimated gross welfare losses – index variation



Reasons are:

- Hub development & hub price convergence
- Price indexation in long term contracts through hub instead of oil references
- Demand drop

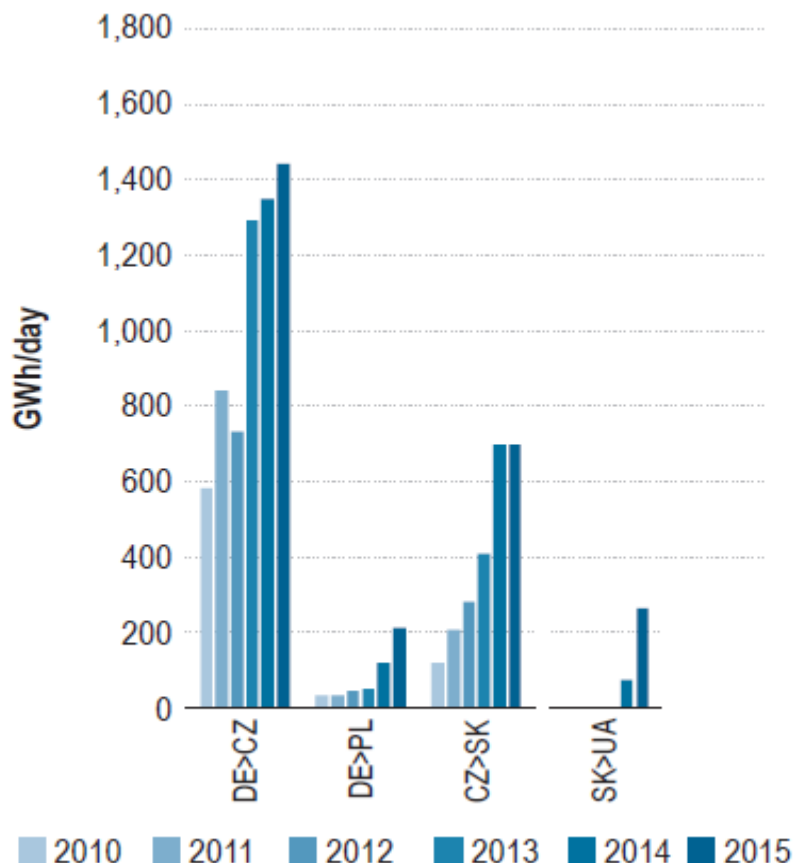


## Recommendations regarding hub development

- **Eliminate barriers hindering hub progress and new market entry**
  - » Simplify access terms and licensing
  - » Reconsider security of supply obligations applied to financial entities
  - » Promote the transfer of prevailing physical delivery points at the flange into VTPs
  - » Force the use of hubs for setting balancing mechanisms
- **Promote further development of hubs in order to facilitate the shift of gas supply from bilateral long-term contracts to shorter-term hub-based transactions**
  - » Promote further the development of diversified trading products at hubs
  - » Foster cross-country hub cooperation: assess via cost benefit analysis suitability of market merging projects

## Recent infrastructure investments, in particular in reverse flow capabilities, are bearing fruit

Example: non traditional direction capacity expansion on key CEE borders – 2010-2015



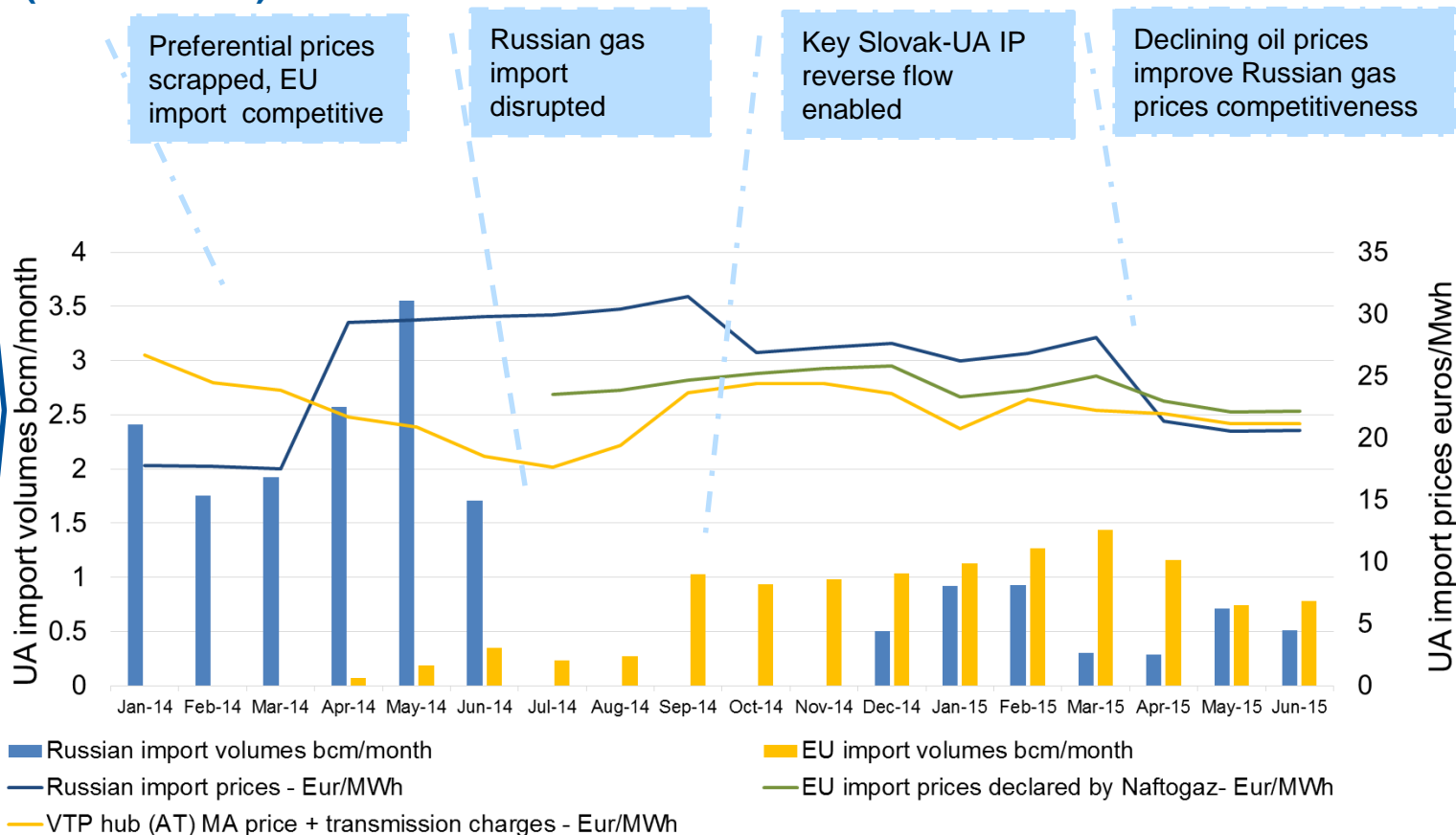
- Reverse-flow capabilities and new IPs deliver **increased security of supply through increased gas flow flexibility** and facilitated **market integration** of CEE internally but also with NWE
- Additionally, several physically uni-directional IPs offer **backhaul services which facilitates market functioning**
- More integrated markets stimulate competition and reduce dependency on gas from a single source
- South-South East Europe and Baltic regions need catching up

# IEM build-out is allowing Ukraine to tap into integration benefits via reverse flow capabilities and hub trading

## Ukraine gas imports (bcm/month) and estimated Ukrainian import prices (euros/MWh)

Ukraine market is getting integrated into EU market

- Sourcing of gas from EU via hub trades
- New market for oversupplied EU shippers



