Carbon capture and storage power station fuel mix

The 2050 Calculator allows CCS power stations to be fuelled by either solid fuel (coal or biomass if available) or a gaseous fuel (natural gas or a biogas if available). Any available biofuel is used in preference to fossil fuel.

In the 2050 Calculator the future shape of the CCS sector is determined by two choices:

- the CCS power station fuel mix (described here) and
- the CCS power station build rate (described on another page).

Trajectory A

Trajectory A assumes that all CCS power stations use solid fuel (coal or biomass).

Trajectory B

Trajectory B assumes that two-thirds of CCS power stations use solid fuel (coal or biomass), and the rest use gas (natural gas or biogas).

Trajectory C

Trajectory C assumes that two-thirds of CCS power stations use gas (natural gas or biogas), and the rest use solid fuel (coal or biomass).

Trajectory D

Trajectory D assumes that all CCS power stations use gas (natural gas or biogas).

Interaction with other choices

Trees and growing plants capture CO_2 from the atmosphere, which they store in the form of plnat tissue or woody biomass. Ireland can take advantage of this by harvesting the biomass and burning it in electricity generation plants which are fitted with CCS facilities and storage infrastructure. This would ensure that up to 90% of the CO_2 sequestered from the atmosphere by plants is stored underground in designated CCS facilities. This process is called bioenergy plus carbon capture and storage (BECCS).

A 2050 Calculator user can select BECCS by:

- Assuming that CCS is in commercial operation, by selecting any one of Trajectories 2-4 for CCS.
- Selecting options for biomass to be grown in Ireland and/or to be imported.
- Ensuring that the biomass is in the same form as the type of fuel required by the CCS power plants. For example, gas CCS power plants require biogas.