

The Economic Case for Action against Climate Change

BIEE Parker Seminar
19 February 2013

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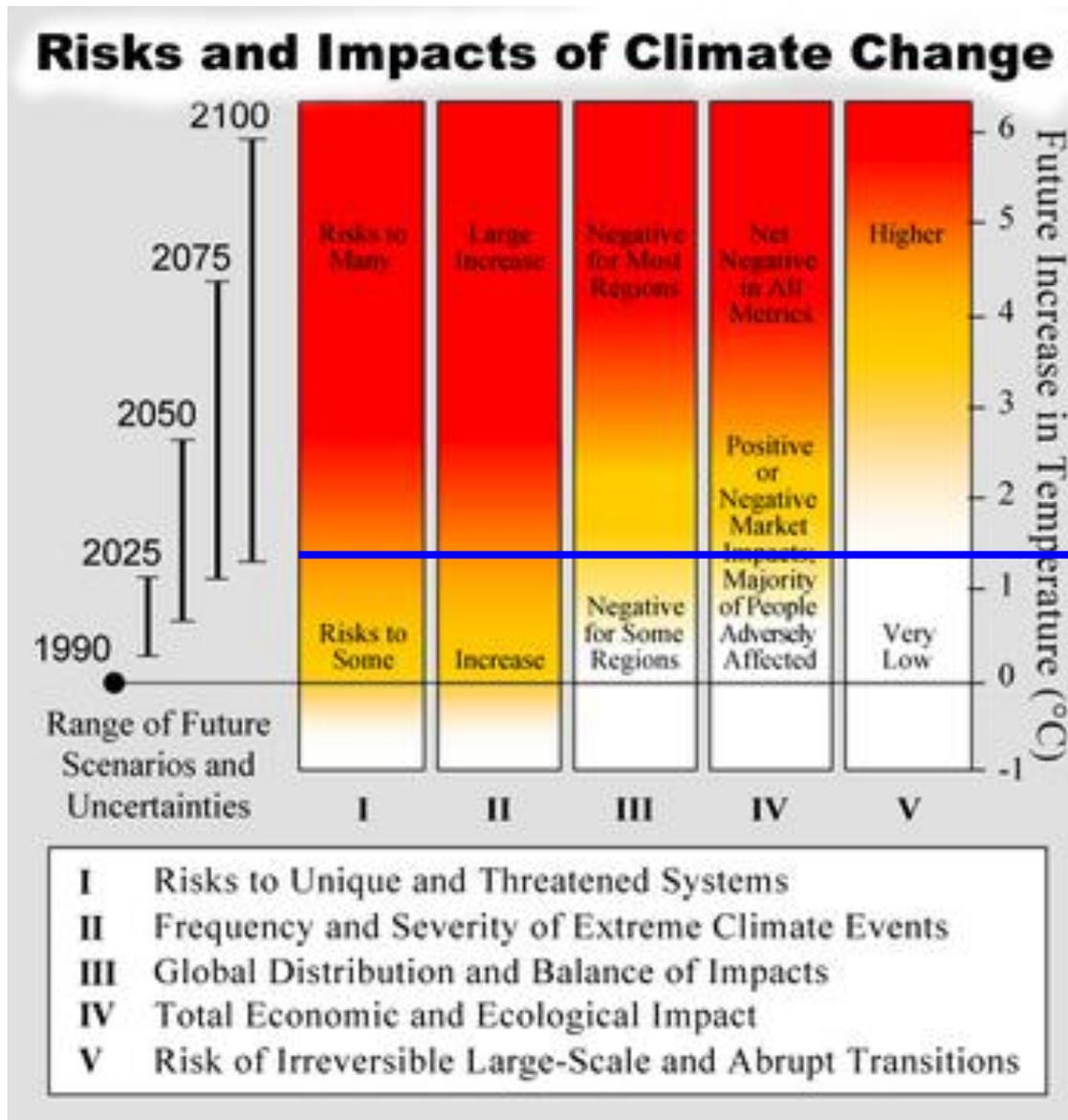
Support by the UK Economic and Social Research Council and
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Overview

- How has concern about climate change evolved?
- How do economic developments affect the case for climate action?
- Is green growth a real possibility?

