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CarbonNet
Project

CCS Hubs and Clusters: Enablers of Negative Emissions

June 2019



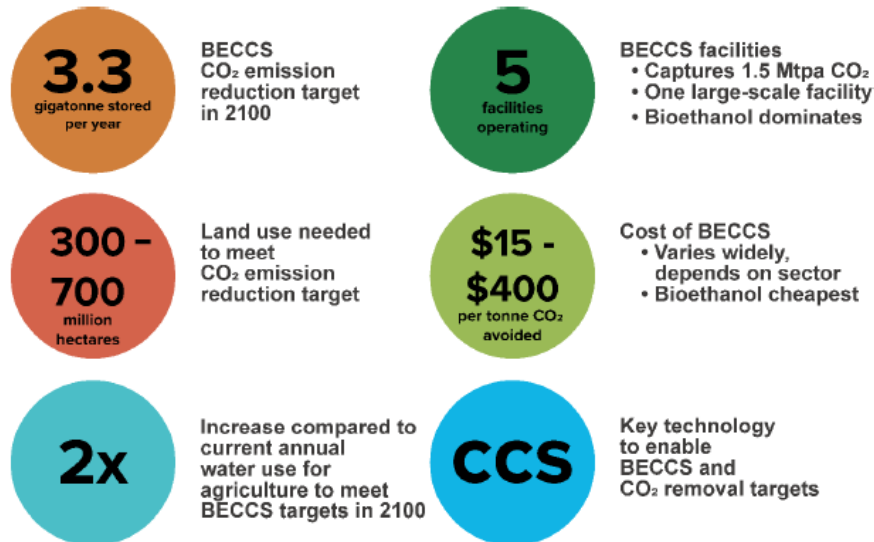
Australian Government
Department of Industry,
Innovation and Science



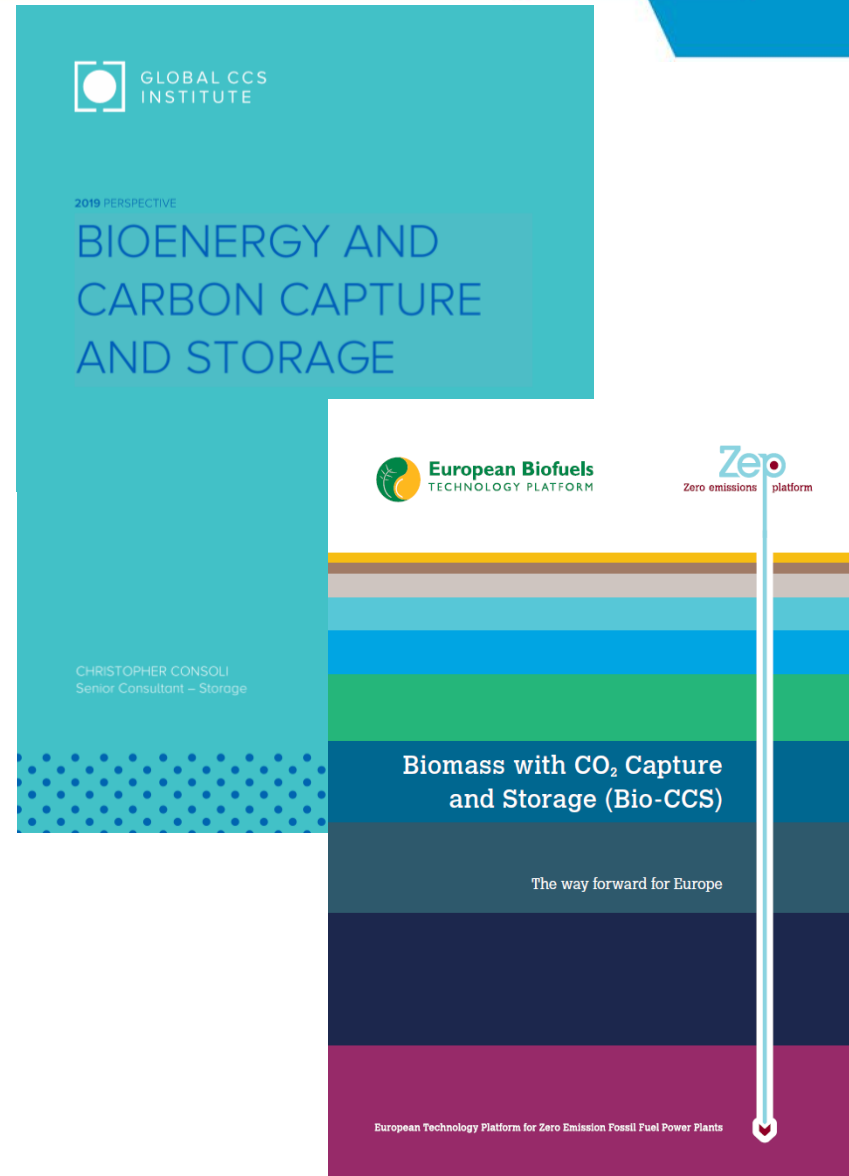
Jobs,
Precincts
and Regions

Bioenergy or Biomass with CCS

IPCC 1.5 Degree report states wide-scale deployment of carbon dioxide removal technologies will be required



