

# Pathway G

A better path to a low cost, low carbon, secure energy future for the UK

*November 2010*

# The need for a further pathway

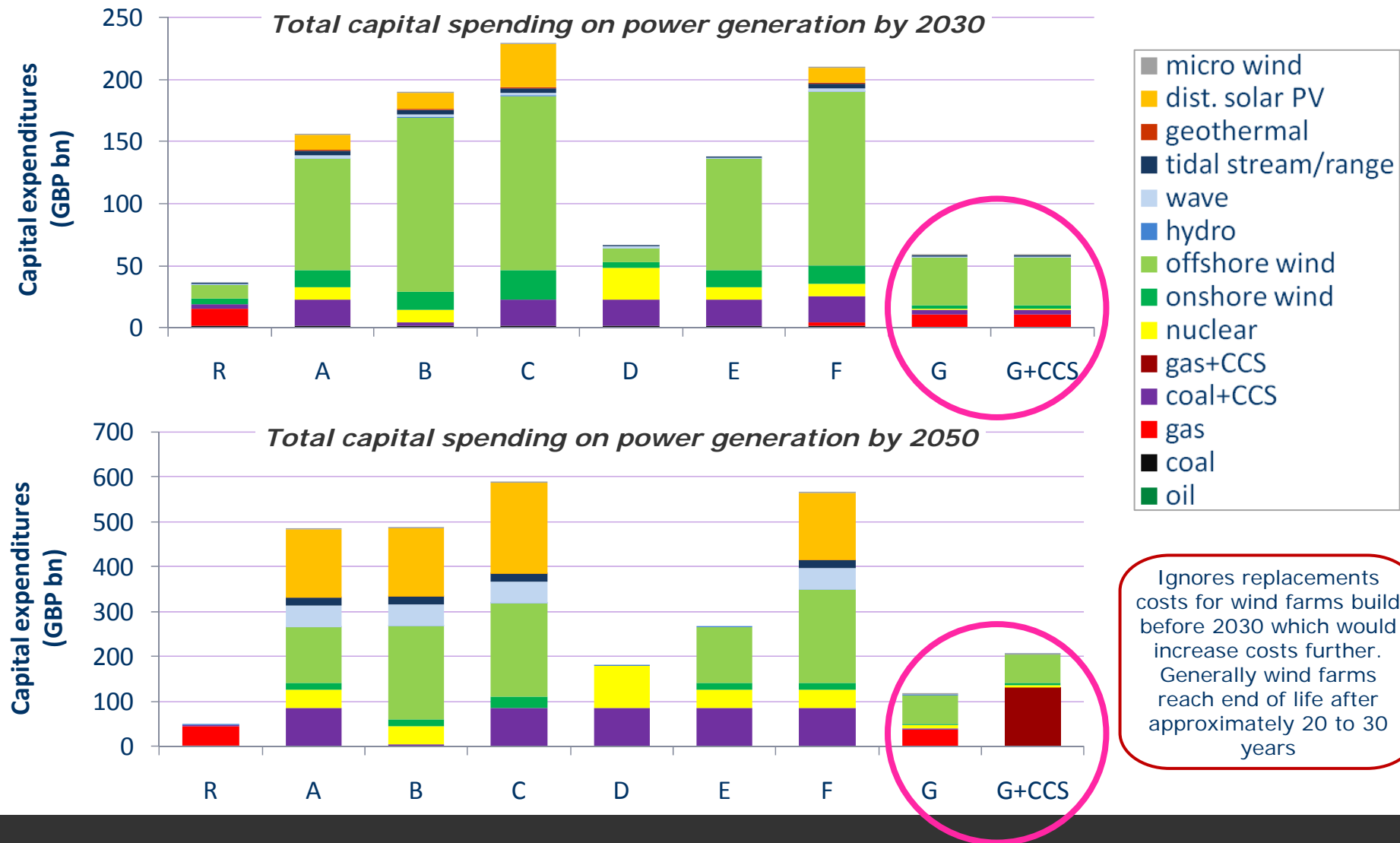
- The proposed 2050 Pathways are too expensive and too risky to be sustainable
  - Capital intensive: between £265 and £580 billion
  - A diverse mix, with volatile electricity prices and no back-up options
  - If there is any delay in technology delivery, GHG reduction targets are gone
- Natural gas provides is an efficient, low carbon energy that requires no subsidy:
  - an ideal complement to the high share of intermittent sources needed in order to achieve the UK binding renewables target
  - achieving the 2030 GHG reduction targets and only then introduce large-scale CCS, leaving time for technology to be proven

