Policy lessons from Europe

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Questions

1. What is EU energy and climate policy?
   - The internal energy market – origins, implementation and consequences
   - The climate change package – ambitions, components and consequences
   - Copenhagen, Durban, Doha and European “world leadership”
   - The 20% renewables target
   - The EU Emissions Trading Scheme

Questions (ctd)

2. What are the outcomes
   - Germany's "*Energiewende*"
   - The return of coal
   - Carbon consumption and production

3. What comes next?

What are the EU objectives?

The IEM	Competitive supply
Security of supply	Few policy mechanisms
Low carbon	EUETS + 2020 – 20 – 20 + national policies

⇉Require *simultaneous* solution to all 3 objectives

⇉Trade-offs to be defined

The internal energy market

- Origins in the single market project
- The model – unbundling, vertical separation, regulated third party access
- The 1997 – 1998 renewed attempts
- The 2004 further attempts

Target to impose by 2014

The EU Climate Change Package

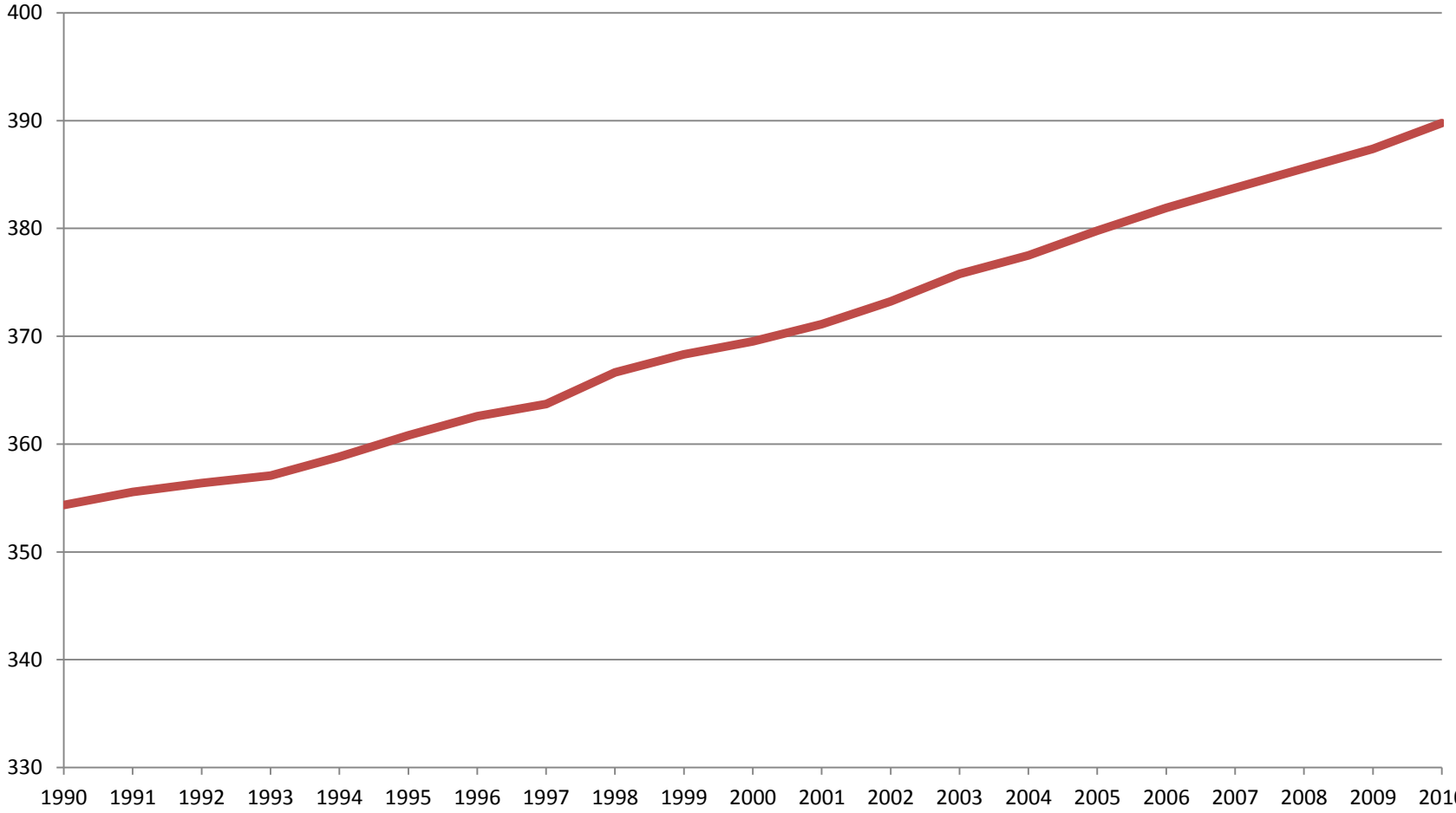
Based on the conventional view of climate change

