



Energy prices and costs in Europe



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**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE
COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE
COMMITTEE OF THE REGIONS**

Energy prices and costs in Europe

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CEPS
08/03/2019

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Energy prices and costs in Europe

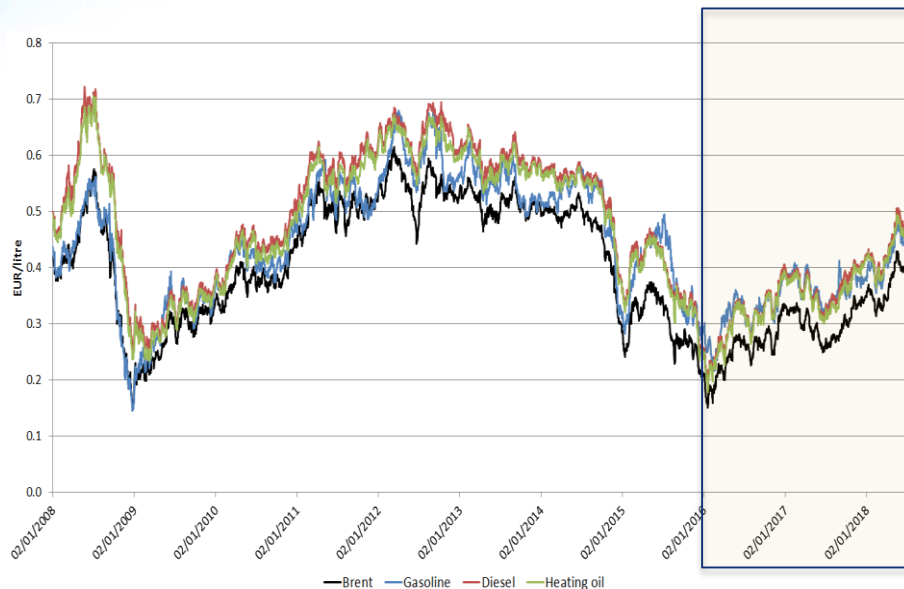
- This third energy prices and costs report (following 2014, 2016) assesses trends in prices and costs of fuels in Europe, providing background facts and figures for EU energy policy making
- It updates data (including on 2014 subsidies estimates), adds more data on petroleum products, and on energy costs, especially for energy intensive industries (drawing on DG GROW studies & analysis).
- It provides evidence supporting the ongoing energy transition (including the LTS), and a timely review of taxation, subsidies, revenues and (\$/€) imports.

Wholesale and international prices



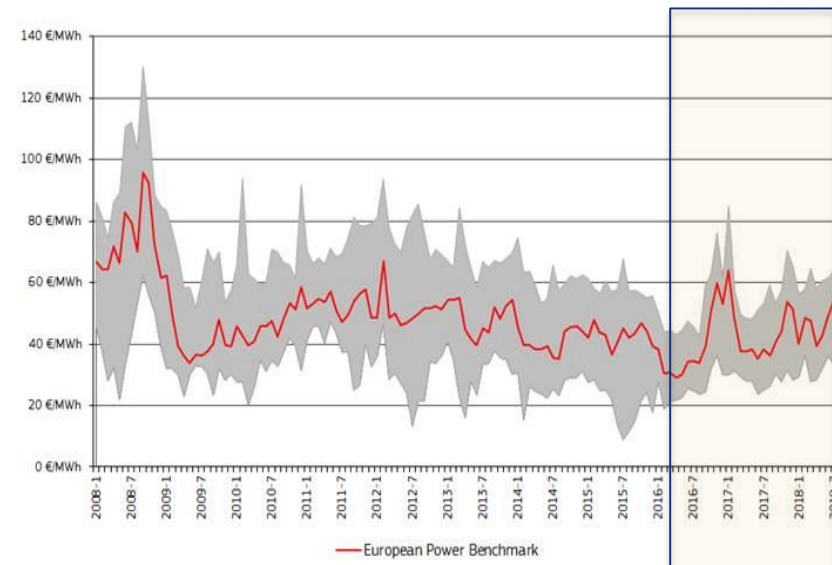
The volatility of international fossil fuels prices impacts the EU energy prices

Crude oil (Brent) and European wholesale gasoline, diesel and heating oil prices



Sources: Platts, ECB

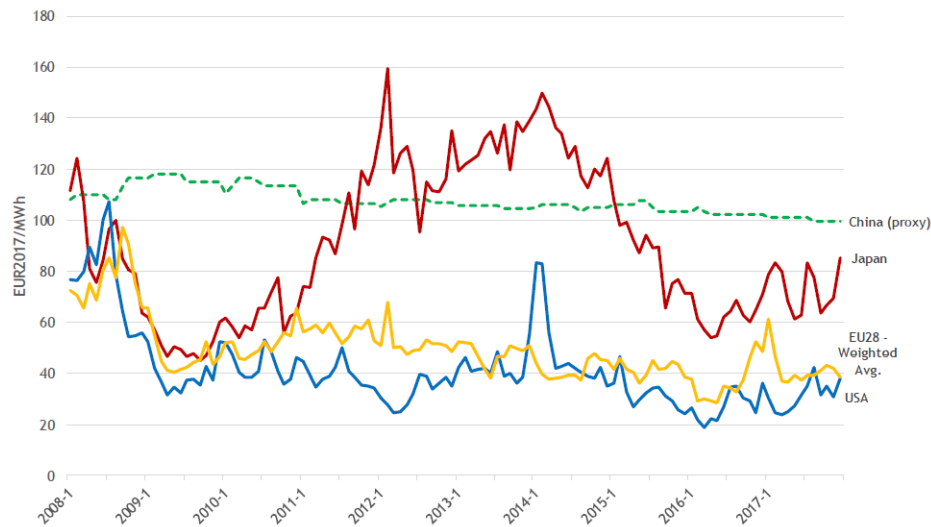
Wholesale electricity prices in the EU



Sources: Platts, European power markets

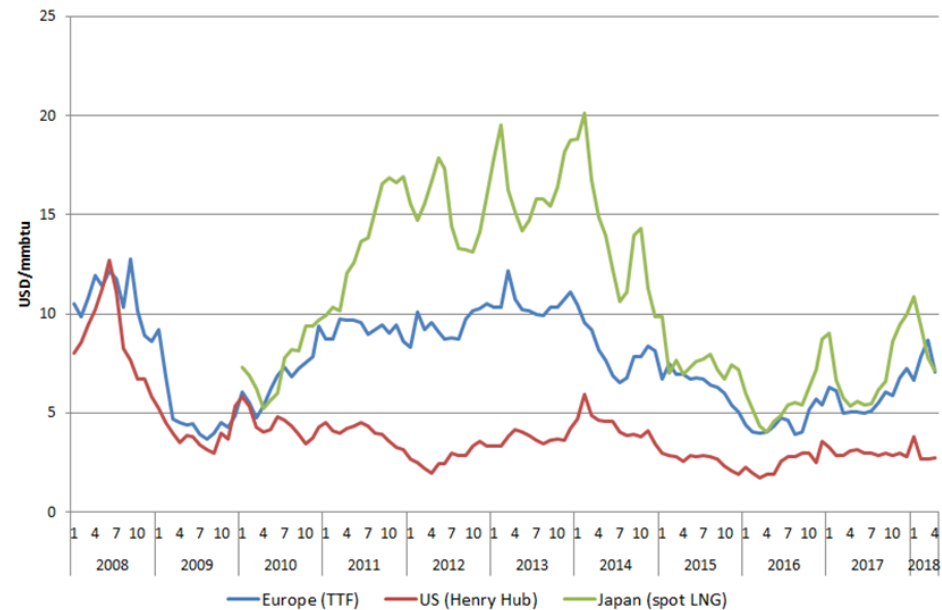
International gas and electricity prices

