



A large-scale CO<sub>2</sub> transport service  
enabling offshore storage

*A major step towards meeting decarbonisation goals.*

# About the project

Aramis aims to contribute to the energy transition by offering a large-scale CO<sub>2</sub> transport and storage solution for hard-to-abate industries

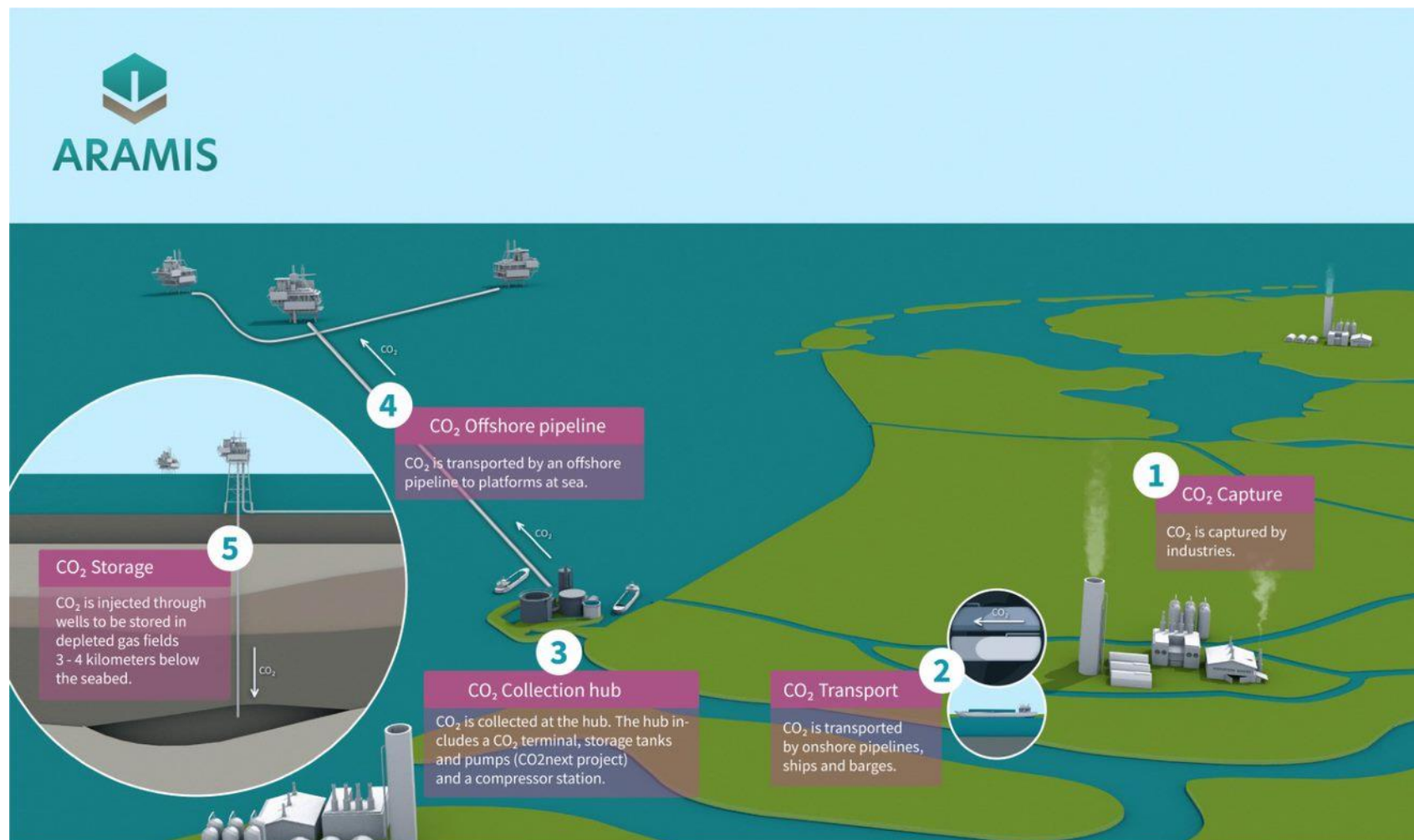
Aramis will construct an **open access** infrastructure with a maximum capacity of ca **22 Mtpa**