# Pathway G Description

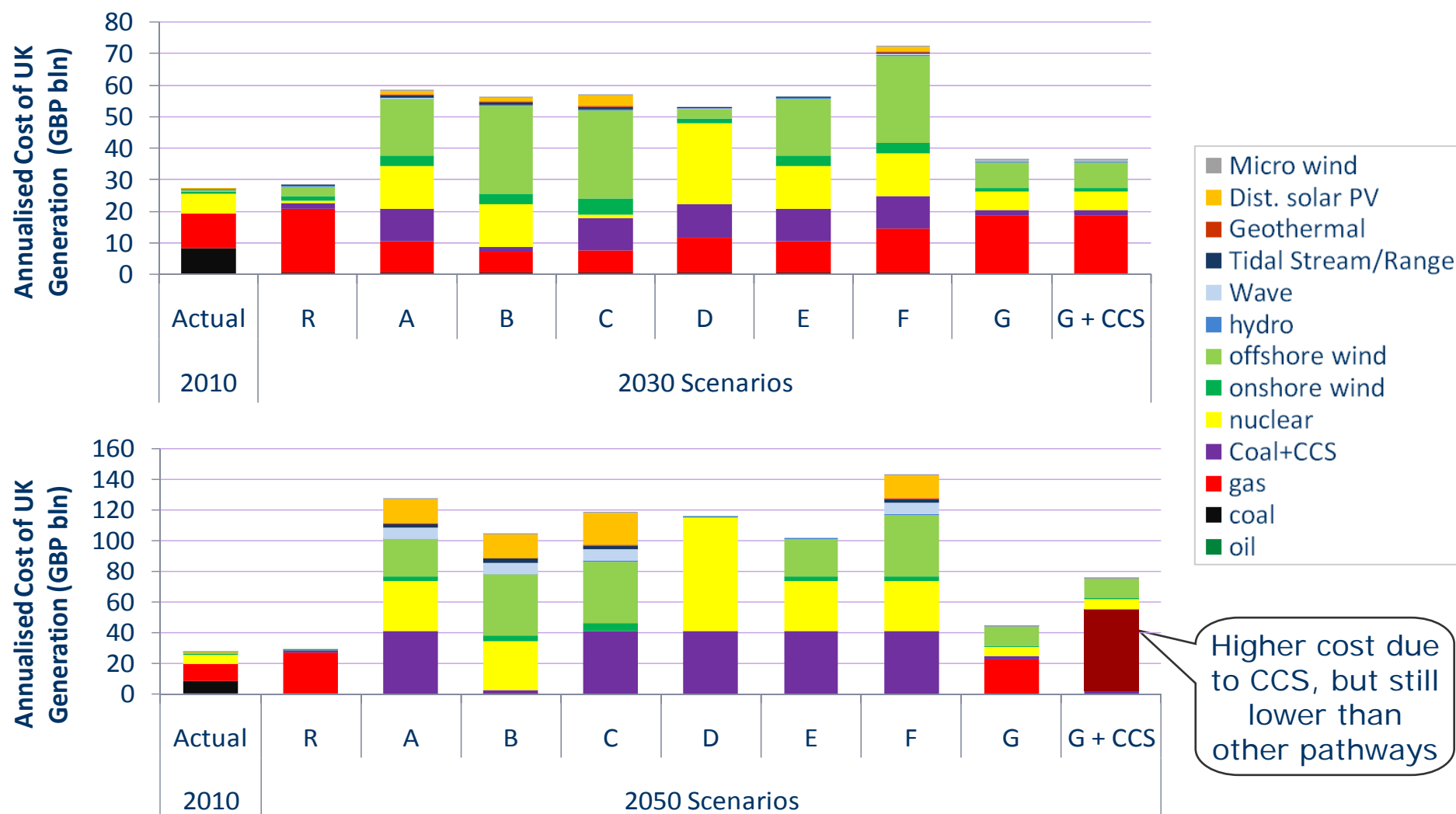
- **Transition to a low carbon economy through gas role in power generation**
  - Gas is used to replace coal shut-downs in the next 10 years
- **All GHG reduction targets are achieved as in other pathways**
  - 43% by 2020, 55% by 2030, 82% by 2050 (with CCS post 2030)
  - Low cumulative emissions thanks to gas switch in next 10 years
  - Added value of £10.1bn compared to 20% reduction by 2020
- **Assumptions:**
  - Gas is used to replace coal shut-downs in the next 10 years
  - Maintain nuclear power output at 2010 level
  - Renewables, mostly wind, make 17% of power mix in 2020, 20% in 2050
  - Minimal role for coal CCS, but large role for CCS retrofitting to CCGTs
  - Efficiency gains on demand side, with focus on technological advances

