

# UK Government policy on CCS

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[July 2010 – Dec 2014]

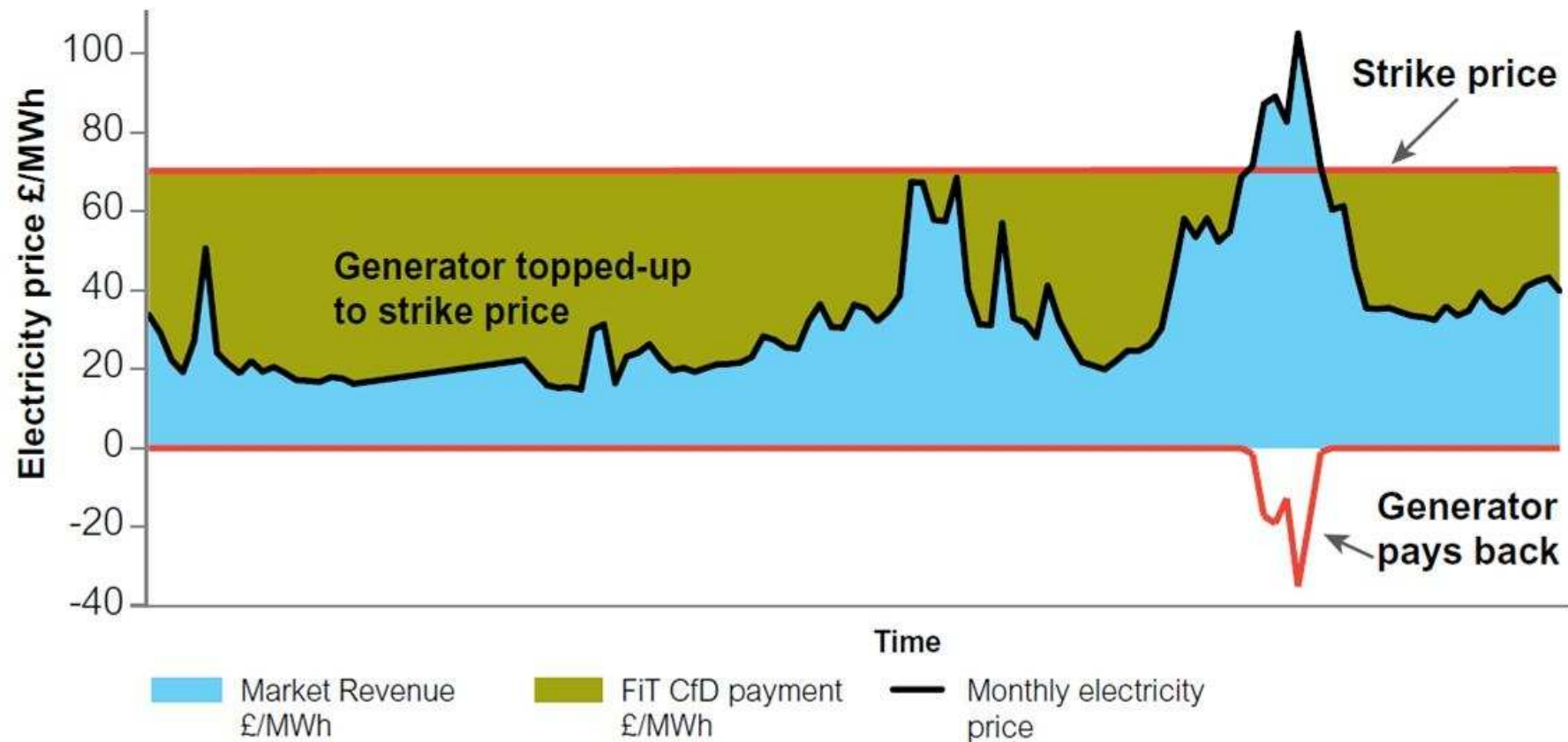
Head of Strategy & International

Office of CCS

Department of Energy & Climate Change (DECC)