## Recommendations regarding infrastructure development

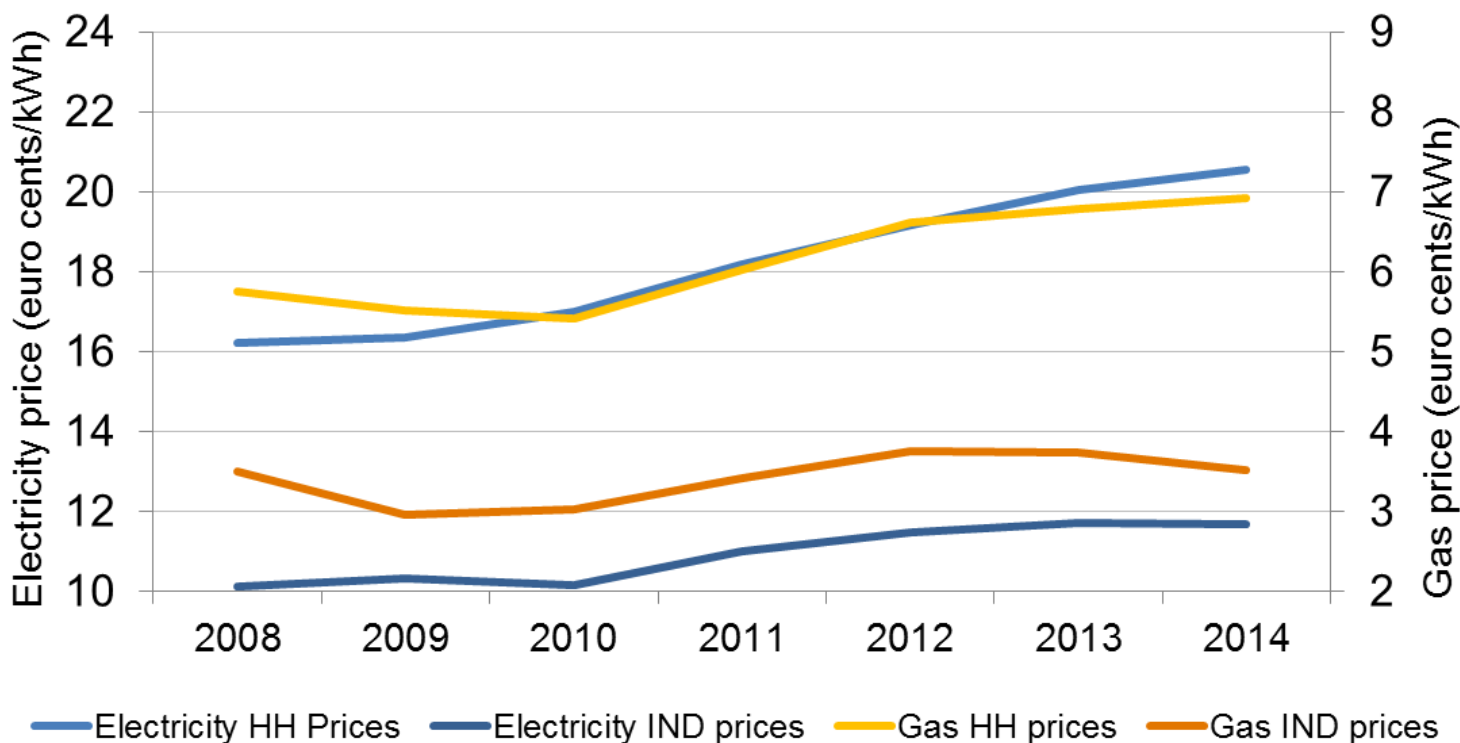
- **Push selected investments to alleviate infrastructure bottlenecks**
  - » Meet the GTM diversification target of three different supply sources
  - » Fully implement investments enabling reverse flows on IPs
  - » Have a regional perspective for infrastructure projects
- **Implement network code provisions in order to facilitate competition and the well-functioning of gas markets.**

# Outline

- Electricity and gas wholesale markets
- Electricity and gas retail markets
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# The trend of rising final end-user prices seems to be changing for industrial consumers

Post-tax EU28 retail prices from 2008 to 2014 (euro cent/kWh)



**Wholesale energy prices have been decreasing over the same period**

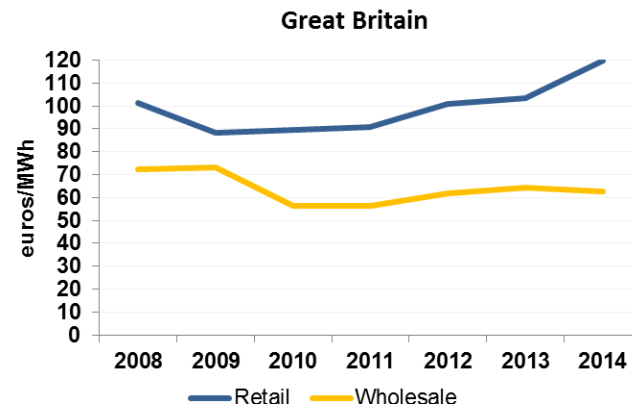
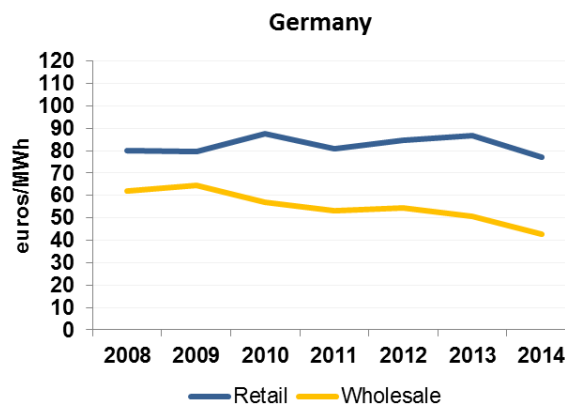
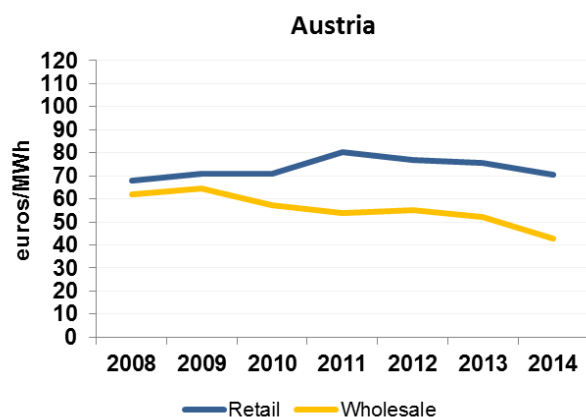
**Non-contestable component increased in majority of countries**

