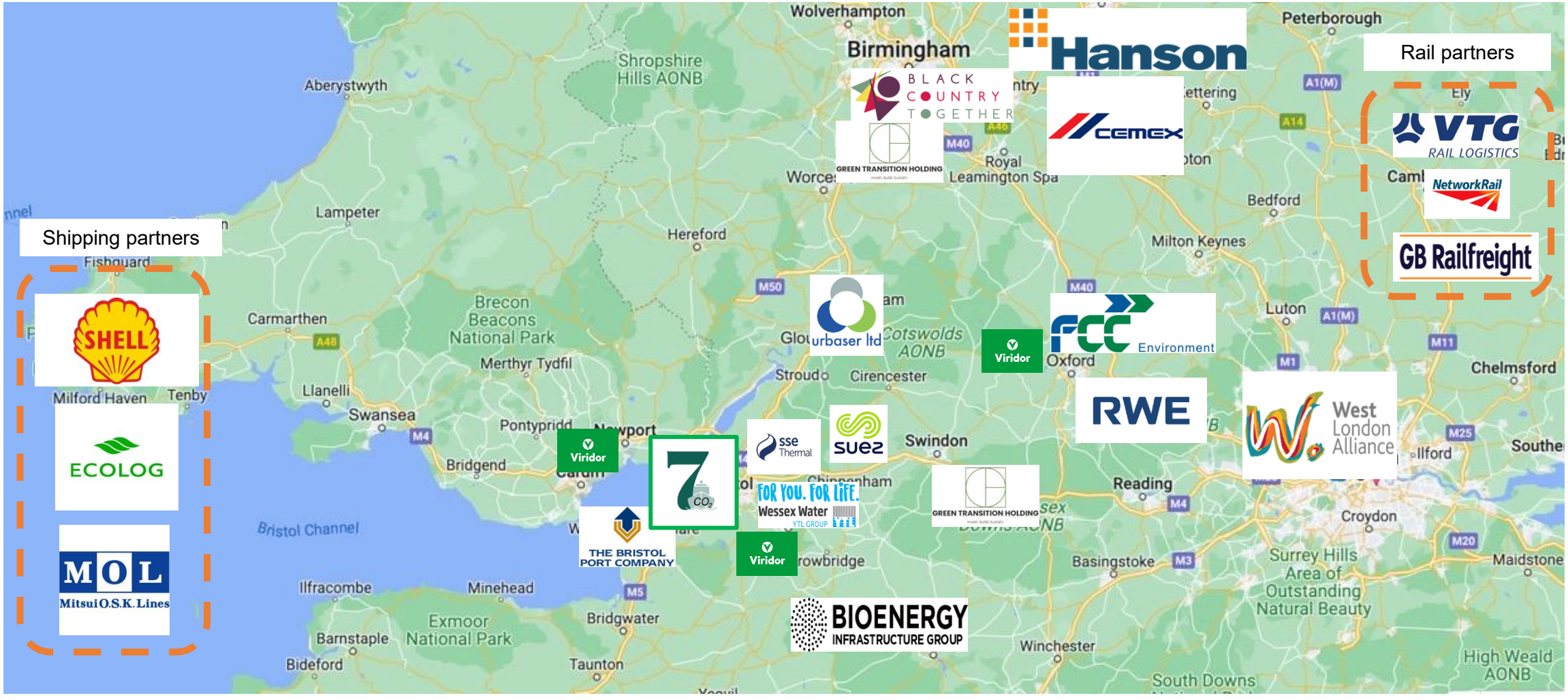
$7CO_2$

NPT Enabling Decarbonisation of EfW at Dispersed Sites

15th April 2026

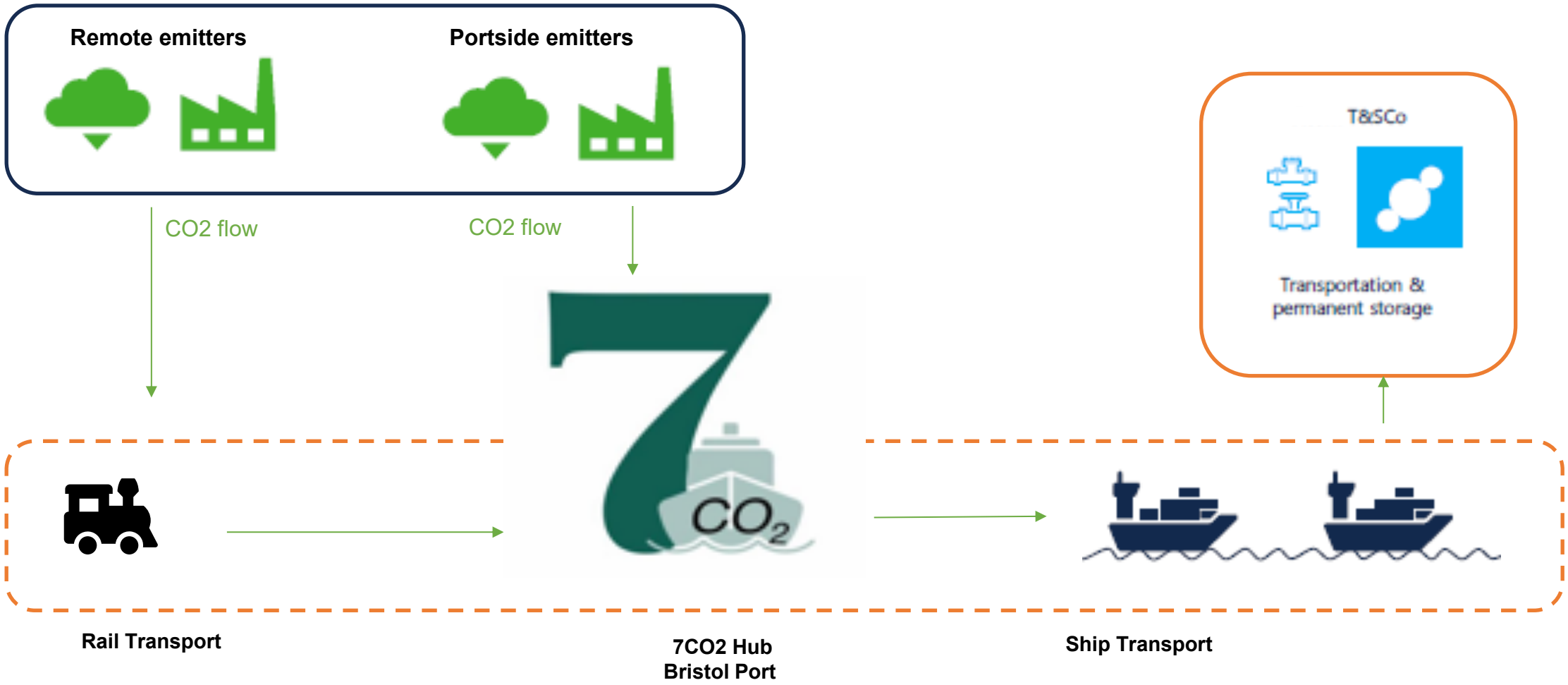
$7CO_2$ – Enabling the NPT solution for the South West

$7CO_2$ is a proposed carbon capture, shipping and rail hub at Avonmouth Docks that will allow a large number of regional emitters - with emissions