- KYOTO
  - Carbon production NOT consumption
  - Europe-driven and European leadership

But Kyoto has made little difference

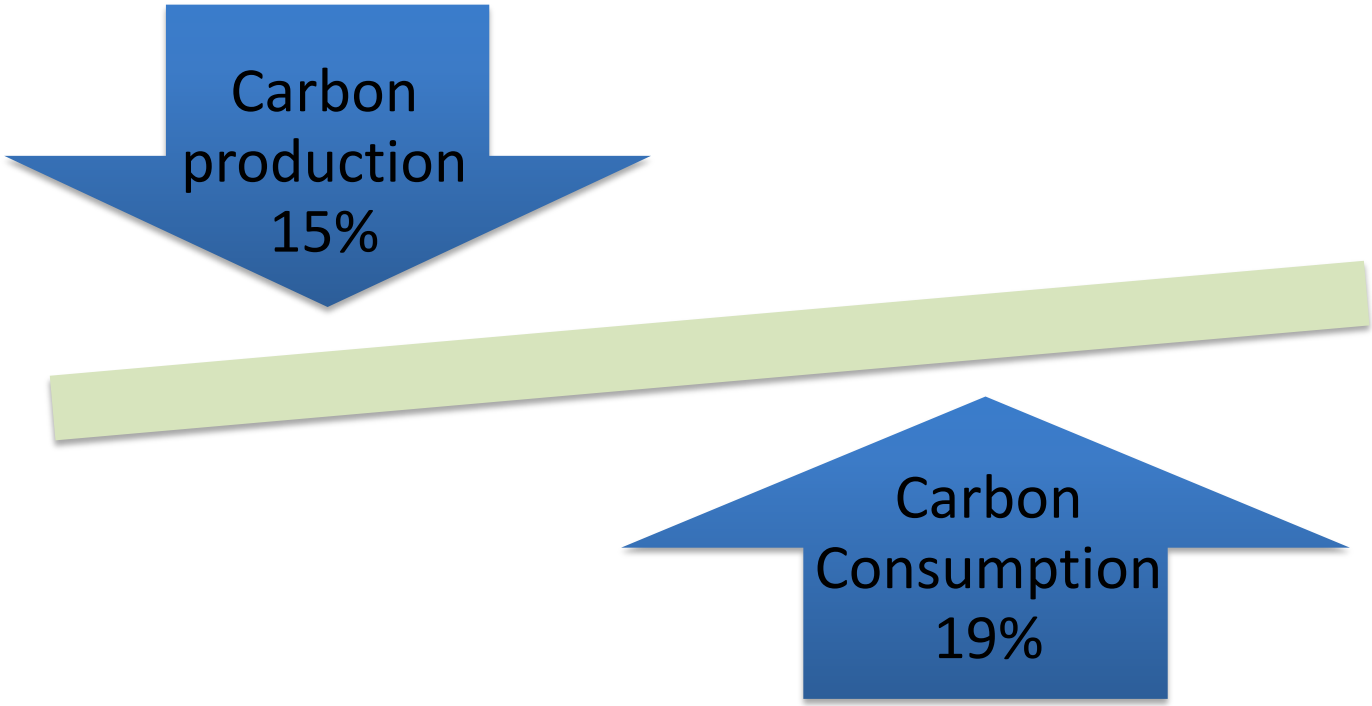
- Emissions keep going up
- Why?
  - Coal, coal, coal
  - China's economic growth
- How could European meet Kyoto targets and yet increase emissions?
  - Carbon *consumption* NOT carbon *production*

An ever-upward path
Atmospheric CO2 (ppm)



Source: US Department of Commerce National Oceanic & Atmospheric Administration (NOAA)

Carbon production vs consumption



Europe's carbon production decrease is caused by deindustrialisation, exit from energy-intensive industries and the economic crisis

Copenhagen, Durban, Doha

- Copenhagen – a US/China deal outside Kyoto
- Durban – try to agree by 2015 what might happen after 2020
- Doha – no further serious progress

By 2020:

