



Energy Economic Developments in Europe

DG ECFIN

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Background

- *2030 Framework on Energy and Climate change*
- *Report on energy prices and costs – May European Council Conclusions*
- *Discussions in the EPC WG on climate change and energy (May and November 2013)*



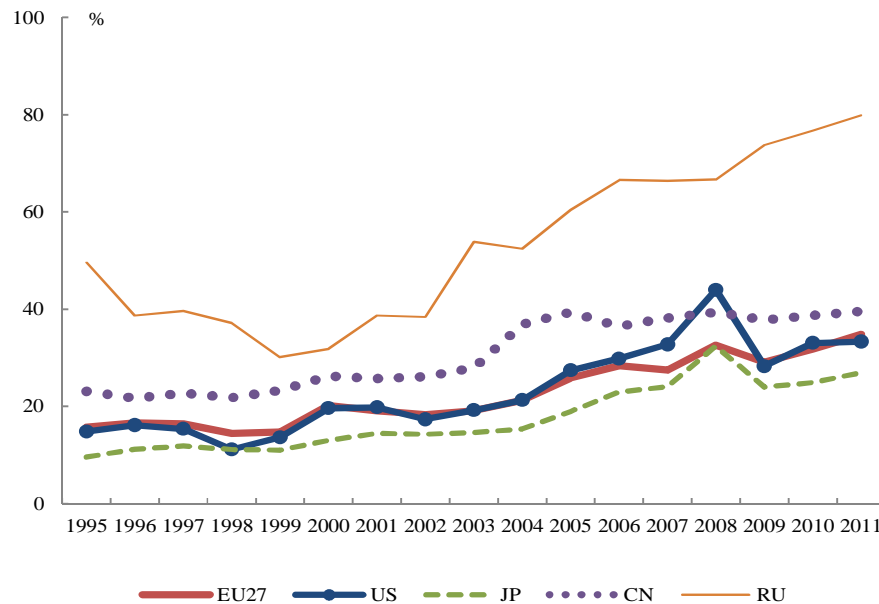
Outline

- Part I - Competitiveness:
 - Unit Energy costs in Europe, Member States and international partners.
 - Recent developments: shale gas in the US and impacts on the EU.
- Part II - Price drivers:
 - Electricity and Natural Gas price drivers
 - Carbon price drivers
- Part III - Renewable developments:
 - Renewables developments in the EU and the world
 - Drivers to trade in renewable equipment
 - Avoided fuel costs

Main Findings

Unit Energy Costs in industry: global comparison

Real Unit Energy Costs as % of value added, manufacturing sector

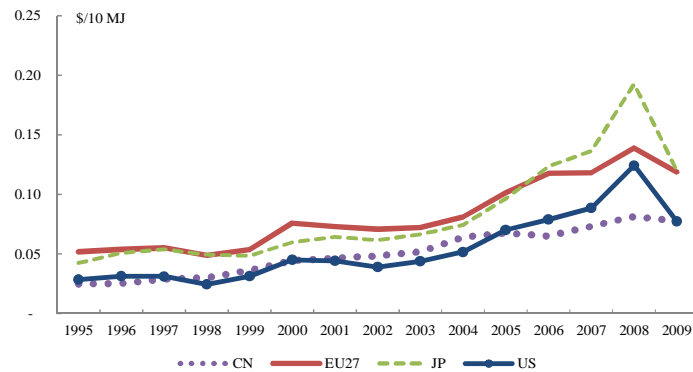


Source: European Economy 1/2014

- Energy costs have been on an **increasing trend** in both the EU and the rest of the world since 1995
- Energy costs as % of valued added of the EU manufacturing sector is among the **lowest in the world**