EU Project of Common Interest





# Aramis in summary



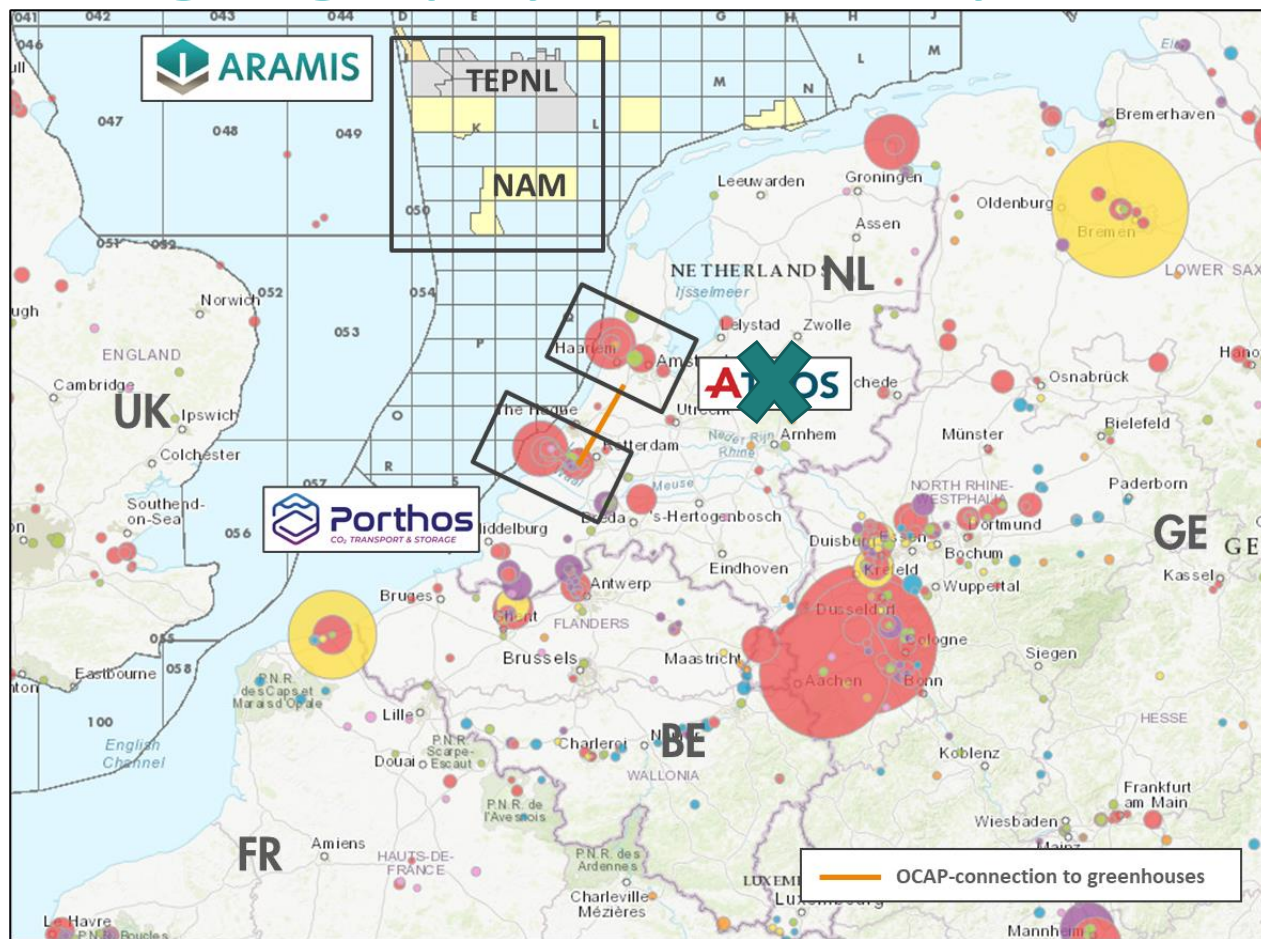
## Transport

- Porthos onshore pipeline and expansion of Porthos compressor station. Adding own compressors.
- Shipping via coasters and barges to a new terminal (CO<sub>2</sub>next)
- New offshore pipeline to storage locations (**dense phase**)

## Storage

- Depleted gas fields

# CCS geography and history



Emissions based on 2018 ETS-data coloured by sector: Power/Energy (red), Steel (yellow), Chemicals (purple), Waste (Green), Minerals (Blue)

