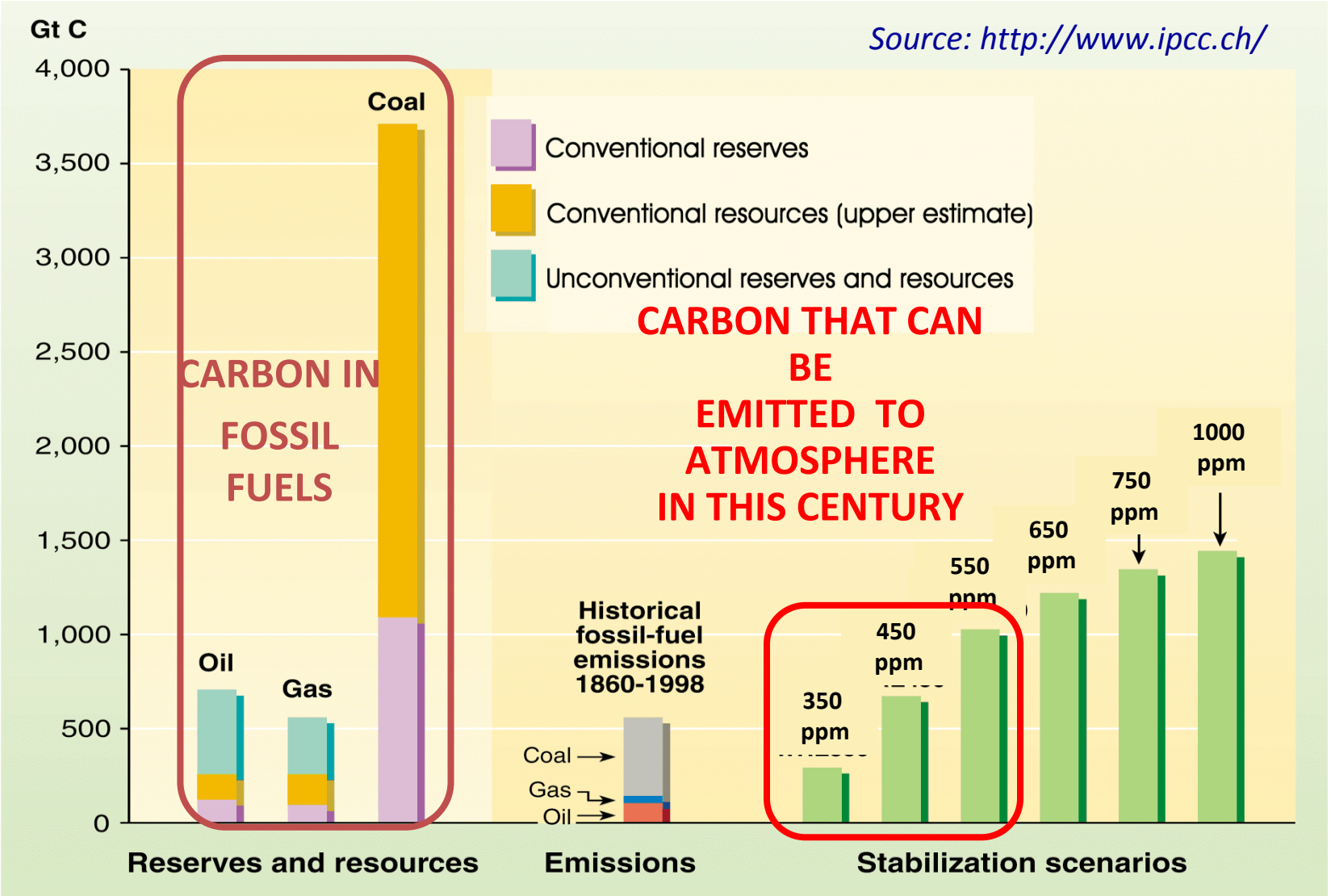
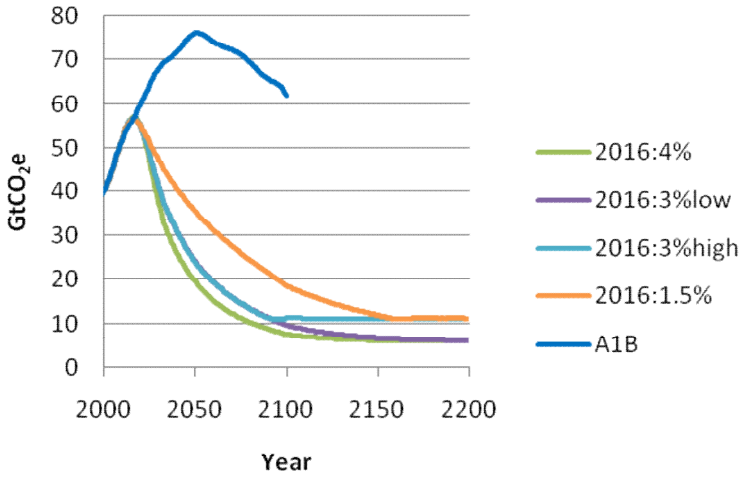
CCS is the only way that fossil fuels can be used "safely"

