



Carbon Contract for Difference

ERCST, October 13, 2021

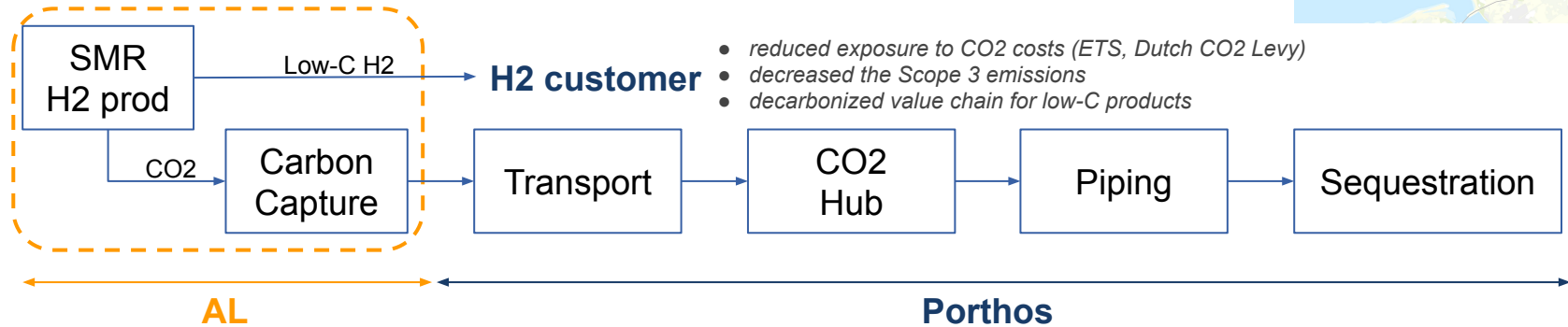
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AIR LIQUIDE, A WORLD LEADER IN GASES, TECHNOLOGIES AND SERVICES FOR INDUSTRY AND HEALTH



Air Liquide in the Porthos project

Low Carbon H2 supply from AL CCS retrofitted unit



Business case principles

- SMR H2 production unit retrofit with Carbon Capture, combined with a CO2 export and sequestration solution
Build-Own-Operate-Maintain on SMR incl. CO2 Capture retrofit perimeter + CO2 export and sequestration services

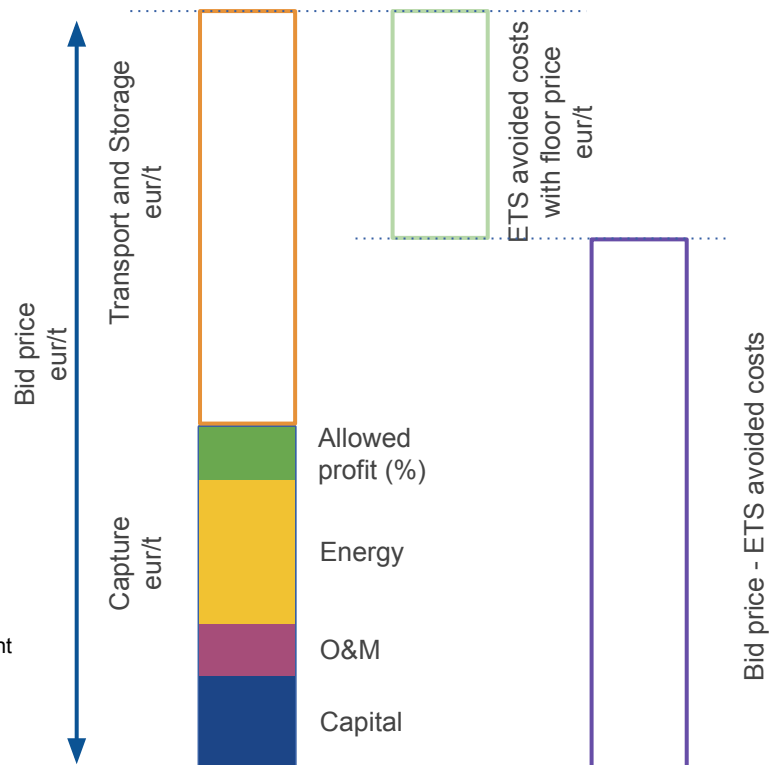
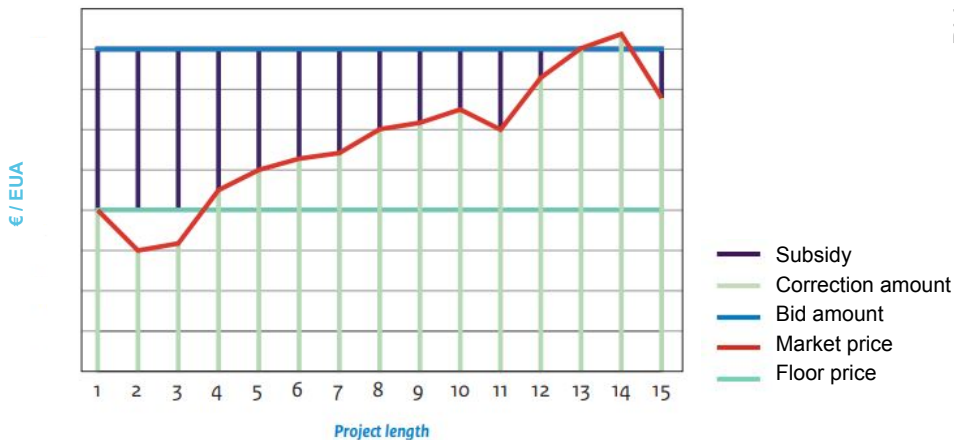
Porthos 1 overview

- CO2 transport and storage infrastructure developed by EBN, Gasunie, Port of Rotterdam authority
- 20km offshore pipeline to platform in the North Sea and storage in empty gas fields
- CO2 capture by: Air Liquide, Air Products, ExxonMobil, Shell
- Capacity P18 fields: 37 Mton
- Storage ~2.5 Mton CO2 per year
- Planning: operational in 2024 (exp.)

CCfD under SDE++ (Dutch State subsidy mechanism) how it works?



- Emitters bid at certain level of max base price specific for category of project
- Actual payout is the bid price - / - Correction Amount (follows actual EU ETS prices)
- Maximum payout is 15 yrs, max, 8000 Full Load Hours per annum.



CCfD scheme under SDE++ Subsidies

Selection criteria - CCfD under SDE++



Selection process:

- Fixed budget to be disposed via tender format (e.g. €9 billion in 2 calls in 2020)
- all projects under category compete based on:
 - subsidy intensity and
 - time of application (first come, first serve)
- the most cost-effective technologies are awarded first
- “expensive” technologies run the risk of not being awarded a subsidy because the total budget is exhausted.
- SDE++ subsidy rounds to be held annually, categories and subsidy amounts revisited annually

Main competing categories:

- Renewable electricity
- Renewable heat (CHP)
- Renewable gas
- Low-CO2 heat
- Low-CO2 production (incl. CCS)

CCfD - effective way to create the conditions for an investment grade project through providing long-term certainty on revenues.

Questions?