- CHINA X 2 GDP
- INDIA X 2 GDP
- 400-600 GWs new coal power generation

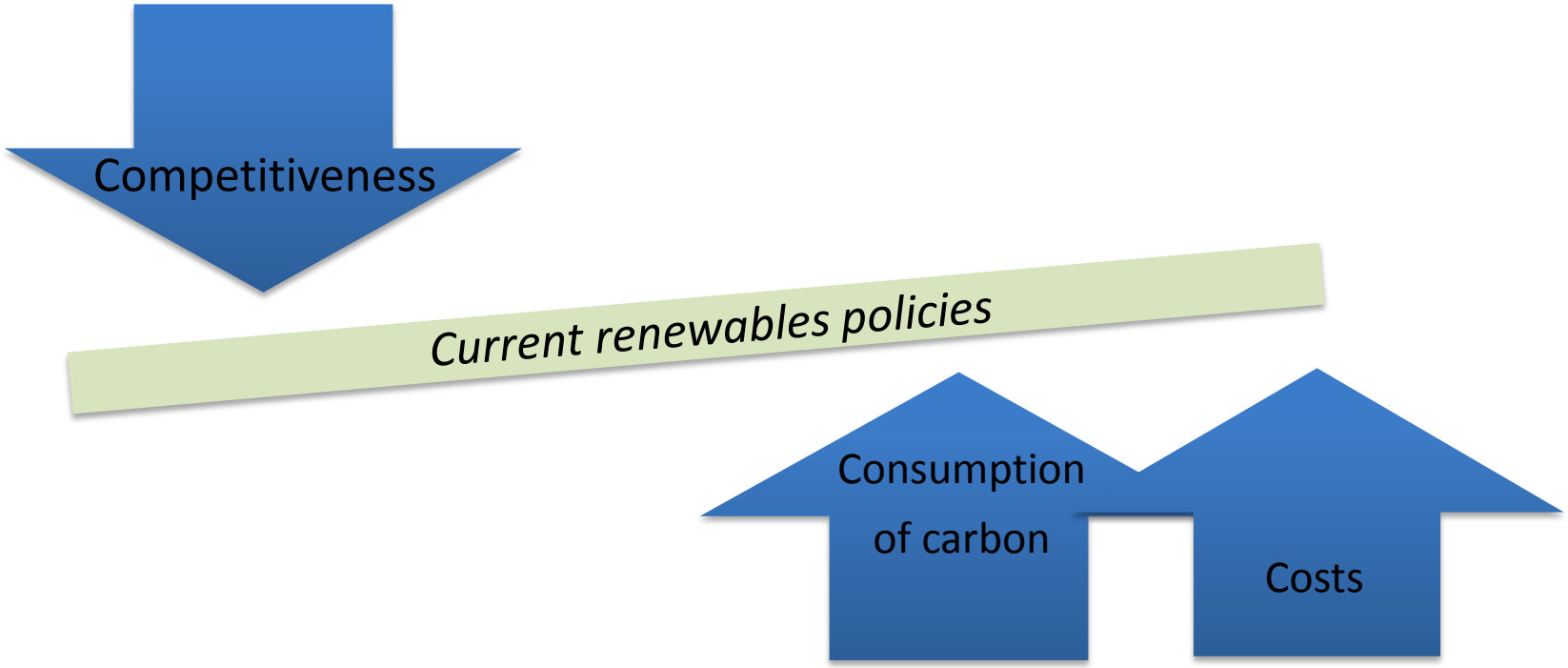
The 2020 – 20 – 20 Climate Package

- Short term answer to long term problem
- Based on *current* renewables
- Claimed to meet *competitiveness* objectives, and be *sustainable* and increase *energy security*
- Assumes EUETS works

