

Economic Issues

Dr. Jim Watson
Director

National Ambitions for Power Generation in the UK
London, 17th March 2010

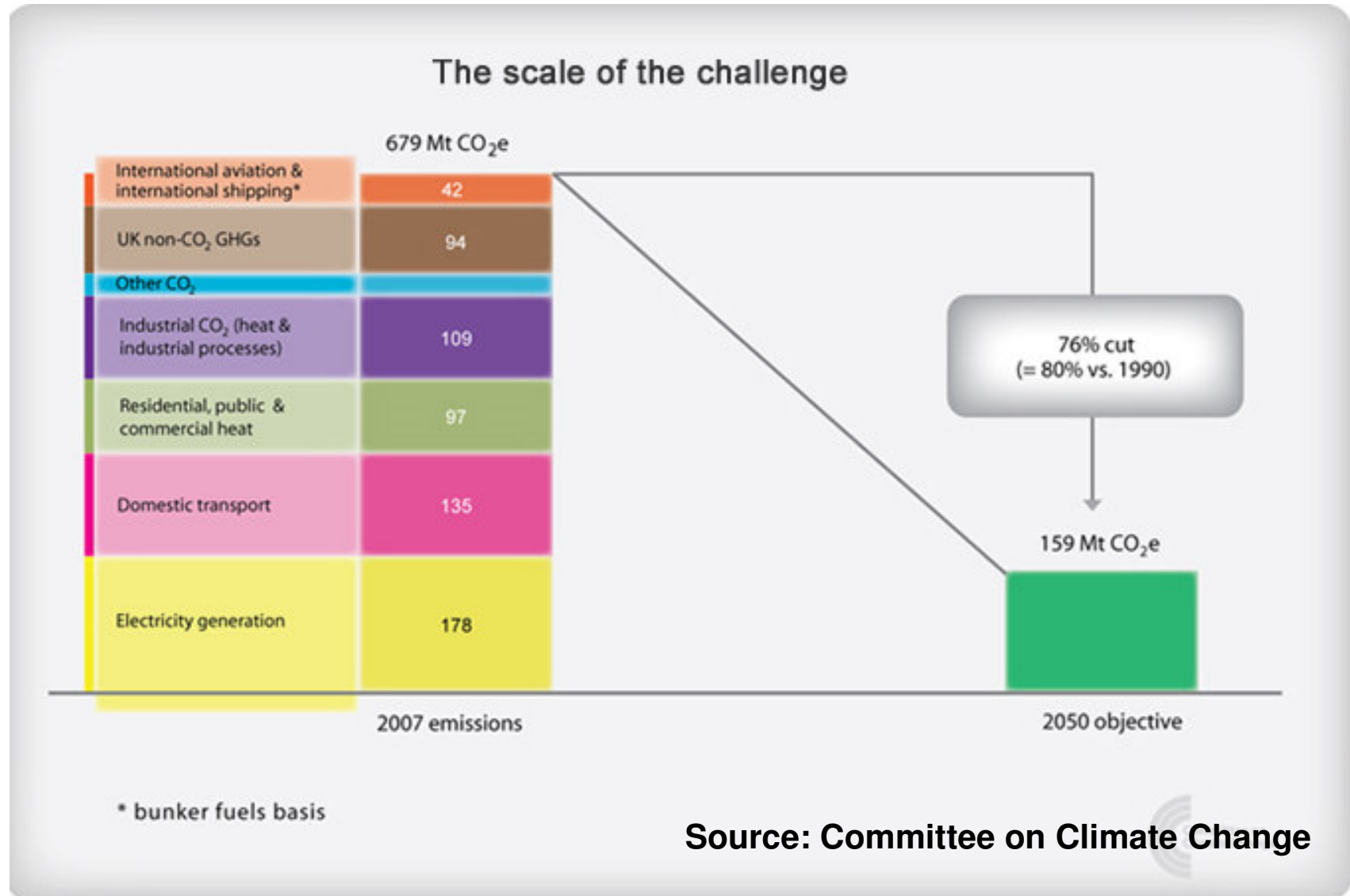
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Overview



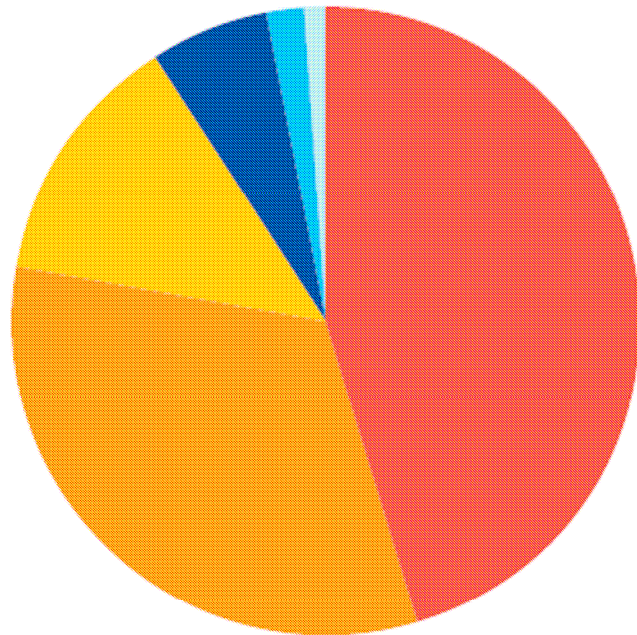
- 1. The economics of the challenge**
- 2. Some economic considerations**
- 3. Economics of policy incentives**

