Coal power infrastructures, policy coherence and the EU: Evaluating lessons from current policies

Presentation at EEEN Forum

Copenhagen, 16/09/2016

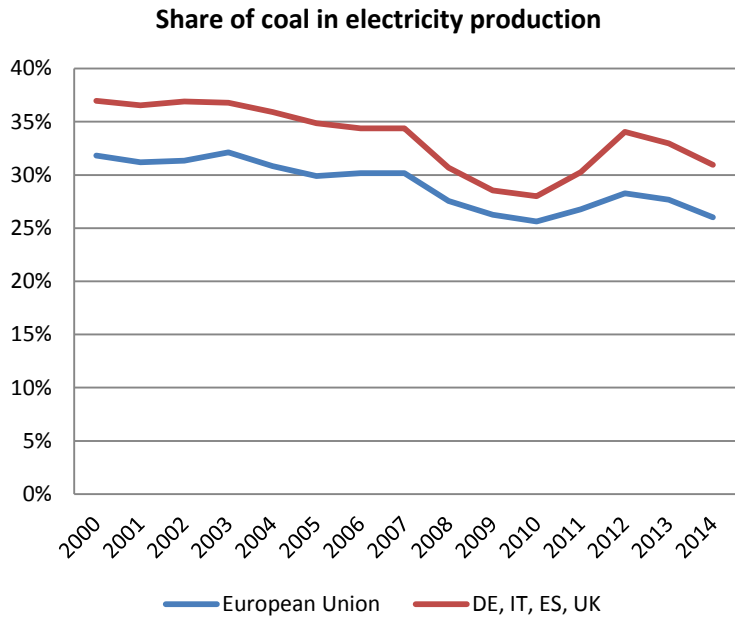
oliver.sartor@iddri.org

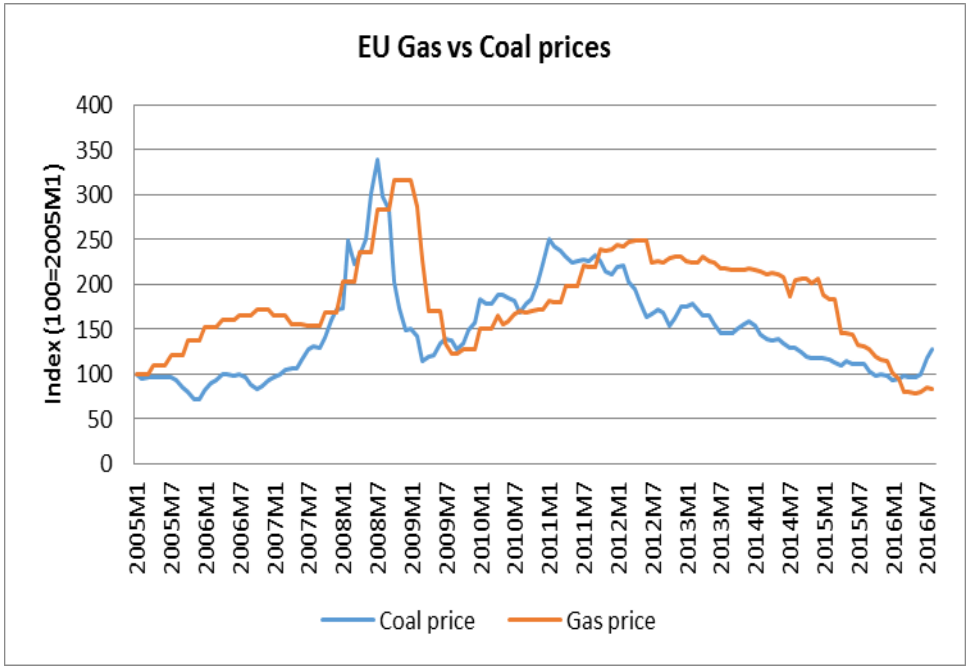
Institute for Sustainable Development and International Relations
41 rue du Four – 75006 Paris - France
www.iddri.org

IDDRI-Climate Strategies Coal Transitions Project

- **Builds on Deep Decarbonisation Pathways Project**
- **Aims to work with leading think tanks in 7 key coal producing / consuming countries:**
  - China, US, India, South Africa, Australia, Poland, Germany, UK
- **Goal to explore pathways to coal phase down in each country**
- **Focus on how to tackle a number of key aspects of the transition:**
  - Social, technical, economic, budgetary
- **Link to global coal market modelling module.**