# Capital Expenditure

Total capital expenditure for construction under Pathway G is a fraction of that of the alternative scenarios

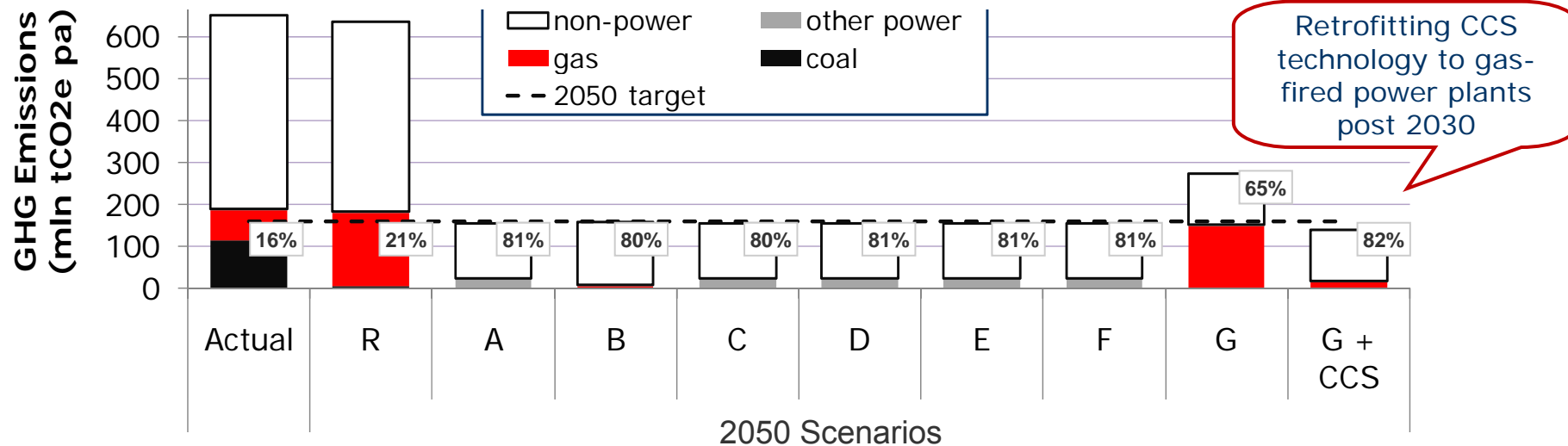
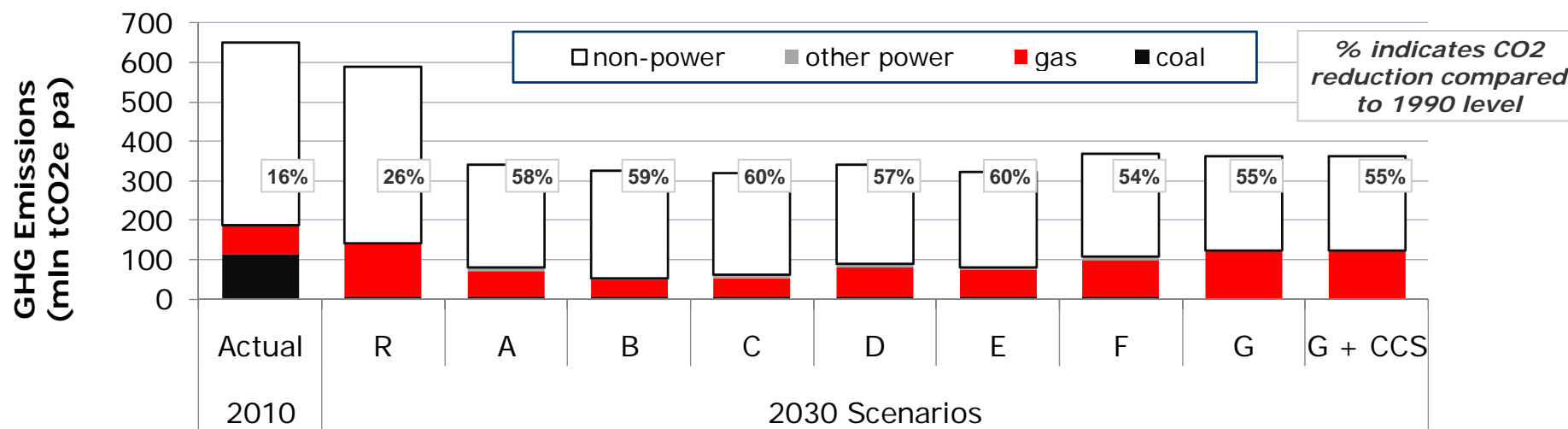