Economics of the challenge

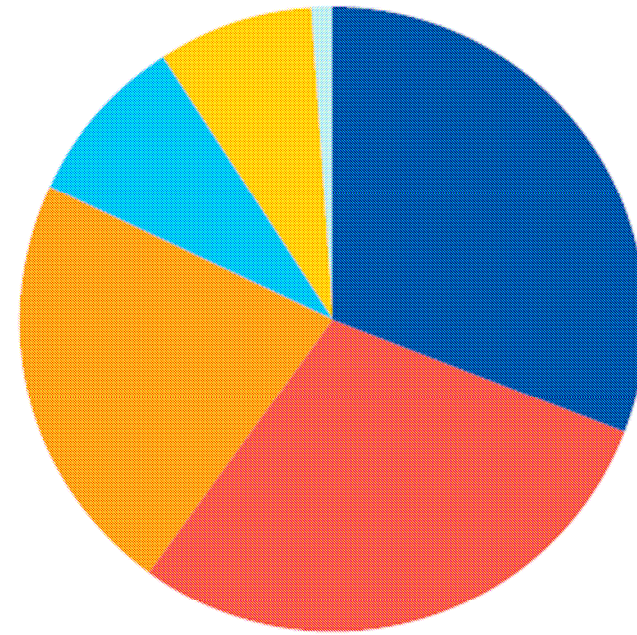
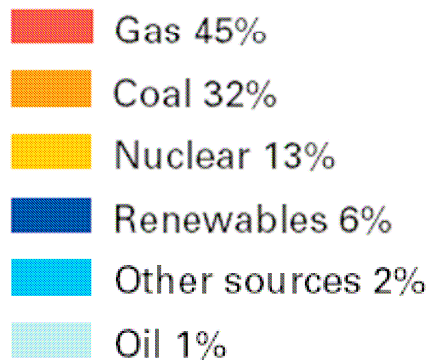


Economics of the challenge

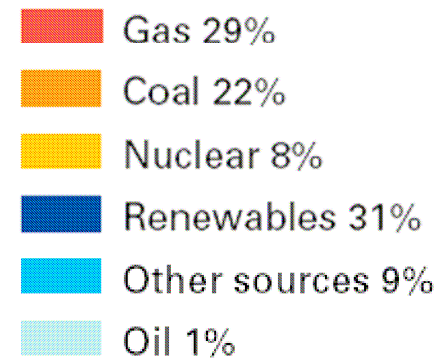
The Low Carbon Transition Plan to 2020



Today



2020



Economics of the challenge

Costs of LCTP to 2020 (govt estimates)



Lifetime net cost in current money (£ billion)

Power and heavy industry	48.7 to 53.0
Transport	6.4
Workplaces and jobs	-2.9
Homes and communities	-26.9 to -27.9
Farming, land and waste	0.1
Total	25.4 to 28.7

According to Ofgem, £200bn of investment in energy infrastructure required by 2020

