

Medway Hub Carbon Capture & Storage Project

Medway Hub CCS Overview

- Carbon capture and storage of CO₂ from 3 major CCGT power stations located on the Isle of Grain near Rochester, Kent
- Scheme involves CO₂ extraction from exhaust stream at Medway, Damhead and Grain power stations
- Liquid CO₂ transported via tanker to depleted gas fields for permanent storage
- Axis Well Technology pre-FEED study completed January 2022

3077 MW

Peak capacity
Medway, Damhead + Grain
CCGT

7.6 MTa CO₂

Peak emissions

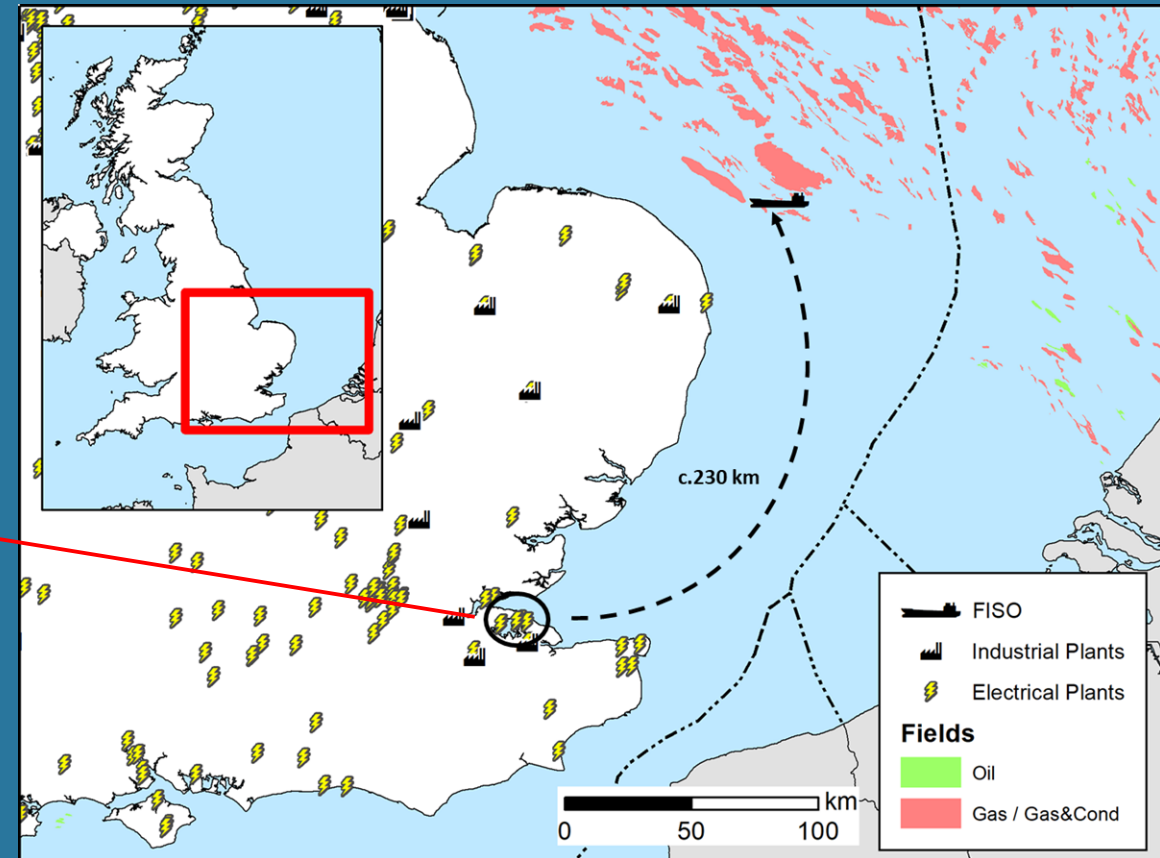
100+ MT CO₂

Targeted
Storage capacity

Medway Hub CCS Overview (cont.)