20% Renewables target

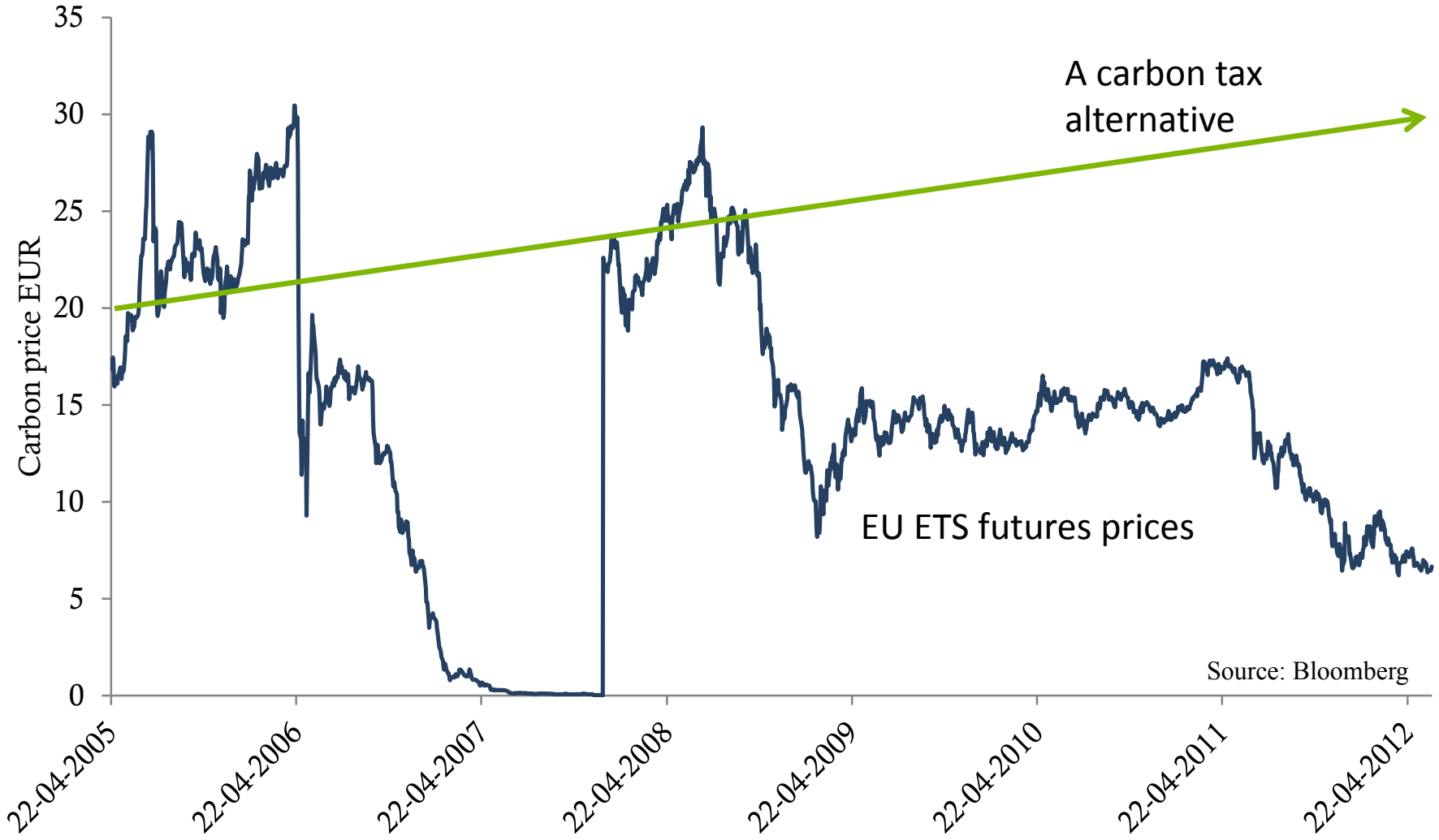
- Based on the assumption that gas and oil prices will go ever-upwards
- Short term reliance on wind, rooftop solar and biomass power generation
- Expensive:
  - UK Wholesale price ≈ £50 MWh
  - Onshore wind ≈ £100 MWh ++
  - Offshore wind ≈ £160 MWh ++
  - Rooftop solar ≈ £240 MWh ++
- Offset by EU ETS
- Offset by ↑ carbon consumption

Europe: an unviable position



- Current renewables cannot make much difference to global climate change– land & shallow sea areas just not big enough
- Energy efficiency – good idea but does not necessarily reduce energy demand

