



Long-term decarbonisation scenarios in EU Member States

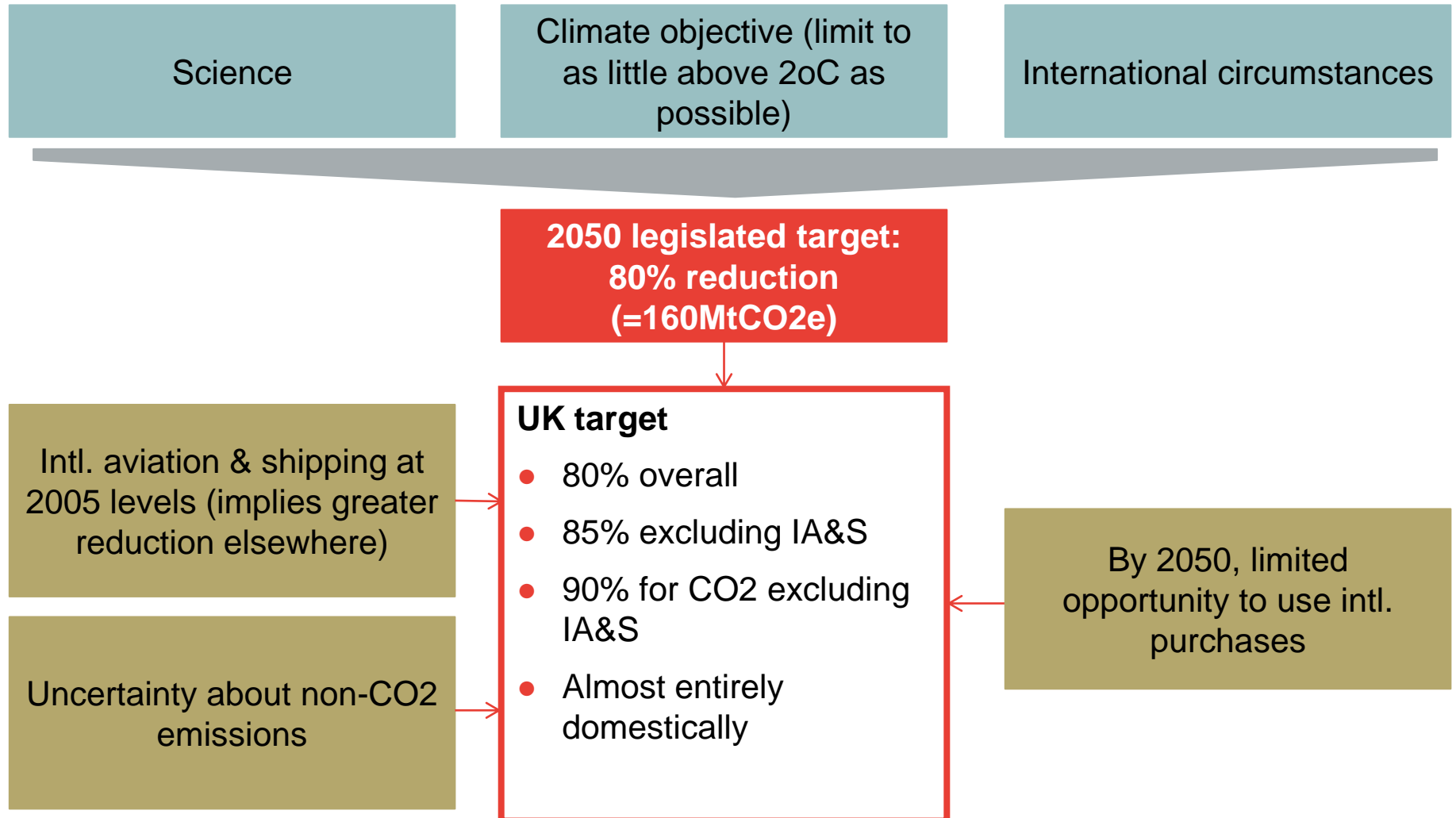
UBA workshop materials

9 November 2015

Overview of presentation

- Policies and institutions in the UK
- Power sector developments, issues and challenges

The Climate Change Act sets out “legally binding” targets for long term UK emissions...