Isle of Grain CCGT detail

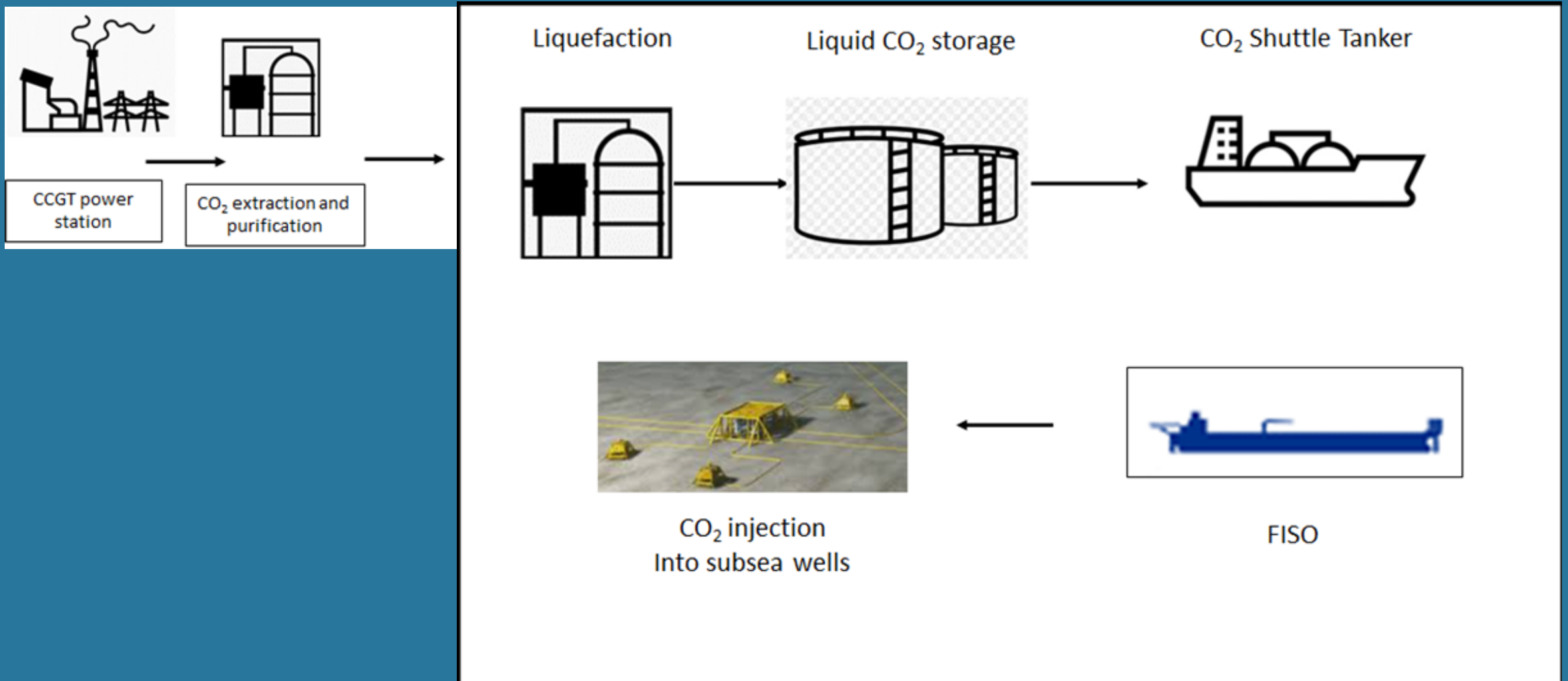


Marine CO₂ tanker transportation to depleted gas fields

Medway Hub CCS Methodology

- The project is a simple carbon capture and storage scheme and involves:
 - Separation of CO₂ from exhaust streams in situ
 - Liquefaction of CO₂ at Isle of Grain LNG terminal (For Damhead, CO₂ is compressed and transported via c. 10 km pipeline to Isle of Grain LNG terminal for liquefaction)
 - Storage of liquid CO₂ in storage tanks at loG LNG terminal
 - Batch loading of liquid CO₂ onto CO₂ tanker at the loG LNG terminal
 - Transport of liquid CO₂ to depleted gas fields for injection into depleted reservoirs or aquifers

Medway Hub CCS Schematic



Key Assumptions

- Average CCGT CO₂ emissions of 371 metric tons per GWh
- In-situ CO₂ capture and liquefaction – liquid CO₂ maintained at -41°C and 9.8 bar through to wellhead
- Transport by sea tanker to FISO at depleted fields / aquifers
- FISO incorporating CO₂ offloading from sea tanker, CO₂ storage and pumping facilities
- CO₂ injection wells with subsea manifolds

Damhead, Medway & Grain 3077 MW CCGT CCS

CCGT Peak capacity, MW	3077
CO ₂ emissions, tonnes per GWH	371
CO ₂ emissions, tonnes per hour	1,142
CO ₂ emissions per day, tonnes	27,398
CO ₂ emissions per day, 80% load, 95% recovery, tonnes	20,822
Net CO ₂ emissions per year, tonnes	7,600,096
Gaseous CO ₂ emissions per day, m ³	11,577,133
Liquid CO ₂ emissions per day, m ³	18,532

*1 ton CO₂ = 556 m³ at 25°C and atmospheric pressure

*At -41 °C and 9.8 bar, 1m³ CO₂ = 1119 kg