

#OneteamOnetarget

# Expand

CO<sub>2</sub> emissions need to drop sharply. That's why we're expanding our infrastructure into a multi-molecule system with highways for hydrogen and CO<sub>2</sub> to decarbonise the economy. This is our essential contribution to climate objectives.





# Giving our all for the infrastructure to help Europe decarbonise



## Belgium

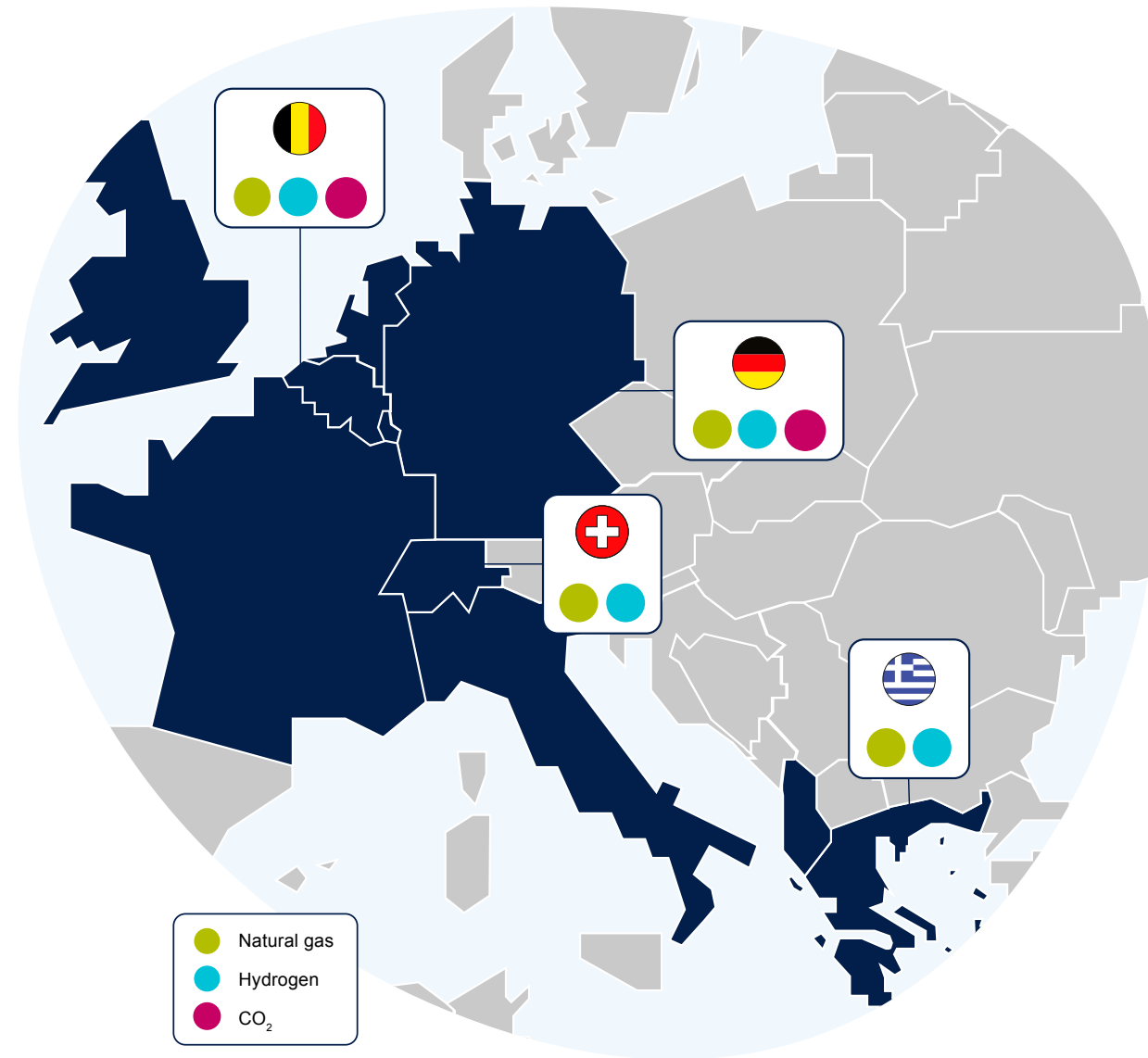
In Belgium, Fluxys is all set to develop the necessary hydrogen and CO<sub>2</sub> infrastructure for the national and North-West European economy: see Belgium all set to become tomorrow's multi-molecule hub, p. 52.