... with the Climate Change Committee acting as the government's advisor on long term pathways

Role of the Committee

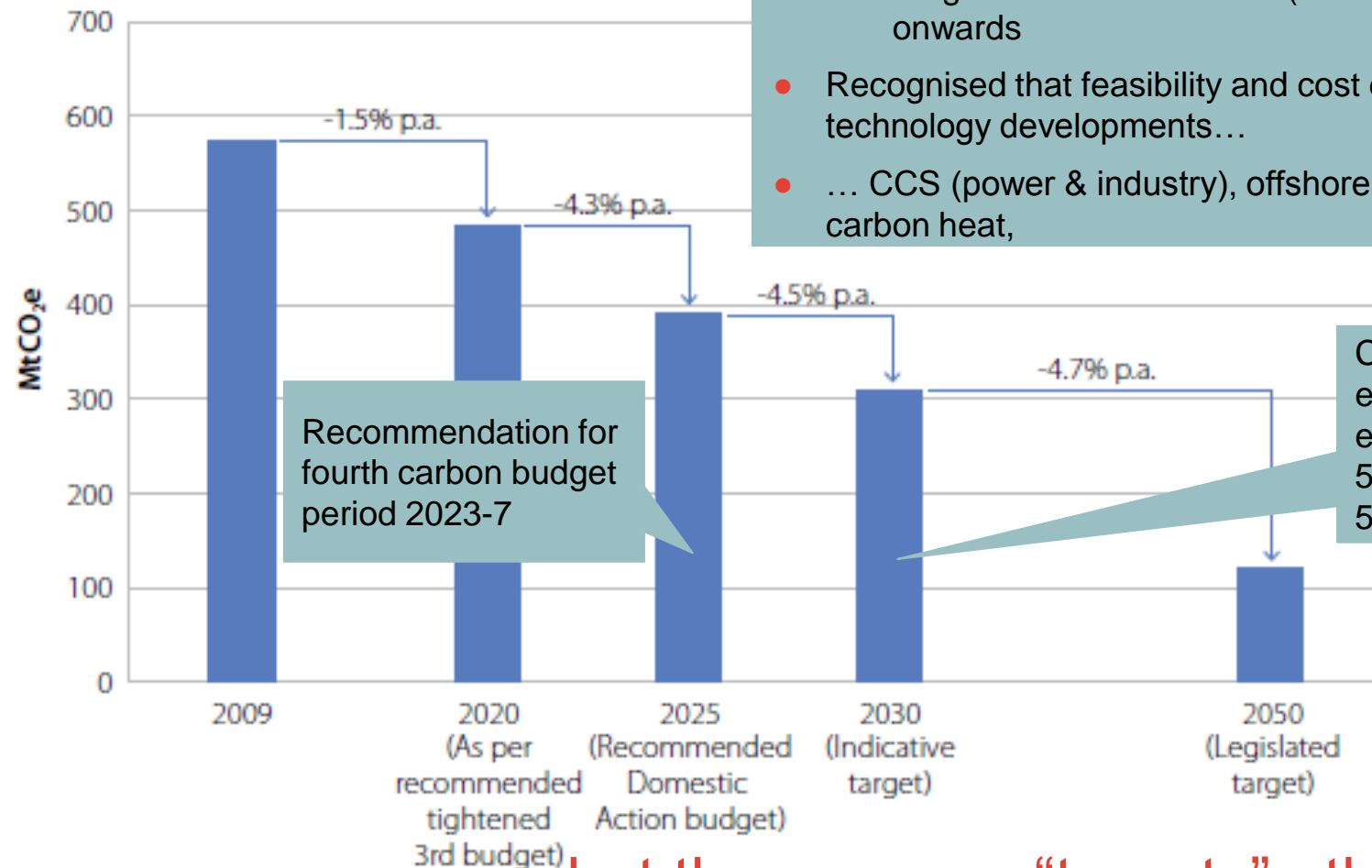
- Advise on amendments to target
- Level of carbon budget for each “budget period” (5 years) and reviews of previous decisions
- Split of carbon abatement
 - National / international
 - Traded / non-traded sectors
 - Specific sectoral opportunities
- Reports on progress

Criteria for setting budgets, including

- climate science
- technology developments
- impact on economy and competitiveness of specific sectors
- fiscal circumstances
- social circumstances (esp. fuel poverty)
- Impact on energy supplies
- circumstances at European and international level

The CCC set out profile and a proposed strategy for the long term...