totalling c.5MT CO2 p.a. - the option of introducing CCS

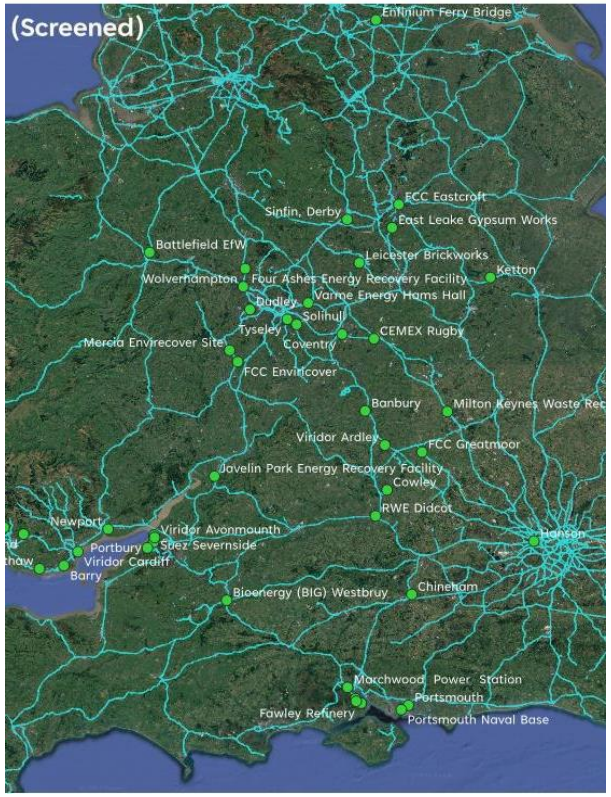


7CO2 Hub

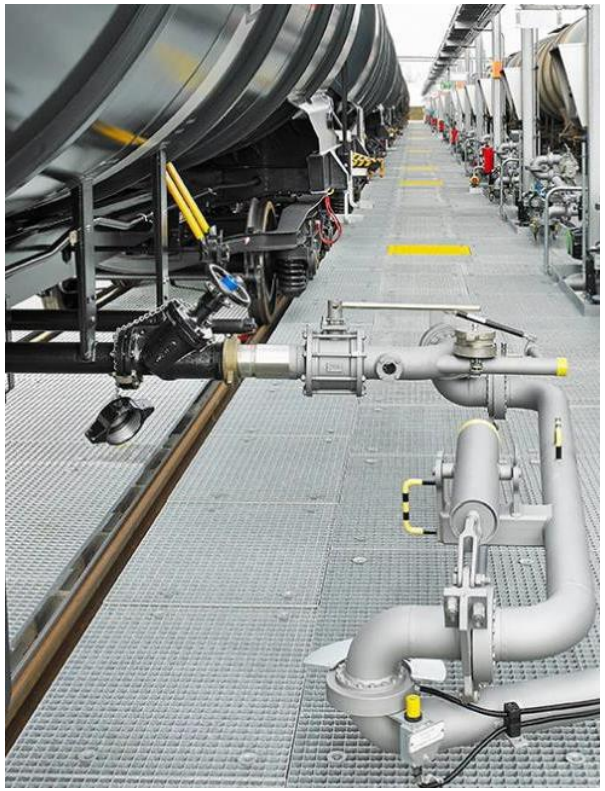
Located at Bristol Port, $7CO_2$ will provide rail unloading or pipeline transport from emitters to the Hub, potentially liquefaction and storage and ship loading, for onward shipping to long-term geological storage