## Switzerland

Transitgas and FluxSwiss are mapping out the central role that the Transitgas pipeline can play in the future for the transit of green hydrogen that can be imported into Southern Europe from North Africa. These transit flows also lay the foundation for the quantities of hydrogen that Switzerland will need.

## Greece

In Greece, DESFA developed a proposal for the appropriate transport infrastructure to connect supply and demand for hydrogen. This proposal is the starting point for a growing hydrogen network in Greece and neighbouring countries.



## Germany

In Germany, Fluxys TENP and Fluxys Deutschland are actively involved in the long-term approach for developing **hydrogen transport infrastructure on the mainland** within FNBGas, the association of gas transmission system operators.

Together with transmission system operator Gascade, Fluxys is developing **AquaDuctus**, an offshore pipeline project to carry green hydrogen produced offshore at wind farms in the North Sea to the German mainland. The pipeline is set up as a **subsea backbone** in which hydrogen from different production platforms can be combined and to which other international hydrogen flows in the North Sea can connect.

Fluxys Belgium and transmission system operator Open Grid Europe (OGE) are working together to have the cross-border infrastructure ready by 2028 to ensure hydrogen can flow from Belgium to Germany.

For CO<sub>2</sub> transport, Fluxys Belgium works together with TSO Open Grid Europe and energy producer Wintershall DEA. The aim is to have, by 2030, the cross-border infrastructure ready to be able to transport CO<sub>2</sub> from industry in Germany via Belgium to permanent offshore storage.

## Hydrogen and CO<sub>2</sub> infrastructure: a dual solution

### Industrial processes for which hydrogen is the best solution

– For many companies, hydrogen is the right choice when weighing up the best balance between security of supply, climate impact and cost. A range of industrial processes also requires high temperatures for which (renewable) electricity is not an option. Connecting these industries to a hydrogen supply gives them a chance to switch to the best carbon-neutral alternative. The same goes for industries that use carbon-intensive feedstock.

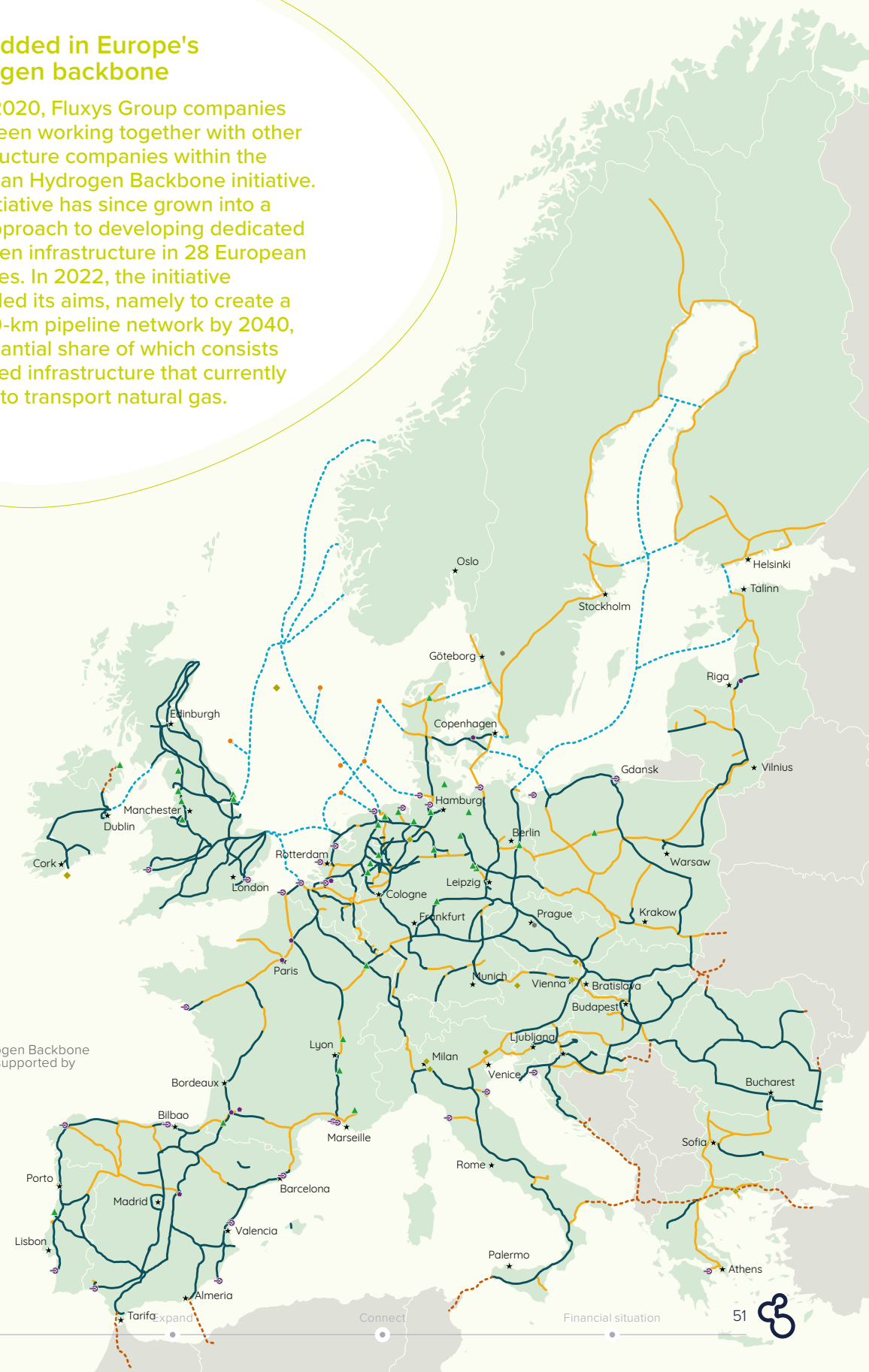
### Industrial processes that produce CO<sub>2</sub>