## Public initiative:

- ◆ Porthos (2017) – targeting start-up in 2025

## Aramis started as private initiative

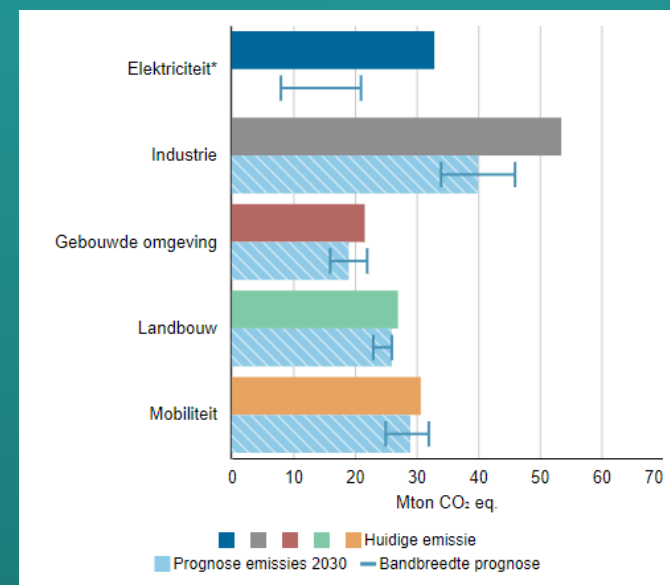
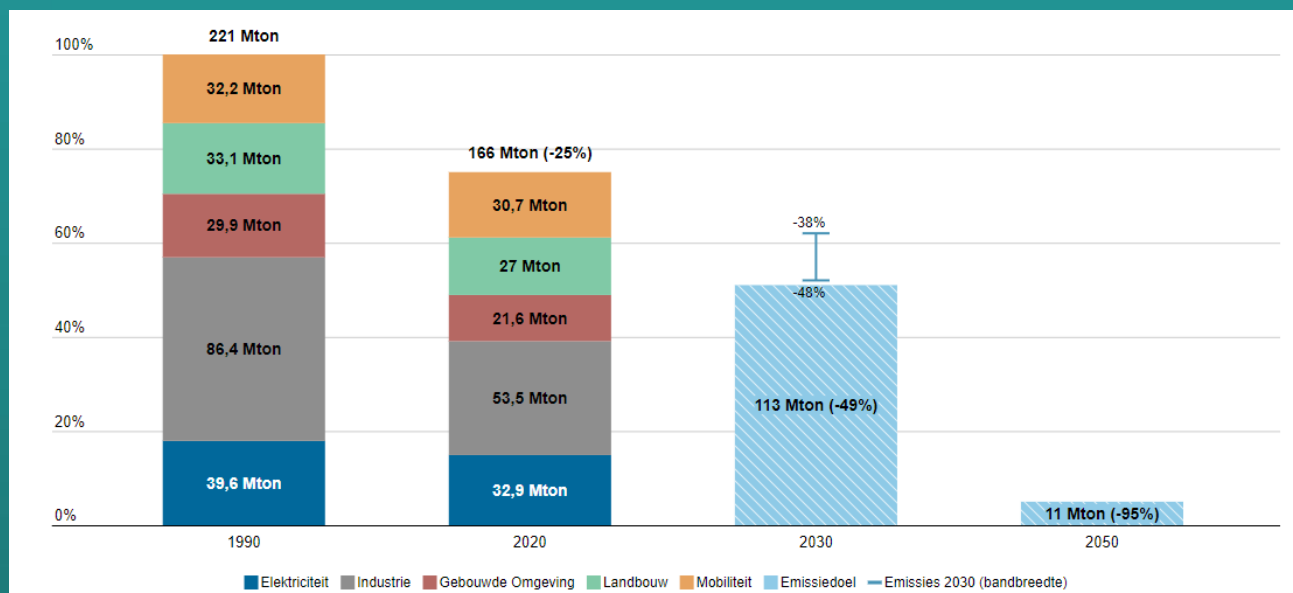
- Initial focus on stores
- Part of corporate energy transition strategy TotalEnergies and Shell
- ◆ Public-private co-operation with EBN & Gasunie joining in September 2021:  
[www.aramis-ccs.com](http://www.aramis-ccs.com)