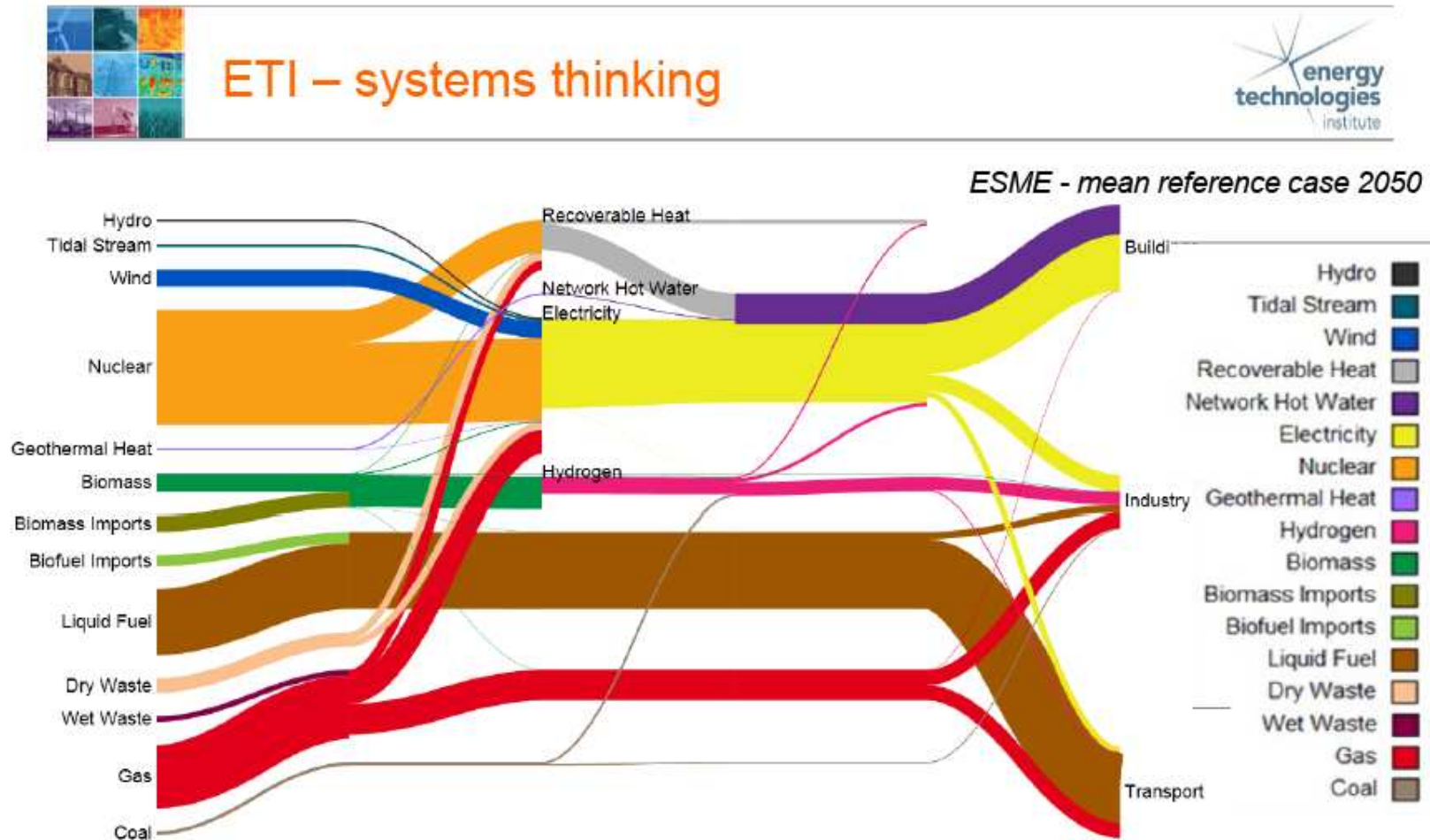


# Electricity Market Reform



# Need all technologies, especially CCS

- Without CCS, low carbon energy system cost extra £30-40bn