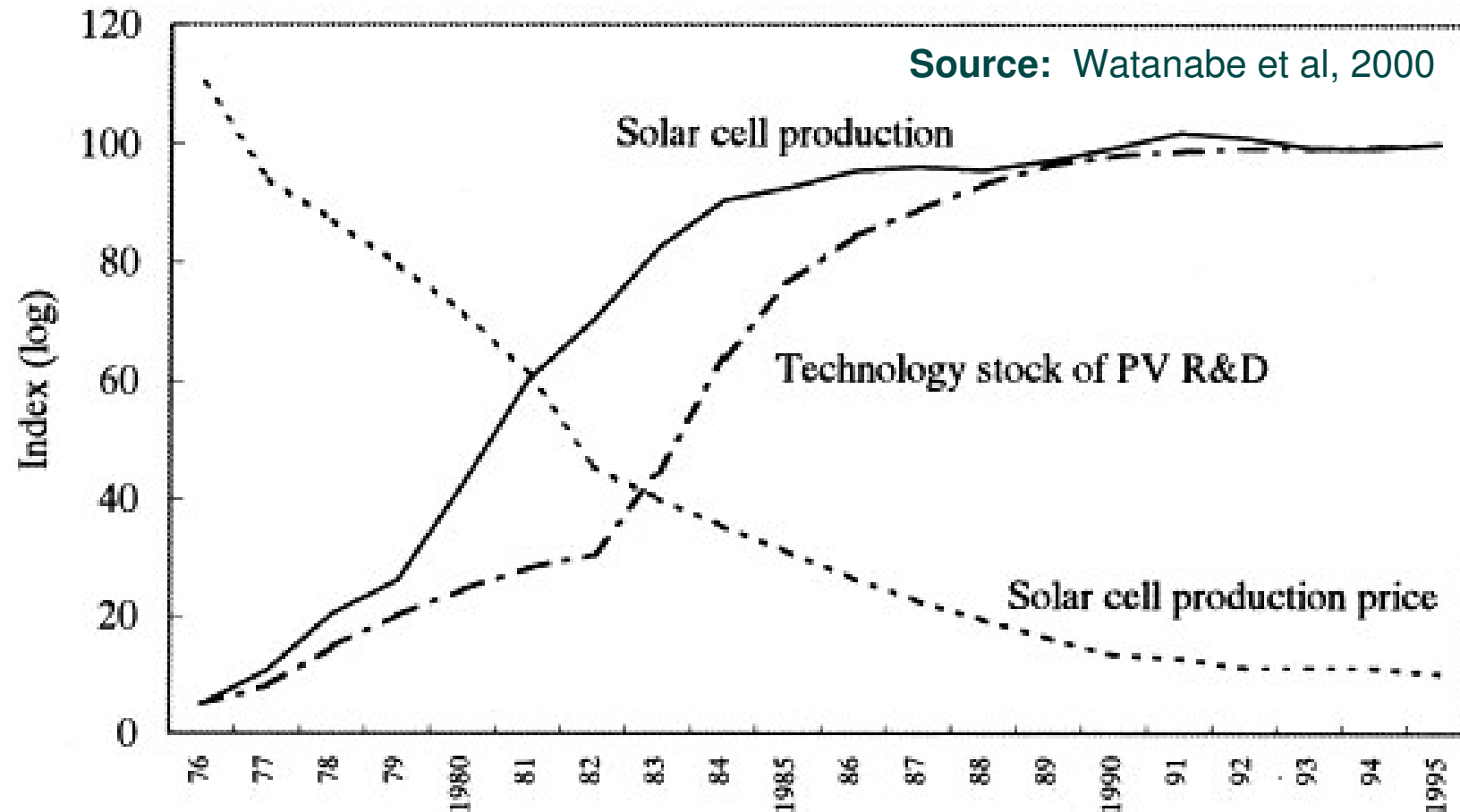
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Some economic considerations

- Saving energy is cheaper than building more plant, but tougher than the economics imply
- Whatever technology mix the UK ends up with, costs will be substantial – and consumer bills will rise significantly
- We are often optimists: technology supporters almost always assume costs will fall with experience. Not necessarily.
- Even if costs of technologies do fall over time, innovation can be very expensive for both public and private sectors
- Costs are only part of the economic story – financial and other risks are also crucially important for real investments