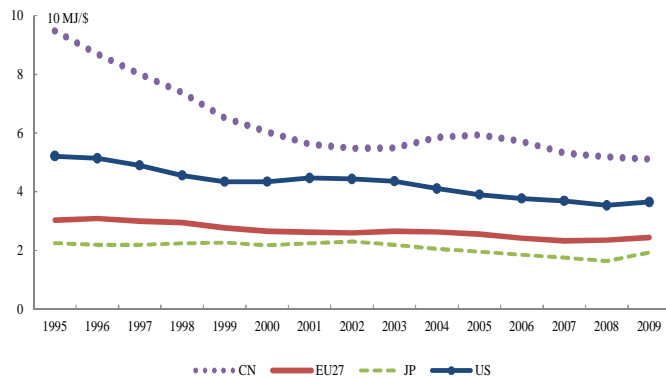
Drivers of energy cost competitiveness: a decomposition of unit energy costs

Real Energy Price Levels



Source: Source: European Economy 1/2014

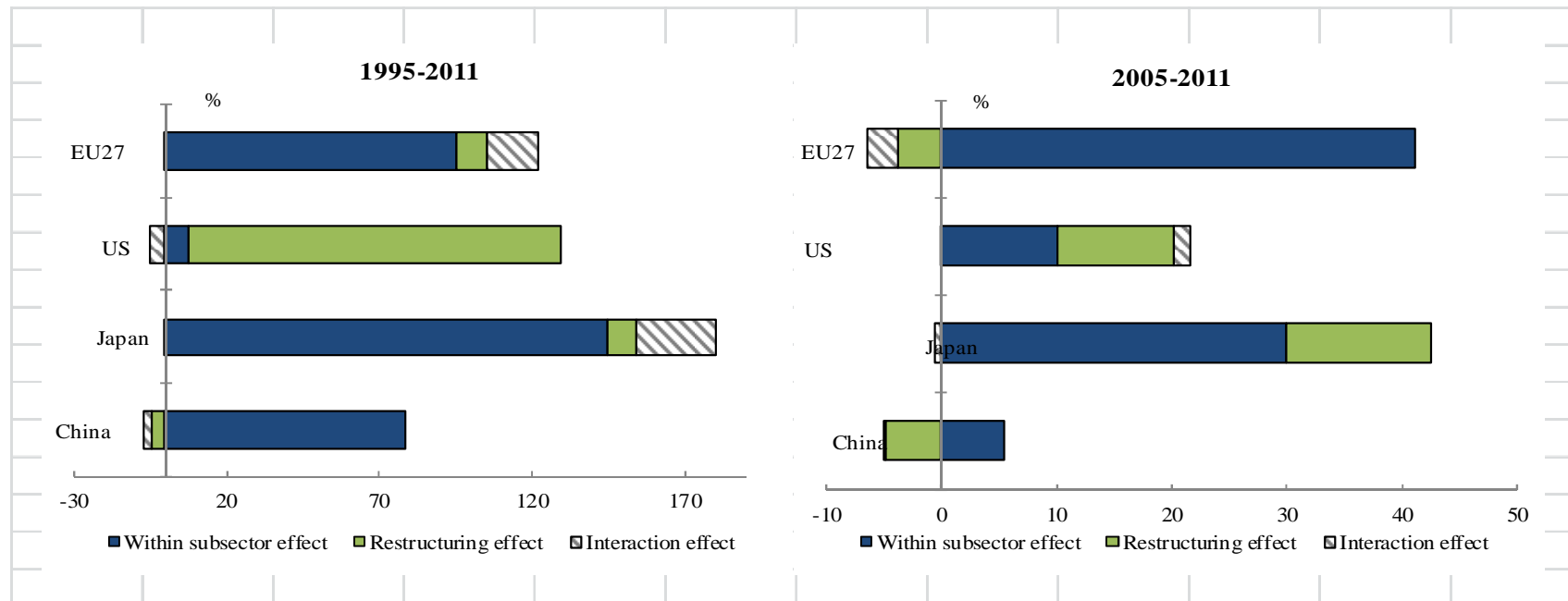
Energy Intensity Levels



Source: European Economy 1/2014

- The price of energy in the EU (and Japan) is among the highest in a global comparison
- EU manufacturing has adapted to high prices by specialising in low energy intensity and high value added production
- EU has improved its energy intensity since 1995 but US and especially China are catching up

Evolution of real unit energy cost: restructuring effect?