Starting point: IPCC's five reasons for concern



2°C from pre-industrial

Source: IPCC TAR, 2001

Concern about unique systems

- Threat to unique systems is the main reason for 1.5°C proposals
- Coral reefs in particular are at risk from 1.5°C onward
 - Providing ecosystem services worth hundreds of billions of dollars
 - Climate change is only one of many stress factors
- But is 1.5°C still feasible?



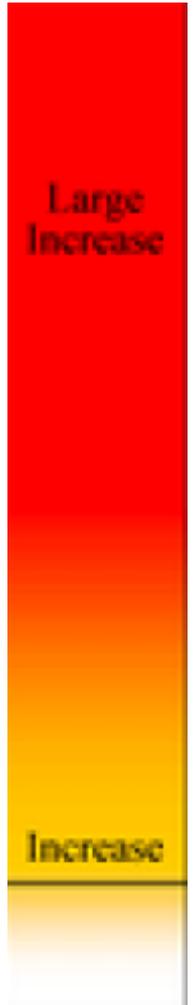
Risks to
Many

Risks to
Some

LSE

Concern about more extreme events

- There is a perception we are seeing more extreme weather
 - Russian forest fires, US drought, UK floods
 - But scientific evidence is still unclear (from models, disaster statistics)
- This perception might gradually influence public opinion
 - E.g. US after Hurricane Sandy



Concern about fairness

- Fair outcome remains a key concern in the international negotiations
 - Climate change could reverse much of the development progress of recent decades
- Main negotiation issue is burden sharing, not overall target per se
 - We can no longer stabilise the climate without developing country contributions
 - Use climate finance, loss & damage to get a fair outcome

Negative
for Most
Regions

Negative
for Some
Regions

LSE

Concern about aggregate costs, benefits

- Climate action no longer argued for primarily on costs-benefits grounds
 - UK shadow price of carbon is no longer based on social costs
 - But US social cost discussion is still alive
- Integrated assessment models are not sophisticated, robust enough for policy
 - But they identify key sensitivities (discount rate, climate sensitivity, equity weights)

Net
Negative
in All
Metrics

Positive
or
Negative
Market
Impacts;
Majority
of People
Adversely
Affected

Climate action as risk management

- Emission reduction is increasingly interpreted as sensible insurance
 - E.g. Committee on Climate Change: Stay close to 2°C; minimise risk of 4°C
- People already pay for similar kinds of insurance
 - Life insurance spending: 5% of GDP in OECD, 2% of GDP elsewhere
 - Military defence budgets: 1% of GDP or more even on strictly defensive armies