# Dutch climate policy

- 55% CO<sub>2</sub>-reduction by 2030 (vs 1990)
- 95% CO<sub>2</sub>-reduction by 2050

Aramis will enable 5 Mtpa CO<sub>2</sub> emission reduction at launch growing to 22 Mtpa by 2035



## Government view on CCS

- Transition technology
- CCS is essential in meeting 2030 CO<sub>2</sub> reduction targets
- Project of Common Interest
- "Rijkscoördinatieregeling"



# Aramis offshore infrastructure



Careful planning of offshore trunkline, avoiding

- Nature areas
- Anchor drop areas
- Sand extraction areas
- Other pipelines and cables
- Shipping lanes
- Historical UXO areas
- Future windparks

Considering future Northsea projects, interests offshore stakeholders and subsea conditions



# Environmental impacts?



**Aramis examines the following  
environmental impacts**

Soil, water, safety, nature, health,  
archaeology, visual aspects, traffic,  
use of space, available techniques,  
energy, CO<sub>2</sub> emissions, waste



# High-level timeline

## STEP 1



2018-2021

Feasibility study and setting-up of partnerships.  
Application for EU PCI-status

## STEP 2



2021-2024

Design of the concept jointly with emitters and other stakeholders

## STEP 3



2025-2026

Construction Fase

## STEP 4



2026-2027

Go-live. First CO<sub>2</sub> transport & storage of Dutch emissions

## STEP 5



Beyond 2027

Expansion of additional Dutch CCS and potential cross-border CO<sub>2</sub> transport

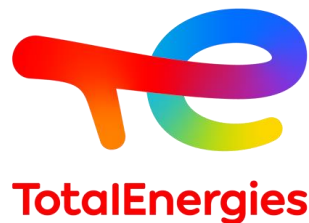
## Status update October 2022



- Significant interest in the project by industry
- Target customers have applied for SDE++ subsidy
- Heads of Terms signed for launching volume (5 Mtpa) with 9 emitters
- A dedicated Aramis project organisation is being worked
- EIA studies (MER) have started



- Public-private partnership
- Decades of experience in gas transport and storage in the Netherlands and abroad





Thanks for your attention!

[www.aramis-ccs.com](http://www.aramis-ccs.com)

[Info@aramis-ccs.com](mailto:Info@aramis-ccs.com)





## Disclaimer

EBN, Gasunie, Shell and TotalEnergies entered into a cooperation agreement to explore the possibility of setting up a joint venture to jointly develop a CO<sub>2</sub> transport activity unlocking a large Dutch offshore storage area. The present documentation and related discussions are entirely prospective and non-binding. They create no obligations on EBN, Gasunie, Shell, TotalEnergies or the prospect.