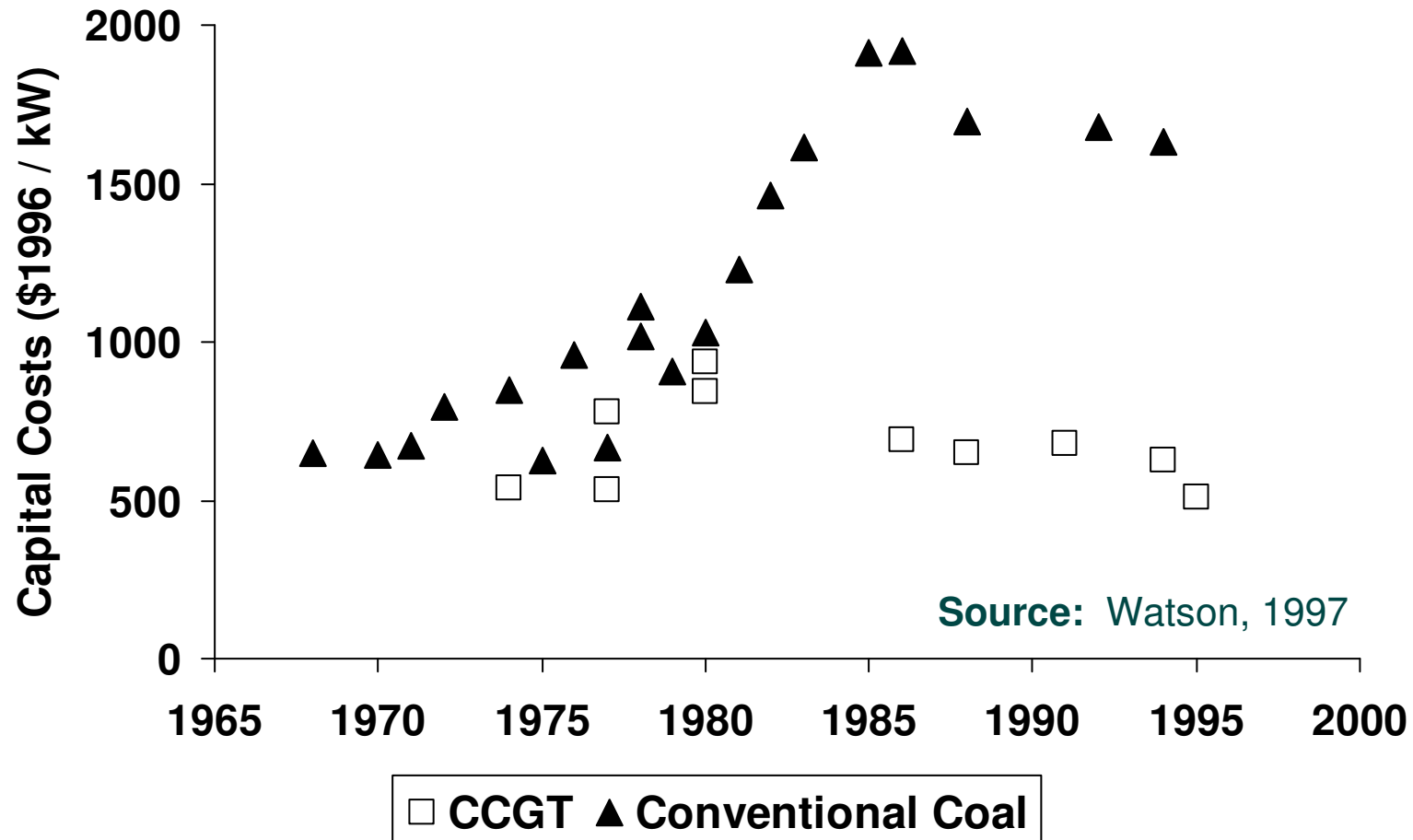
Some economic considerations

Costs can fall with experience



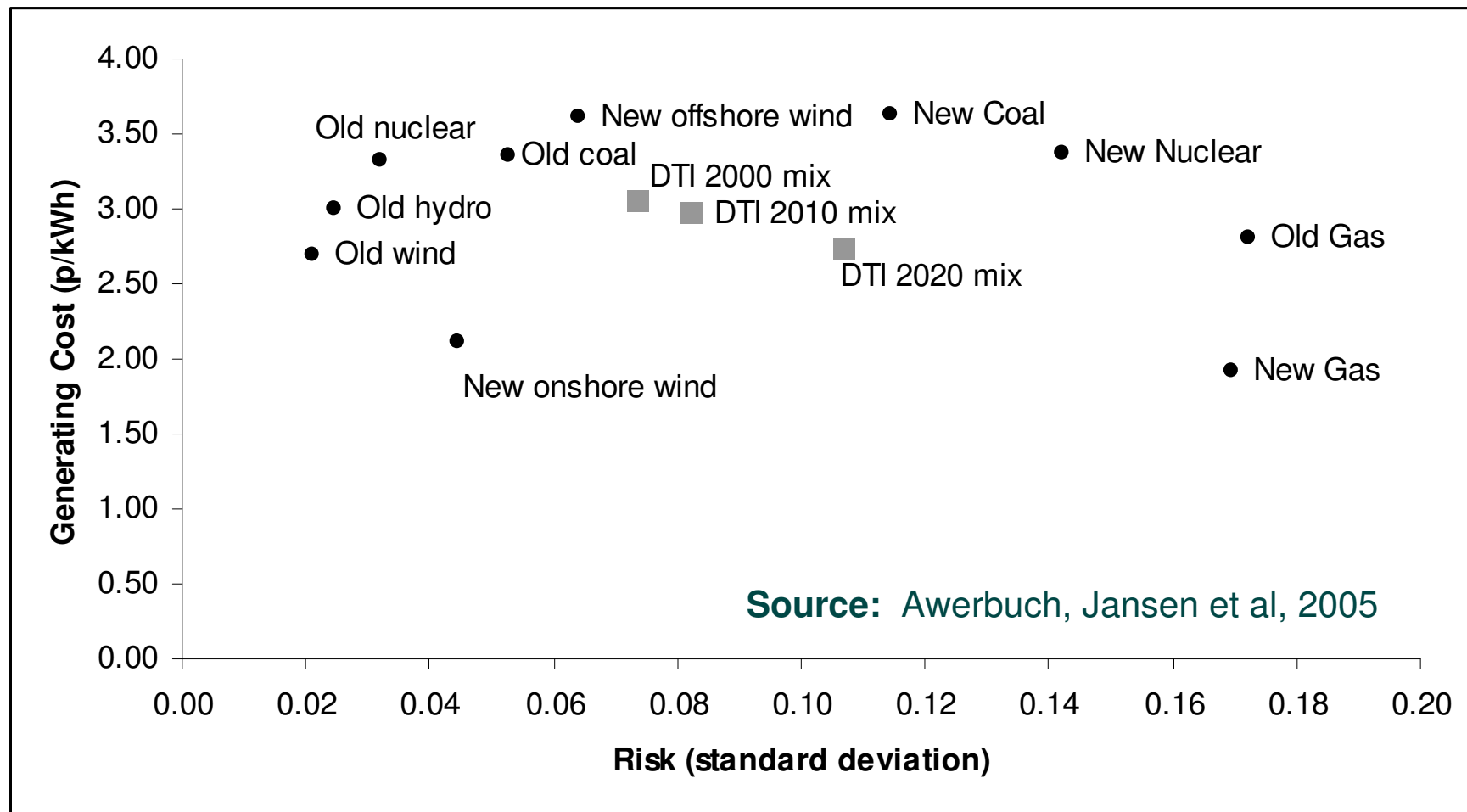
Some economic considerations

Costs can also rise ...



Some economic considerations

Need to consider costs and risks



- **UK energy policy heritage is important: emphasis on competitive markets wherever possible**
- **A lot of faith in EU emissions trading scheme as least cost way of meeting given carbon target**
- **It was always accepted that this is not enough (e.g. to spur innovation in renewables and CCS)**
- **Where additional policies have been implemented, market based economic instruments often favoured:**
 - Renewable energy supported by tradable green certificates (unlike many countries which have supported feed-in tariffs)
 - Household energy efficiency via incentive on suppliers (therefore focus on cheapest measures)