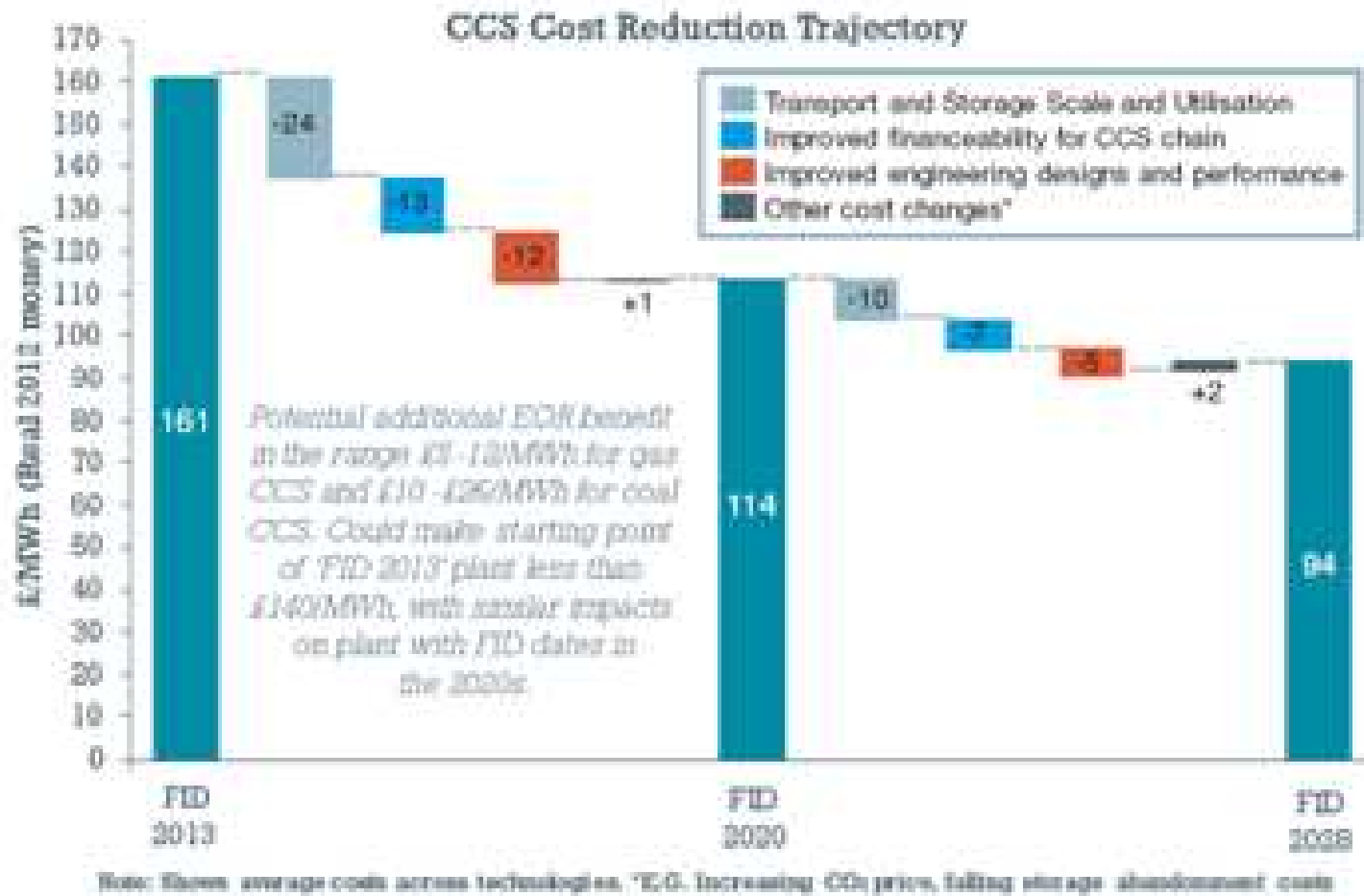
ETI UK energy system transition scenarios publication in early 2015

# Cost is a challenge... cost reduction vital

Contract for difference:

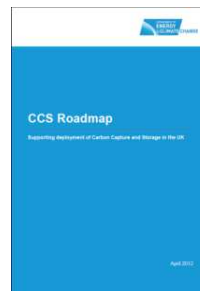
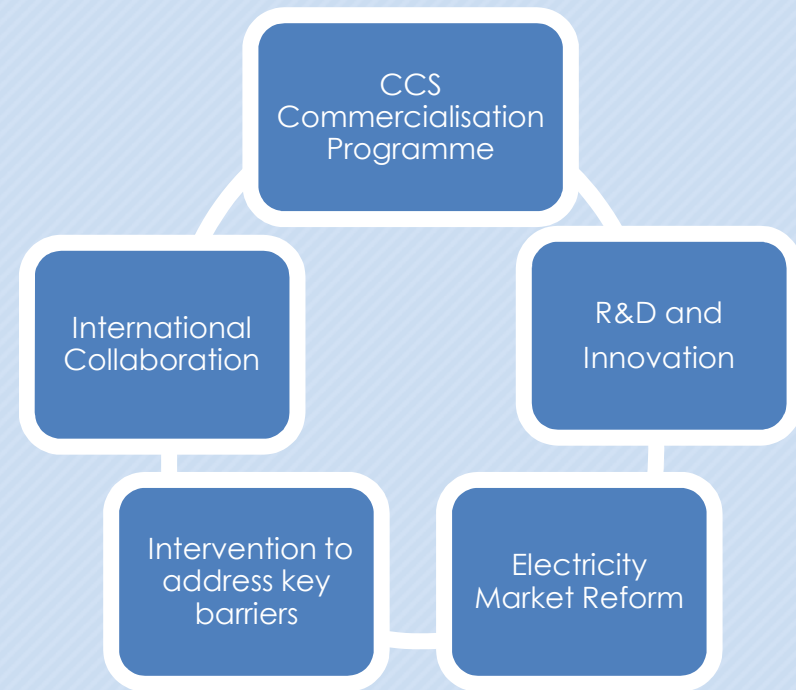
- £30-£40 MWhr Wholesale price of electricity
- £92 MWhr Hinkley Point C
- £150 MWhr Offshore Wind
- £???
- £305 MWhr Marine

# CCS Cost Reduction Task Force



# 2012 CCS Roadmap

- CCS Commercialisation Programme
- Electricity Market Reform
- R&D
- Enabling Actions
- International Collaboration



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## Commercialisation Programme

### Progress

- FEED Contracts signed:
  - ✓ **White Rose** December 2013
  - ✓ **Peterhead** February 2014
- £100m investment
- Final Investment Decision Late 2015 / Early 2016?



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# White Rose

- New ultra-supercritical 426MWe (gross) Oxy-Power plant at Drax Site, Yorkshire
- Enough low carbon electricity to power the equivalent of 630,000 homes
- 100% of flue-gas treated with 90% CO<sub>2</sub> capture rate. Estimated 2 million tonnes CO<sub>2</sub>/year captured
- Potential biomass co-firing leading to zero (or negative) CO<sub>2</sub> emissions
- Anchor project for National Grid's regional CO<sub>2</sub> transport & offshore storage network
- CO<sub>2</sub> storage in a deep saline formation offshore beneath the North Sea





# • Peterhead

- World's first full scale gas CCS project
- A 340MW post-combustion capture retrofitted to part of an existing CCGT power station at Peterhead, Scotland
- Enough low carbon electricity to power the equivalent of 500,000 homes
- 85% CO<sub>2</sub> capture rate. Estimated 1 million tonnes CO<sub>2</sub>/year captured
- Reuse of North Sea infrastructure - linking into the existing offshore pipeline from St Fergus to the store
- Storage in the depleted Goldeneye reservoir