Wholesale electricity prices for industry



Sources: Eurostat, CEIC and IEA

European, US and Japanese wholesale gas prices



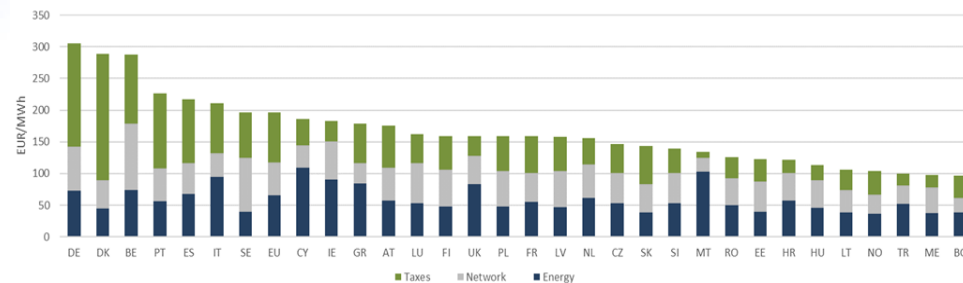
Sources: Platts, Thomson-Reuters

Retail prices

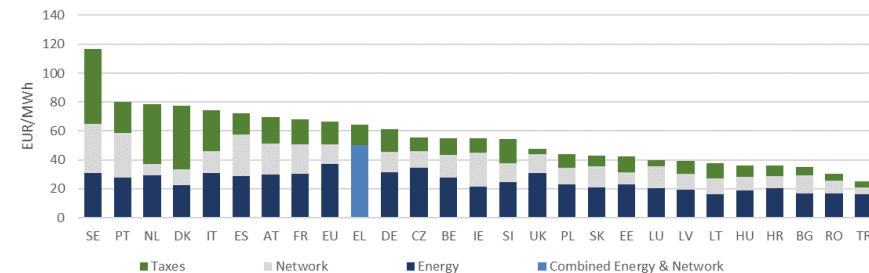


Different price structures across MS, fuels and consumer groups

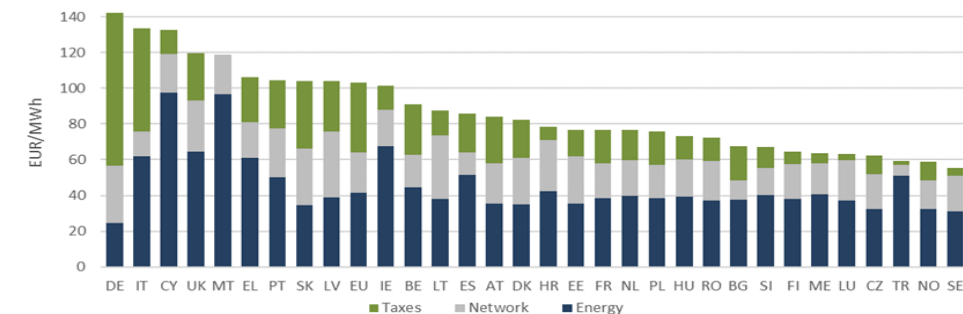
Household electricity prices in 2017



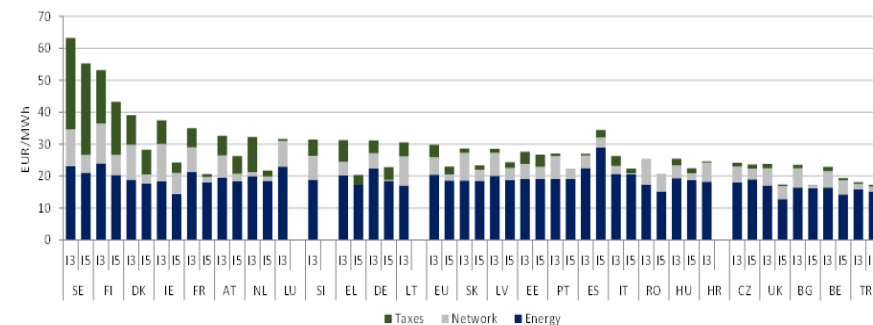
Household gas prices in 2017



Industrial electricity prices in 2017



Median and large industrial gas prices in 2017

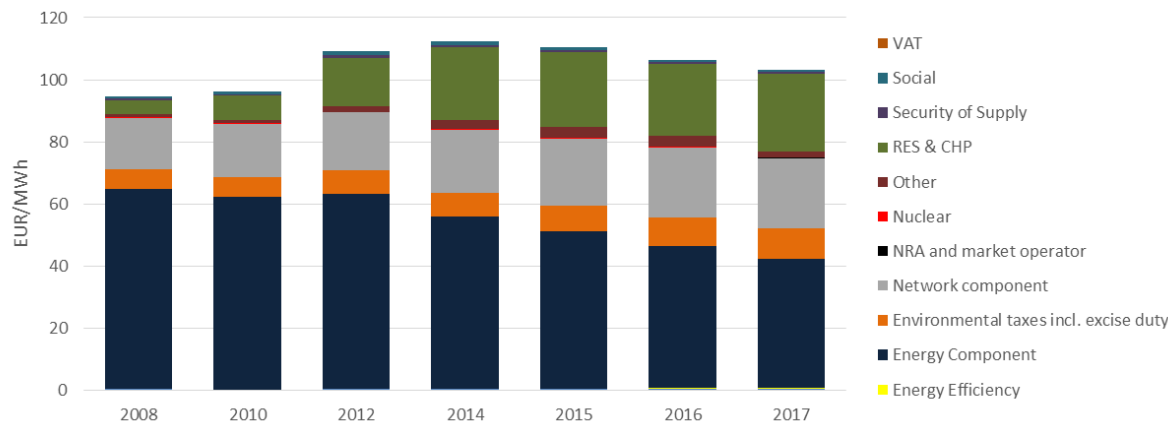


Retail prices for industry - Taxation

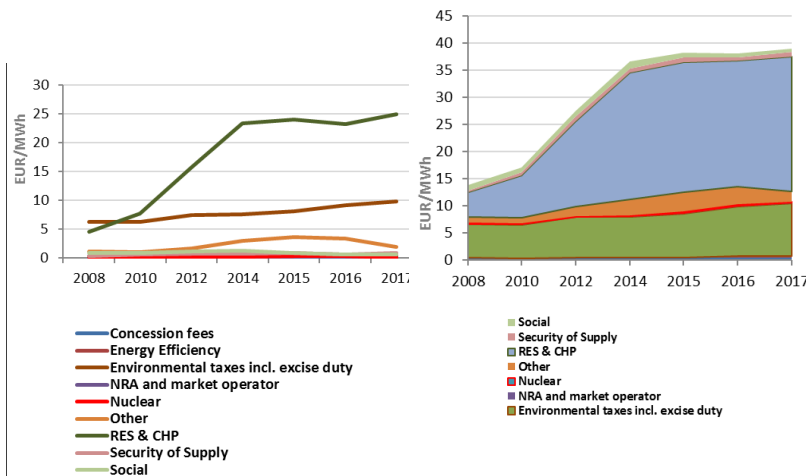
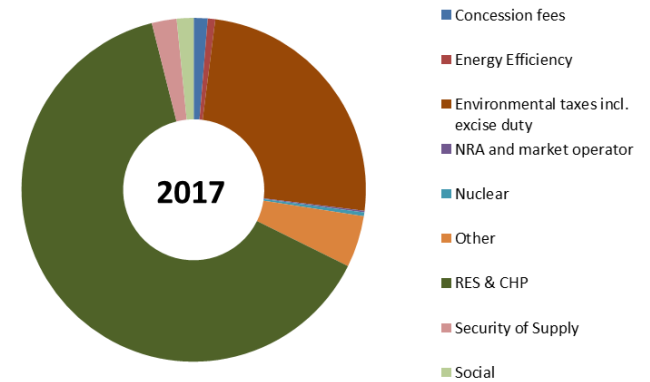


The importance of taxation in electricity prices

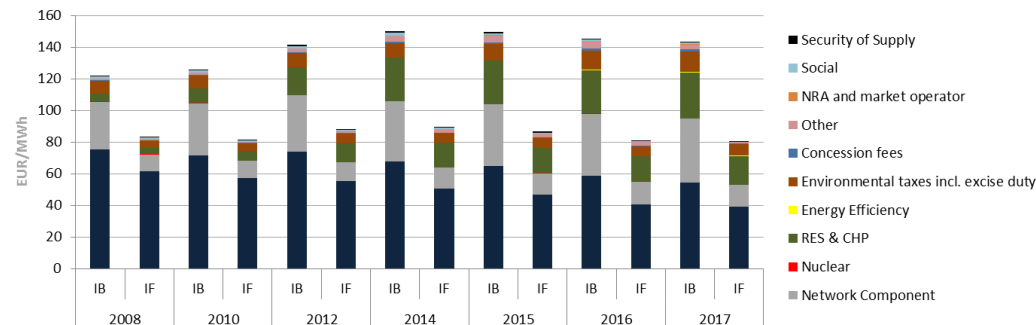
Taxes on industrial electricity over time



Taxes on industrial electricity in 2017



Taxes on electricity in 2017: small vs large industrial consumers

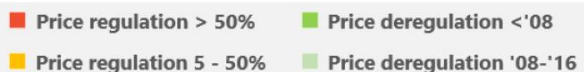


Retail prices for industry - price regulation

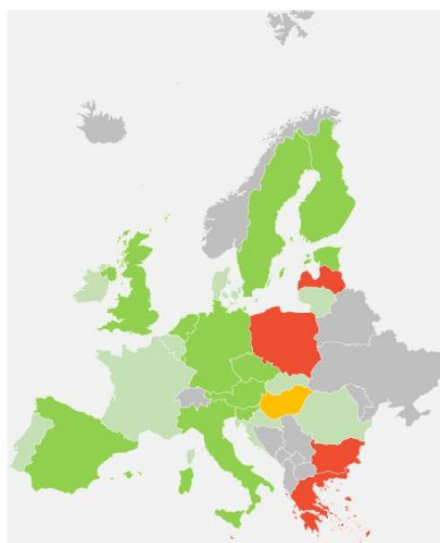


Price regulation : the case for non-household electricity and gas markets

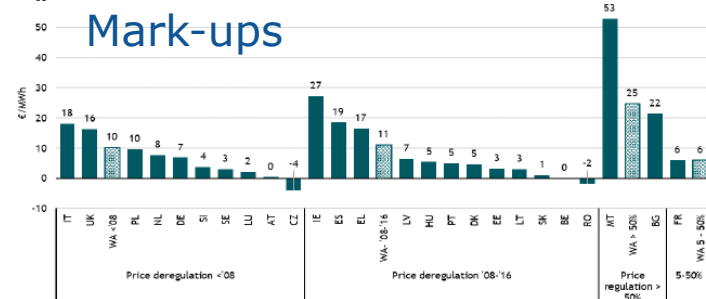
Electricity



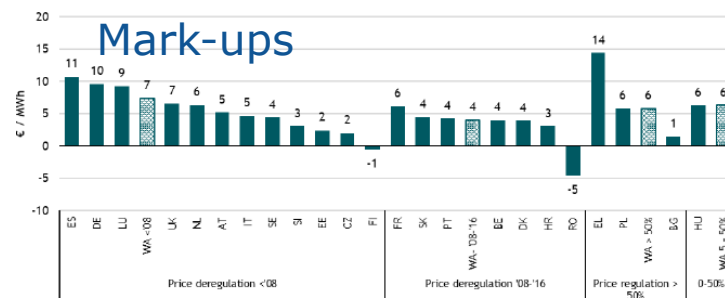
Gas



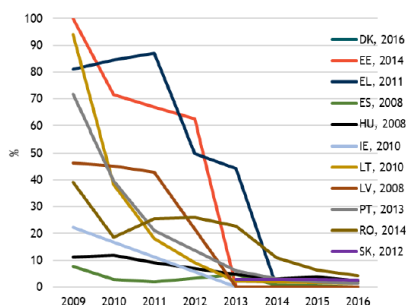
Electricity based on band ID (2 000 MWh < consumption < 20 000 MWh)



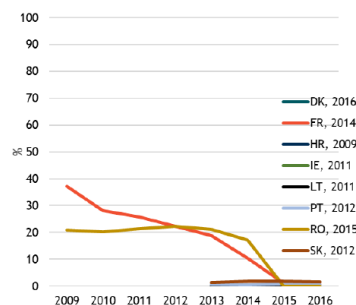
Gas based on band I3 (10 000 GJ < consumption < 100 000 GJ)



Electricity non-household, MS which phased out regulated prices between 2008 and 2016