Source: Global CCS Institute



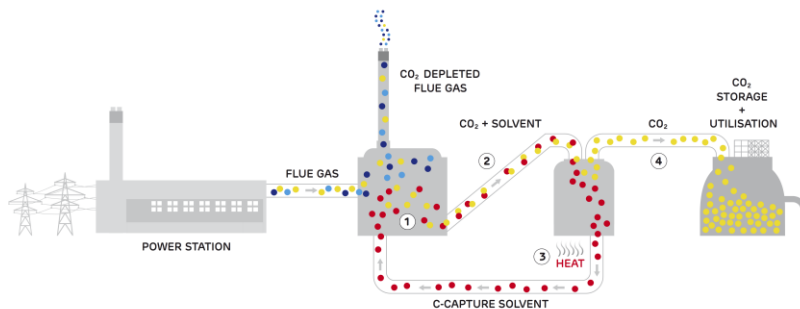
Negative Emissions Examples with CCS:



USA

- Illinois Industrial CCS project (ICCS) – Archer Daniels Midland
- Commercial-scale CCS at Decatur corn to ethanol plant 1 MT pa CO₂ since 2017

C-Capture BECCS pilot at Drax Power Station



KEY:

- Flue gases
- C-Capture solvent
- CO₂

PROCESS:

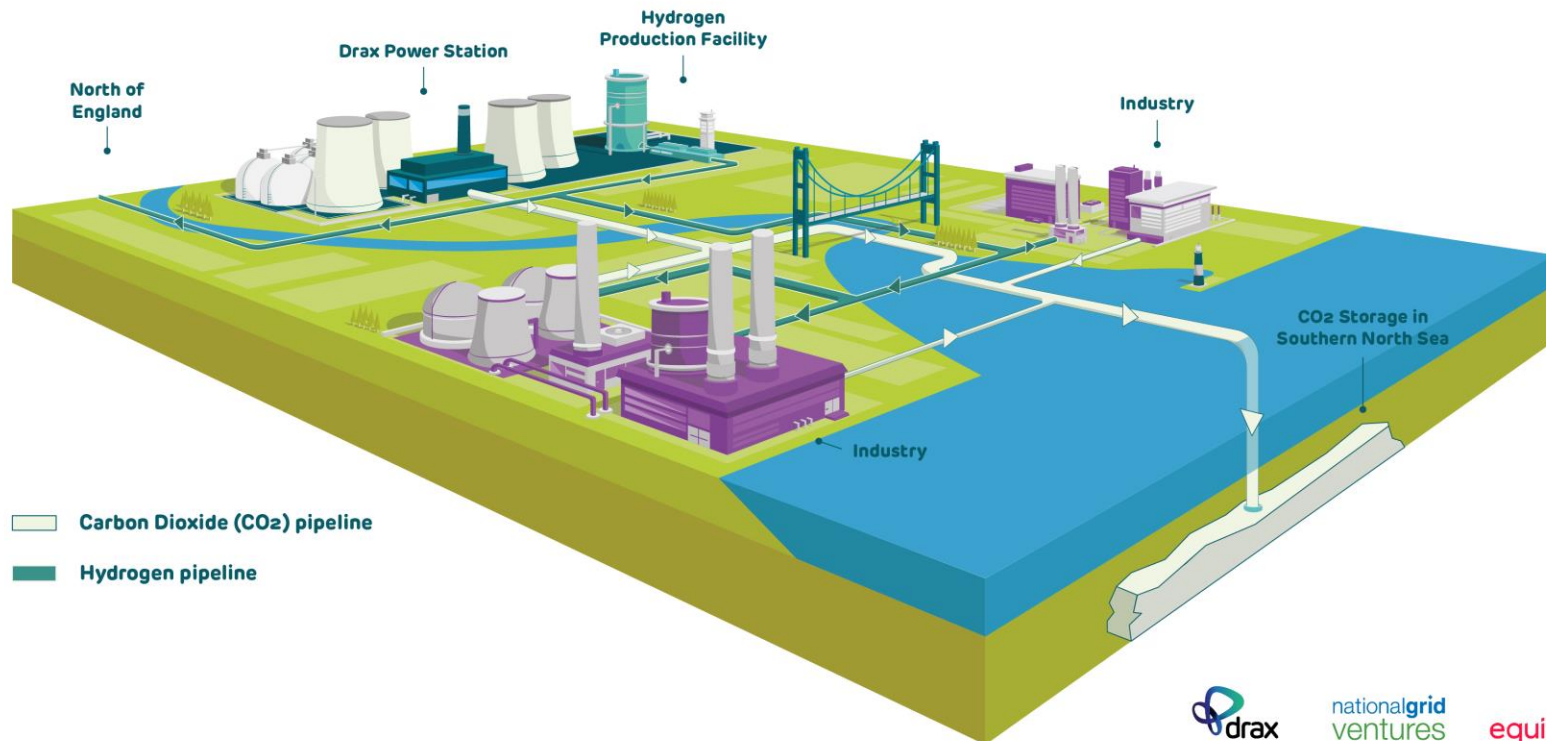
- 1 Drax biomass flue gases injected into absorber containing C-Capture's solvent
- 2 The solvent 'collects' the CO₂ and is transferred to the next phase of the process
- 3 Heat is used to separate the C-Capture solvent from the CO₂
- 4 CO₂ is stored and utilised, whilst the C-Capture solvent is re-used