Economics of policy incentives

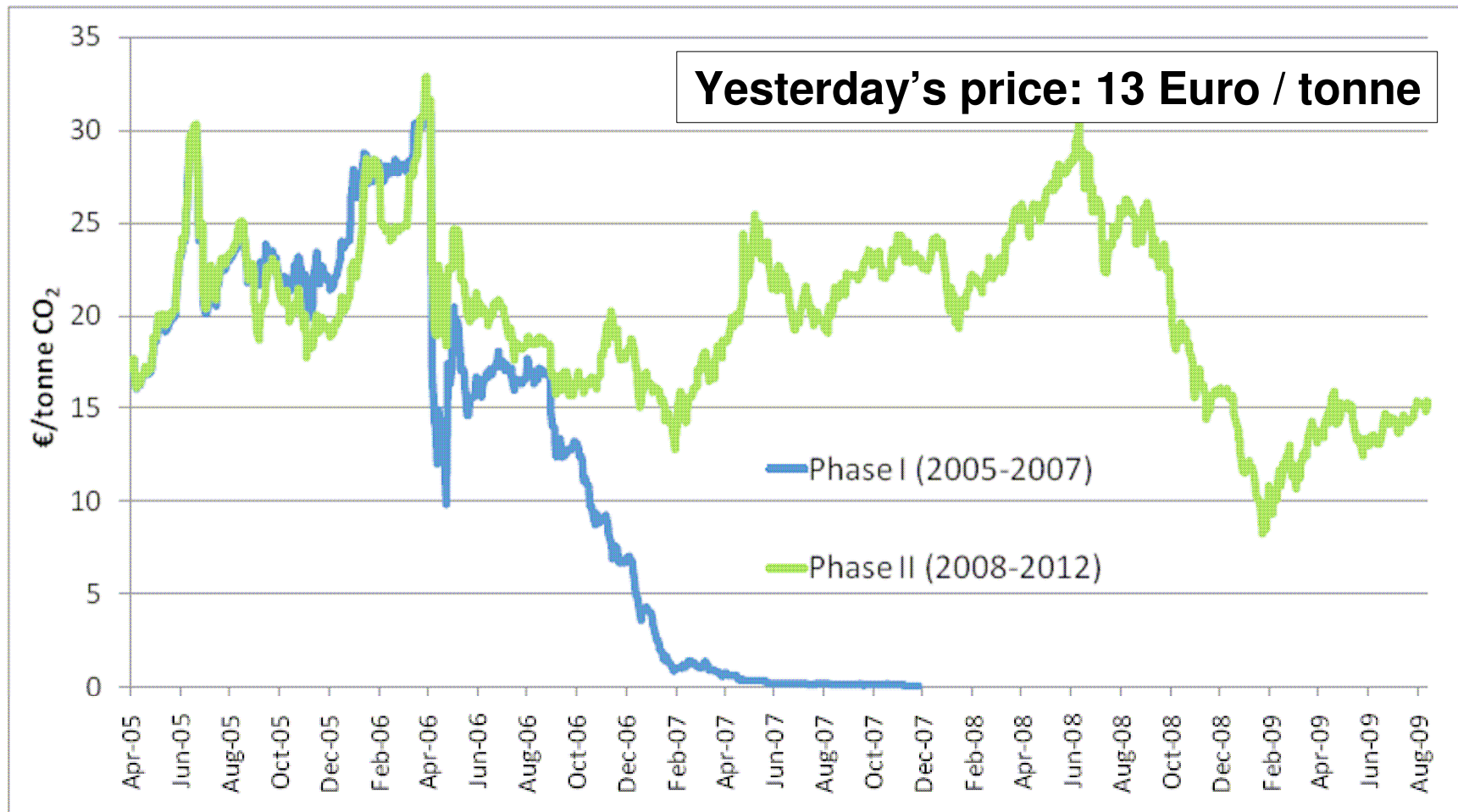
Emissions trading



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- So far, EU emissions trading scheme has had an impact, but largely on operational decisions (not investment)
 - Criticisms during early stages that the EU-wide cap on emissions has not been ambitious enough
 - Controversy over ‘windfall profits’ for utilities due to free allocations of permits. Auctioning set to increase
 - Carbon prices remain too low / volatile for investors
 - Tighter caps on emissions may help – but future is uncertain post-Copenhagen which is bad for investment
 - Debate in the UK/EU about price floor to correct for this – but government has resisted industry pressure so far