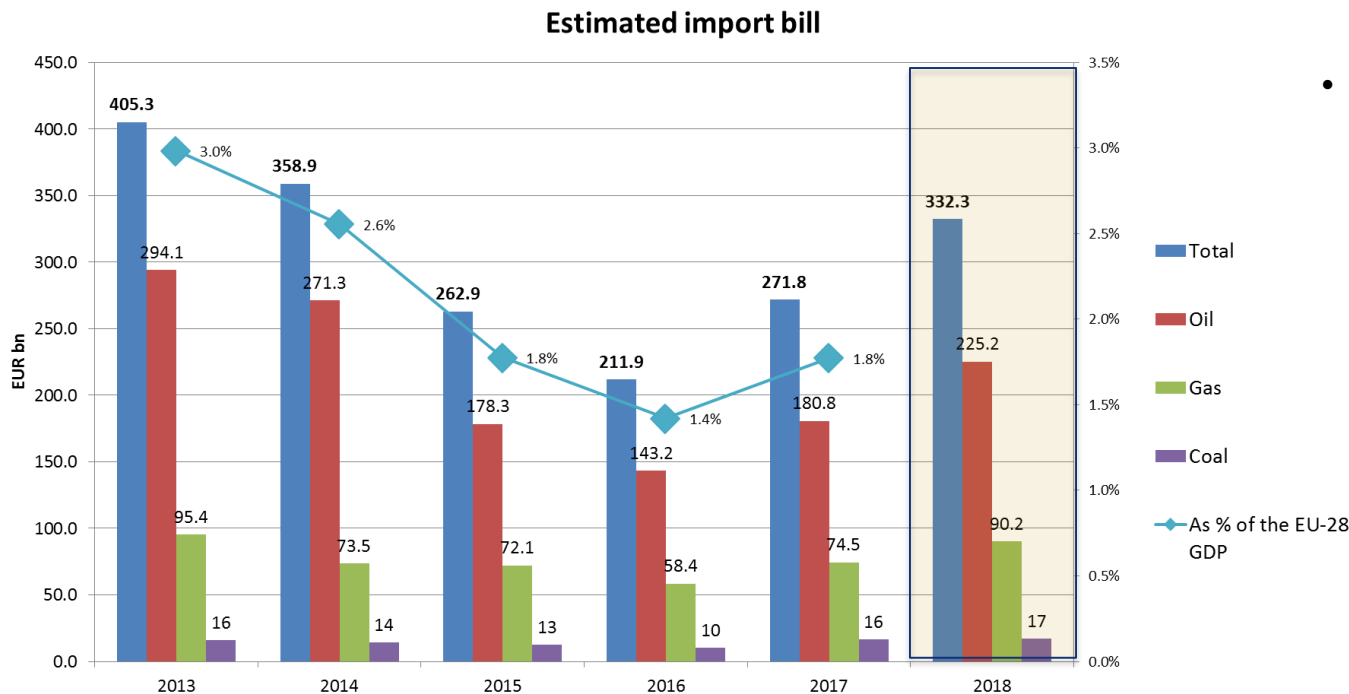
Gas non-household, MS which phased out regulated prices between 2008 and 2016



Costs for the EU's economy



The energy import bill



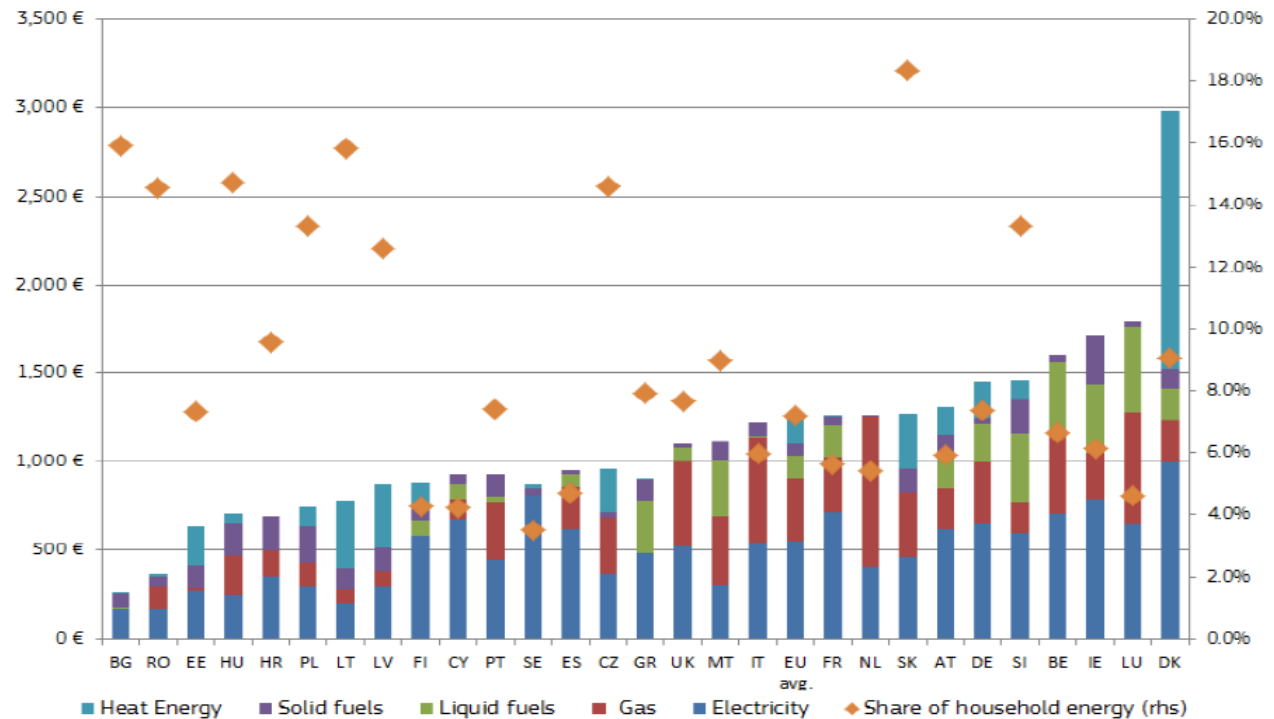
- The EU is still exposed to volatile global fossil fuel markets, which can impact on fiscal regimes and macroeconomic stability.

Costs for households



energy poverty: energy as a share of household expenditure

**Expenditure on energy in lower middle income EU households
(Euros and share of total expenditure)**

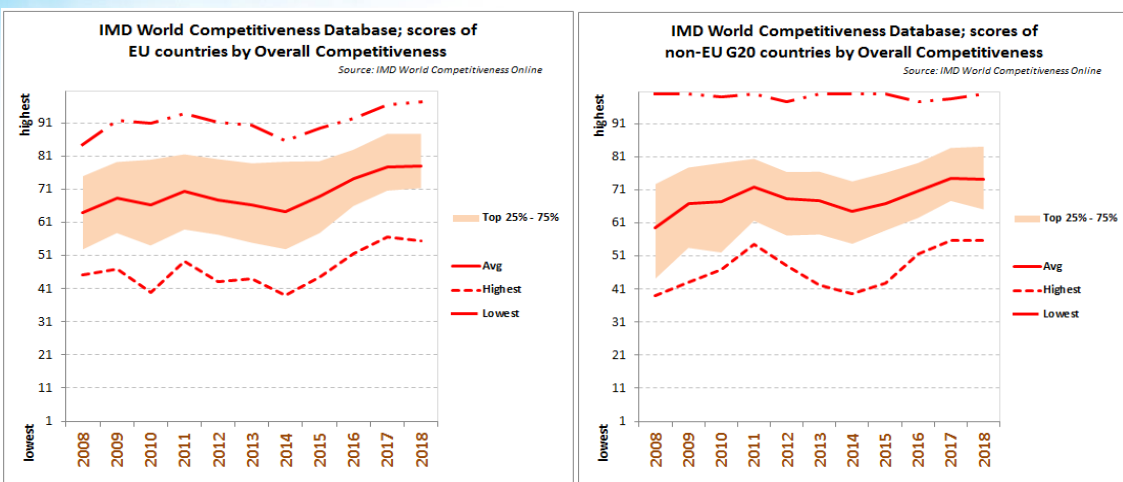


- Spending on energy averages 5.5%, up to 10%
- Wide differences across Member States

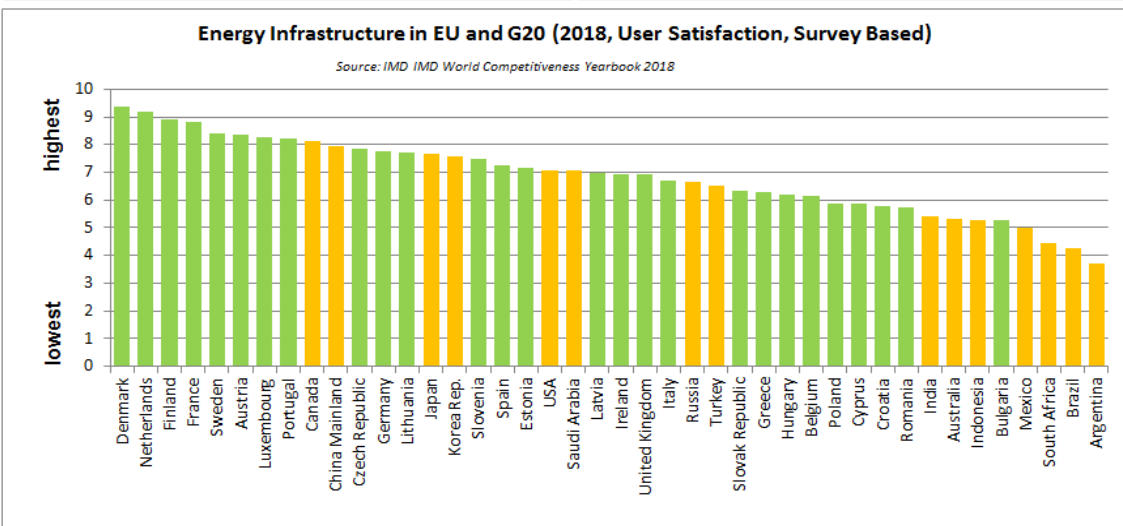
Competitiveness - Costs for the industry



Energy costs and competitiveness at macroeconomic level



- The EU's overall competitiveness remains stable compared to main trading partners