'Unconventional oil' includes oil sands and oil shales. Unconventional gas' includes coal bed methane, deep geopressured gas etc. but not a possible 12,000 GtC from gas hydrates.



UK Climate Change Committee (2008): Preferred emissions trajectories



We have a limited "carbon pie"
if we are to avoid the possibility of very dangerous climate change.

Global emissions should peak before 2020 & drop rapidly after that.

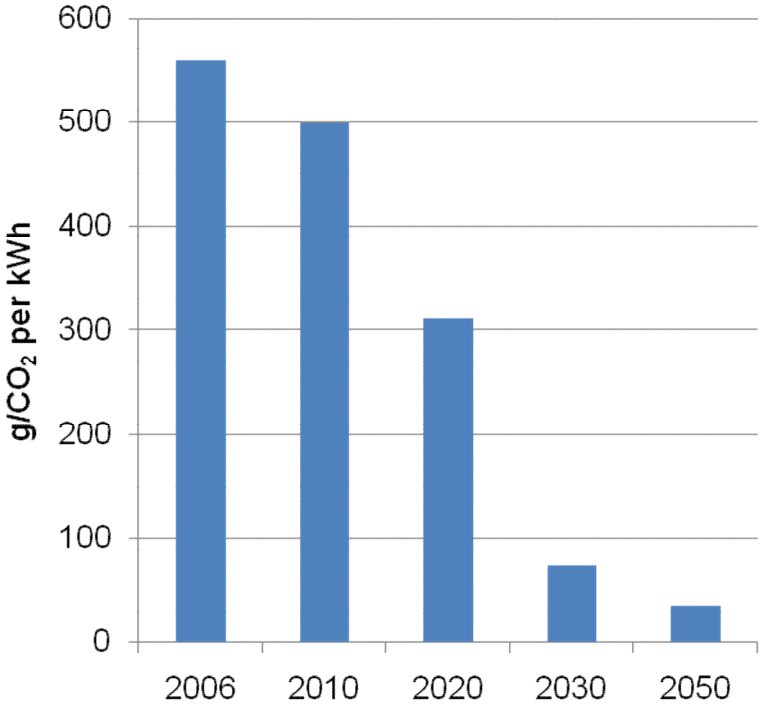
In line with the G8 commitment to halve emissions by 2050.