Carbon taxes v. EU ETS



Germany's *Energiewende*

- Exit nuclear (→ coal)
- Switch from gas (→ coal)
- Destabilise gas

⇉High energy prices, emissions ↑

⇉Building new lignite coal power stations

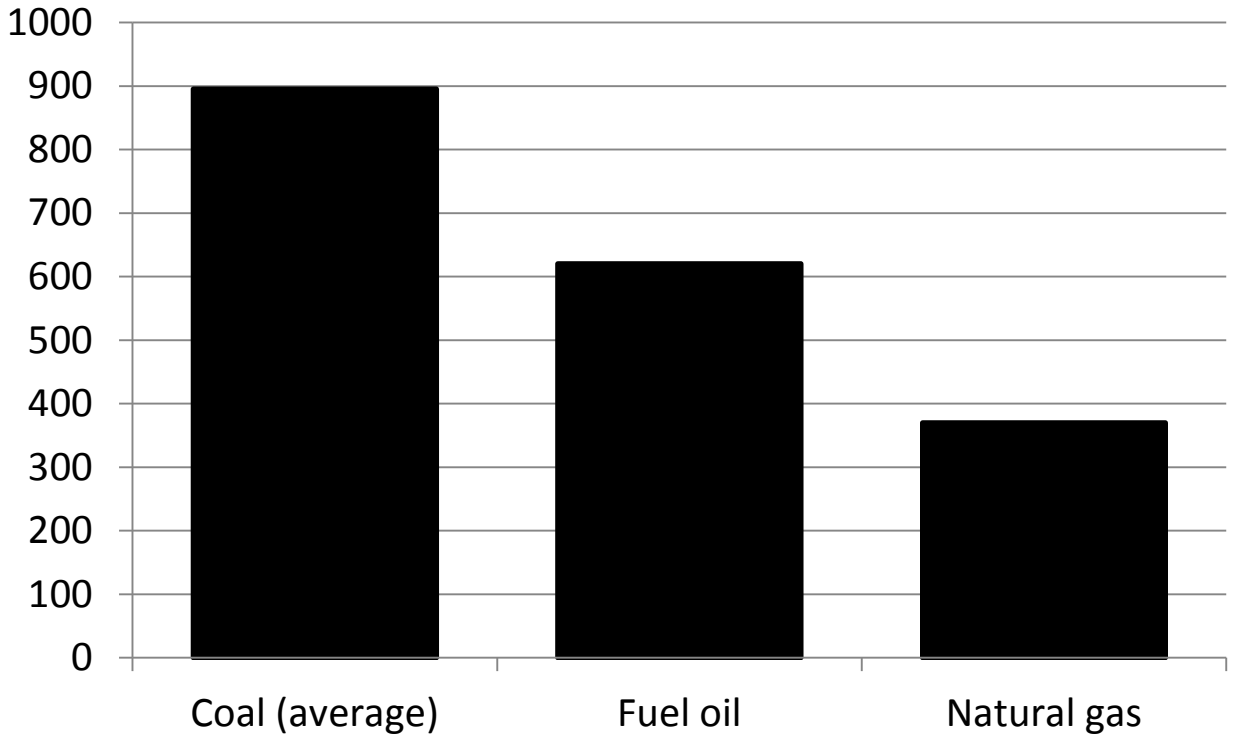
The return of coal

Germany + Netherlands + other interests in NEW coal

Shale gas limited or banned (Germany and France)

⇉ ↑ CO_2 emissions

Fossil fuel emissions



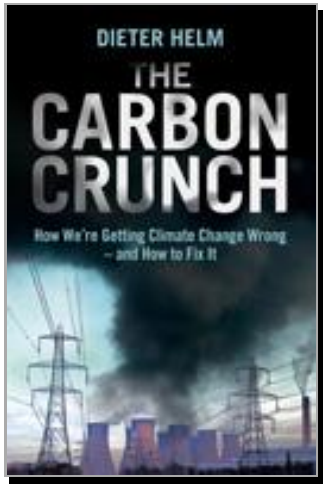
Approximate CO2 emissions: grammes of CO2 per KwH of electricity generated
Source: International Energy Agency "CO2 emissions from fuel combustion highlights 2011"

What comes next?

- 2014 European elections – a new Commission
- Energy crises in UK and potentially other countries
- Electricity price revolts by customers (voters)
- 2050 Roadmap – towards conditional targets

⇉ MAJOR POLICY RETHINK

YALE U.P.



The Carbon Crunch

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Dieter Helm

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- The economic analysis of biodiversity: an assessment, with Cameron Hepburn, *Oxford Review of Economic Policy* (2012) 28(1): 1-21
- European Energy Policy, in: *The Oxford Handbook of the European Union* Edited by E Jones, A Menon, and S Weatherill, OUP, August 2012.
- The UK's new dash for gas, *Prospect*, 20th September 2012.
- *Trade, climate change and the political game theory of border carbon adjustments*, with Cameron Hepburn and Giovanni Ruta, May 2012, Grantham Research Institute on Climate Change and the Environment, Working Paper No. 80.
- Surprise – the oil price isn't higher, *Prospect*, April 2012.
- The sustainable borders of the state, *Oxford Review of Economic Policy*, Volume 27 no 4, winter 2012.
- What next for EU energy policy?, in *Green, safe, cheap: Where next for EU energy policy? e*dited by Katinka Barysch, Centre for European Reform, 2011.
- *The Economics and Politics of Climate Change*, Helm, D. R. and Hepburn, C. (eds), (new edition 2011), Oxford University Press.