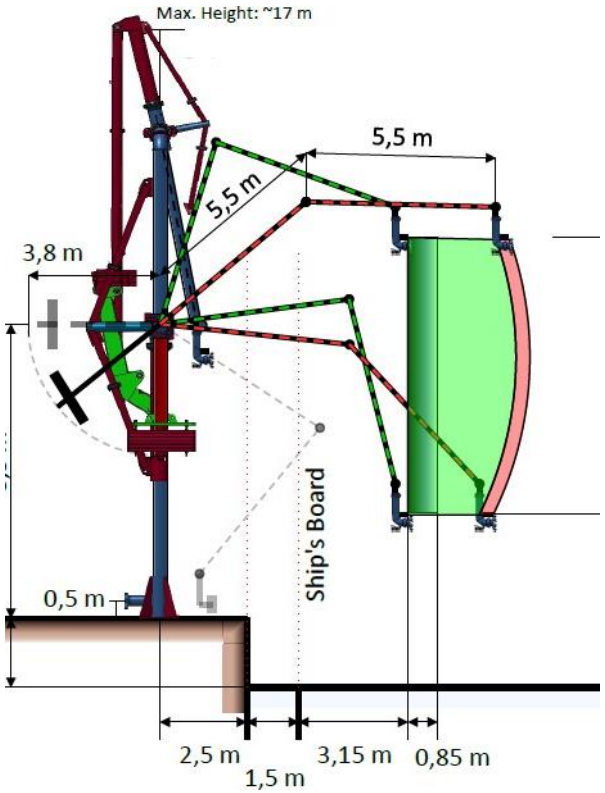
7CO2 LIDP Funding & Technical Development



Emitter selection and rail routeing



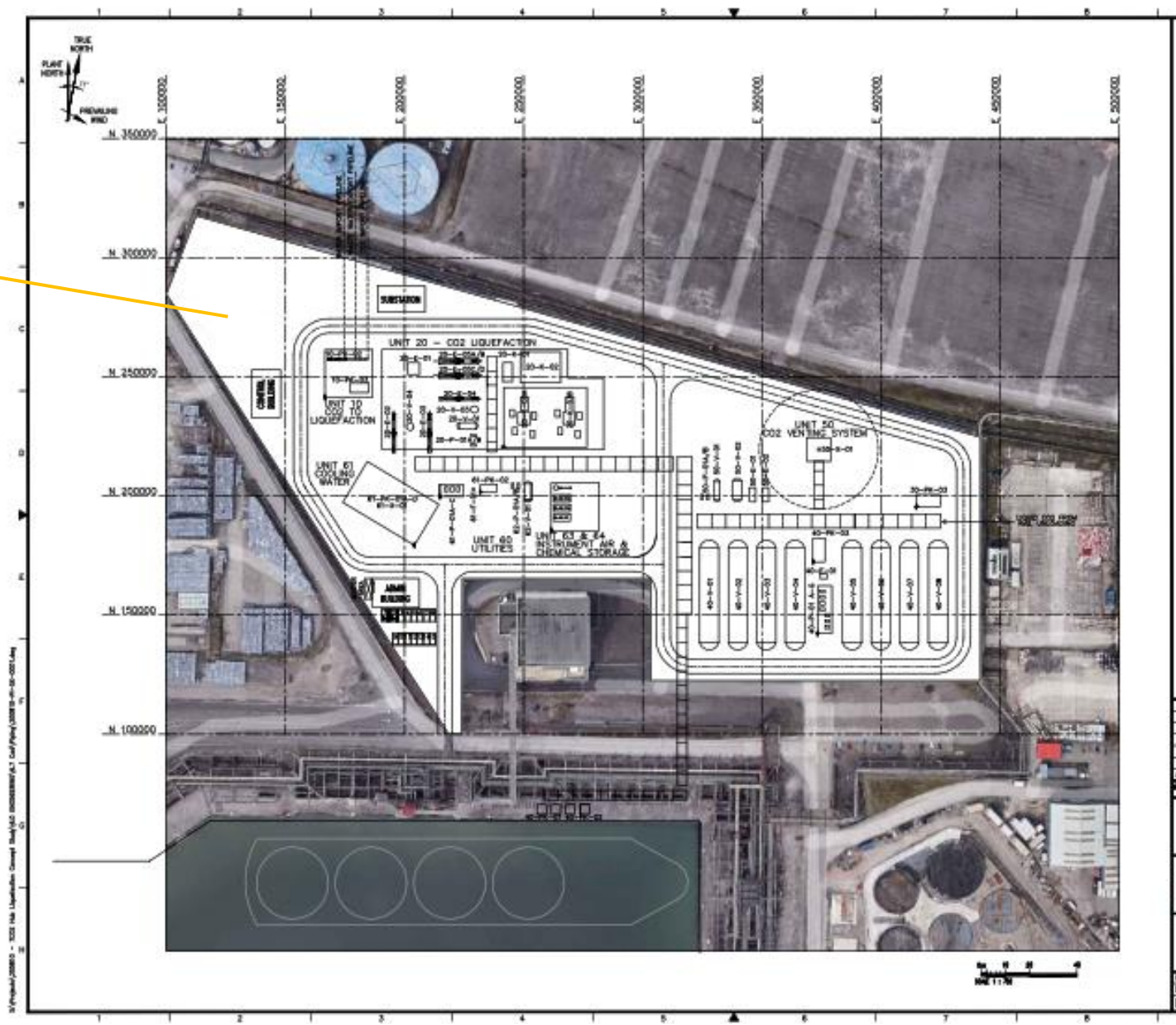
Rail loading, unloading, metering and quality monitoring