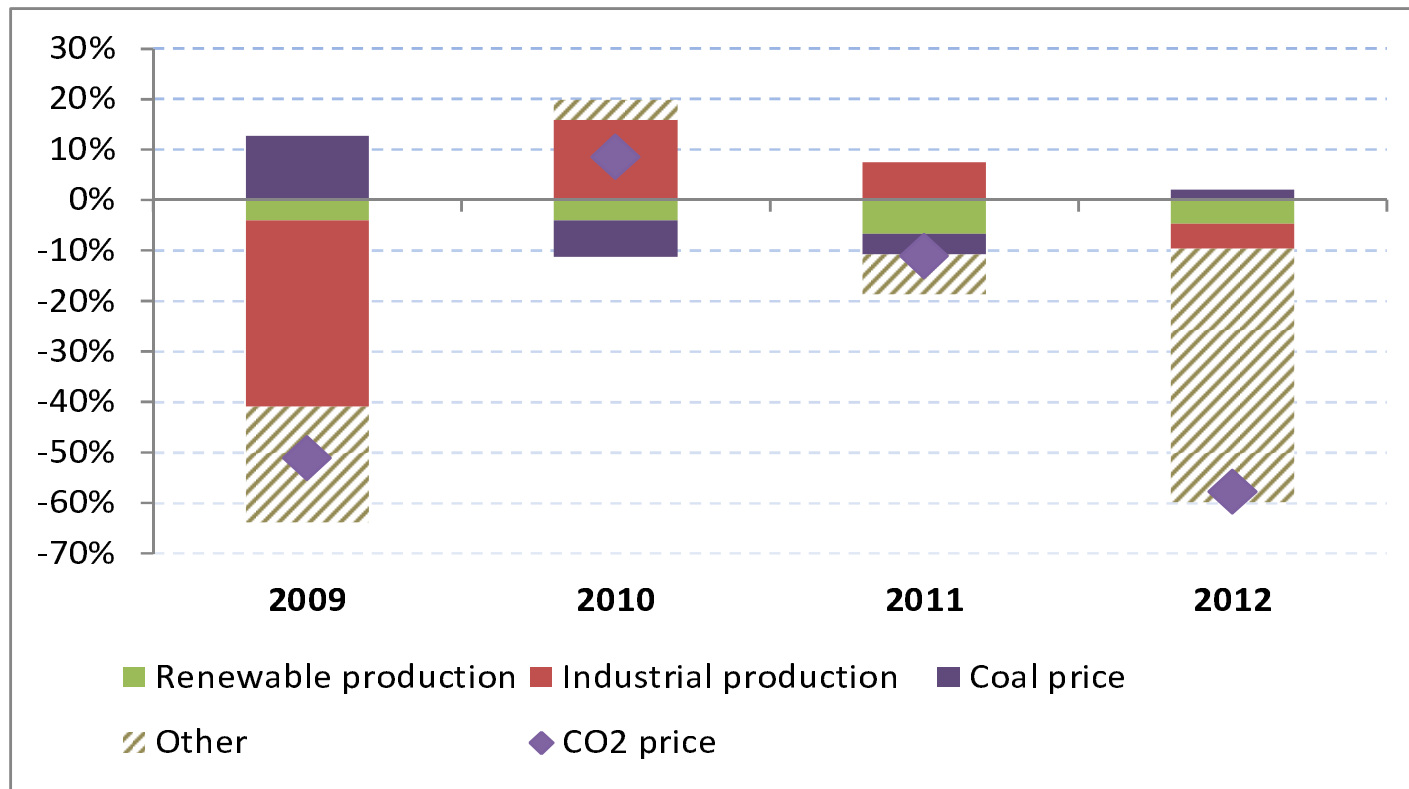


Source: European Economy 1/2014

Electricity and Gas Prices: Empirical Findings

- **Fossil fuels** remain the key drivers of electricity and gas retail prices.
- In electricity market, **market competition** lowers the retail prices, while the **penetration of less mature RES technologies** have the opposite effect.
- In most cases the **burden of supporting schemes** is distributed unevenly to consumer categories.
- In natural gas market, **lowering import dependency and improving security of supply** have greater downward price effects, relative to gas to gas competition.
- In both markets **regulated prices** might lead to cross-subsidies across consumer groups.