Higher

Very
Low



LSE

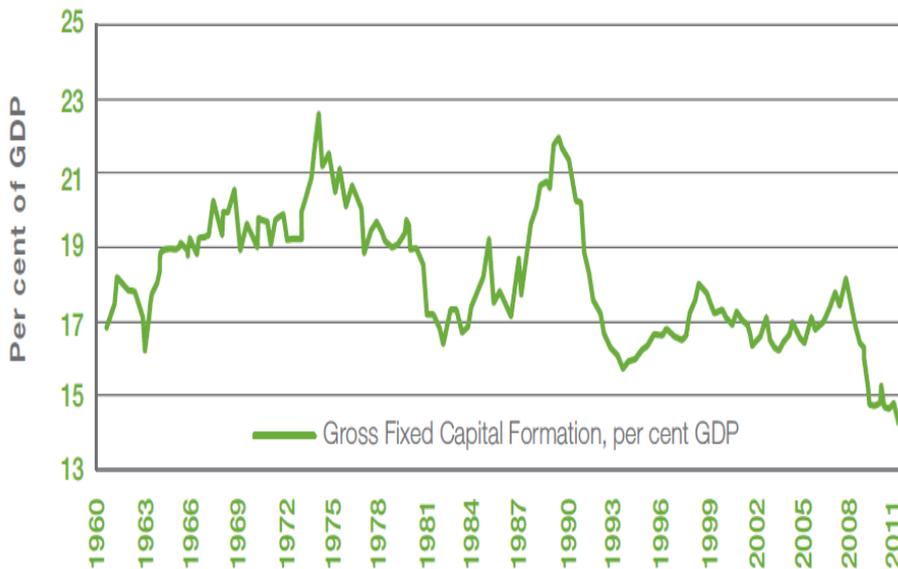
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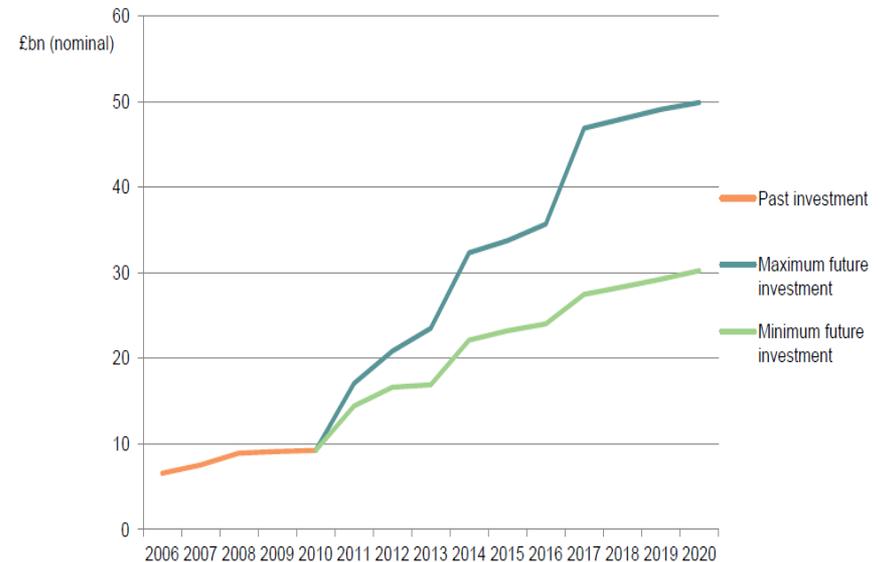
Is a recession the right time for green policy?

- Decarbonisation is a structural, not a cyclical issue
- But many low-carbon investments could offer a good (i.e., targeted, timely, temporary) economic stimulus