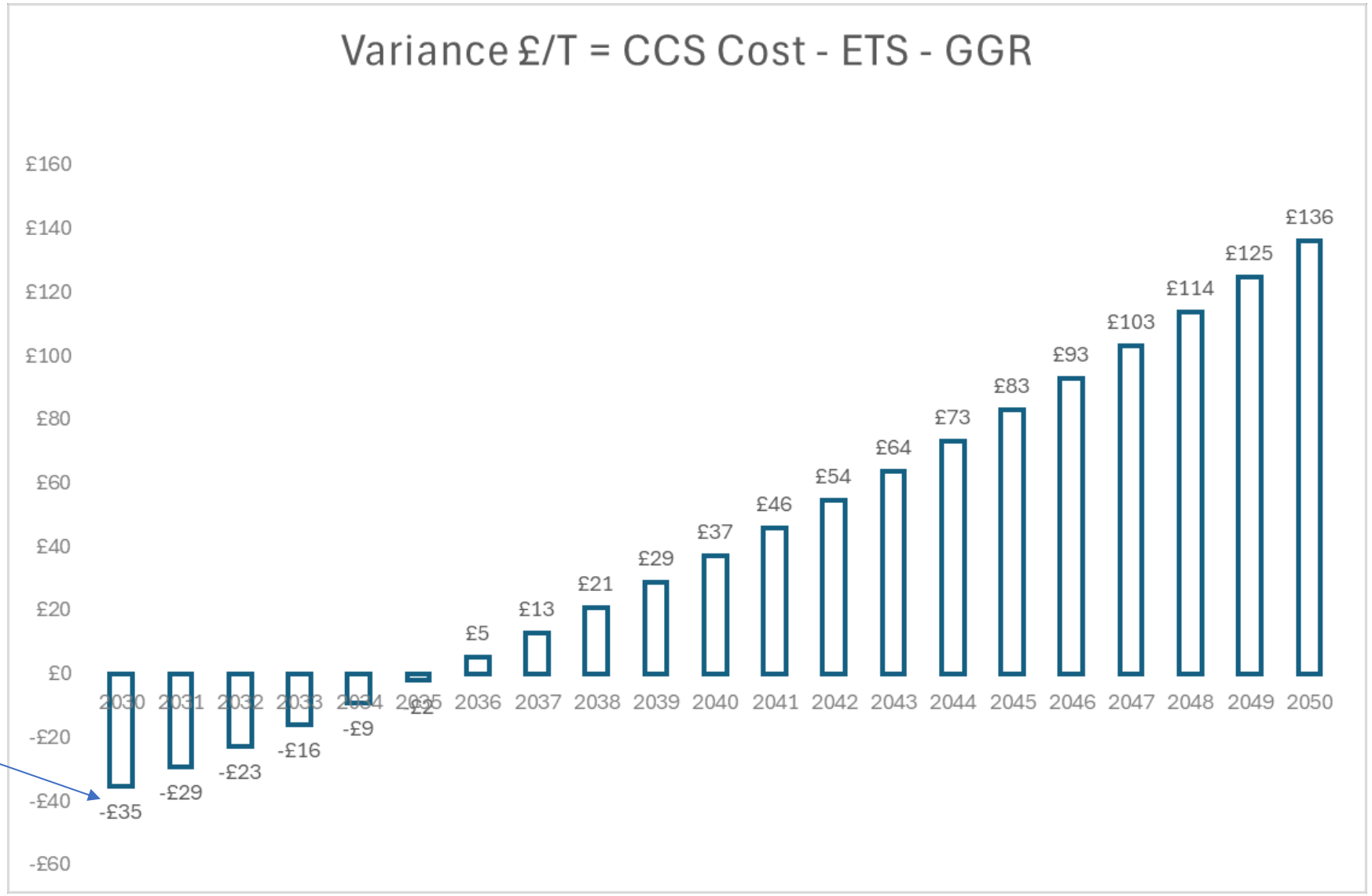
Intermediate storage and ship loading

Shipping technology, logistics and CO2 footprint

$7CO_2$ – Liquefaction & Storage Plot Plan

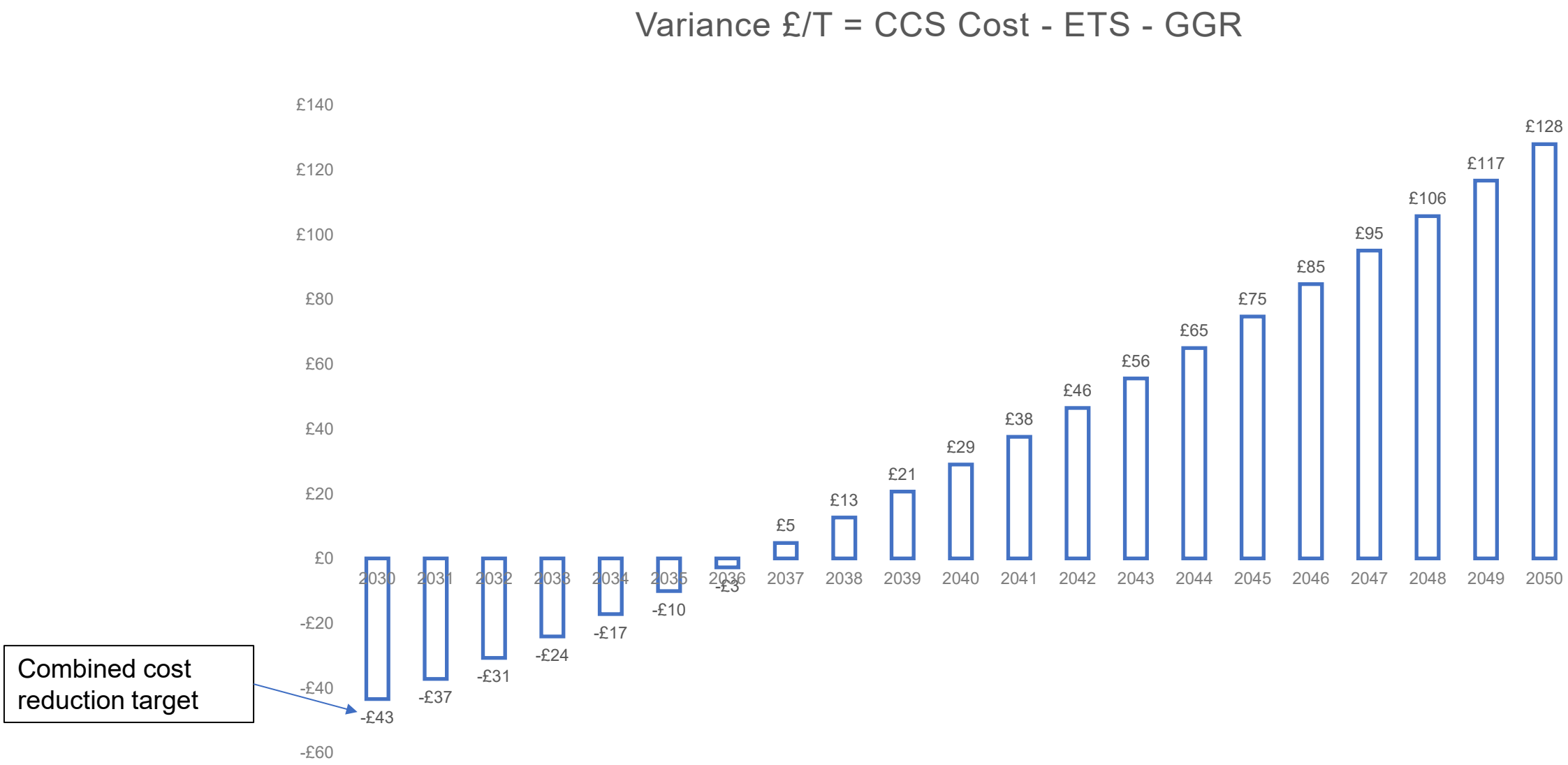


$7CO_2$ – Indicative Full Chain Cost Variance Local Emitters