– Carbon capture, use or storage is considered a key technology for reducing CO<sub>2</sub> emissions and creating clusters for the circular reuse of CO<sub>2</sub> in the production of, for example, carbon-neutral biofuels. This technology is vital to safeguard sectors that are difficult to decarbonise and involve industrial processes that produce CO<sub>2</sub>. The availability of infrastructure for the transmission of captured CO<sub>2</sub> to destinations for reuse or storage is a cornerstone of this solution.

### Embedded in Europe's hydrogen backbone

Since 2020, Fluxys Group companies have been working together with other infrastructure companies within the European Hydrogen Backbone initiative. The initiative has since grown into a joint approach to developing dedicated hydrogen infrastructure in 28 European countries. In 2022, the initiative expanded its aims, namely to create a 53,000-km pipeline network by 2040, a substantial share of which consists of reused infrastructure that currently serves to transport natural gas.

European Hydrogen Backbone initiative 2022, supported by Guidehouse



# Belgium set to become tomorrow's multi-molecule hub



Given the developments in the legal and regulatory framework, and in line with industrial demand, we are thoroughly preparing to convert our network into a multi-molecule system which we will use to transport not only natural gas and biomethane but also hydrogen

and other carbon-neutral molecules and CO<sub>2</sub>. This will enable us to offer industry powerful tools for reducing large-scale CO<sub>2</sub> emissions and thus sustainably safeguarding economic activity and employment.