2.1-2.6 tCO_2e per capita in 2050

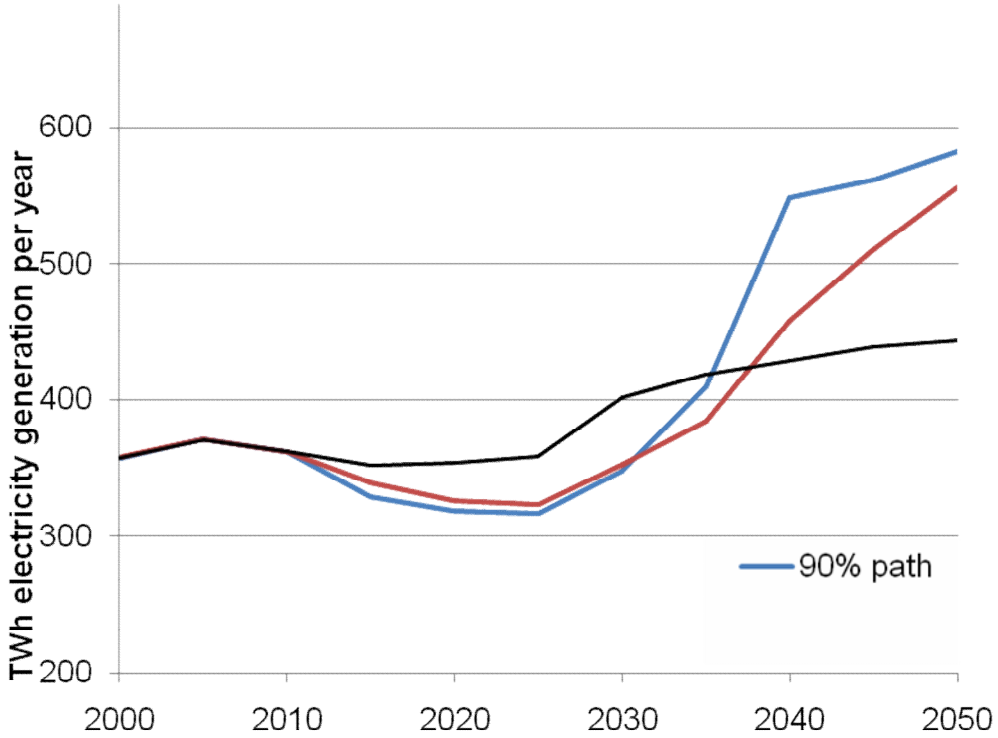
For the UK this target implies an 80% cut from 1990 levels:
it has been agreed by Parliament & is now in UK law