Combined cost reduction target

$7CO_2$ – Indicative Full Chain Cost Variance Rail Emitters

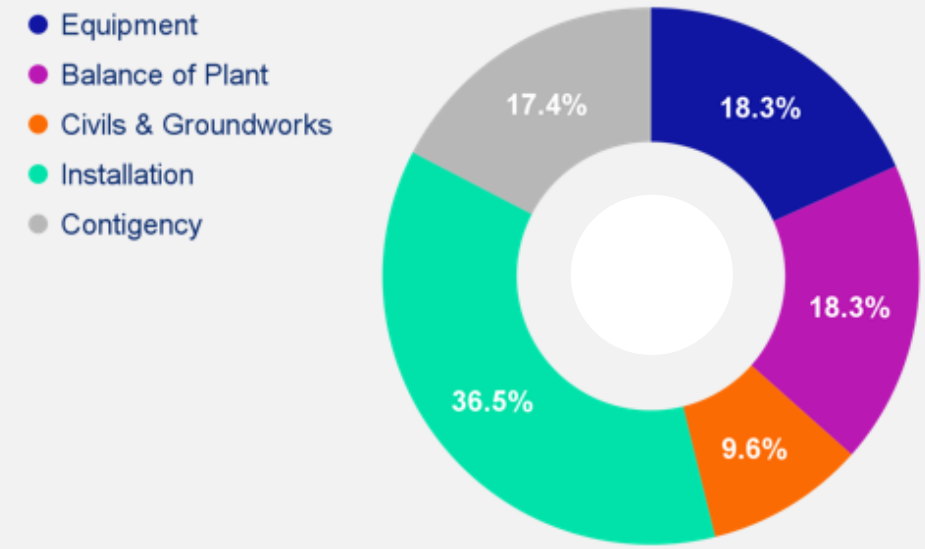


Cost saving of at least £35/T and ideally £45/T is required to facilitate a merchant model