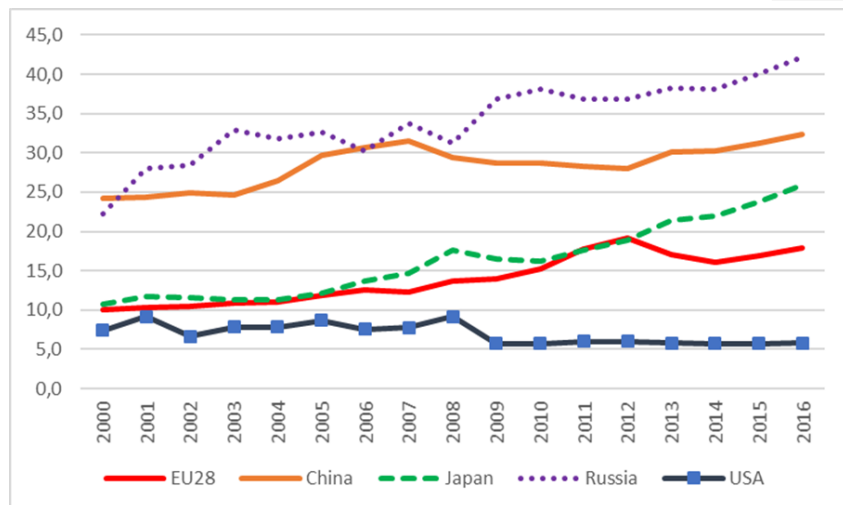
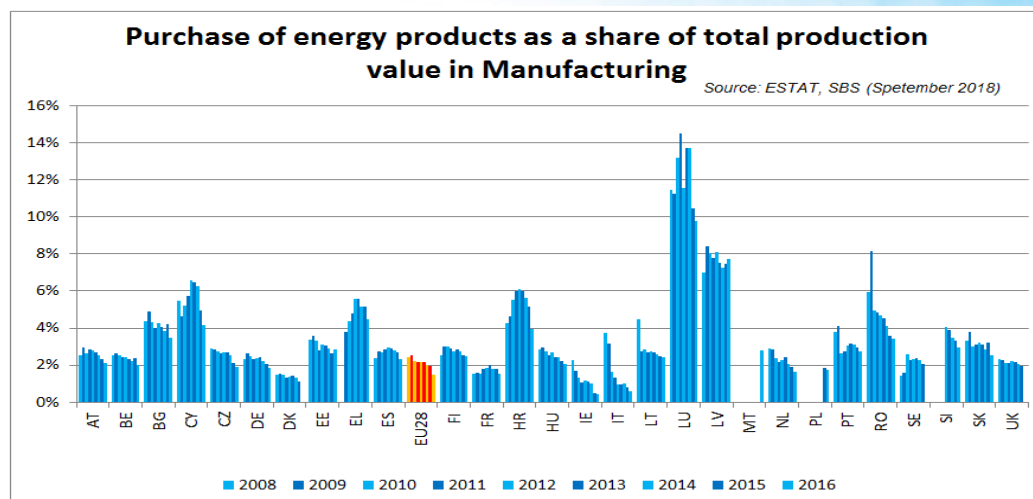
- Despite the existence of significant energy price differentials

Costs for the industry - competitiveness



Energy shares in total production value and RUECs

- **Energy share of purchases of energy in the EU stable around 2% of the total production value**



Sources: EC, Eurostats

- **RUECs relatively stable in recent years**

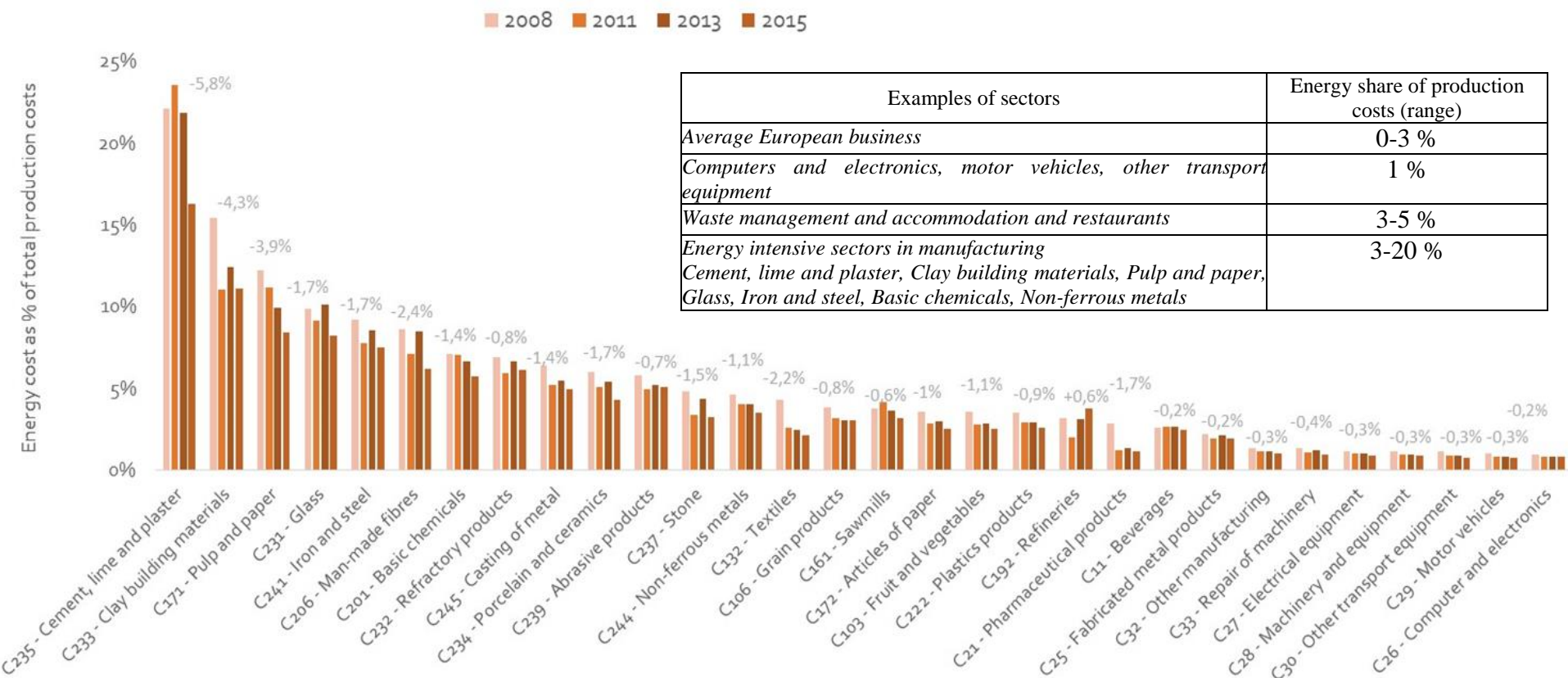
Source: DG JRC (own calculations based on WIOD) and DG ECFIN

Source: Directorate-General for Energy

Costs for the industry – competitiveness



Declining energy shares in production costs (but still significant for energy intensive sectors)



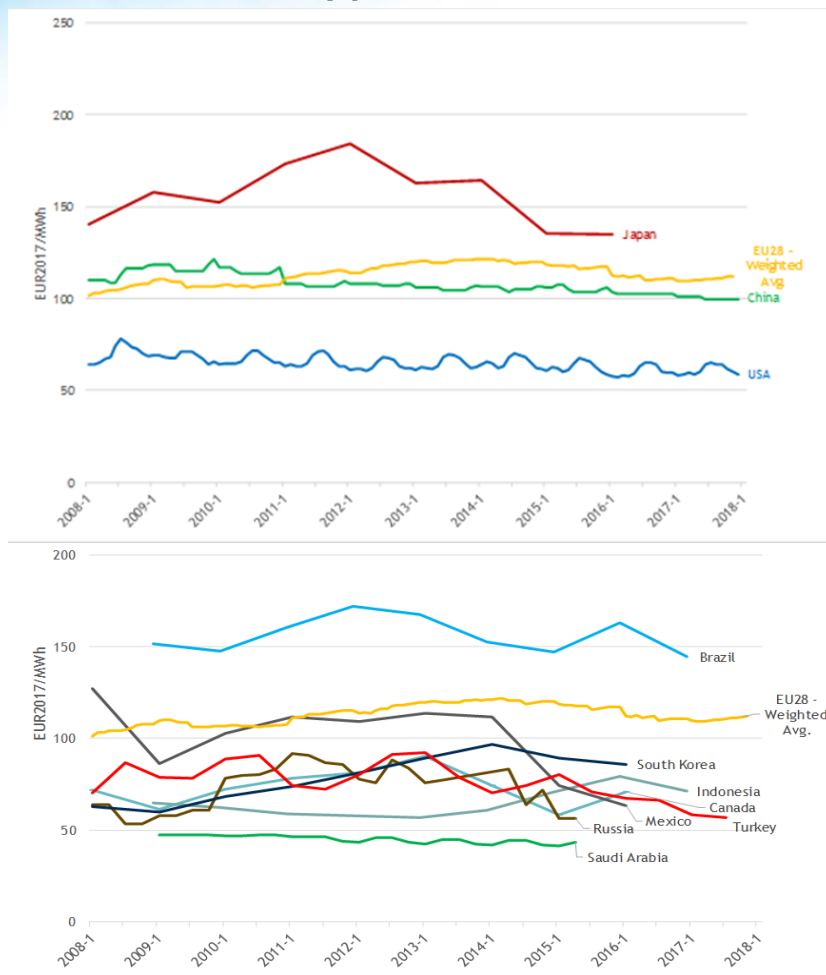
Sources: Trinomics (2018), Ecofys (2018)