**Demand fell**

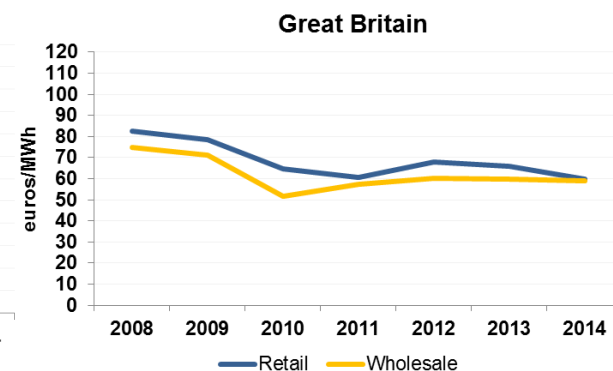
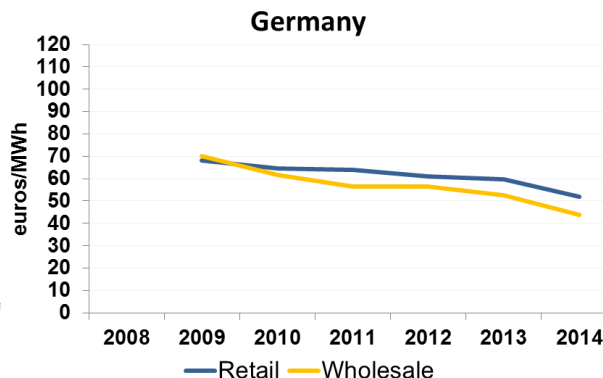
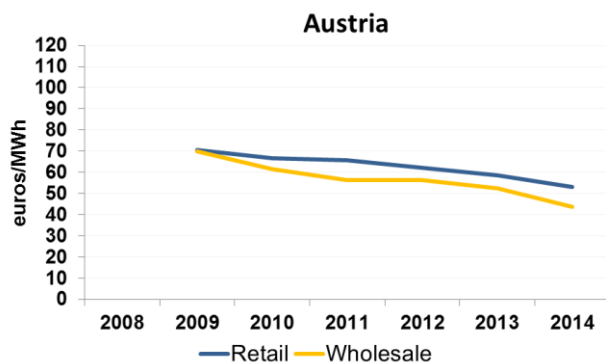
# Industry benefits much more from retail competition than household consumers

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 2014 - (euros/MWh)

Households

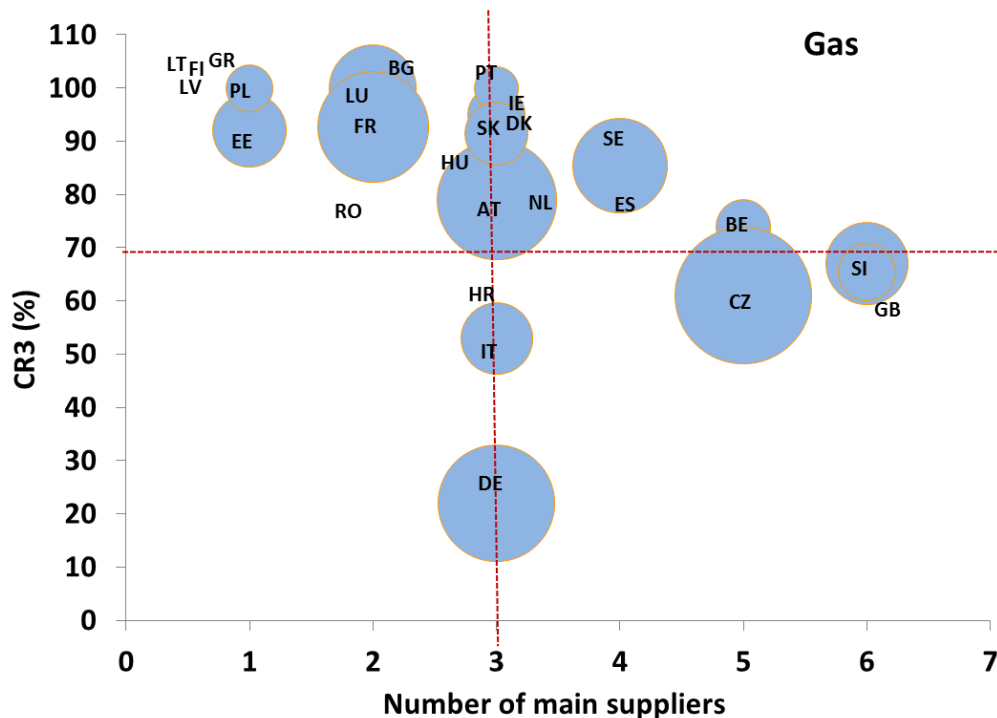
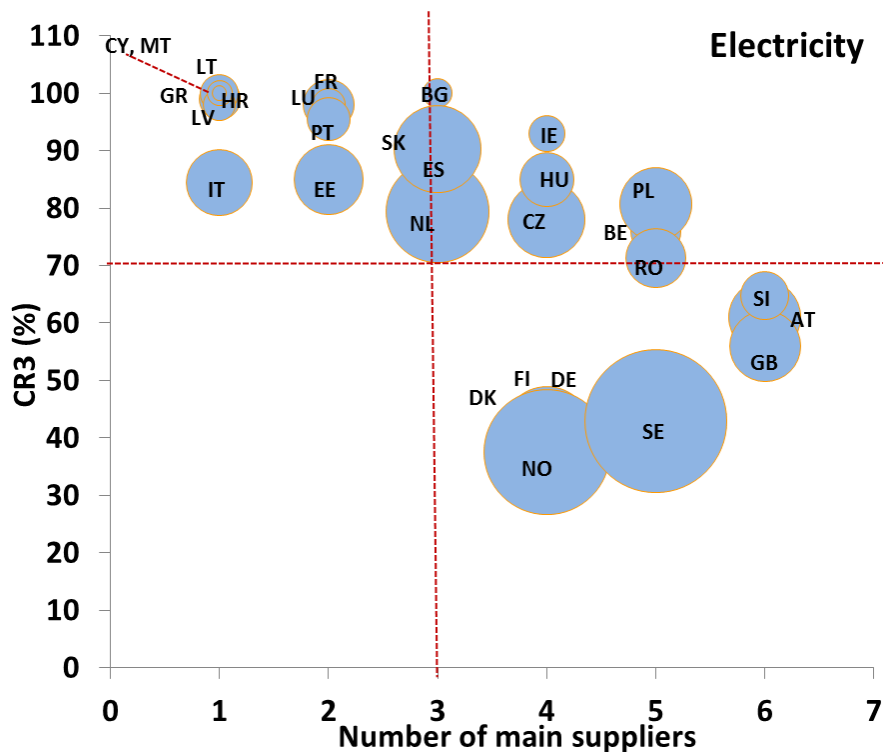