7CO_2 – Typical EFW Capture Cost Splits

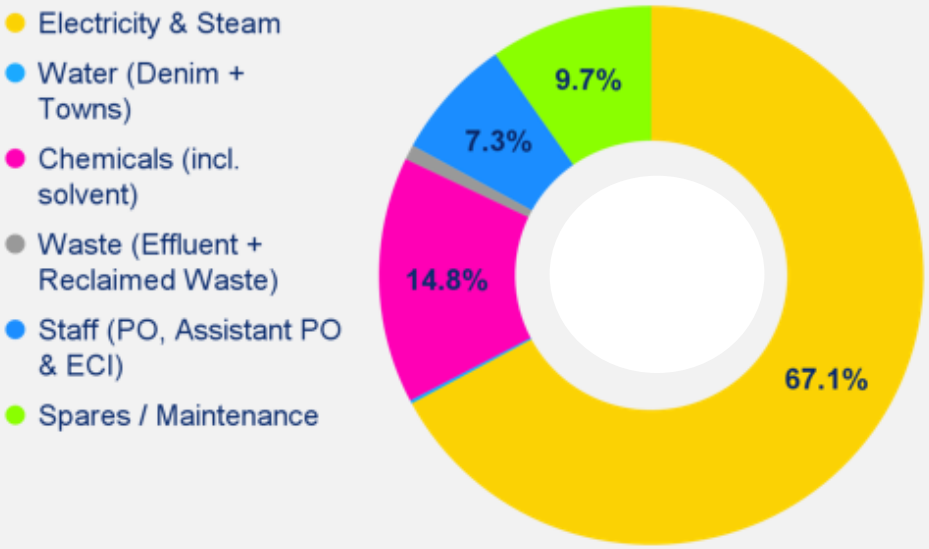
CAPEX Breakdown

Contingency: 20%



OPEX Breakdown

Contingency: 30%



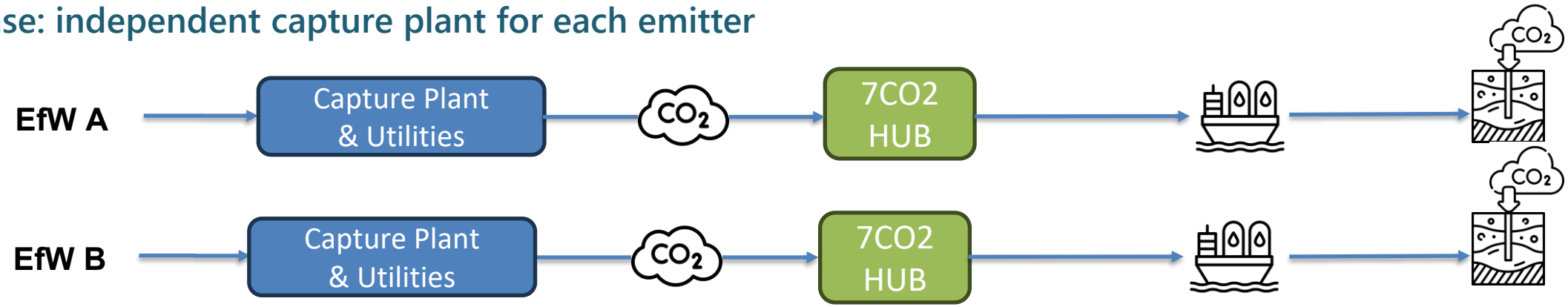
Typical UK EfW Amine based CCS example @200 KTPA

- @ 40% cost saving opportunity is in installation.
- Most significant costs of installation are associated with accessing and integrating with existing steam systems, mitigating parasitic steam and power losses, accommodating additional utility requirements, particularly cooling