Costs for the industry - competitiveness

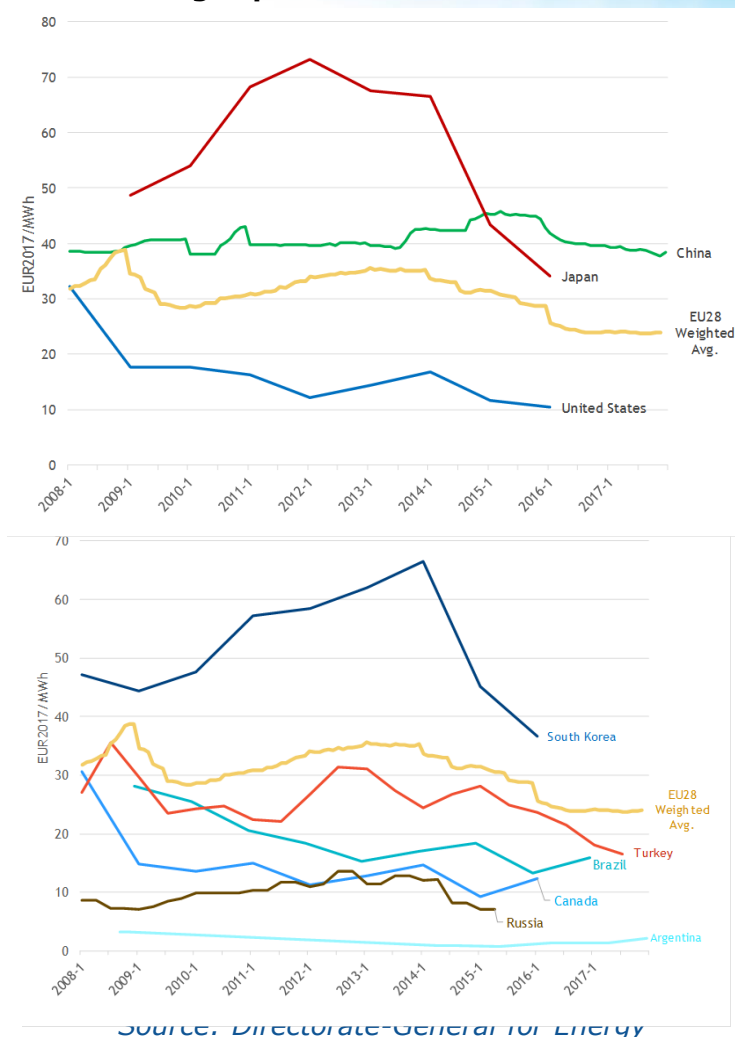


International price comparisons over time

Retail electricity prices – EU vs G20



Retail gas prices – EU vs G20



Sources: Eurostat, CEIC, ERRA, IEA (Trinomics 2018)

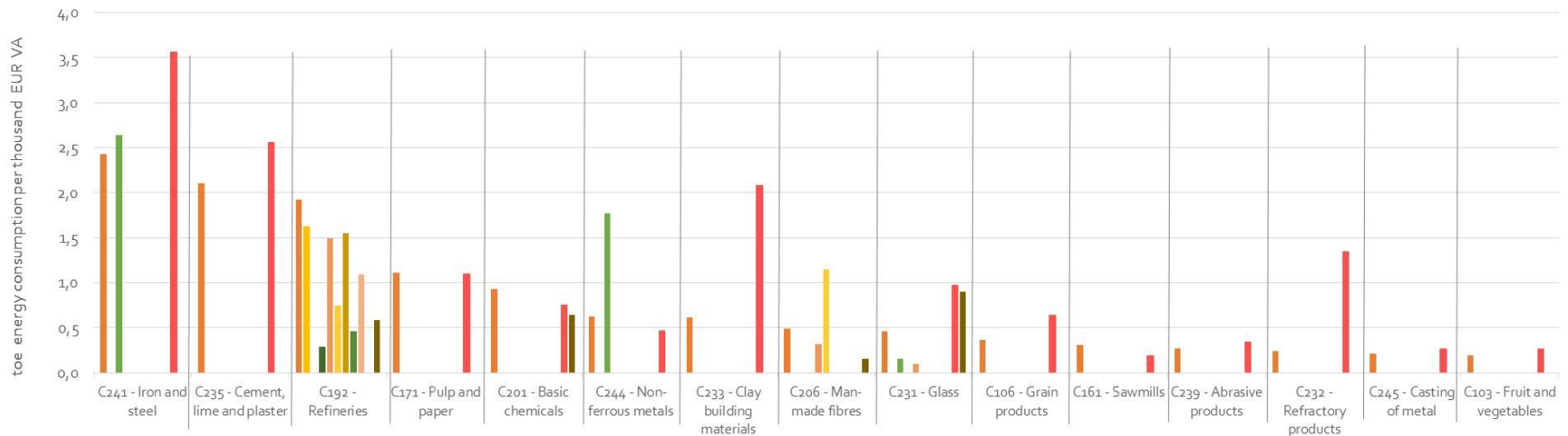
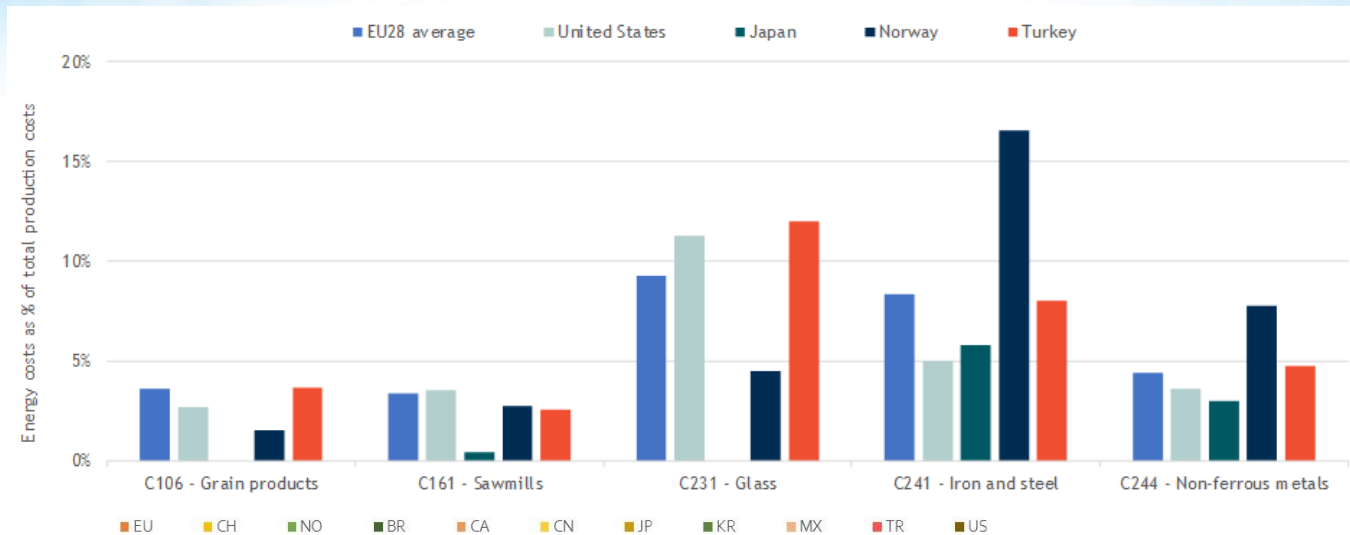
Source: Directorate-General for Energy

Costs for the industry - Competitiveness



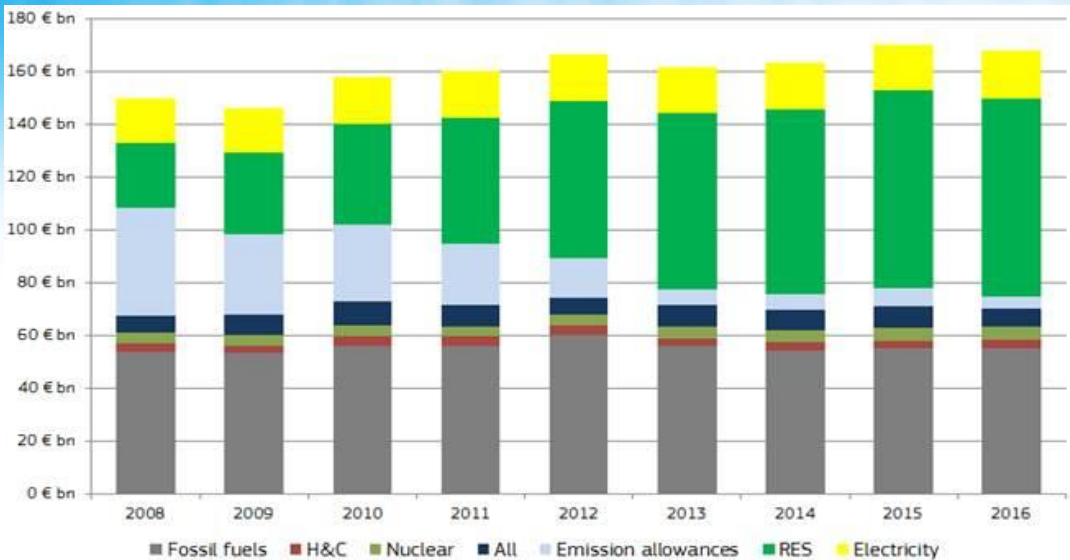
International comparisons on energy costs and intensity

Energy costs and energy intensity in energy intensive sectors



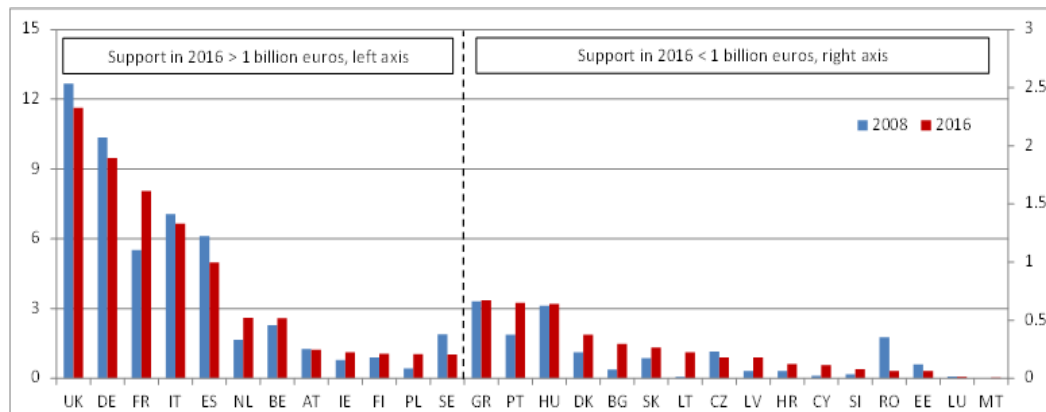
Source: Directorate-General for Energy

Energy Subsidies



Sources: EC, Trinomics (2018)

- **Public spending, energy subsidies increasing to drive the energy transition (€170 bn in 2016).**
- **fossil fuels subsidies not declining despite the EU's international commitments.**