UK

- Drax Power Station converted to wood pellet biomass
- Pilot to test CO₂ capture process underway

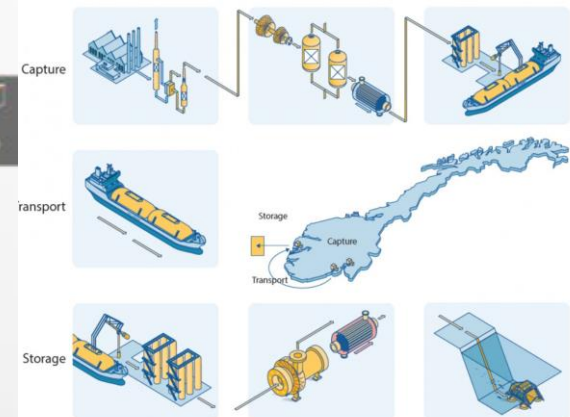
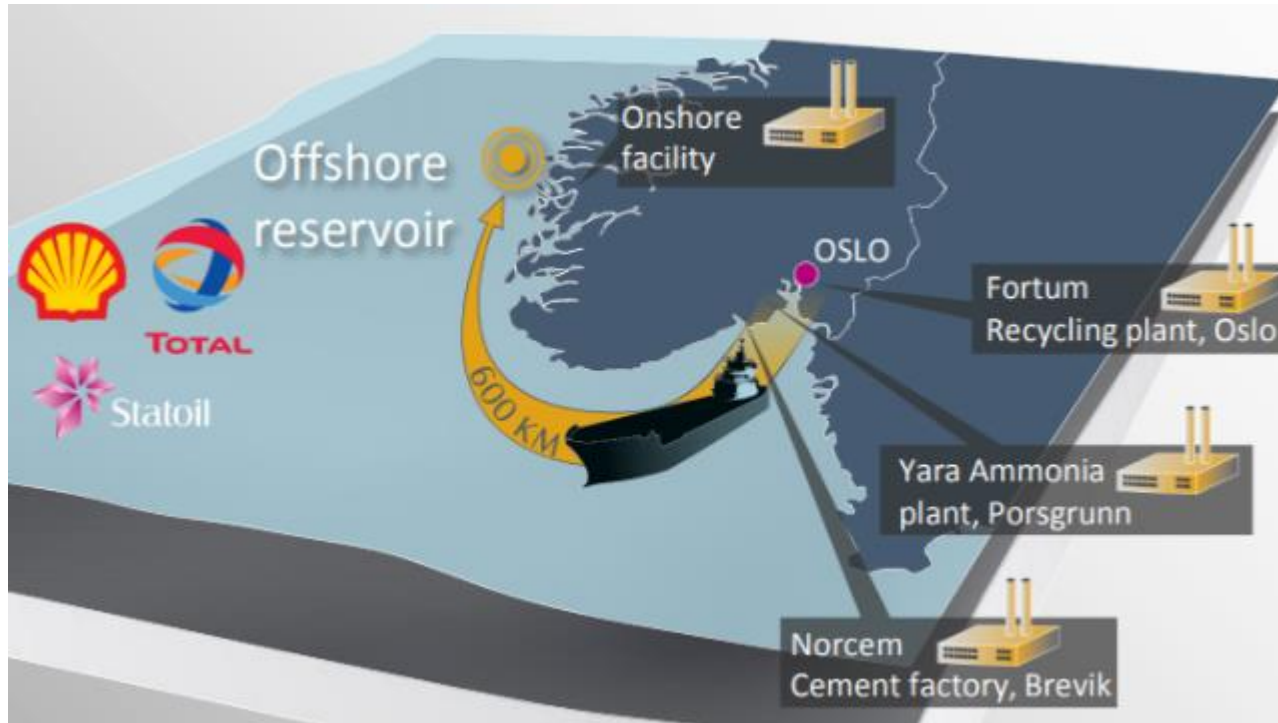
Hubs/Clusters: UK – Humber zero carbon cluster

WHAT A ZERO CARBON CLUSTER COULD LOOK LIKE IN THE HUMBER REGION



Source: www.drax.com

Hubs/Clusters: Norway Full Chain CCS



Storage site appraisal 2019

Final Investment Decision 2021

The CarbonNet Project

- Investigating the feasibility for a commercial-scale, multi-user CCS network in Gippsland, Victoria, Australia
- Jointly funded by the Australian and Victorian Governments since 2010
- Significant research investment to support CarbonNet e.g., ANLEC R&D
- CO2CRC is CarbonNet's lead research organisation e.g., Commonwealth EIF assets
- Knowledge sharing via GCCSI
- Working collaboratively with industry to secure customers and investors in a **CCS service**



Hub/Cluster for Gippsland: CarbonNet