Falling aggregate investment



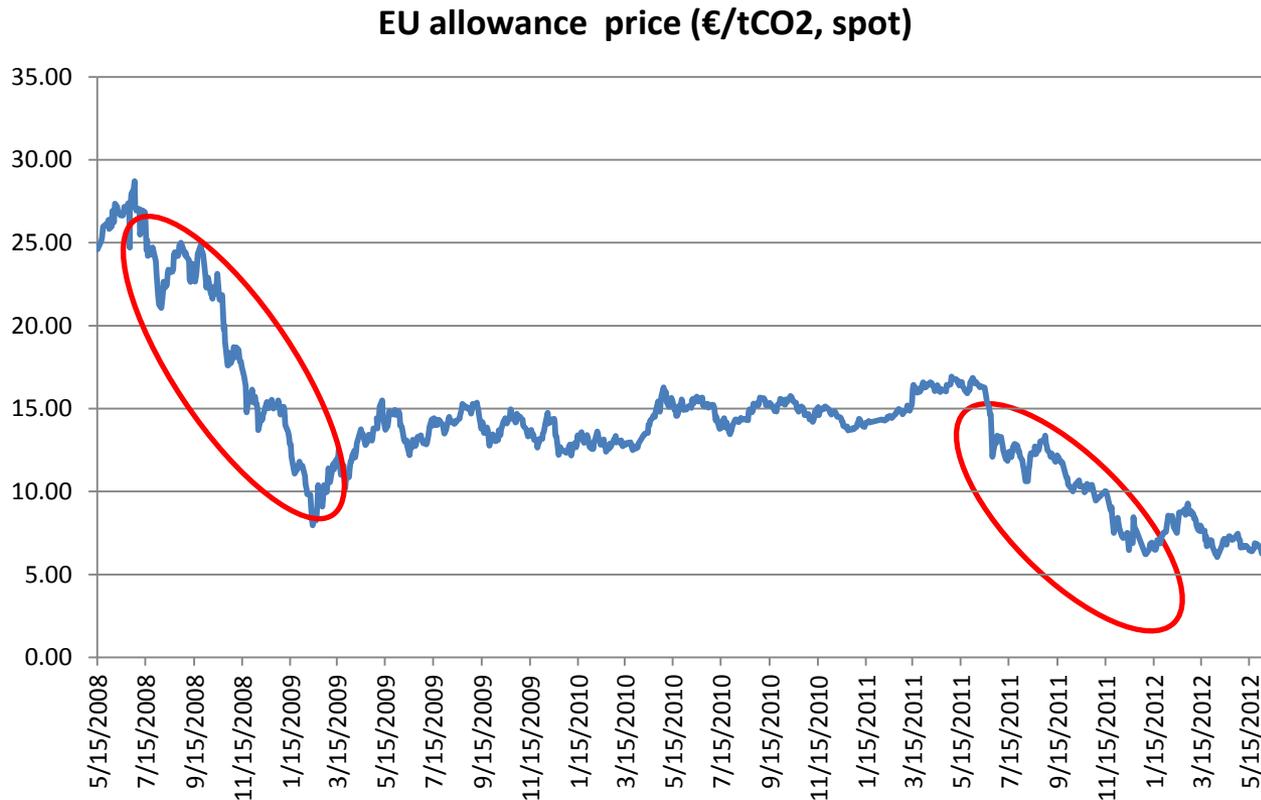
Growing green investment needs



Source: Zenghelis (2012) and Vivid Economics (2011)

Has the recession made carbon targets easier?

- Lower GDP means lower emissions
- But carbon price signal is weaker, certainly in the EU



Source: Bloomberg



Have the international dynamics changed?

- Delay and less optimism about a new global treaty
 - Now focused on COP21 in 2015
- Disagreement in the EU