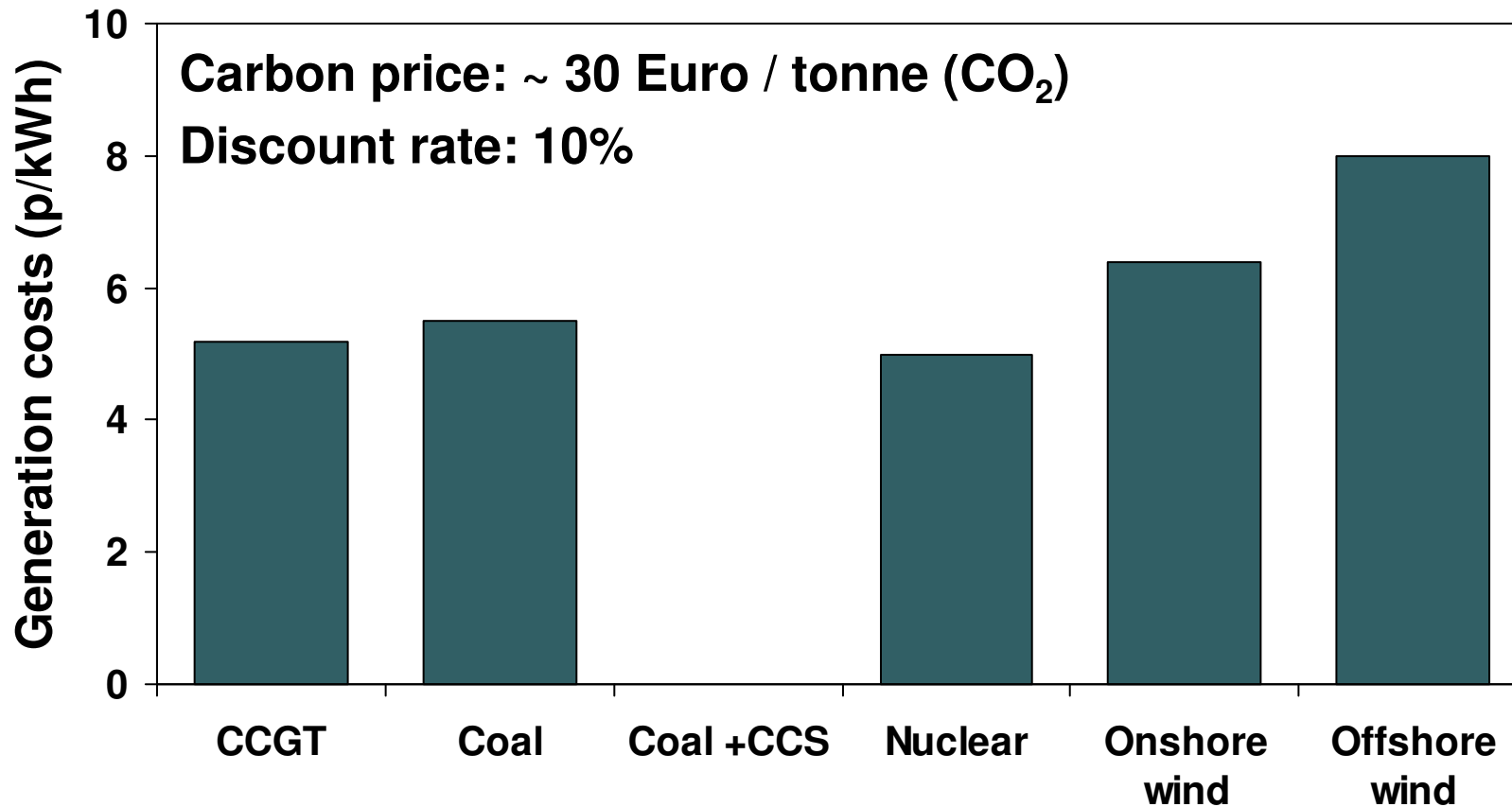
Economics of policy incentives

Emissions trading in reality



Economics of policy incentives

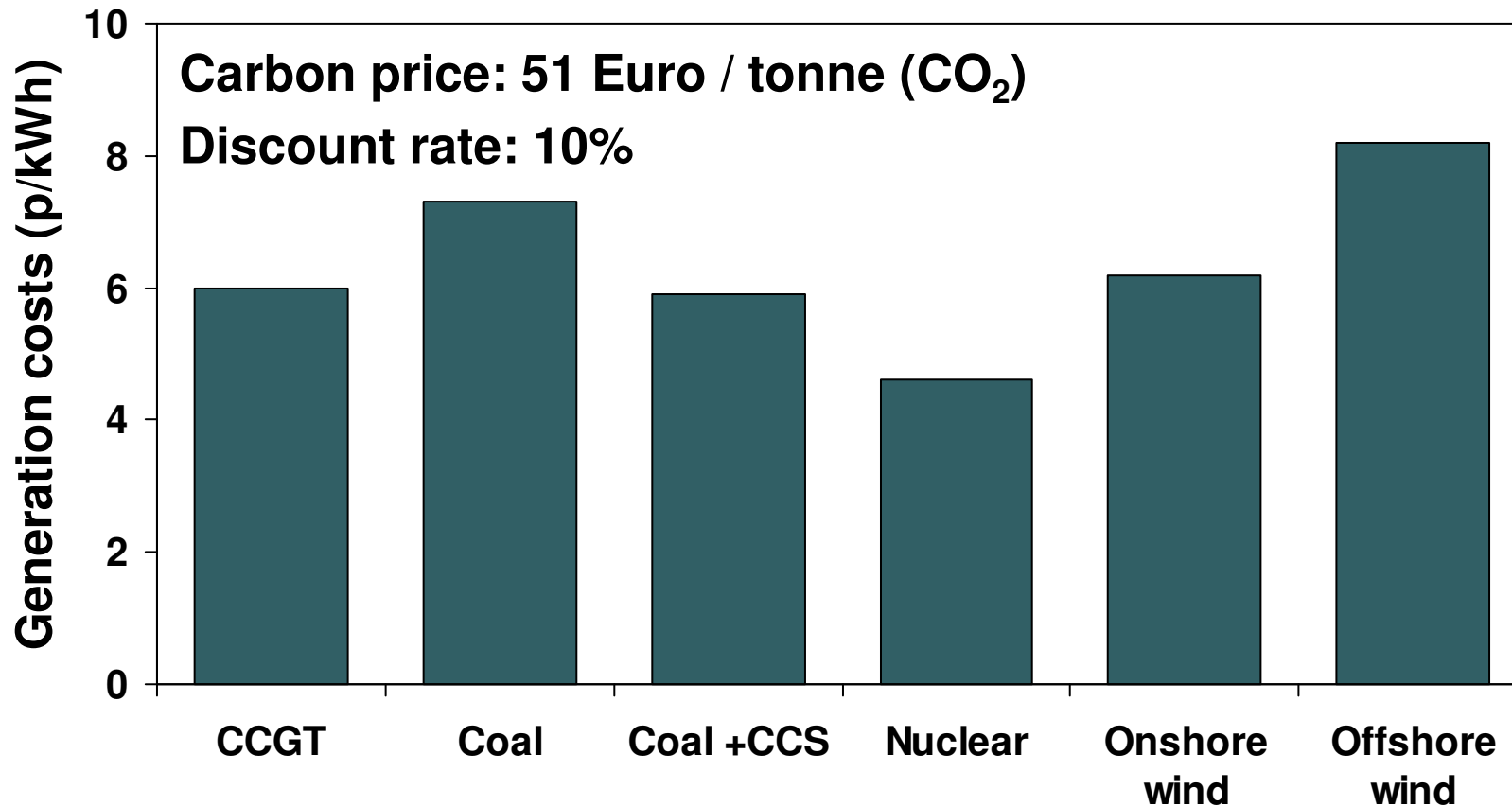
What if carbon prices were higher?



Source: Committee on Climate Change

Economics of policy incentives

What if carbon prices were higher?



Source: Committee on Climate Change

Economics of policy incentives

If trading is not enough, then what?