Industry



## Markets are still highly concentrated

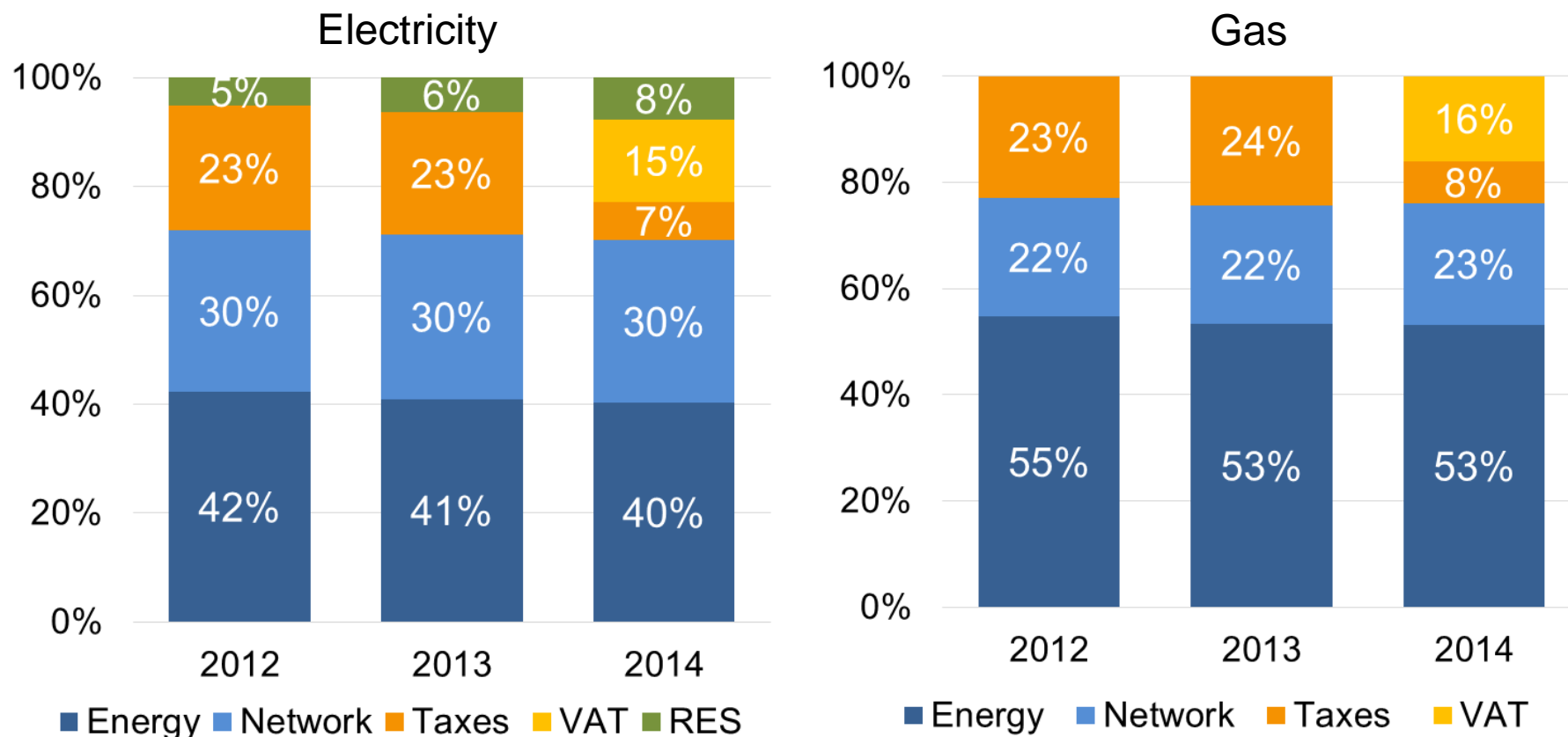
Market share of three largest suppliers (CR3) and the number of main suppliers and number of nationwide suppliers in retail markets for households – 2014





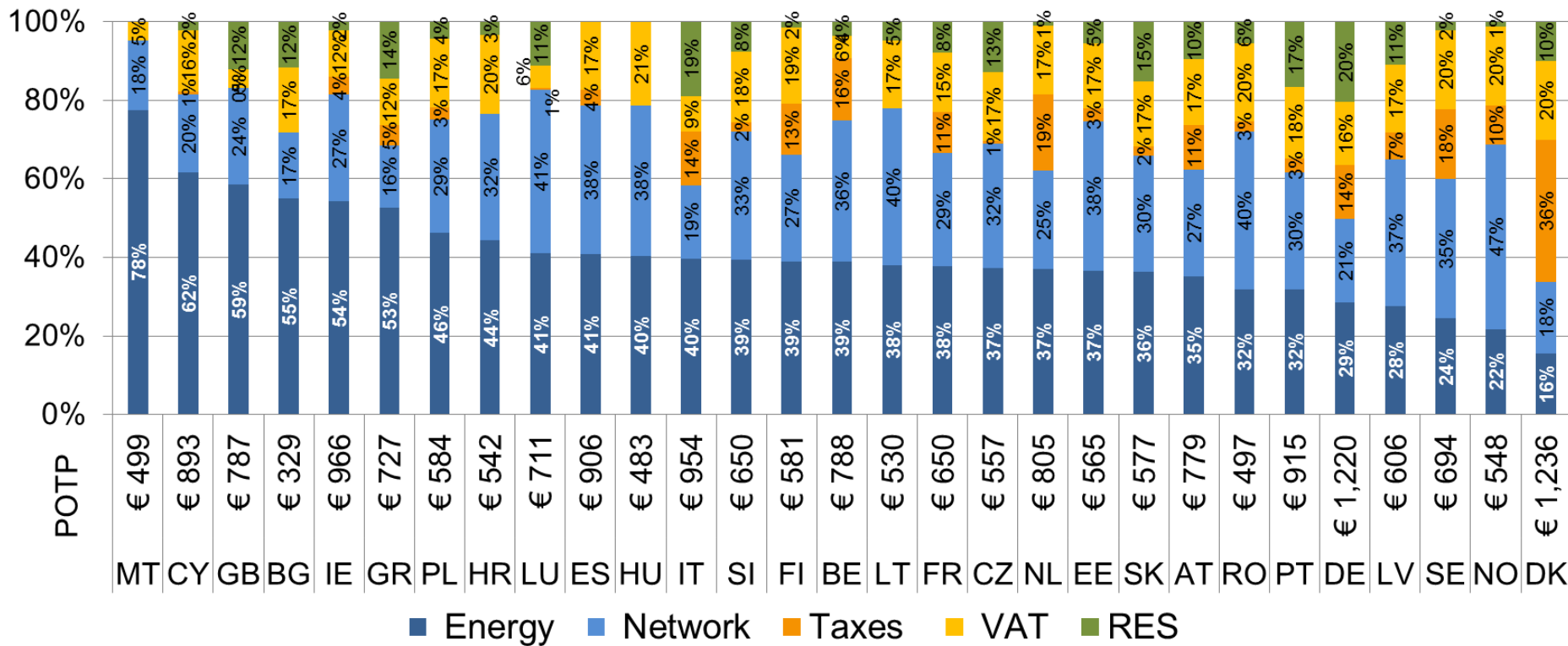
## RES and other non-contestable charges represent a larger part of the final household bill, more in electricity than in gas...

Post-tax retail price breakdown – incumbents' standard offers for households in capital cities – 2012-2014 (%)