- Much national legislative action and momentum elsewhere
 - Including emerging emitters like China, Mexico, Korea
- UK, EU policy leadership is at risk



The GLOBE Climate Legislation Study
THIRD EDITION
A Review of Climate Change Legislation in 33 Countries



Terry Townshend, Sam Fankhauser, Rafael Aybar, Murray Collins,
Tucker Landesman, Michal Nachmany and Carolina Pavese

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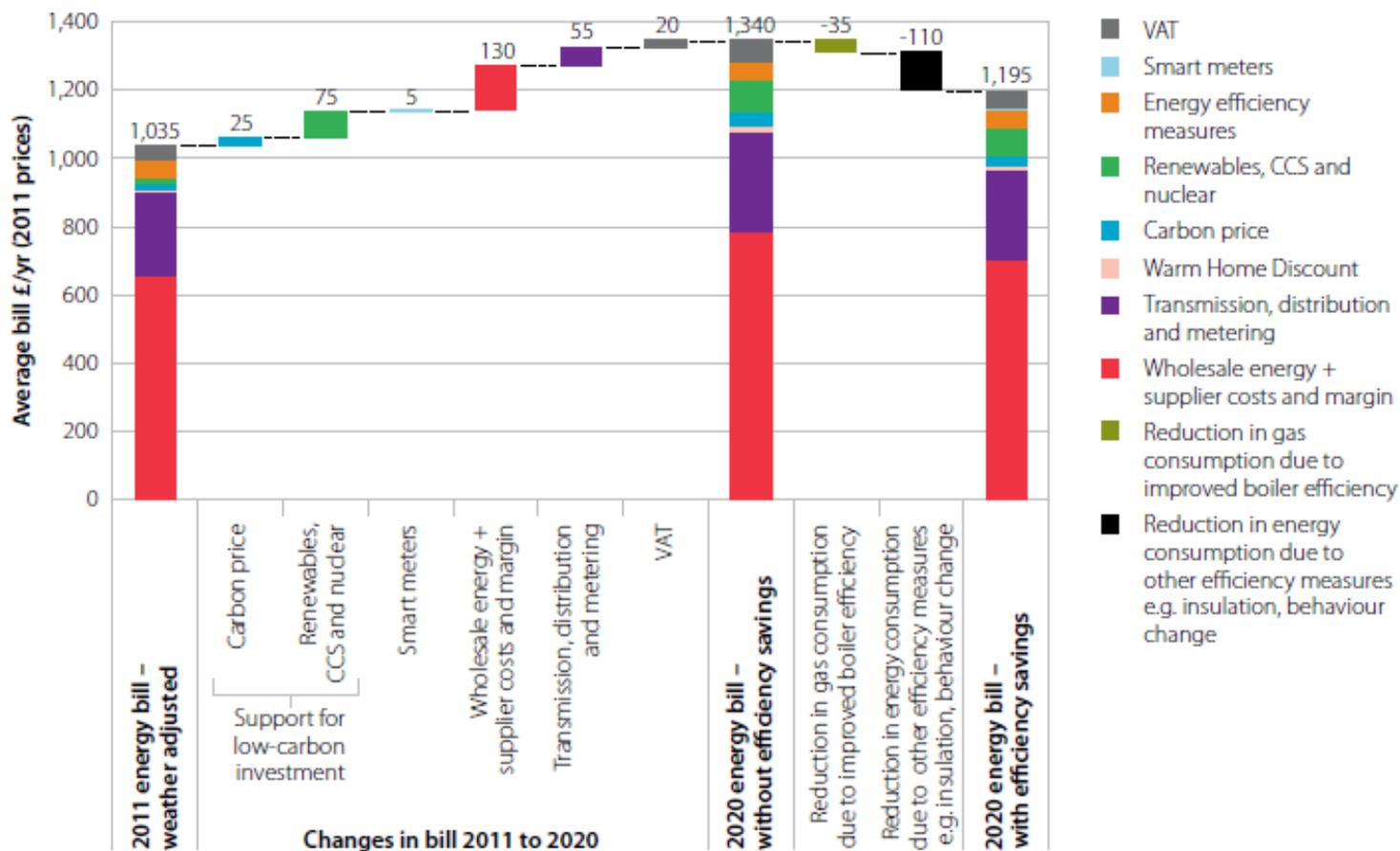