(iii) Meeting required reductions (cont.): power sector evolution

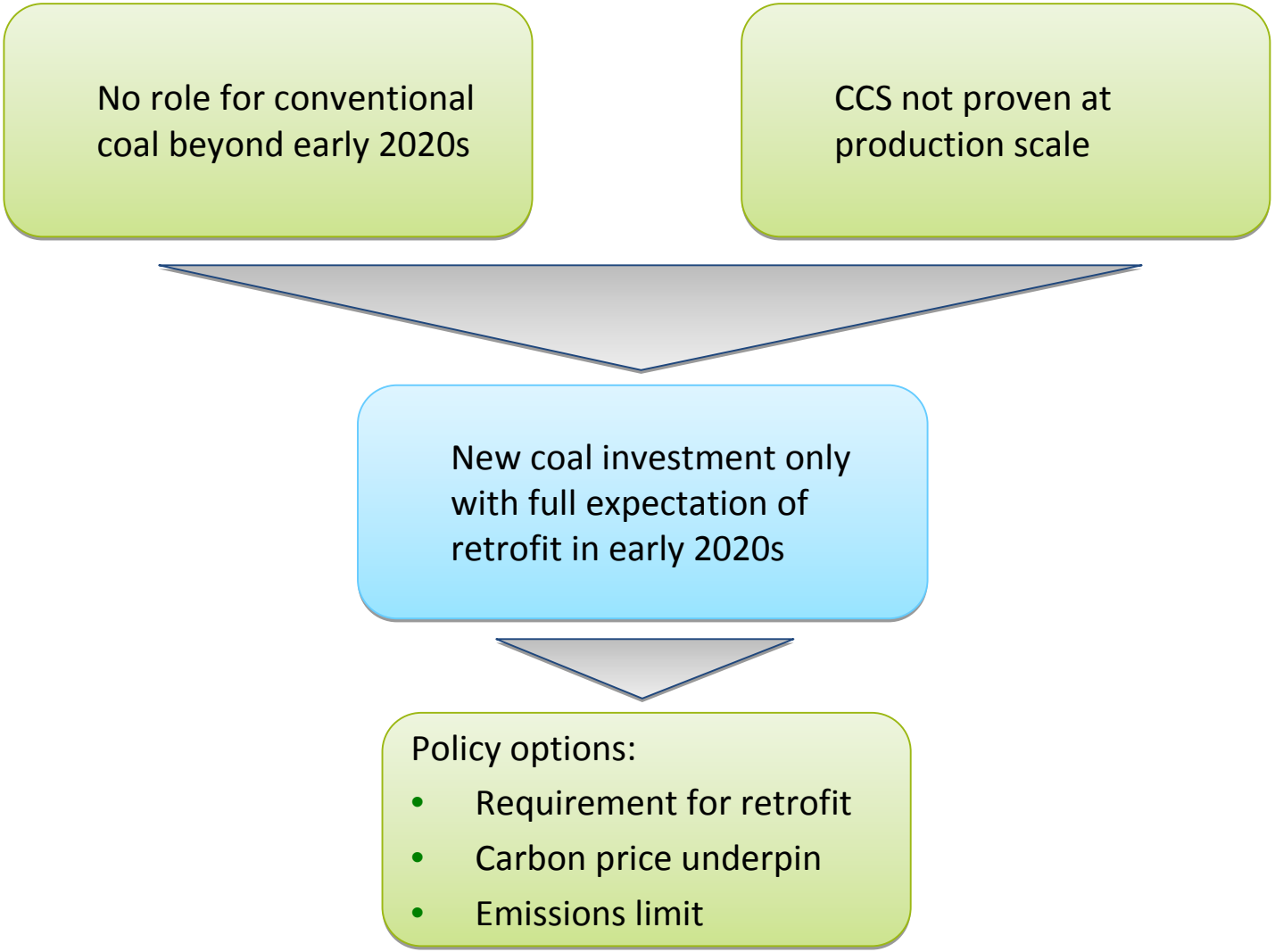
Emissions intensity to 2050



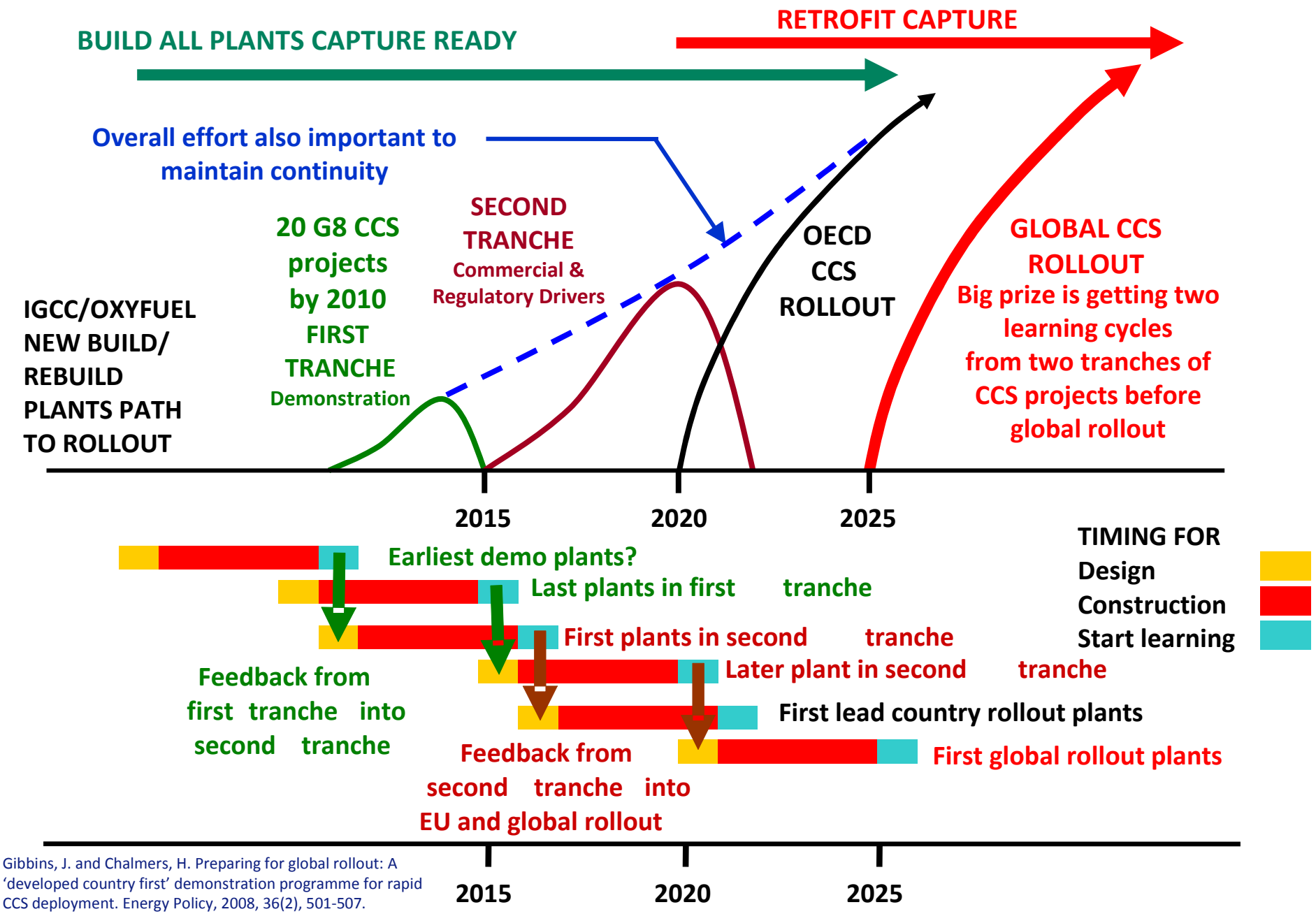
Power generation to 2050



CCC position on coal generation



Making CCS a reality – the big picture



Gibbins, J. and Chalmers, H. Preparing for global rollout: A 'developed country first' demonstration programme for rapid CCS deployment. Energy Policy, 2008, 36(2), 501-507.

Implementing CCS in the UK

- 'First tranche' demonstration projects, 300-400MW scale, being discussed
- First one is the UK CCS Competition – still progressing, three bidders for one 300MW project, competitive so a lot of secrecy, costs order £1bn, no final decision expected soon
- Three more 300 MW projects by 2020 suggested by Ed Miliband, funded by a levy on electricity, would need new legislation to pass in the autumn
- Utilities are reluctant to commit to new coal plant for CCS demonstrations without knowing how the additional costs of future compulsory CCS can be met
- Experience with offshore wind (similar cost to first-of-kind CCS) shows that there is no confidence that the EU emission trading scheme alone will cover the additional costs of generating low-carbon electricity in the foreseeable future
- EU has offered €180m to one UK CC project (3 competition entries plus Hatfield IGCC project) – not clear if this will be additional money (7 grants across EU)
- EU has allocated funds from the sale of 300 million emission allowances (currently worth €4.5bn) to support CCS and 'innovative renewable energy technologies. This is in support of a plan for up to 12 EU CCS projects by 2015.
- UK Advisory Committee on Carbon Abatement Technology has recommended 5GW of CCS capacity by 2020 (about 10% of generation) – these would be 'second tranche' semi-commercial plants, requiring a market-based funding mechanism to spread the costs

Courtesy Jon Gibbins

CCS is a climate change response, not ‘oil crisis’ technology like renewables

Google News archive statistics for ‘energy’ plus other stated term.

Renewables attracted attention in 70's oil crises as an alternative source of energy, not because of a low CO_2 footprint.

In contrast CCS is undertaken solely to cut CO_2 emissions, which has been a priority for a much shorter period.

Proper support for CCS implementation has not had time to develop.