## First transmission infrastructure for hydrogen/CO<sub>2</sub> in 2026

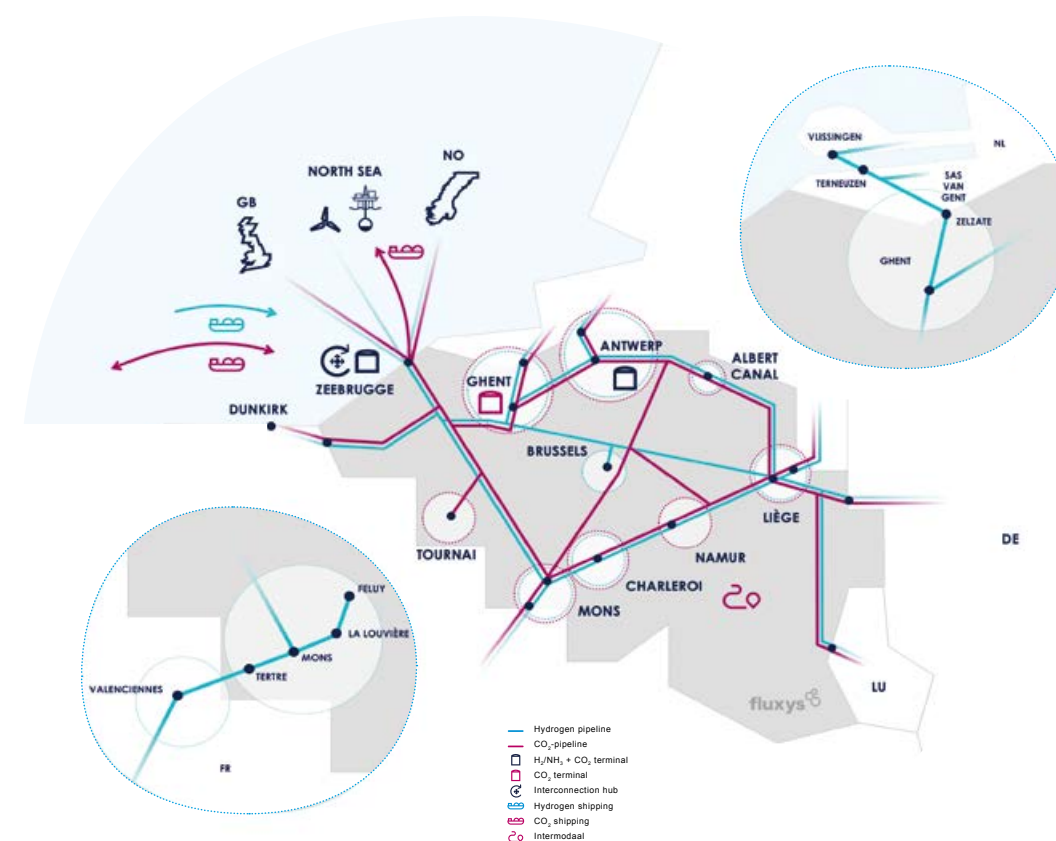
Our approach to providing Belgium with the necessary hydrogen and CO<sub>2</sub> infrastructure is shaped in cooperation with our customers, the authorities, neighbouring operators, distribution system operators and other stakeholders. We aim to have the first hydrogen and/or CO<sub>2</sub> pipelines in Belgium ready for use by mid-2026. Every effort will be made to take the necessary investment decisions in this regard.

We develop the infrastructure in industrial clusters and establish connections between them and neighbouring countries. This will allow us to develop the appropriate backbone infrastructure and lay the foundations for sustainably cementing Belgium's role as an energy crossroads by making the country a hydrogen and CO<sub>2</sub> hub for North-West Europe.

## Terminalling projects for hydrogen and CO<sub>2</sub>

In Belgium, Fluxys works together with various partners on projects to give hydrogen and CO<sub>2</sub> the widest possible diversification and optionality. The aim is to provide hydrogen consumers with access to production locally or from neighbouring countries, from wind

in the North Sea and from overseas imports. The same applies to CO<sub>2</sub> infrastructure: we are focusing on various strategies that industry needs, with transmission for reuse and various export possibilities.