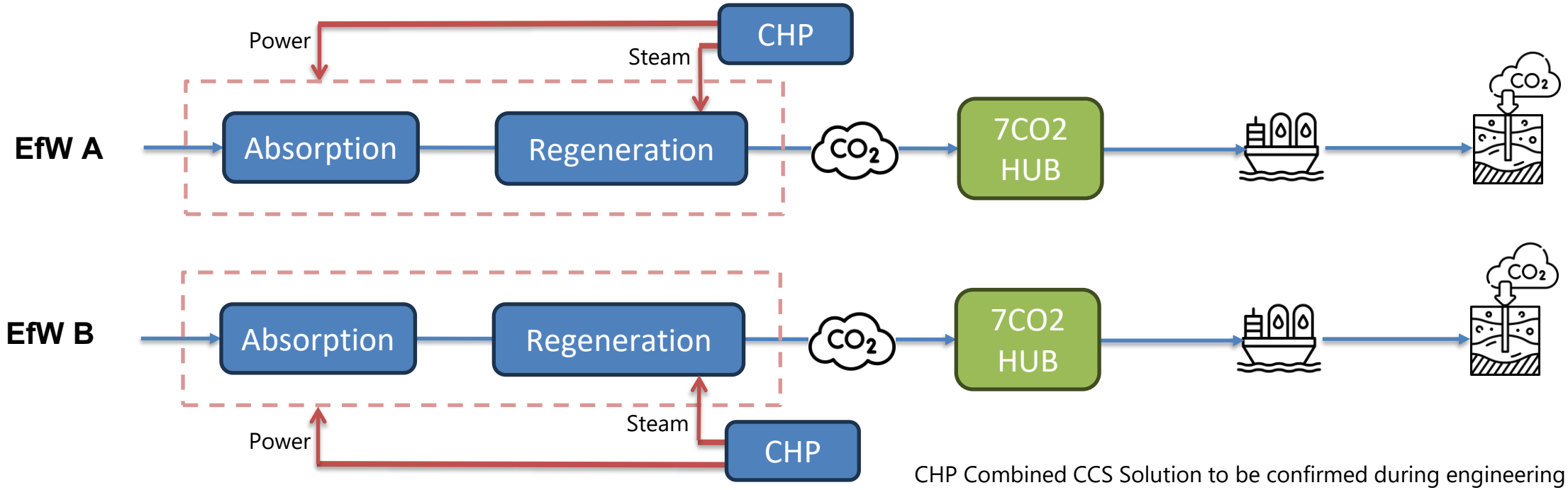
- By far largest OPEX cost is due to the loss of electrical power due to the parasitic steam load of the capture plant.
- Above example is for a site which only exports power the impact is even more significant for sites which export both heat and power

Alternatives for Capture Plant development

Base Case: independent capture plant for each emitter



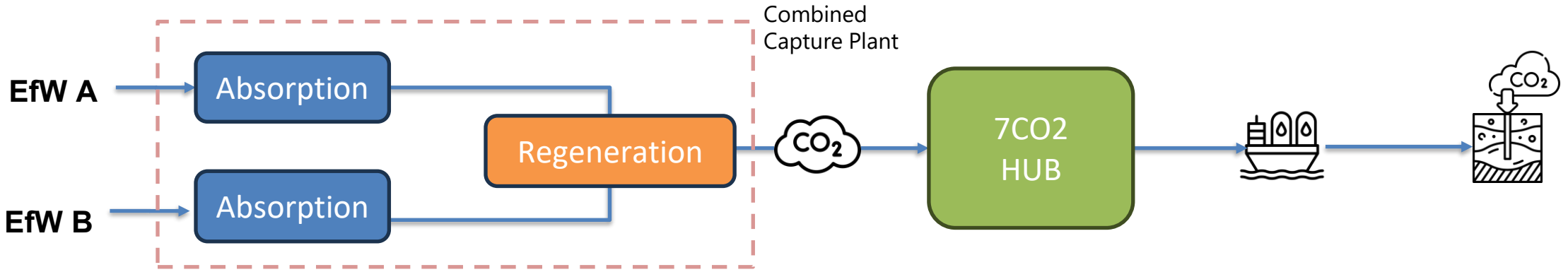
CHP Case: independent CHP integrated with each capture plant



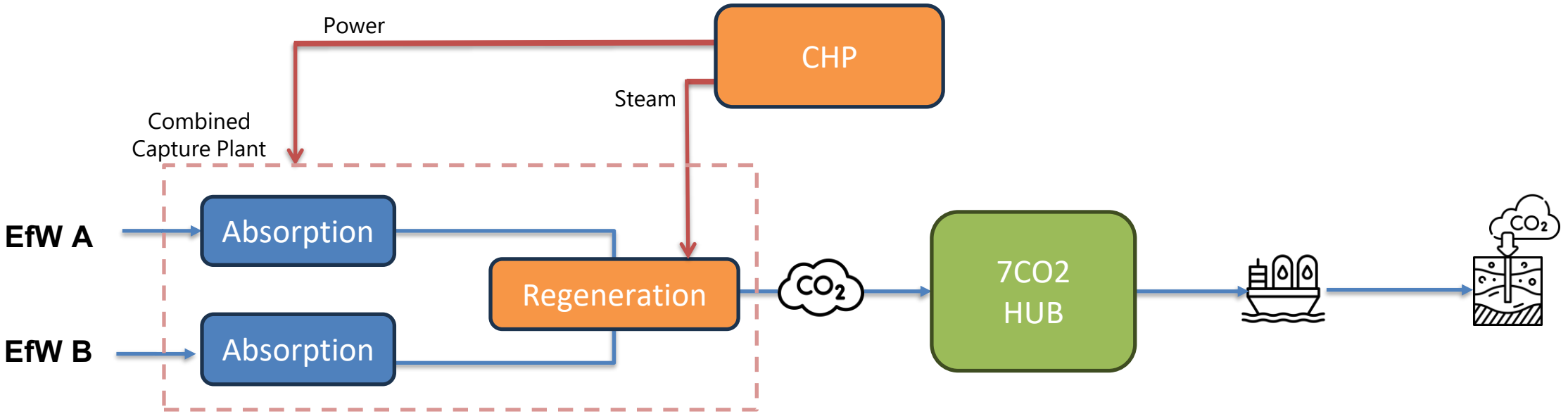
CHP Combined CCS Solution to be confirmed during engineering study