Coal Facts

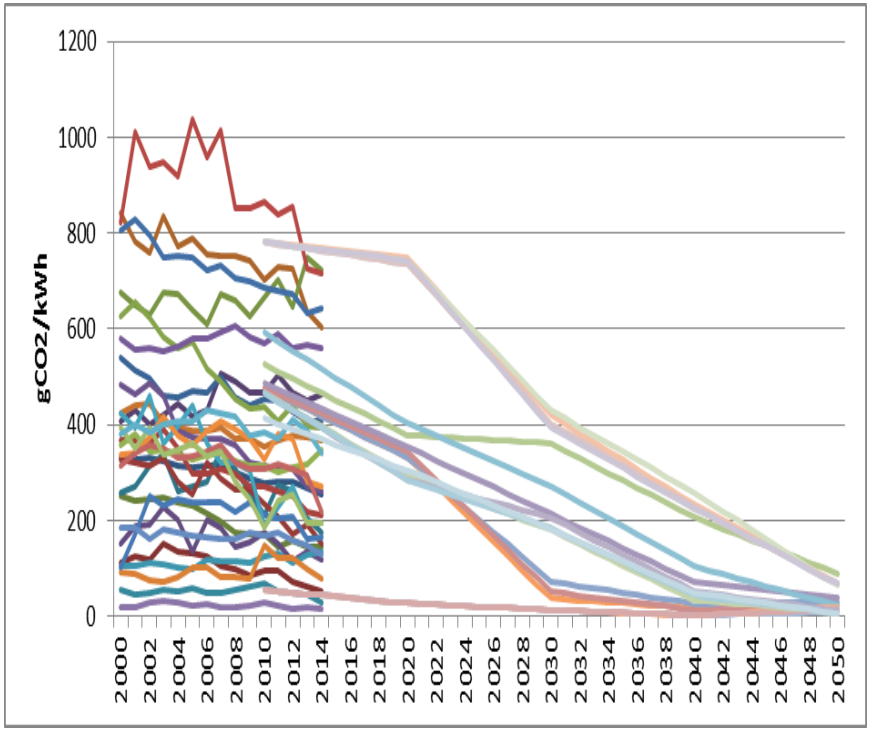




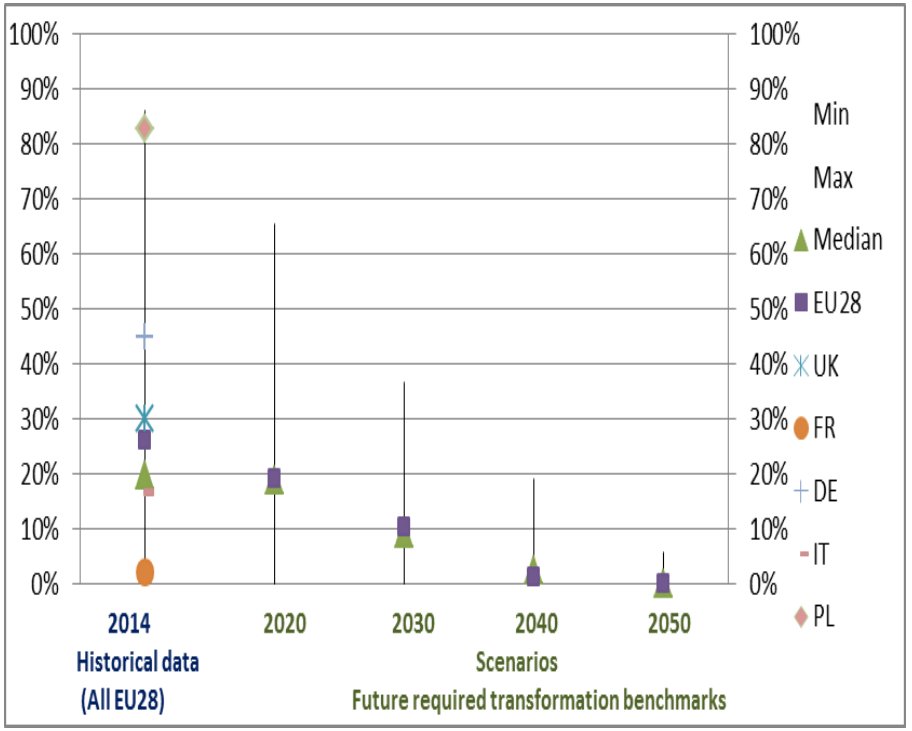
- **Coal still remains the predominant electricity production fuel in the EU**
- **Over past 10 years, coal's share of electricity has fluctuated – in response to coal vs gas prices – while policy has had relatively little impact.**

