

# Electricity: Gas with CCS

This lever controls the sub-levers listed in the table, and ambition levels are for the end year shown on the right-hand side.

The use of gas in power generation is widespread in the UK with 32 GW of combined cycle gas turbines (CCGT)<sup>1</sup>. Carbon capture and storage (CCS) offers a potential way to reduce CO<sub>2</sub> emissions from these power stations.

CCS is currently not used in the power generation sector in the UK, and hence there is currently no electricity generated using gas with CCS.

The amount of electricity generated from gas power plants does not depend on environmental factors. Gas with CCS therefore provides a low carbon way of dealing with intermittency and meeting peak demand.

## Key Interaction

The amount of CO<sub>2</sub> actually captured and stored is dependent on the capture rate controlled by the CCS Capture Rate lever.

Gas with CCS can meet any remaining peak electricity demand after storage and balancing technologies have been used. The Calculator doesn't model the intermittency of wind and solar across the day and so it may underestimate the contribution of Gas CCS in the power sector. While Gas CCS will help

meet peak demand, it is also likely to generate during low wind periods.

## Level 1

CCS is not developed resulting in no gas with CCS used in power generation.

## Level 2

10 GW or around eight 1.2 GW Gas with CCS power stations are built.

## Level 3

CCS is more aggressively developed and the capacity of gas plants with CCS increases to 30 GW similar to the current unabated gas plant capacity.

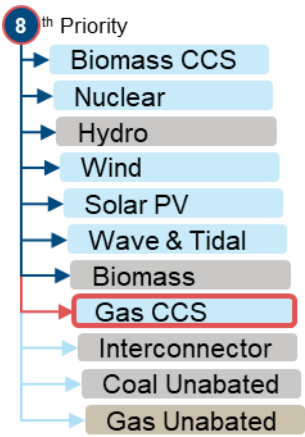
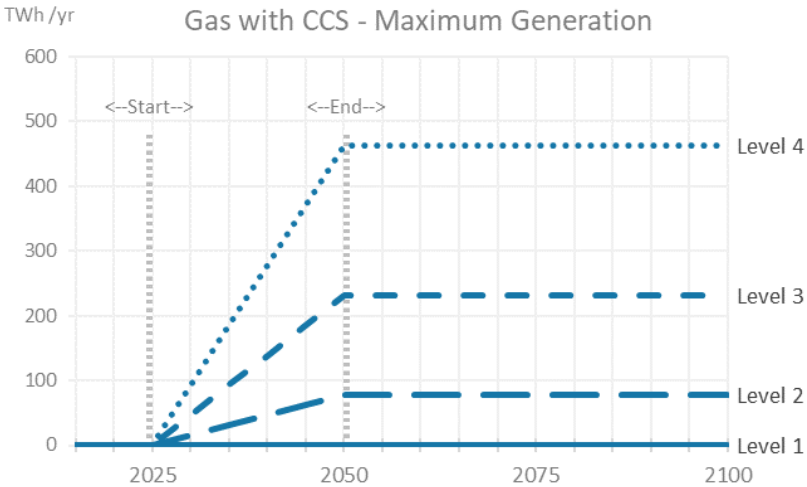
## Level 4

Historic maximum CCGT build rates of 3 GW/year are achieved and maintained long term for Gas with CCS.

<sup>1</sup><https://www.gov.uk/government/collections/digest-of-uk-energy-statistics-dukes>

Default Timing Start year: 2025, End year: 2050

Sub-Lever	Units	2015	Level 1	Level 2	Level 3	Level 4
Gas CCS Capacity	GW	0.0	0.0	10.0	30.0	60.0



## Lever Priority

Gas with CCS is eighth in the priority order for generating baseload electricity.

Where supply would otherwise exceed demand, measures lower in the priority order will be superseded by those above them.

Unabated gas will meet any shortfall in demand.