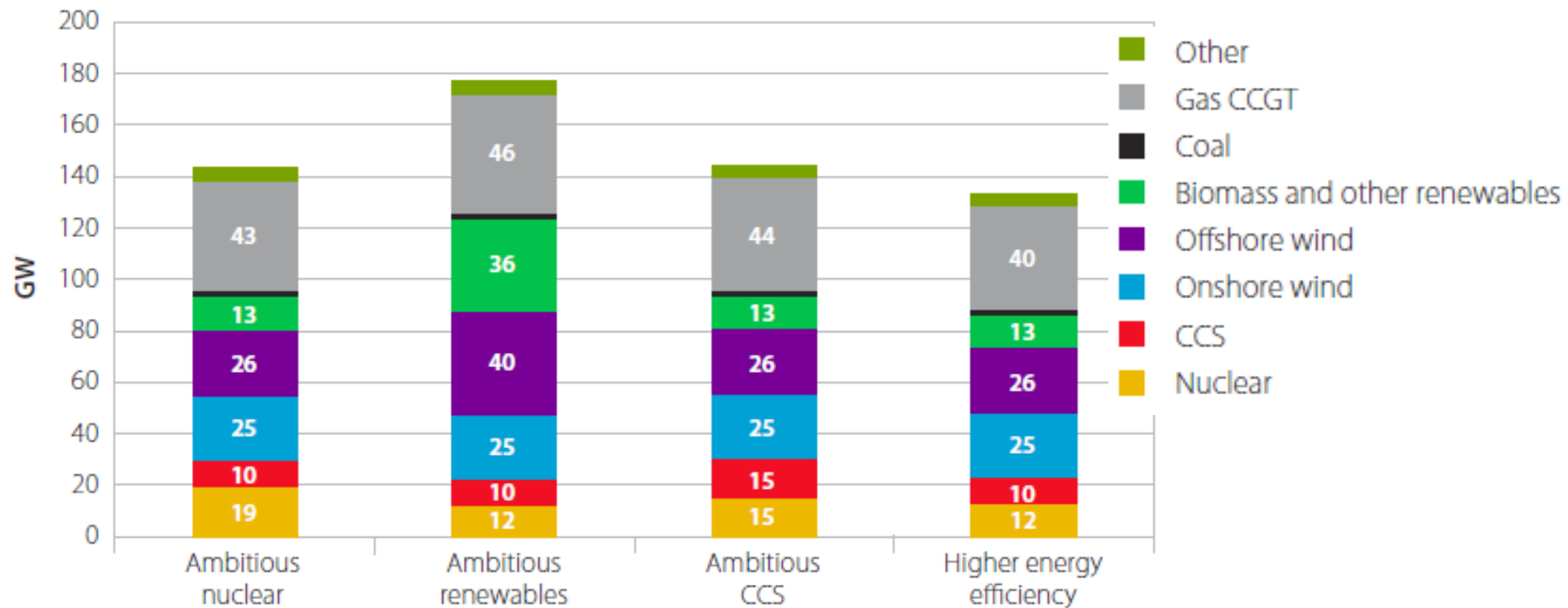
- Overall abatement varies by sector
 - Early power sector decarbonisation in 2020s
 - Large scale electrification (heat / transport) in 2030s onwards
- Recognised that feasibility and cost depends on technology developments...
- ... CCS (power & industry), offshore wind, EVs, low carbon heat,



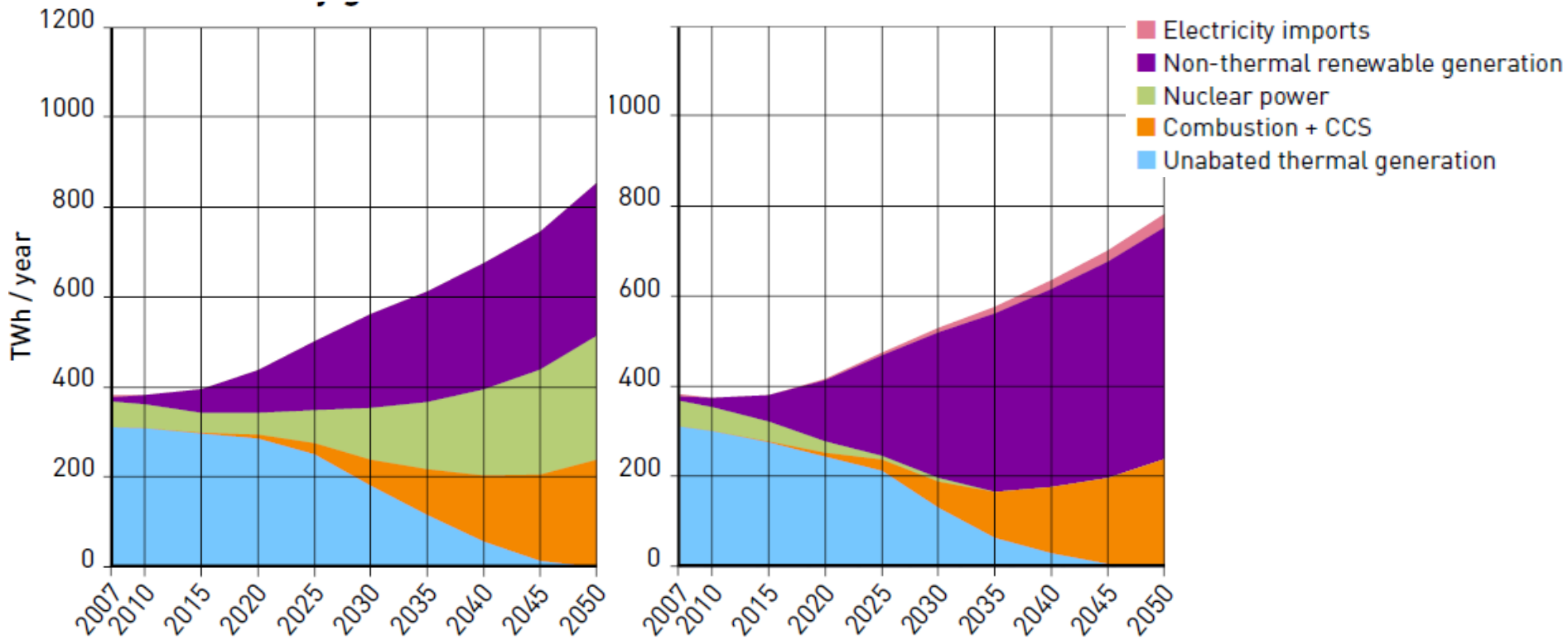
CCC advised that electricity in 2030 emit no more than 50g of CO₂/kWh (c. 500g today)