Tracking EU progress vs 2050 decarbonisation goals

Average CO2 intensity of electricity

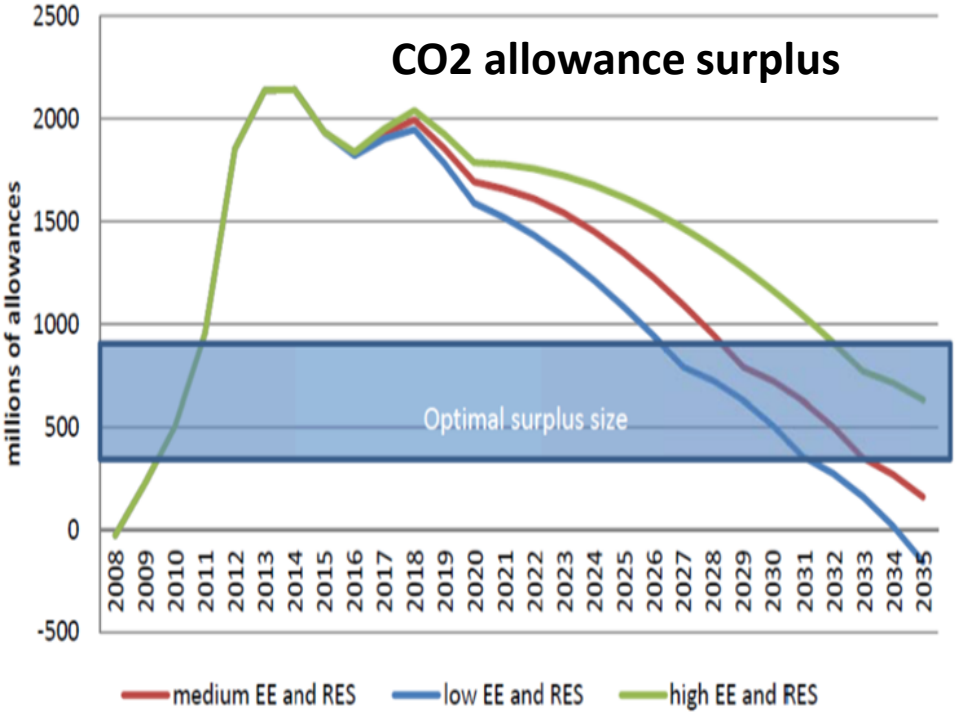


Share of unabated coal in elec. production



- **An informative and underutilised way to benchmark progress is to extract benchmarks from existing 2050 decarbonisation scenarios**
- **Step change in effort is required between 2020 and 2030 in terms of CO2 intensity of electricity and share of unabated coal…**

Evaluating current policy tools



- EU ETS seems likely to be the off the table for at least a decade
- Vast difficulty of deciding reforms at the level of EU28, esp. post-Brexit
- Even if successful, ignores other important aspects of transition (social, regional)