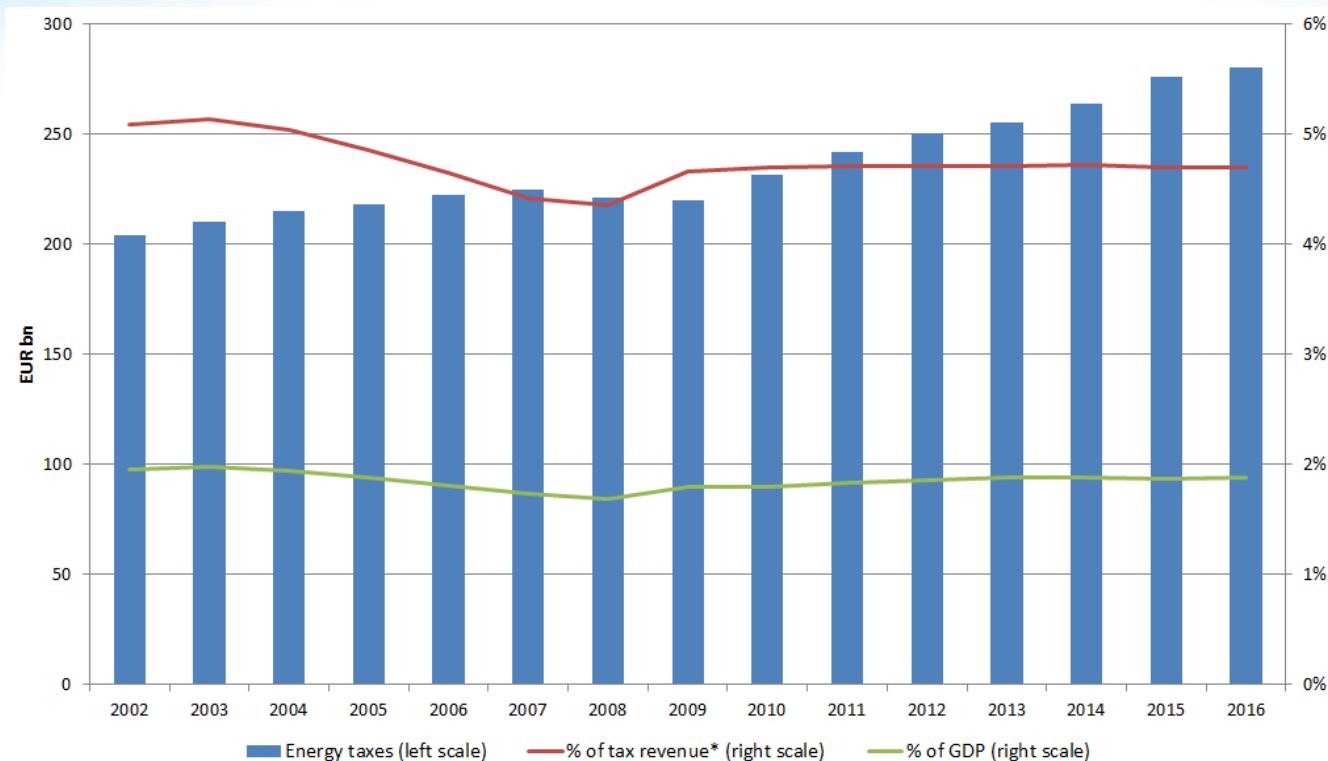
Sources: EC, Trinomics (2018)

- **Wide differences in support to fossil fuels exist in the EU.**

Energy Taxation



Energy taxation provides stable and significant government revenues

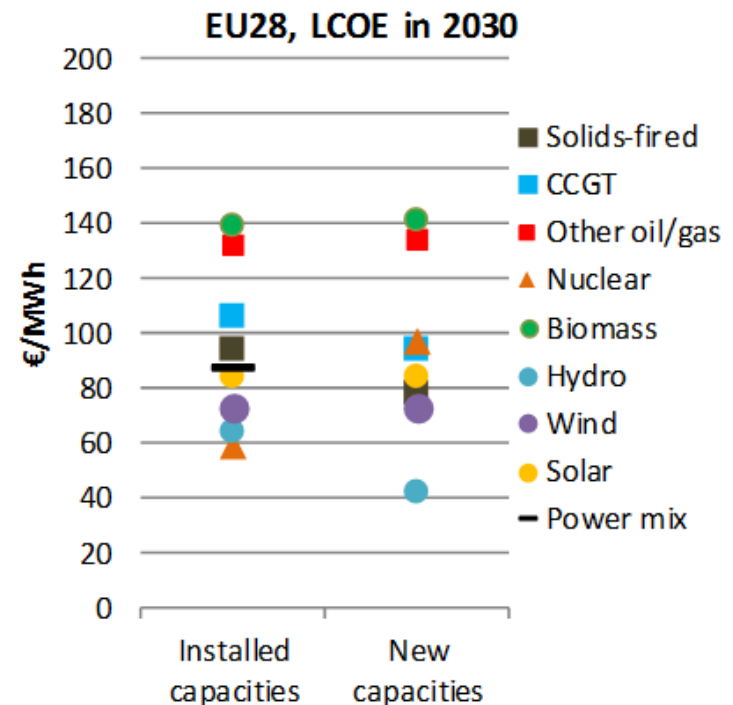
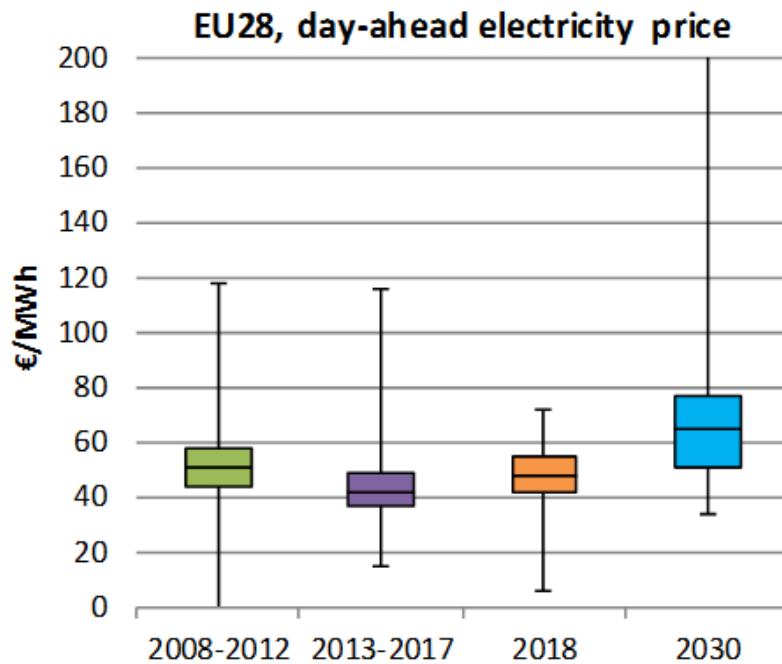


€280billion
per year

i.e. close to
5% of tax
revenues

Source: Eurostat

Projections suggest future prices increasingly cover (investment) costs, reducing need for subsidies



Source: Left graph Platts, METIS(2030); right graph: PRIMES

To discuss!



- Volatile (international) fossil fuel prices still drive EU prices
 - Decarbonisation, long term strategy
- Price divergence across MS has declined, but can still be significant
 - internal market
- International position of the EU stable (generally between Asia and fossil fuel producer countries)
 - international competitiveness
- Major tax and levy divergences across MS, fuel and consumer group
 - Competition distortions, weak price signals for energy policy goals
- *Energy costs affect* macroeconomy, households, industry
 - Imports, \$/€
 - supports, subsidies & price signals
 - Support for level playing field, *appropriate* subsidies
- Energy taxes provide revenues
- Energy subsidies need reviewing (NECPs) and should decline in the future



THANK YOU!

More information on:

<https://ec.europa.eu/energy/en/data-analysis/energy-prices-and-costs>



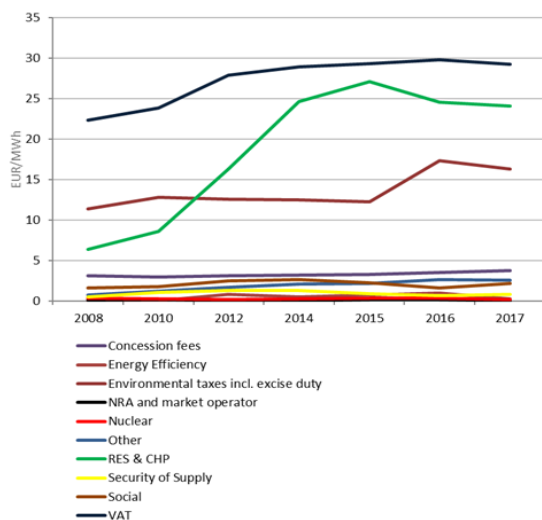
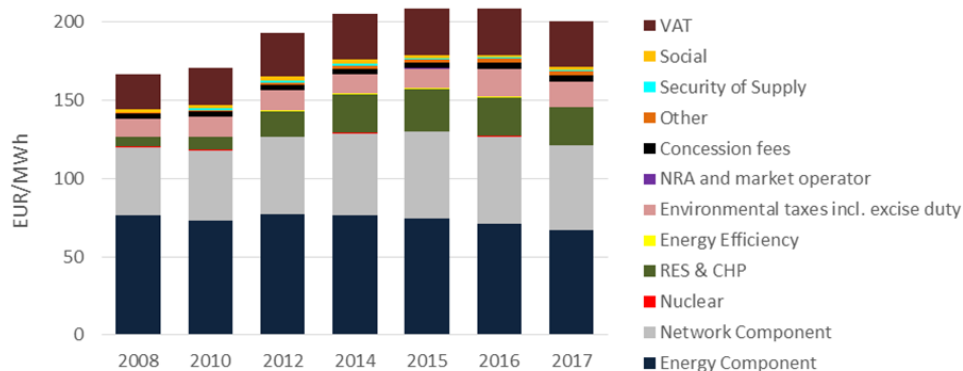
BACK UP SLIDES