Can the Exchequer still afford low-carbon policies?

- Some carbon policies raise revenue
 - Carbon floor price
 - Auctioning of EU allowances
 - Cancellation of CRC revenue recycling
 - But: reluctance to raise fuel duty further
- Some carbon policies cost money, although usually through utility bills not taxes
 - Renewables (Contract for Differences / ROCs)
 - Energy Efficiency (Green Deal, ECO)
 - Capitalisation of Green Investment Bank

Can people still afford climate policies?

Energy (gas + electricity) bills raise for both market and policy reasons



Source: Committee on Climate Change (2012)



Has the technology landscape changed?

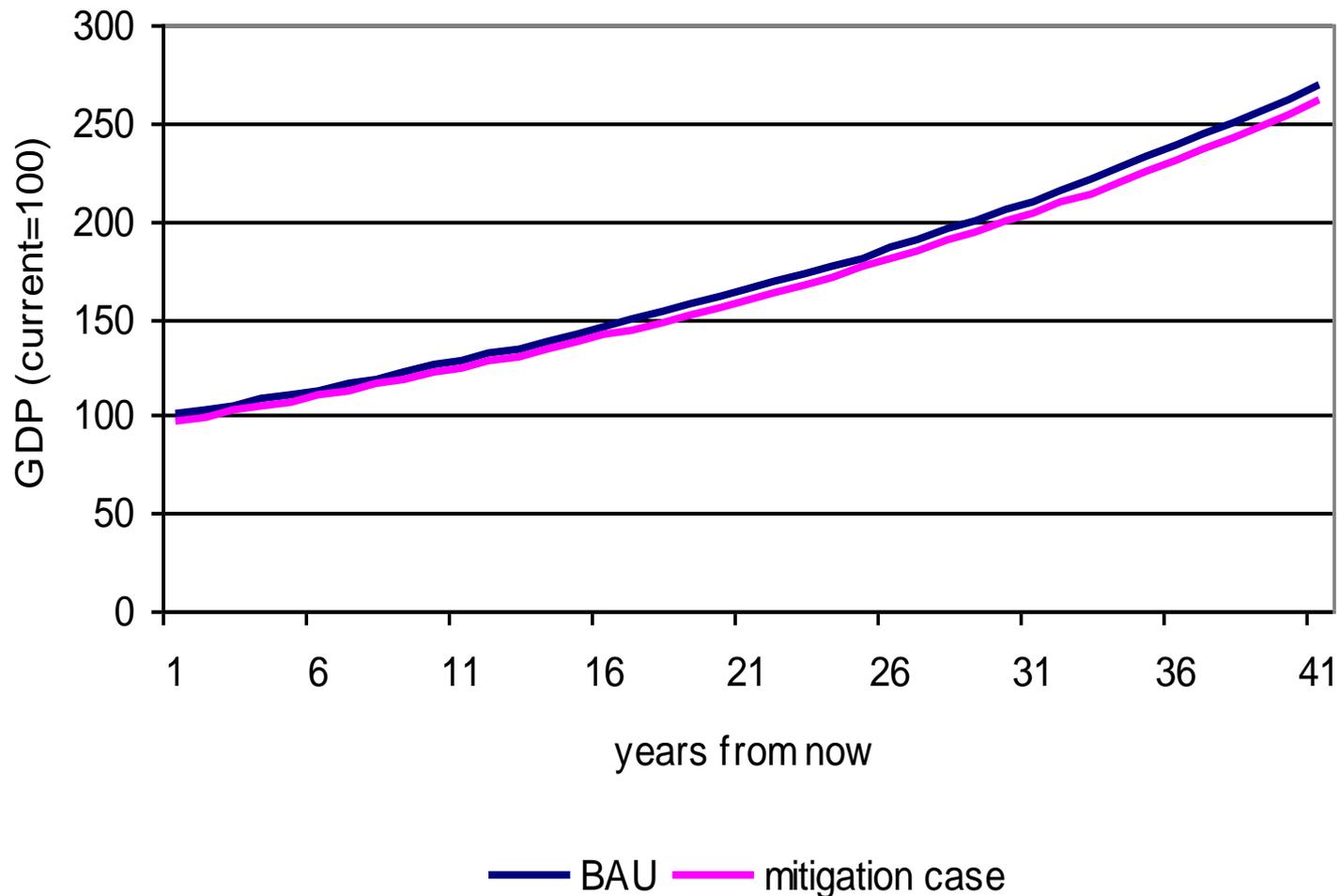
- Steady, but uneven progress on low-carbon technologies
 - Delays on CCS; maybe nuclear, electric cars
 - More objection to wind, but pipeline still strong
 - Cost of solar PV has fallen rapidly
- Fossil-fuel technologies fight back
 - A classic “sailing ship” effect?
 - US shale gas has made international coal cheaper, maybe gas in the longer term
 - Scope and effect of European shale gas still unclear, but likely smaller

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What do we mean by green growth?

Decarbonisation imposes a cost, but it is small relative to the global growth outlook



Is there a green growth opportunity?

- Literature talks about the aggregate (side-) benefits of moving to a green economy
 - Pigouvian market imperfections
 - Schumpeterian innovation
 - Malthusian constraints to growth
- Countries are more interested in their relative position (green competitiveness)
 - Korea's green growth law; China's seven strategic industries; European green jobs rhetoric
 - This ignores that both consumers and producers would benefit

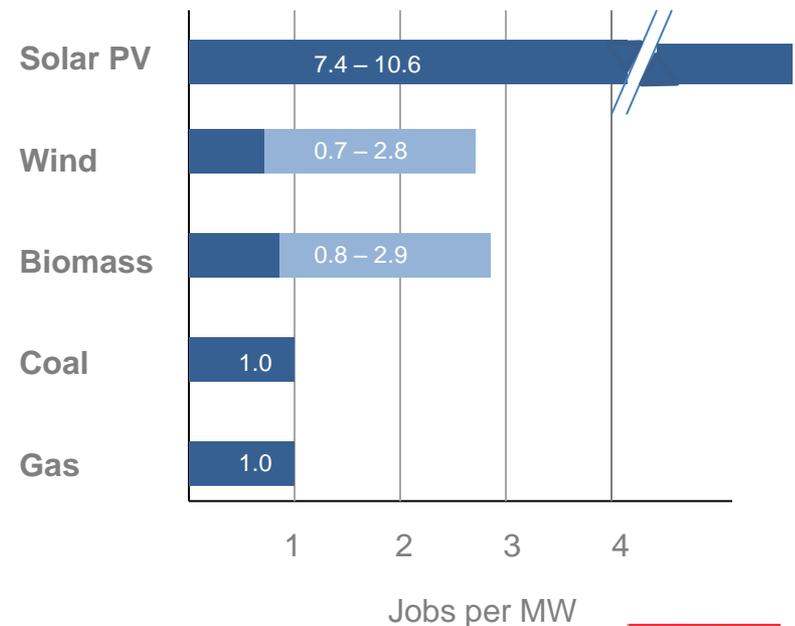
What is the scope for green jobs?