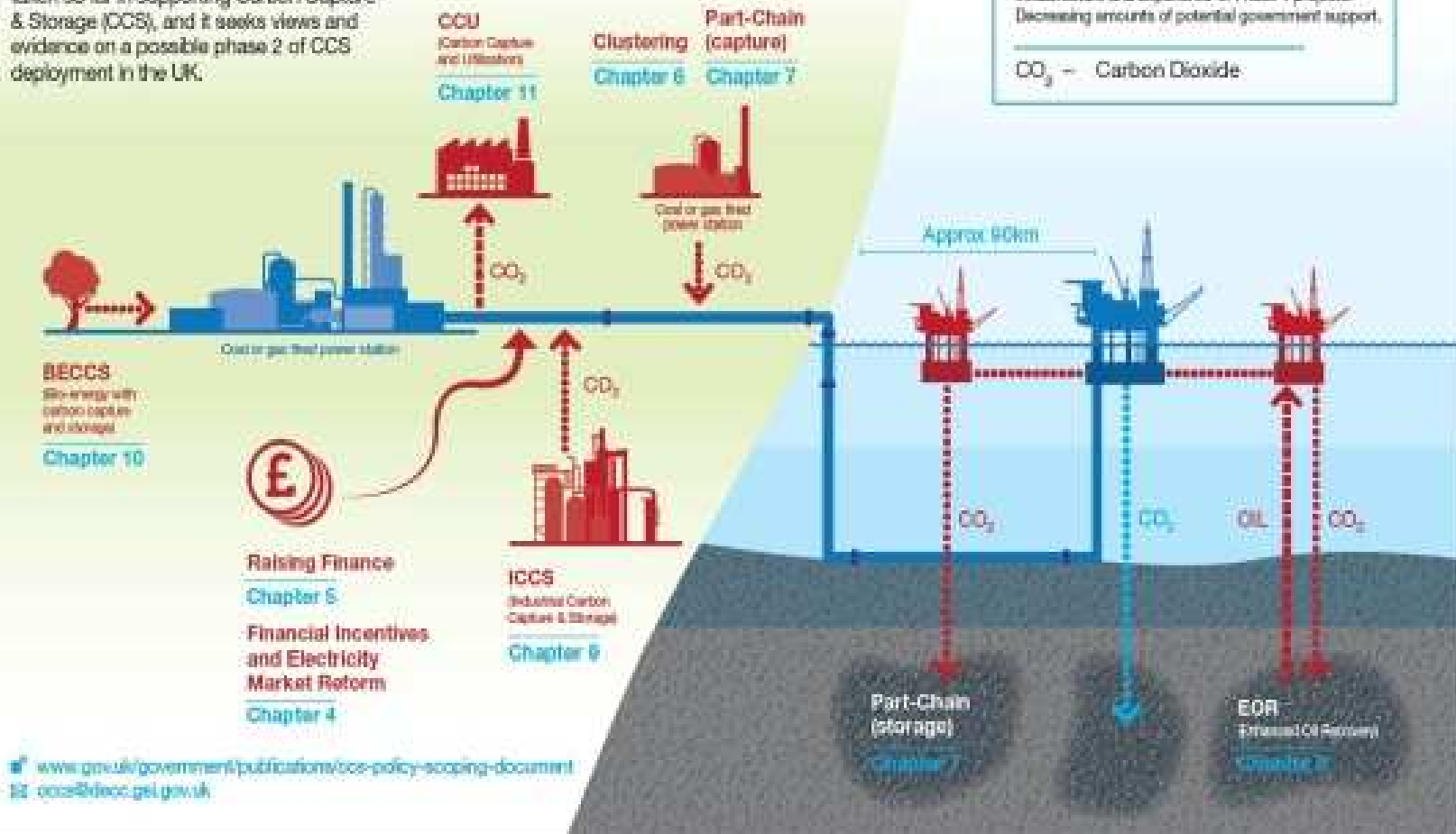
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# Next Steps in CCS: Policy Scoping Document

August 2014

The Policy Scoping Document summarises the Government's policies and actions taken so far in supporting Carbon Capture & Storage (CCS), and it seeks views and evidence on a possible phase 2 of CCS deployment in the UK.



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- EU target of 40% reduction of greenhouse gas emissions by 2030
- 27% renewable energy and energy efficiency targets at EU level
- reform of ETS to support all low carbon technologies
- CCS as part of the mix – funded through NER400

# EU 2030 Climate and Energy Package

## October 2014



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