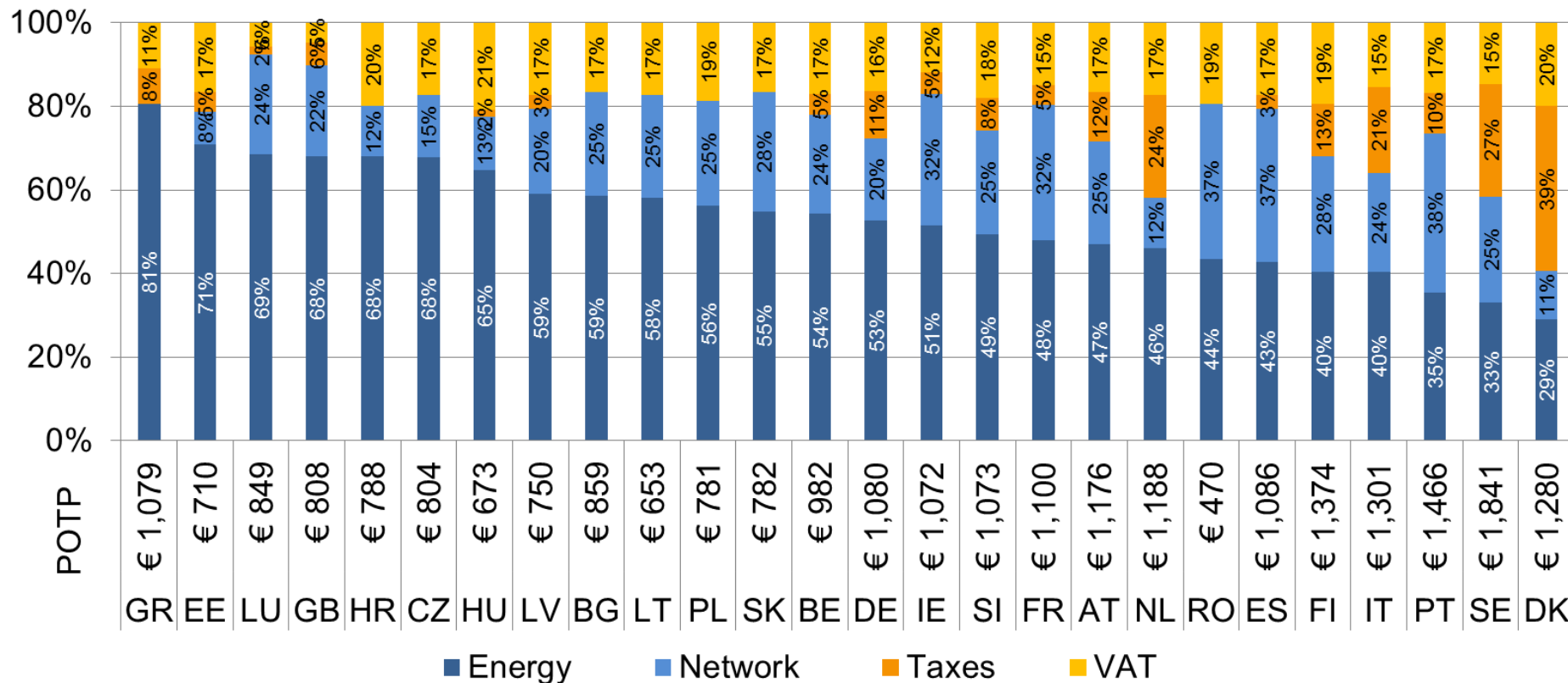
## ... however the situation on the breakdown between energy cost and non-contestable charges differs substantially across MSs

Post-tax retail price breakdown – incumbents' standard offers for electricity households in capital cities – 2014 (%)



## This picture is less pronounced in gas when compared to power

Post-tax retail price breakdown – incumbents' standard offers for gas households in capital cities – 2014 (%)

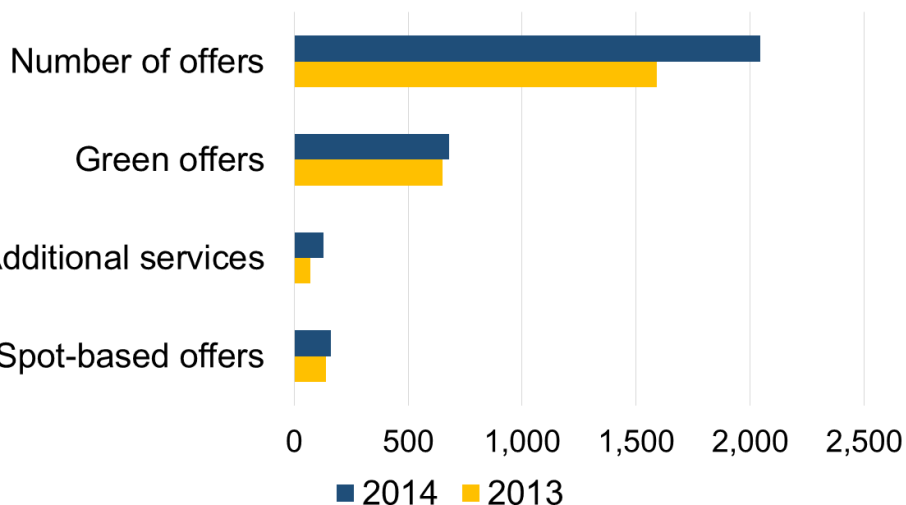


**Non-contestable charges significantly reduce the contestability of the final price and consequently the savings for consumers.**

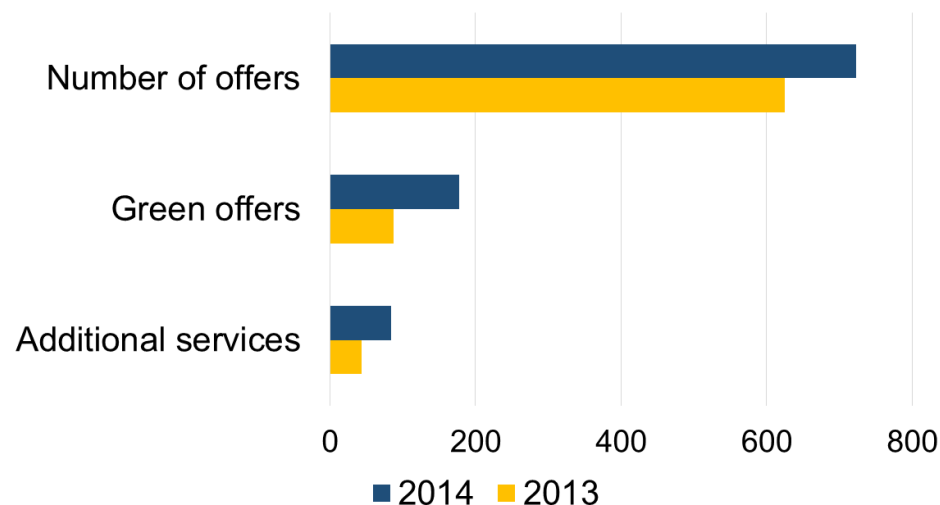
## There are now more offers available to consumers displaying also more variety

Number of offers in capital cities (aggregated) – 2014 and 2013

### Electricity



### Gas



**Non-price related elements are a sign of innovation, they should however be transparent and comparable on price comparison tools in order not to prevent consumer switching.**

## Markets with a longer liberalisation path offer more choice for consumers, who are in turn more active

### Number of offers and years since liberalisation

#### Electricity

MS	Number of countries	Years since liberalisation	Average number of offers	% of green offers	% of spot-based offers	% of additional services	Average switching rates
Group I	4	<5	11	0%	0%	0%	0%
Group II	16	5-10	23	17%	0%	10%	6%
Group III	9	>10	181	37%	8%	7%	10%