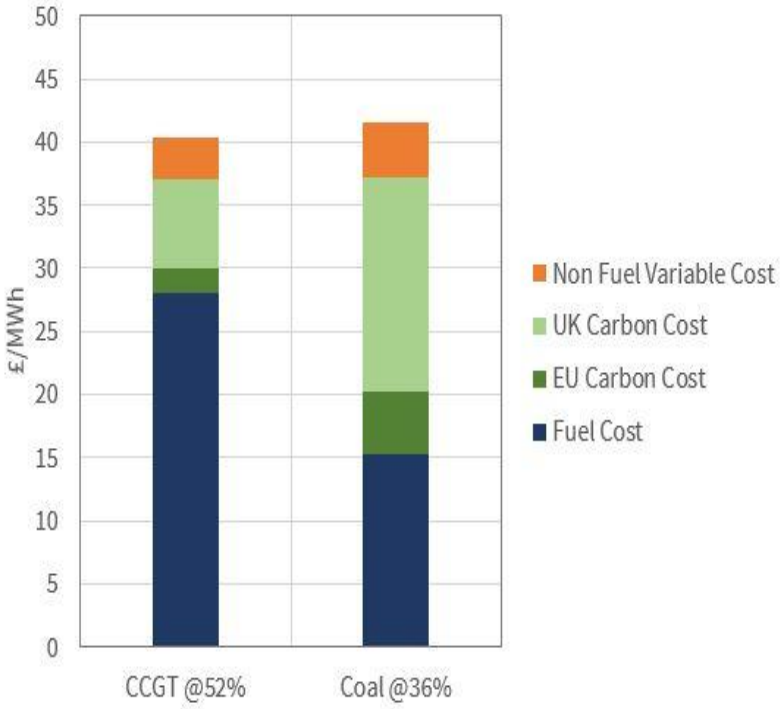
Evaluating current policy tools

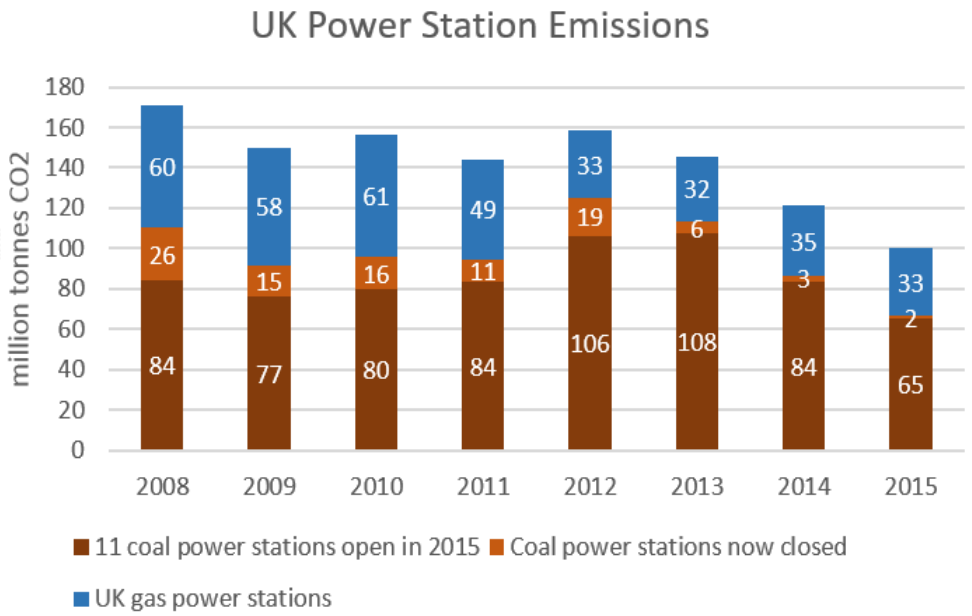
- **EU Regulations on other pollutants**
  - Between 2008-2013, plant closures related to LCPD (SOx) reduced coal capacity by 5%, further 3% forecast for closure by 2016 (Sandbag 2015).
  - Impact of IED (NOx, from 2016) not yet calculable, but…
    - Many flexibilities
    - Cheaper technology for compliance
    - Capacity markets risk distorting decisions to stay or go
    - No major utilities have announced plans to close in reaction
  - Risk of a large share of coal plants staying on despite IED.

Evaluating current policy tools

- **EU ETS Modernisations funds**
  - Concerns too few sites and tend to be negotiated such that they favour refurbishments rather than closure and reinvestment in other technologies
- **German lignite reserve**
  - 2.7 GW lignite plant to be removed from market but paid ~1.6 bn « to remain in security reserve »
  - Cost is reasonable depending on assumed lifespan
  - Sets an important precedent for other plant thinking about closure
  - Question of whether some coal plant would have shut down anyway
- **« Canabalisation effect » of renewables**
  - Has some impact. But insufficient:
    - Depending on coal vs gas prices, coal and lignite can remain baseload energy source;
    - Retrofitting of plant to increase flexibility.

Evaluating current policy tools





- **The UK's Carbon Levy – albeit imperfect – has proven relatively effective at driving closure and reducing output from remaining plant.**
- **Another advantage of pricing is that it also creates investment signal for renewables**

The Regional Dimension

- **The insufficiency of these policies has led other proposals, e.g.**
  - Coal Phase Out Consensus proposal for Germany based on plant age.
  - France has proposed a Carbon Price Floor for the EU ETS
  - Discussion of EPS at EU level

- **The regional dimension may be a better angle of attack for such policies**
  - FR carbon price floor or EPS seem unlikely to garner support at EU level.
  - Political and economic advantages to linking DE coal phase and FR nuclear phase out
  - A need to avoid drowing strong domestic support for action in « lowest common denominator » policies at EU level.

Conclusions

- **Progress to date inconsistent with transformation pathways envisaged to achieve 2050 targets.**
- **Policies developed under the 2030 Climate and Energy Framework do not change that – they will take us further off track**
  - EU ETS is unlikely to be effective for at least 10 years
  - Other EU regulations on coal plants inadequate
  - Power prices & RES support unlikely to do be sufficient if $P_{gas} > P_{coal}$
- **Recent experience suggests:**
  - Pricing can be an effective tool, but based on current politics would need to be pursued independently from ETS to have any chance of working
  - Joint or regional approaches to pricing and/or capacity retirement are likely to make the economics and politics of retirement simpler.