... but there are no “targets” other than 2050

After 2020, there are lots of different power sector “scenarios” for 2030...



... and even more “pathways” for 2050...



... all of which basically say we need some combination of nuclear, RES, CCS and imports

The (previous) government implemented “Electricity Market Reform” to deliver 2020 and beyond...

CfDs for low carbon

- Lock in market reference price for low carbon plant, including nuclear (customer bears wholesale price risk)
- Reduce investor risk and hence reduce cost

Emissions Performance Standard

- Moratorium on new unabated coal

Capacity auction

- Pay for capacity rather than energy (as high RES penetration will mean backup thermal plants will run less)
- Support investment in new plant required for security of supply

Carbon price support

- Set a minimum price for carbon for all generators

... but implementing policy has proved more difficult than making it

CfDs for low carbon

Emissions Performance Standard

Capacity auction

Carbon price support

- Wind cleared in first auctions at lower price than previous contracts – a win for the customer
- Solar plants cleared in first auctions at a very low price, and then walked away – a lesson in auction design
- The government now expects they have spent up to their (Treasury agreed) limit on subsidy, so cancelled the second year of allocations...
- At about the same time they also
 - removed subsidies for onshore wind (rural votes)
 - reduced subsidies for solar PV (cost)
 - reduced small scale FITs (cost)
 - removed a tax support on RES (austerity, leakage to overseas plant)
 - ended the Green Deal (cost, effectiveness)
 - removed the Zero Carbon Homes target (housing crisis)
- Discussions are now commencing on a new subsidy “envelope” post 2020

... but implementing policy has proved more difficult than making it

CfDs for low carbon

Emissions Performance Standard

Capacity auction

Carbon price support

- Existing coal plant have been running increased hours
 - coal vs. gas switch
 - risk of higher carbon price support – use up limited hours early
- Persistent government rumours that something must be done (e.g. legislate coal off the system)...
- ... creating difficulties among existing coal plant trying to build a business case to fit SCR equipment to comply with IED

... but implementing policy has proved more difficult than making it

CfDs for low carbon

Emissions Performance Standard

Capacity auction

Carbon price support

- First capacity auction cleared at a price far below expectations – a win for the customer
- C. 1GW of capacity in small “diesel farms” – c. 20 MW diesel power stations that are not expected to run frequently
- Further 1.8GW in new CCGT plant, which few in the industry expected to be economic...
- ... and which the promoter has subsequently said will not be built as they now see it is not economic (so they prefer to pay the c. £8m penalty for walking away) – a lesson in auction bidding!

... but implementing policy has proved more difficult than making it

CfDs for low carbon

Emissions Performance Standard

Capacity auction

Carbon price support

- Initial plan was for price floor to escalate steadily to “target consistent” carbon price (c. £70/tonne)
- Its escalation was abandoned amid political worries about energy prices...
- ... and the fact it creates a windfall for existing nuclear and imported energy by raising wholesale price
- And in terms of its effect on low carbon generation
 - CPS is a tax – and so is not considered as bankable by anyone
 - All low carbon is procured through support regime (i.e. CfDs)
- Though it does bring in c. £2bn of revenue for the government

Sustainability, security and cost – its just about priorities!

Cameron says 2020s decarbonisation target “extremely unwise”



Last updated on 15/01/2014, 11:52 am

Prime Minister says UK must develop carbon capture technologies before committing to tough emission goals



David Cameron calls high-level talks on energy crunch

Kiran Stacey and Jim Pickard

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Downing Street has called a top-level meeting next week to discuss the UK's growing energy supply crunch, the Financial Times has learnt, as new figures lay bare how close the gap is between supply and demand.

David Cameron, the prime minister; George Osborne, the chancellor; Amber Rudd, the energy secretary; and Oliver Letwin, one of the prime minister's top troubleshooters, will meet next week to discuss the problem.

Support measures on way to help UK steel groups tackle energy costs

Jim Pickard and Michael Pooler

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Comments





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