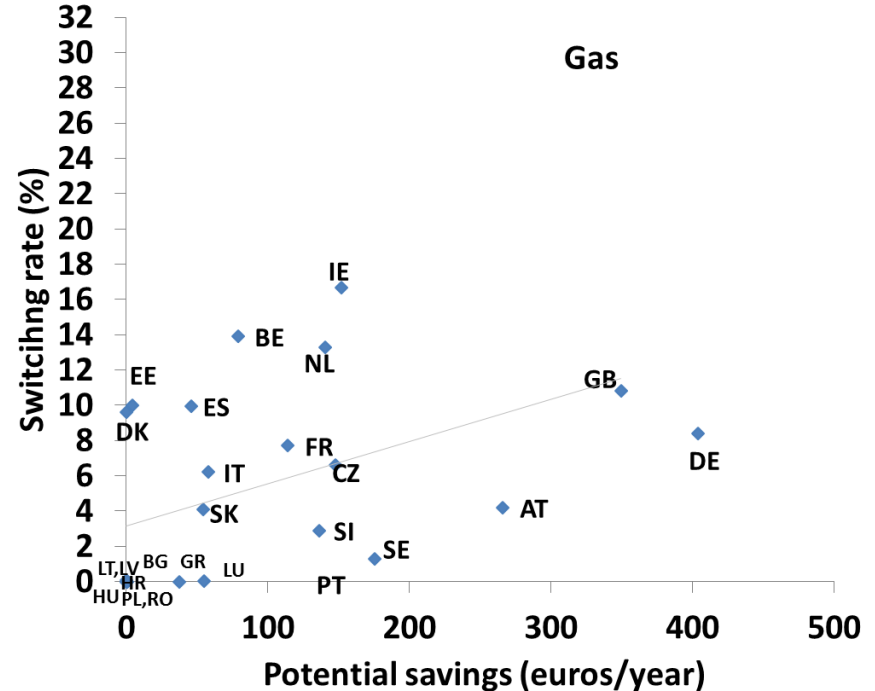
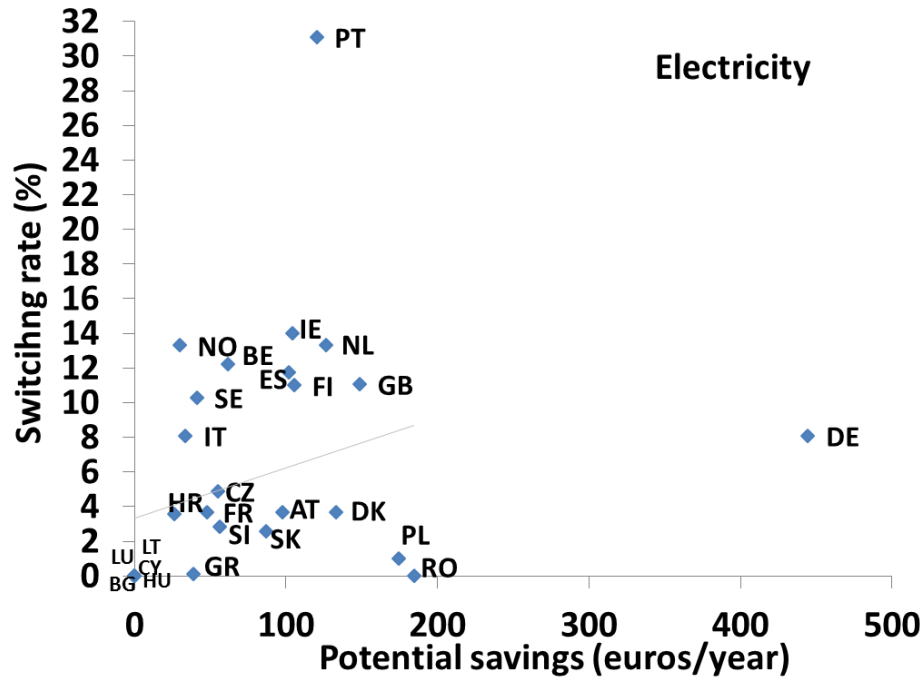
#### Gas

MS	Number of countries	Years since liberalisation	Average number of offers	% of green offers	% of additional services	Average switching rates
Group I	5	<5	4	0%	0%	0%
Group II	13	5-10	14	3%	3%	4%
Group III	8	>10	66	20%	19%	10%

Offers displaying variety should be presented in a transparent and comparable manner to raise consumer interest and engagement in the market.

# Higher savings are one of the switching triggers

## Potential savings to electricity and gas consumers and switching rates



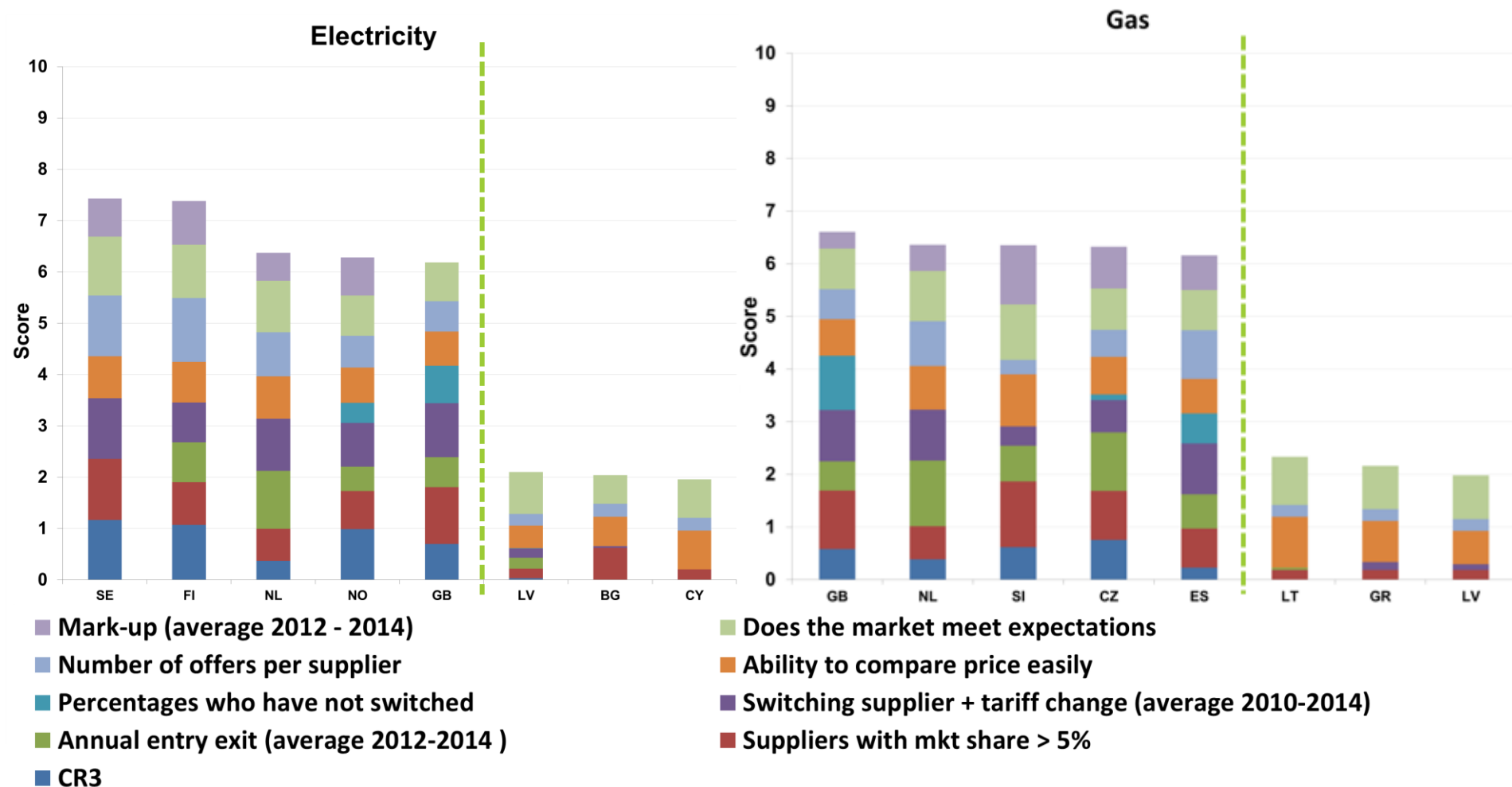
**Consumers should be aware of switching possibilities and of potential savings available. Complexity of switching procedures may reduce the perceived savings potential and prevent consumers from switching.**