Retail prices - Taxation

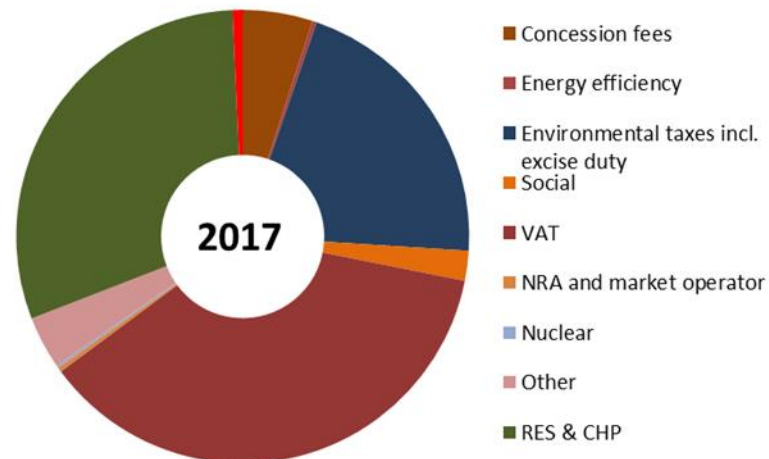


The importance of taxation in electricity prices

Taxes in household electricity over time



Taxes in Household electricity prices in 2017



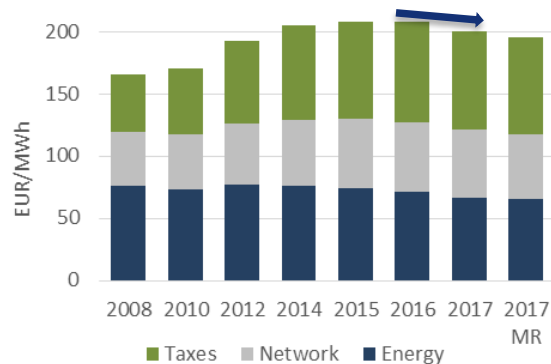
Source: DG ENER in-house data collection

Retail prices

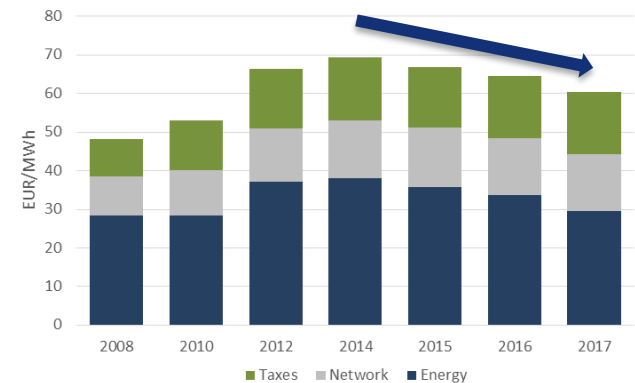


Different price structures across MS, fuels and consumer groups

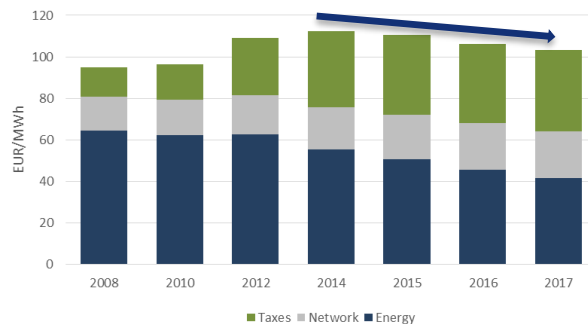
Household electricity prices 2008- 2017



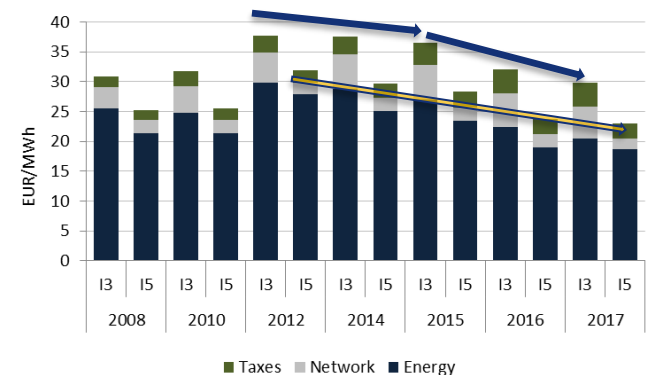
Household gas prices in 2008- 2017



Electricity prices for industry in 2008 - 2017



Gas prices for industry 2008- 2017



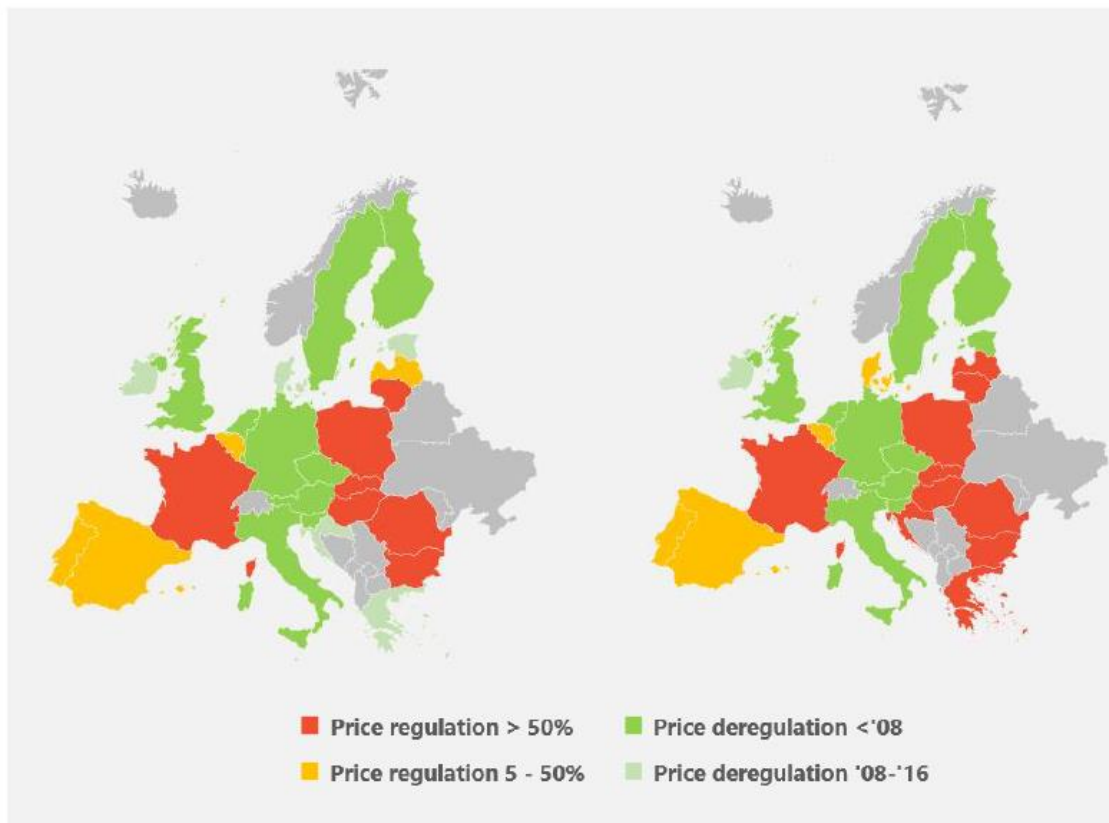
Internal market - Retail prices



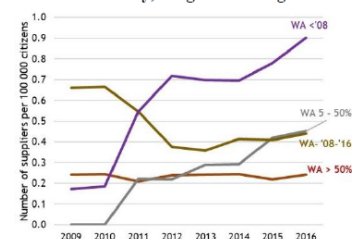
Price regulation : the case for household electricity and gas markets

Electricity

Gas

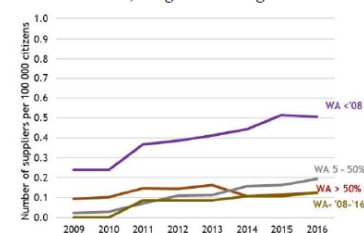


Electricity, weighted averages



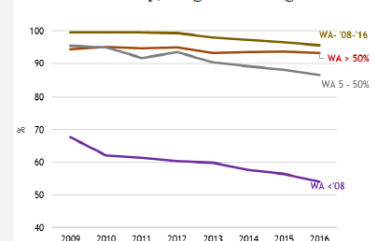
Electricity, MS which phased out regulated prices between 2008 and 2016

Gas, weighted averages

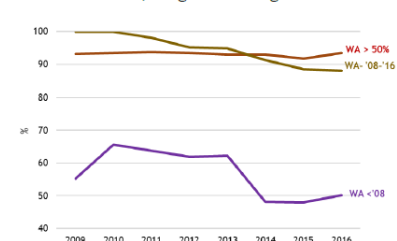


Gas, MS which phased out regulated prices between 2008 and 2016

Electricity, weighted averages



Gas, weighted averages



Internal market - Retail prices



Dynamic pricing - 2

Potential savings from switching to dynamic price contract (DPC); Band Band Db : 1 000 kWh < Consumption < 2 500 kWh; Actual vs. DPC

Sources: Eurostat; add list of providers of consumer data; Platts; power exchanges

