CARBON CAPTURE & STORAGE: ROLE FOR R&D

CARBON BUDGETS

15 October 2015

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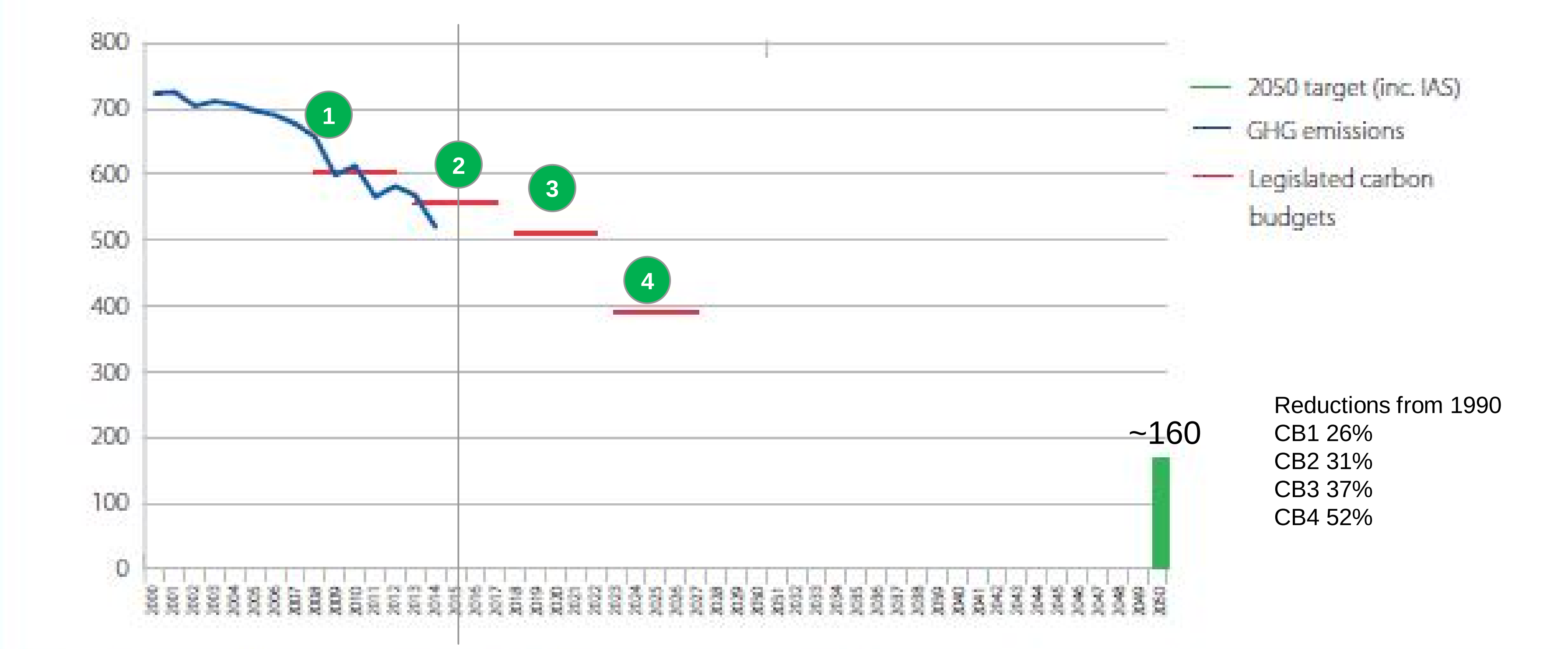
IT JUST GETS HARDER

Figure 2. UK GHG emissions against legislated budgets and 2050 target ($MtCO_2e$)

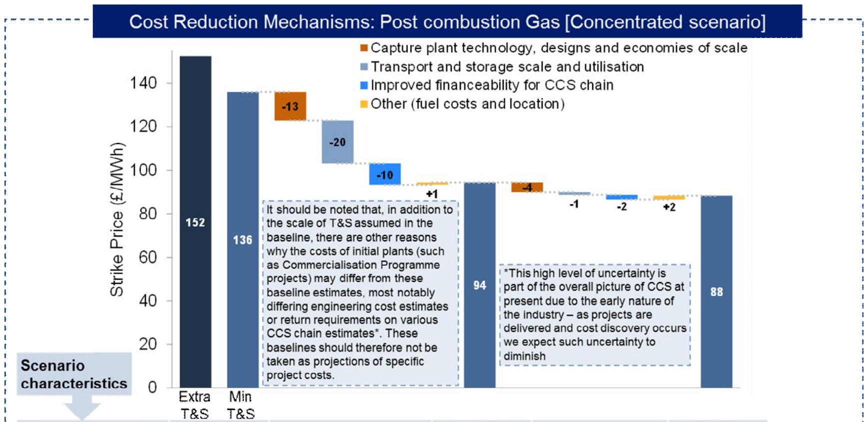


Source: DECC Provisional UK greenhouse gas emissions national statistics 2014, CCC calculations
Note: GHG emissions are presented on a total (gross) basis, while carbon budgets relate to the net carbon account. IAS = international aviation and shipping.

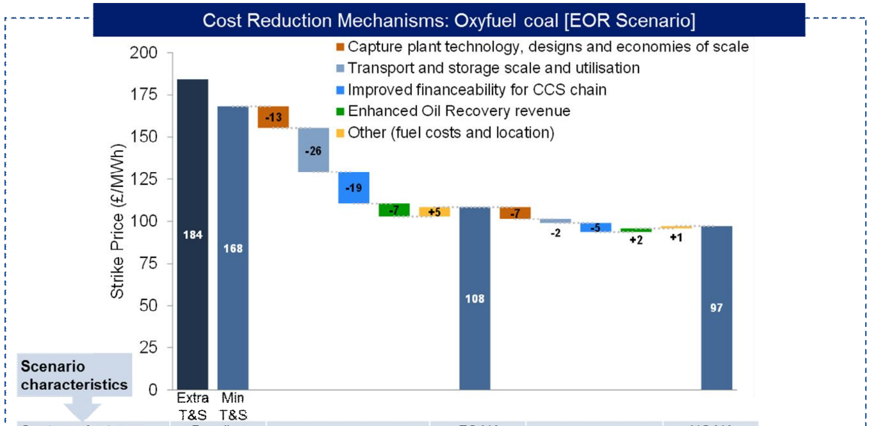
From CCC report to Parliament June 2015

COST REDUCTIONS KEY TO CCS PARTICIPATION

Clear opportunity for CCS to compare with other low carbon technologies



Capture plant gen.	Baseline		FOAK		NOAK
Commissioning Year	2020		2025		2030
CCS Plant #	1		~6		~15
CCS capacity (GW)	0-1 GW		~2-3 GW		~5-10 GW



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KEY POINTS FROM RECENT CCC STUDY

CONCLUSIONS

- A steady roll-out of a significant capacity of UK based CCS leads to the greatest and most reliable cost reduction
  - 4-7GW by 2030 based around a small number (~2) of clusters
  - More rapid (10GW) would also give chance to test more technologies and involve industrial source
  - >7GW by 2030 also gets closer to the cost optimal pathway to 2050
- Should not wait for outcome of Commercialisation projects before developing follow-ons
- Wait and see approach is possible but unlikely to drive sufficient cost reduction for UK CCS

RECOMMENDATIONS

- CfD awards for early follow on projects pre-2020
- Keep technology neutral but building on the technology developments
- Early development of storage and strategic approach to pipelines
- International partnerships and involvement of innovation funds

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