# Annualised cost of UK Power Generation



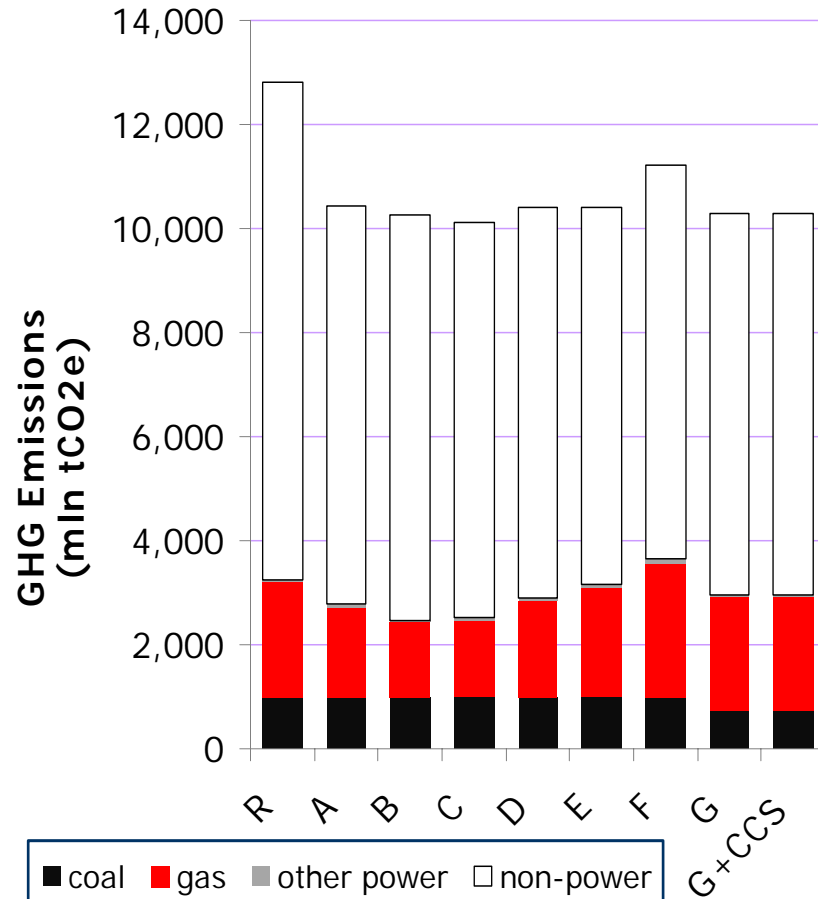
# Annual GHG emissions in 2030 and 2050

Pathway G+CCS gets the UK more than halfway its 2050 GHG targets in 2030, and to 82% by 2050



# Cumulative GHG emissions to 2030 and 2050

2030



2050