- Short-term job creation is good if there is slack in the labour market
- In the long term the quality of jobs (productivity) is more important

Salaries in carbon trading (2008)



Labour intensity of energy

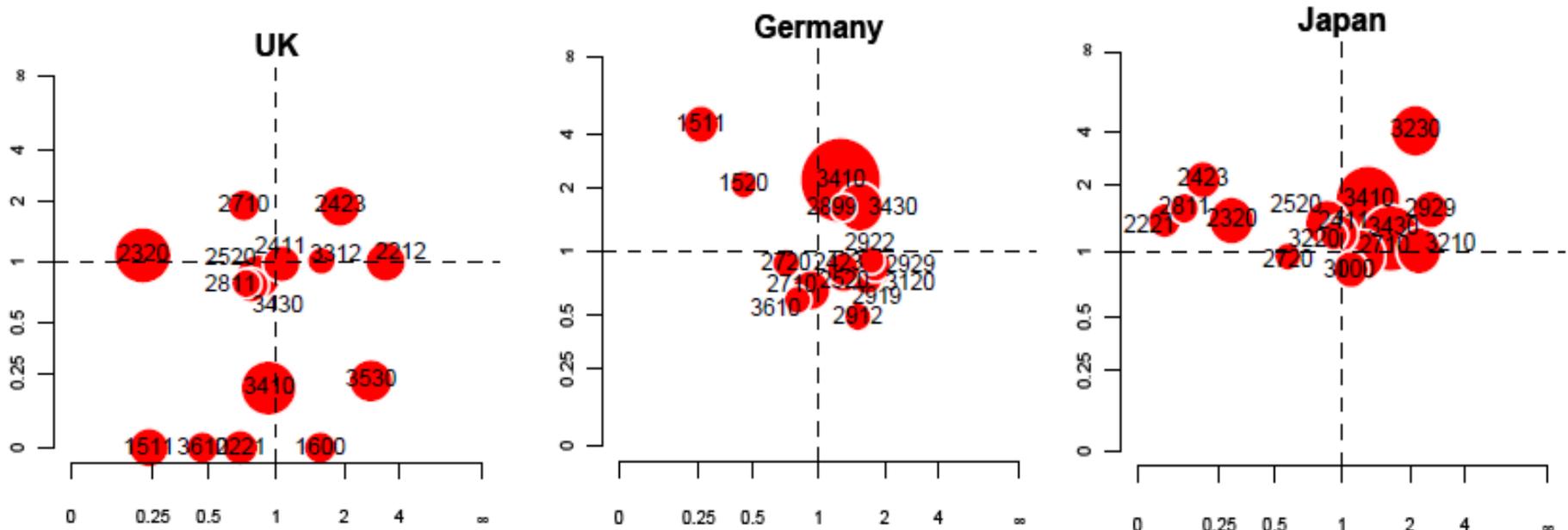


Sources: Carbon Salary Survey 2009; Kammen et al (2006)



Can the UK be a green growth leader?

Japan and Germany are better at green innovation, including in areas of comparative strength



Data for 110 manufacturing sectors (4-digit level). Y-axis measures green innovation; x axis measures current comparative advantage. In both cases a higher values indicate better performance and the global average is one. The size of the bubble represents current output

Source: Fankhauser et al 2012



Conclusions

- The economic case for climate action is about rational risk management, although ethics matter
- The current economic situation is no reason to delay the low-carbon transition
- Green growth is possible, although mitigation does impose a cost
- Political headwind is putting the Climate Change Act to the test

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