## Differences in relative competition levels in MSs can be observed

	Most competitive retail household markets	Weak competitive retail household markets	
<b>Electricity</b>	<ul style="list-style-type: none"> <li>• Finland</li> <li>• Norway</li> <li>• Sweden</li> <li>• the Netherlands</li> <li>• Great Britain</li> </ul>	<ul style="list-style-type: none"> <li>• Latvia</li> <li>• Bulgaria</li> <li>• Cyprus</li> </ul>	<p><b>Creation of sufficient competition by</b></p> <ul style="list-style-type: none"> <li>• <b>Promoting consumer engagement</b></li> <li>• <b>Removing entry barriers to foster market conditions attracting new suppliers competing for consumers</b></li> </ul>
<b>Gas</b>	<ul style="list-style-type: none"> <li>• Great Britain</li> <li>• The Netherlands</li> <li>• The Czech Republic</li> <li>• Slovenia</li> <li>• Spain</li> </ul>	<ul style="list-style-type: none"> <li>• Lithuania</li> <li>• Greece</li> <li>• Latvia</li> </ul>	

# Differences in relative competition levels in MSs can be observed

## ACER Retail Competition Index (ARCI) for electricity and gas household markets - 2014





## Recommendations to facilitate further the development of retail competition

- Advance industry reforms (e.g. privatisation and unbundling of the industry, introduction of competition and implementation of Energy Directives etc.)
- Promote market entry by removing remaining regulatory and administrative barriers (e.g. remove regulated end-user prices, particularly where they are set below costs, simplify licencing procedures) and improving the functioning of the wholesale markets
- Facilitate more active participation by household consumers by simplifying the comparability of offers on the market (i.e. providing consumers with transparent, relevant and accurate information on available offers and prices)
- Remove complex switching procedures
- Facilitate sound collective switching

# Outline

- Wholesale electricity and gas markets
- Electricity and gas retail markets
- Consumer protection and empowerment

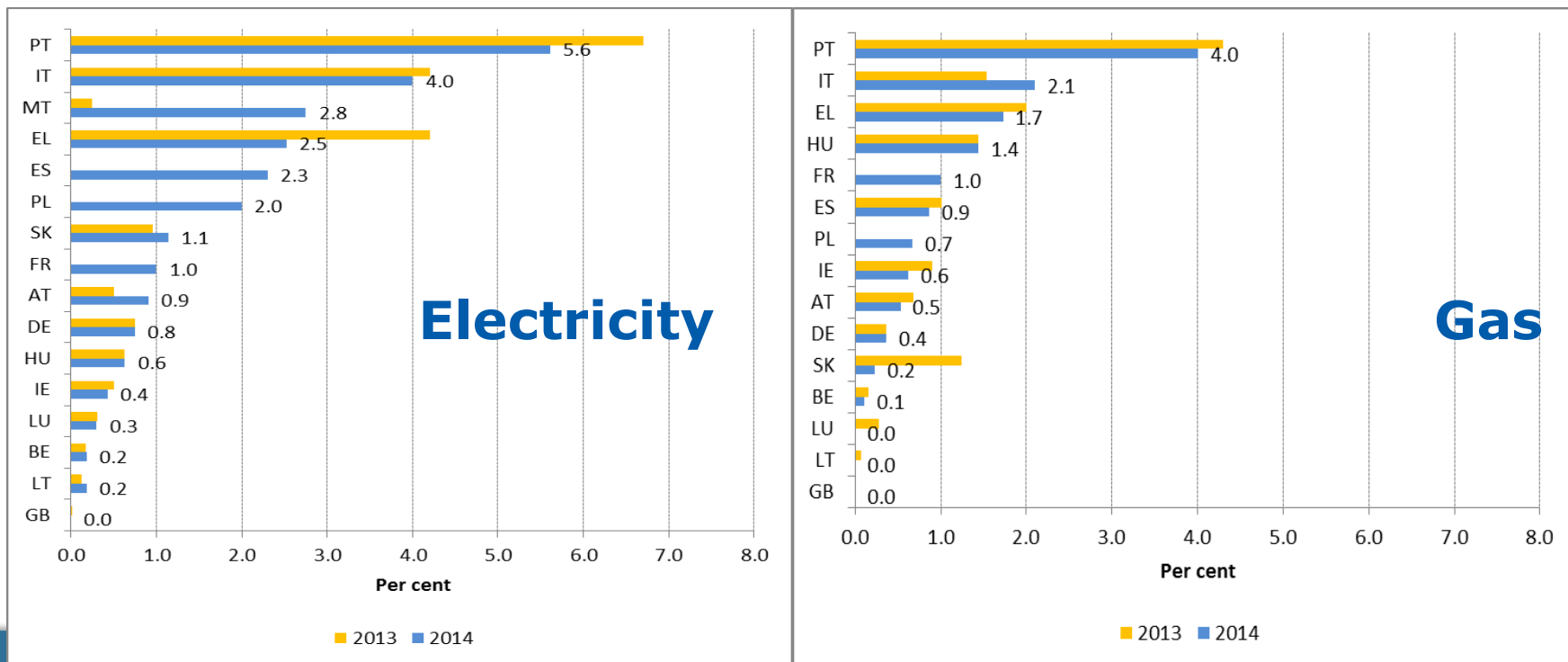
## Public service obligation

- Supplier of Last Resort (SoLR) obligation transposed into national legislation in all MSs, except FR, LV and MT (electricity) and BG, FR, GR, PL and SI (gas)
- SoLRs apply for varied and multiple situations:
  - » Supplier failure
  - » Payment difficulties
  - » Consumer inactivity
- Differences in number of households supplied by SoLR
  - » 100% in CY, RO (electricity) and HR (gas)
  - » ~0% in many, e.g. AT, GR, IE, LV, LT, LU, NL, PL, SK
  - » 53% in PT and ES (electricity)

## Disconnections due to non-payment

- Generally low disconnection levels (exceptions apply)
- Disconnection process longer than legally required in several MSs
- Several MSs do not monitor - no data available
- Larger number of prepayment meters in BE, GB, IE, PL

*Disconnections due to non-payment in electricity and gas sectors:*



## Vulnerable customers

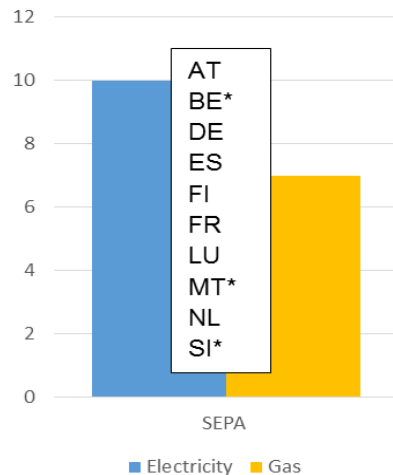
- Due to different definitions of the concept, the number of vulnerable customers is hard (impossible) to count!
  - » **Implicit definition:** definition of vulnerable customers in existing energy-specific and social security laws (14 MSs)
  - » **Explicit definition:** clear statements on criteria for vulnerability in legal/regulatory framework (18 MSs)

### Examples of explicit definition:

BULGARIA	... household clients who receive target assistance for electric power, heat energy or natural gas under the Act on Social Assistance and the legislative normative instruments on its implementation.
FINLAND	...If the default on payment is caused by user's financial difficulties due to serious illness, unemployment or other special cause,...the supply of electricity may be cut at the earliest 2 months after due date of payment.
GREAT BRITAIN	Consumers who are significantly less able than a typical consumer to protect or represent their interests in the energy market; who are more likely to suffer (substantial) detriment. The needs of the following particular groups must be taken into account: retired, disabled, chronically ill, on low incomes, or those living in rural areas.

