

Fossil liquid fuels: CTL feedstock and CCS

Coal to gas material share

The share of feedstock used for CTL is predominantly coal, but natural gas can also be used. The coal to gas material share Lever can be used to increase the share of gas as feedstock for CTL production.

Level 1

Level 1 assumes that coal is used as nearly all the feedstock for CTL production and that this remains at 97% from now to 2050¹.

Level 2

Level 2 assumes that the material use of gas as feedstock for CTL production increases to reach a maximum share of around 20% by 2050¹.

Carbon Capture and Storage (CCS)

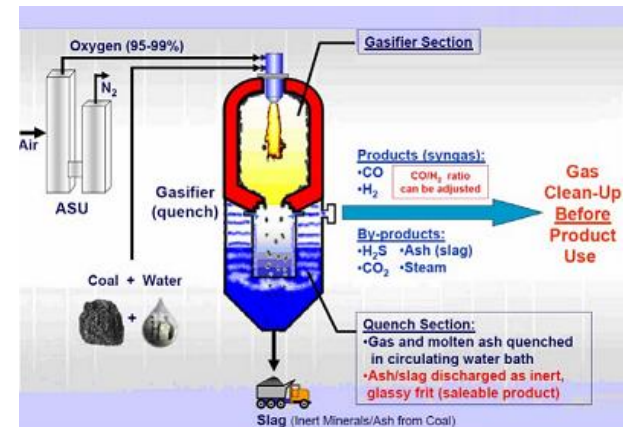
CTL production occurs via the Fischer-Tropsch process which requires the coal feedstock to undergo gasification. This results in a very concentrated source of CO₂ and makes a CTL facility an ideal site for CCS.

Level 1

Level 1 assumes that CCS is not utilised.

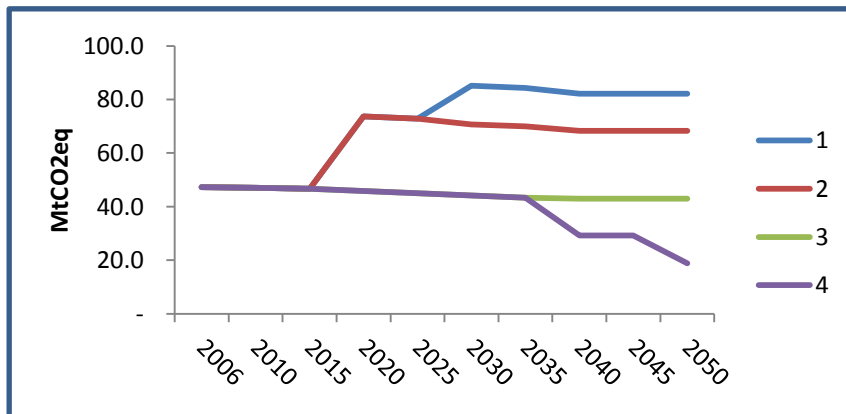
Level 2

Level 2 assumes that in 2025, 25% of the estimated CO₂ production associated with the CTL process that is suitable for CCS is captured². CTL-CCS expands such that by 2040, 50% of the estimated CO₂ production that is suitable for CCS is captured.

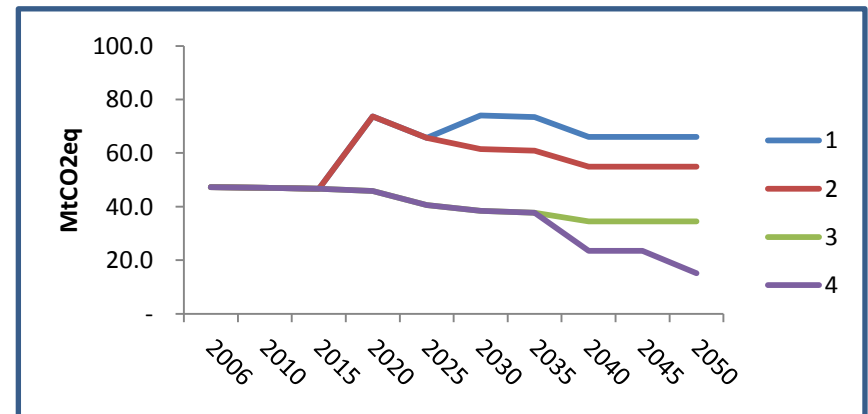


Coal gasification process.

Source: Indiana Center for Coal Technology Research (2006)



CTL with no CCS. Assumes no increase in gas feedstock



CTL with CCS. Assumes no increase in gas feedstock

¹ Energy Research Centre. 2013.

² Adapted from *Prospects of Carbon Capture and Storage Technologies (CCS) in Emerging Economies* (Wuppertal Institute for Climate, Environment and Energy, 2012)