Alternatives for Capture Plant development

Combined capture: common capture plant for both emitters



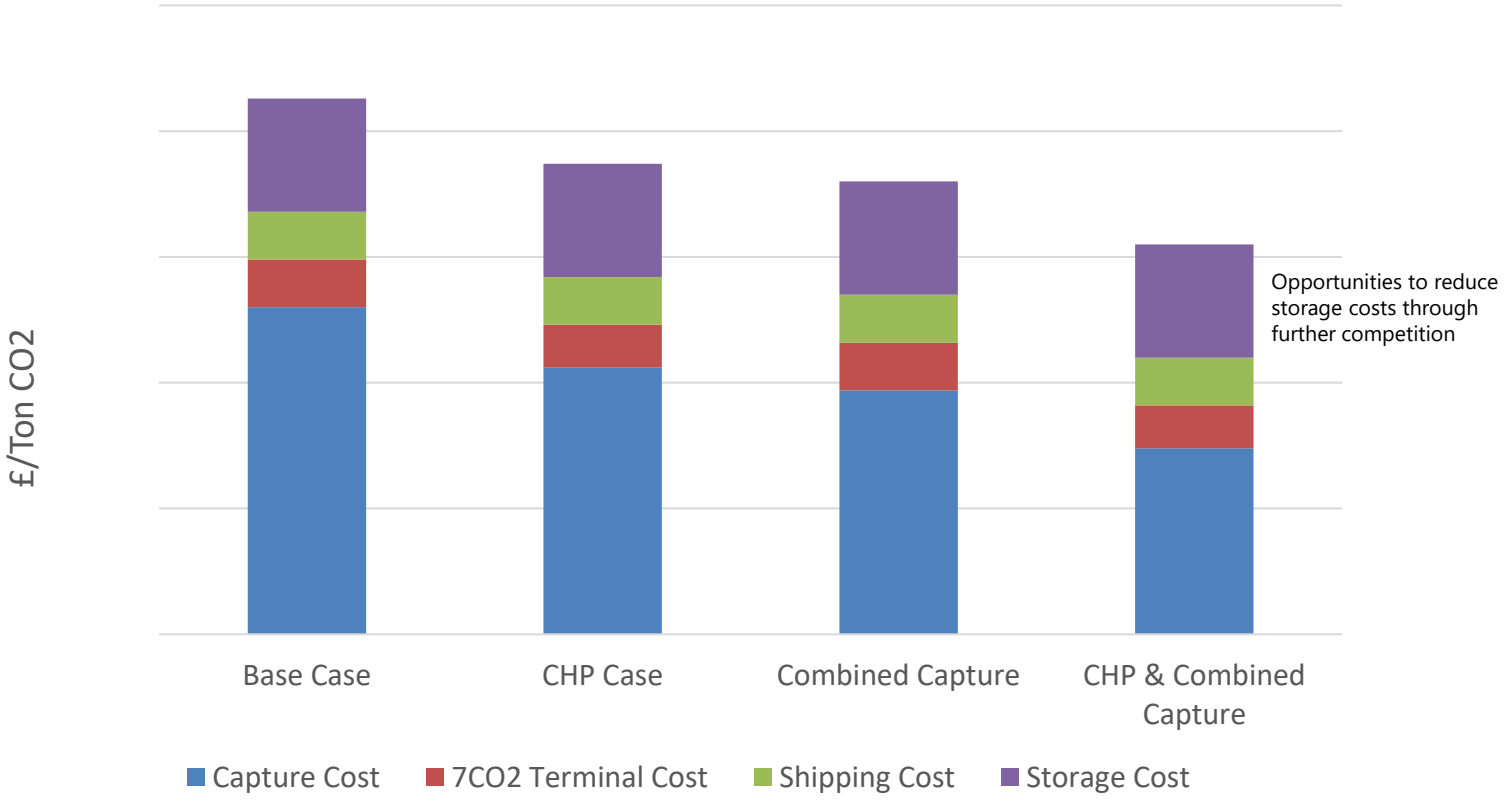
CHP & combined capture: common CHP integrated with the capture the combined capture plant



CHP Combined CCS Solution to be confirmed during engineering study

Preliminary cost estimation

for configuration options



Cost Reduction	0%	12%	15%	28%

CHP & Combined Capture benefits:

- Shared regeneration and auxiliaries
- No disruption to EfW power and operations
- Use of shared, low value land with power, water and gas connections in place
- A joint CCS development with CHP could be deliverable at or around forecast carbon prices, offering a low subsidy project for Government to initiate NPT in the UK