## Customer information

- MSs have regulations on provision of information to consumers on energy-related topics:
  - » Changes in price and other variables
  - » The single point of contact
  - » Information provided on bills
  - » Billing information based on actual consumption
- MSs provide a variety of payment terms and methods

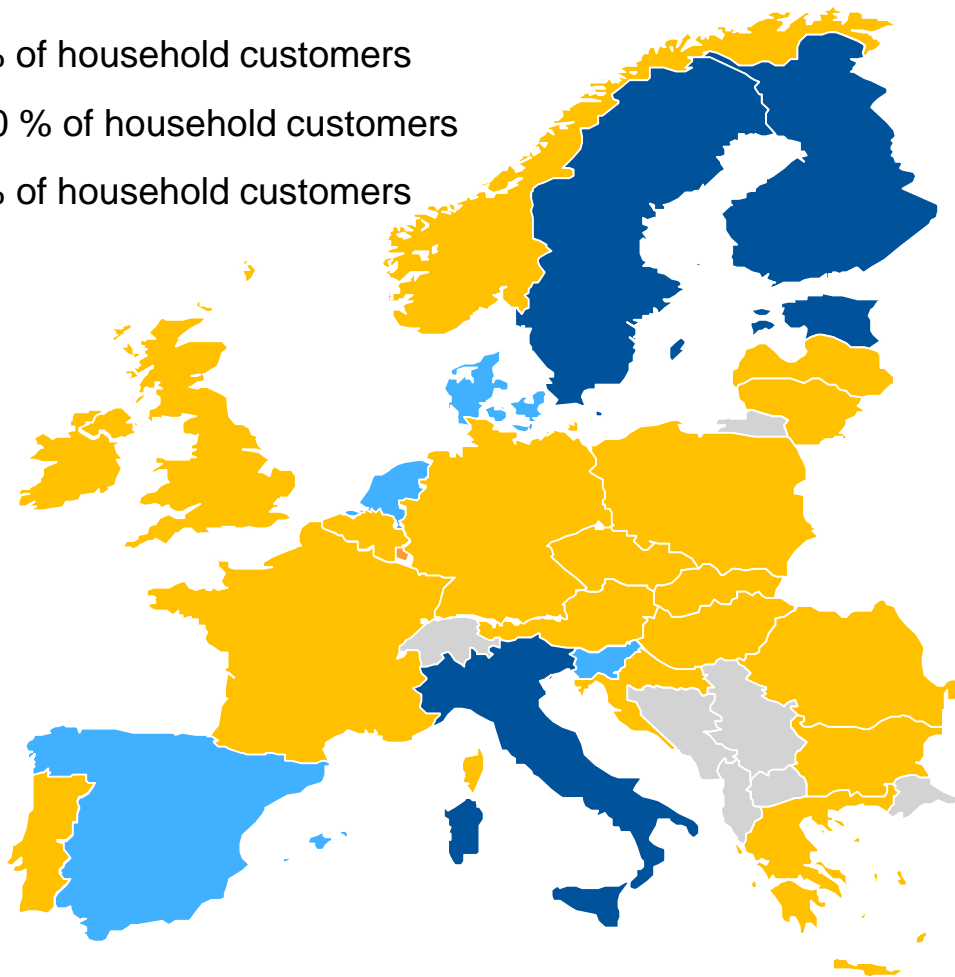


**In addition to the more traditional payment methods, such as direct debit and bank transfer, it was possible to pay energy bills using SEPA in 10 out of 19 Eurozone countries in 2014.**

## Smart meters

### Share of household customers equipped with smart meters for electricity in 2014

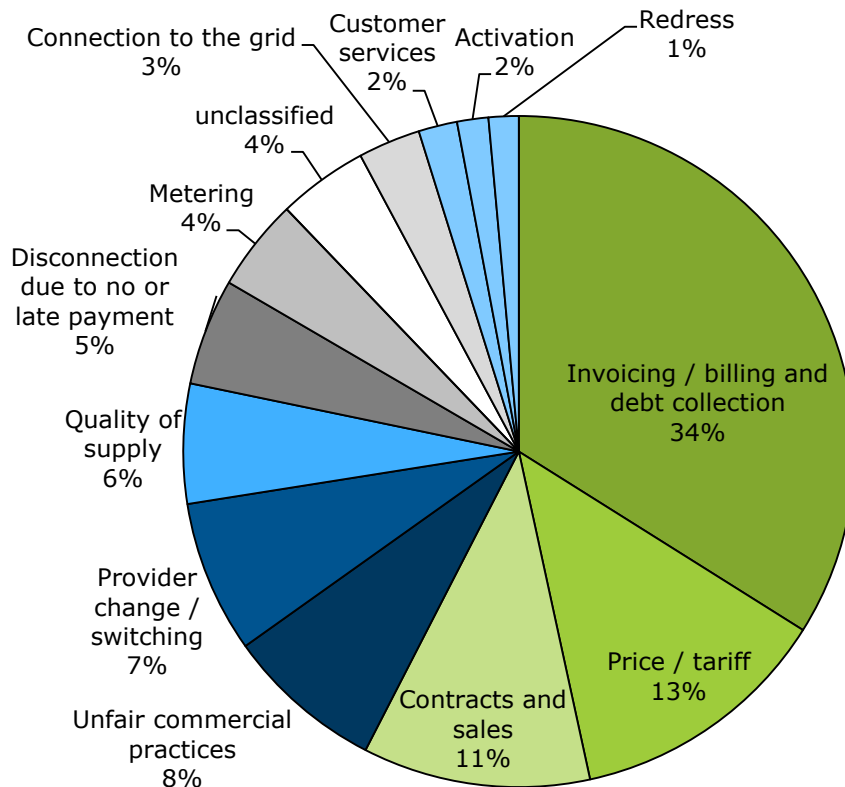
- < 10 % of household customers
- 10 - 50 % of household customers
- > 50 % of household customers



**Approximately half of the Member States have minimum technical and other requirements in their legislation to ensure benefit for consumers**

## Consumer complaints

EU average share of final household customer complaints addressed directly to NRAs, weighted by total number of complaints (electricity: in total 62,728 complaints)



**"Price, contract or billing related issues" ~ 58 %**

**"Service related issues" ~ 26 %**

**"Others" ~ 12 %**



## DSO Service Quality

- New monitoring data on 4 key distribution services:
  - » Time to provide a price offer for a grid connection
  - » Time to connect a customer to the network in the case of minor works
  - » Time to disconnect following a customer request
  - » Maximum duration of a planned supply interruption
- Data from 20 MSs suggests that DSOs lag behind CEER recommendations to a small degree
- Most room for improvement in time to connect a customer to the network in the case of minor works

## Conclusions

- **Supplier of last resort** widely implemented with varying roles.
- Process for **disconnection due to non-payment is longer** than legally required, but only **half of NRAs (16 MSs)** are able to provide **disconnection rates**. **Prepayment meters** are available only in a **few MSs**.
- **The concept of vulnerable customers** exists in the **majority of MSs**, however, **comparison** between countries is **limited** due to the vast differences in the definition.
- MSs have a **variety of regulations** concerning the provision of **customer information**.
- **Roll-out of smart meter progresses**; nevertheless, it is still in its infancy in large number of MSs.
- **Significant number of consumers** use established and extensive **complaint handling mechanisms**. **The majority of complaints** refer to **price, contract or billing related** issues.
- **Time to connect** a customer to the grid and activate energy supply seems **too long in some MSs**.

## Recommendations

- A supplier of last resort (either in gas and/or electricity) still needs to be appointed in some jurisdictions.
- Need for minimum technical functionalities and other requirements for smart meters to ensure benefits to consumers in many MSs.
- Further monitoring is required from a number of NRAs in several areas:
  - » Disconnections for non-payment
  - » Number and type of complaints addressed by consumers
  - » Key distribution services

**Thank you for your attention**

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## Consumer complaints (BACK-UP SLIDE!!!)

Share of types of final household customer complaints addressed to NRAs (electricity, total number of complaints per 100,000 customers in brackets)