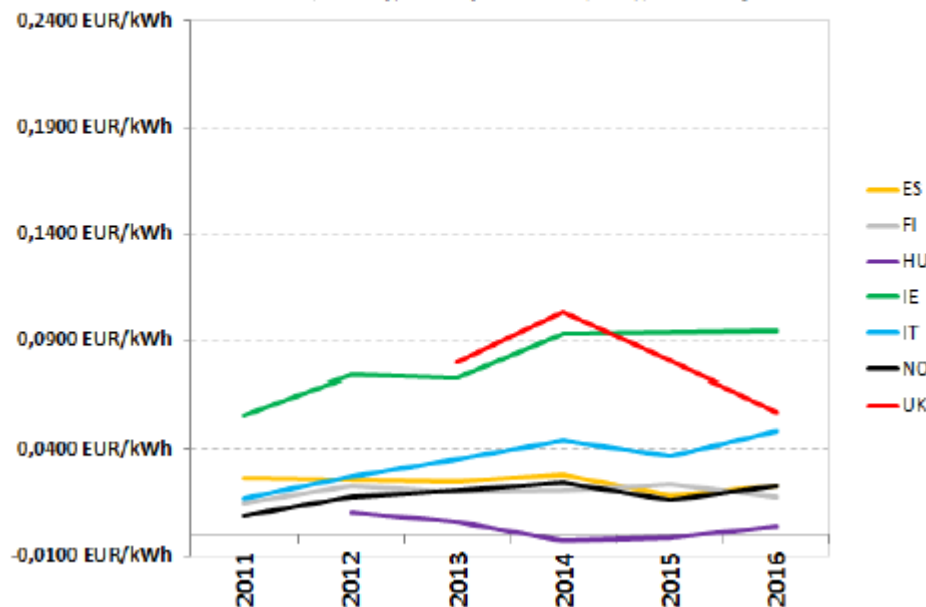


Table 22 - Estimated average annual savings per Band, EUR, 2016

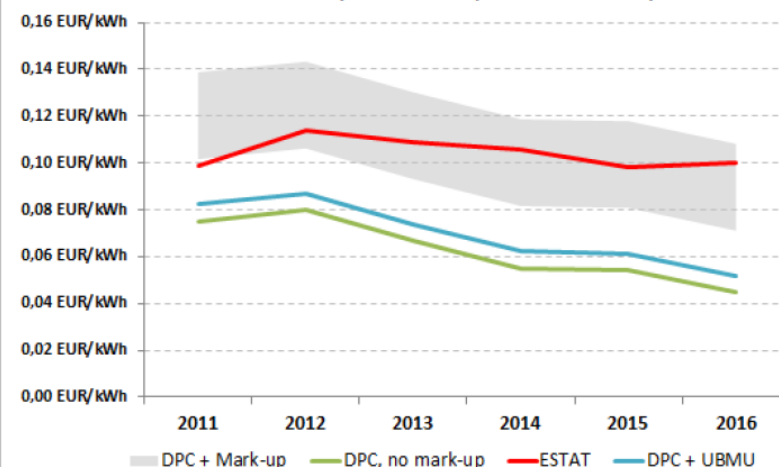
ESTAT	FI	HU	IT	NO	UK	ES	IE
Band							
DA	19,94	2,93	18,81	20,54	69,19	30,70	84,63
DB	30,11	5,94	31,26	42,19	110,14	39,33	180,61
DC	30,84	10,78	52,49	41,30	147,76	35,29	278,33
DD	25,33	20,37	89,98	46,10	256,38	20,48	526,16
DE	1,60	n.a.	n.a.	58,02	573,12	-77,41	1534,68

Sources: Price data: S&P Global Platts; Consumption data: Elenia Oy (Finland), Vaasa ETT and EDF-DEMASZ (Hungary); Regulatory Authority for Electricity, Water and Gas (Italy); Norgesnett (Norway); UK Data Archive - Centre for Sustainable Energy - EDRP project (UK); ENEL Group - Endesa Distribución Eléctrica (Spain); Irish Social Science Data Archive - Commission for Energy Regulation (CER) - CER Smart Metering Project (Ireland)

Energy Component, ESTAT vs DPC

Italy, ESTAT Band = DB, Fixed Mark-Up, Lump Sum

1000 kWh / year < Consumption < 2500 kWh / year



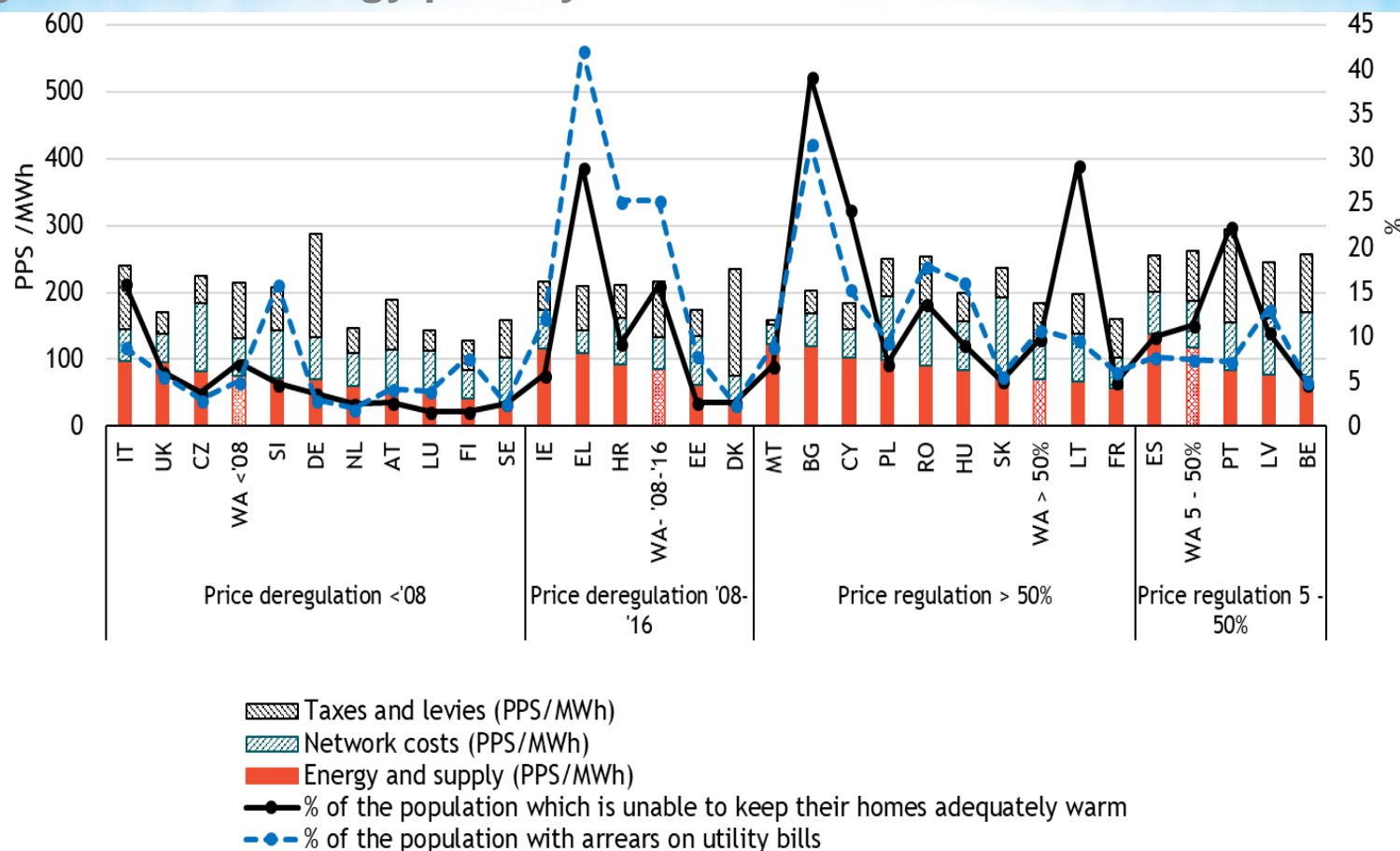


Dynamic pricing - 1

What are dynamic price contracts?

- Market-based: Contracts that reflect hourly day-ahead spot market prices
 - Consumers will pay hourly spot price * consumption volume that hour
- Transparent: Supplier income earned as an add-on to the wholesale price
 - Add-on fee structure typically € per year/month or €/kWh

Price regulation and energy poverty indicators



Source: CEER data and NRA representatives

Note that the % of the population which is unable to keep their homes adequately warm and the % of the population with arrears on the utility bills are not separated for the gas and electricity market.

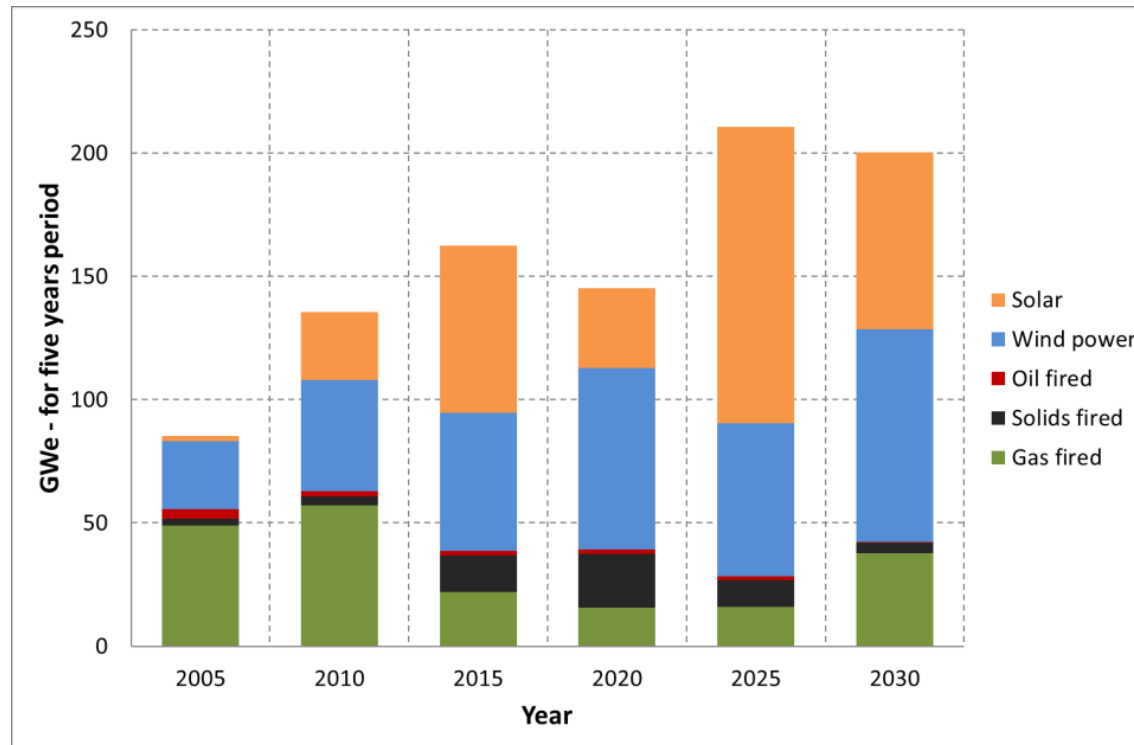
Used weights are the total household consumers per country and per energy market

Source: Directorate-General for Energy

The energy transition - Prices vs costs and investments



Looking forward: Investments in electricity capacity



Source: Left graph Platts, METIS(2030); right graph: PRIMES