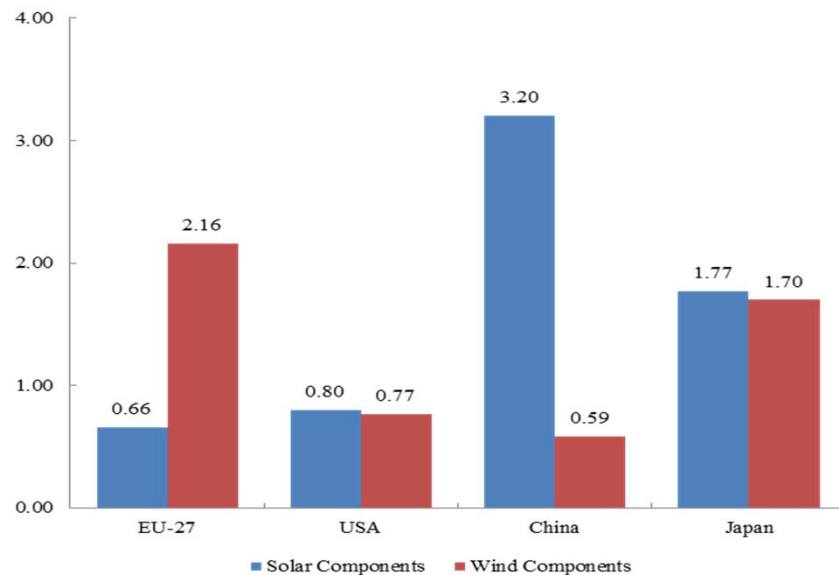
Carbon prices drivers : empirical findings



Source: European Economy 1/2014

Trade in renewable energy components: Revealed comparative advantages

Average Revealed Comparative Advantage Indexes of solar and wind industries in the EU- 27, USA, China and Japan

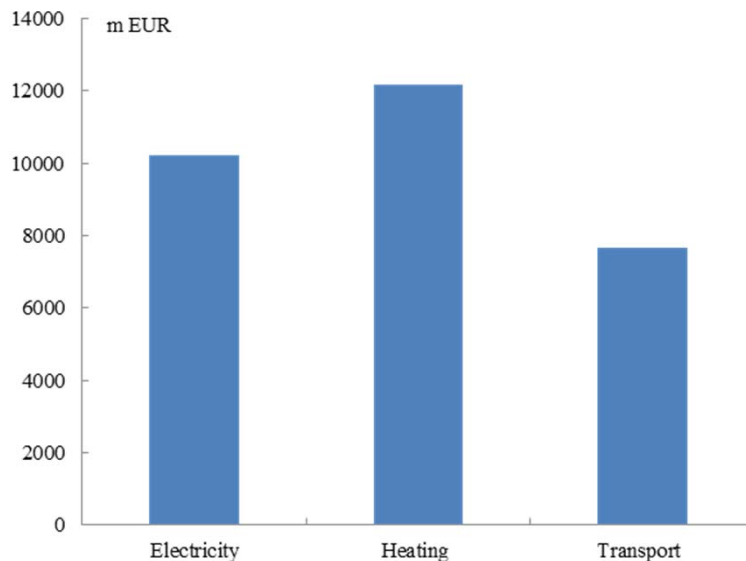


- EU has a significant trade deficit in solar and a small surplus in wind components
- EU has revealed a comparative advantage in wind components (high RCA index value)
- EU has a revealed comparative disadvantage in solar components (low RCA index value)

Source: European Economy 1/2014

Renewable energy: avoided imported fuel costs

Avoided imported fuel costs thanks to renewable energy, 2010



Source: European Economy 1/2014

- EU-27 deficit in energy products: EUR 304 bn in 2010, EUR 421 bn in 2012
- Renewables allow Member States to save part of imported fuel costs
- Avoided imported fossil fuel costs: some EUR 30 billions in 2010
- These avoided import costs **expected to rise in future** with higher RES production and rising world fossil fuel prices

Link to the publication

- http://ec.europa.eu/economy_finance/publications/european_economy/2014/energy-economic-developments-in-europe_en.htm