The logo of the University of Sussex, consisting of the letters 'US' in a stylized, bold, serif font.

University of Sussex

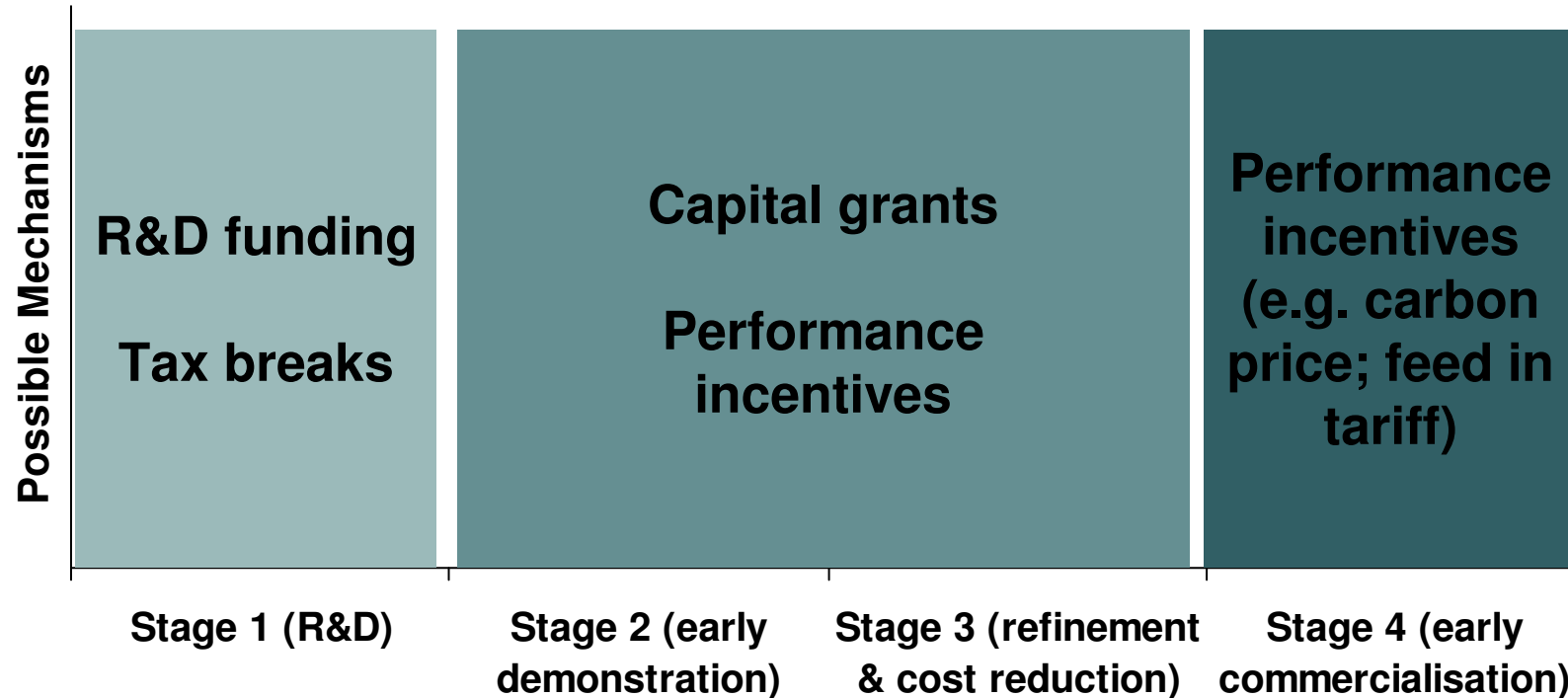
-
- Need for tailored policies for innovation and to counter historic 'lock-in' to centralised energy infrastructures
 - But if such policies focus on low carbon technology deployment, also need adjustments in the EU ETS cap

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Economics of policy incentives

Funding innovation and deployment



Economics of policy incentives

If trading is not enough, then what?



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- Increasing calls for comprehensive energy market reform to ensure timely investment (e.g. Project Discovery)
 - But risks of more centralised decision making are significant:
 - Risk of bias towards large, supply side investments with risk transfer to consumers
 - Risk of perpetuating lock-in and closing off important low carbon options (e.g. decentralised options & demand side)

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Summary



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- **Costs of low carbon transition will be high and bills will rise. But investment is needed anyway**
- **Multiple uncertainties mean that assessing economics of low carbon transition is difficult**
- **Beware of ‘appraisal optimism’ and neglecting risks**
- **Emissions trading a good solution in theory but has not delivered in practice: necessary but not sufficient?**
- **Bespoke policy incentives required for innovation and to counter historic lock-in to centralised infrastructure**
- **Good case for energy market overhaul, but risk of re-creating the CEGB!**

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Thanks

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