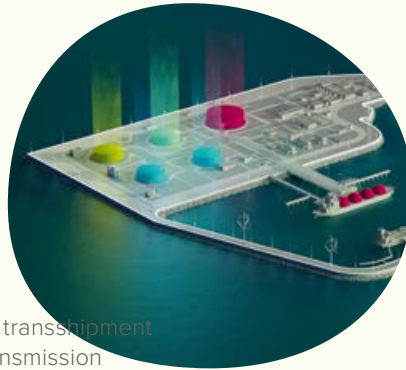


## Overview of hydrogen and CO<sub>2</sub> infrastructure in Belgium

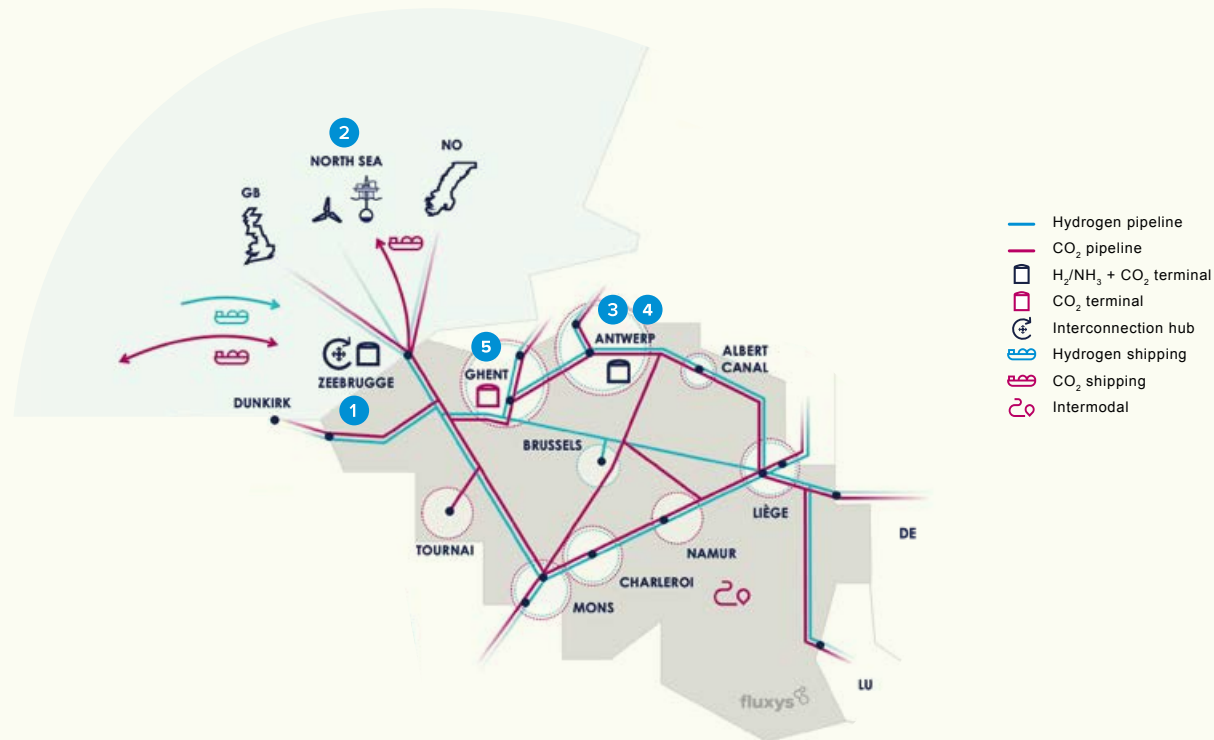
### First transmission infrastructure in 2026

#### 1 fluxys

### Zeebrugge as a multi-molecule hub



- Open-access terminal
- Importing hydrogen or derivatives for transshipment to the hydrogen network and then transmission within Belgium and to neighbouring countries
- Receiving captured CO<sub>2</sub> from the CO<sub>2</sub> network with two export options:
  - liquefaction, intermediate storage and loading onto ships to be taken to permanent offshore storage
  - transshipment to an offshore pipeline for transmission to permanent offshore storage
- Status: preliminary studies

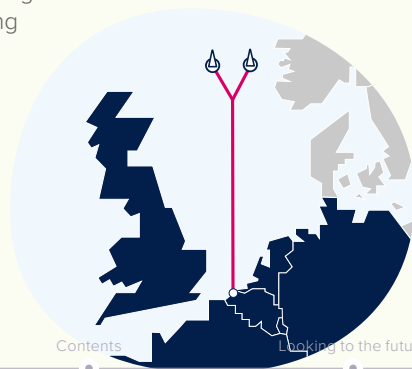


#### 2 fluxys



### Offshore CO<sub>2</sub> pipeline in the North Sea

- Open-access pipeline
- Project with Equinor
- Pipeline of about 1,000 km for CO<sub>2</sub> exports from Zeebrugge to permanent storage in the North Sea
- Capacity of 20 to 40 million tonnes of CO<sub>2</sub> per year
- Status: feasibility study
- Proposed timing: commissioning before 2030



#### 3 fluxys



### Antwerp@C CO<sub>2</sub> Export Hub

- Open-access terminal
- Fluxys Belgium project with Air Liquide
- Multimodal terminal for receiving, liquefying and temporarily storing CO<sub>2</sub> and loading it onto ships to be taken to permanent offshore storage
- Capacity up to 10 million tonnes of CO<sub>2</sub> per year
- Status: engineering & design
- Proposed timing: commissioning in 2026

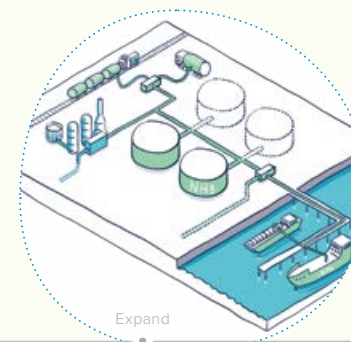


#### 4 fluxys



### Import terminal for green ammonia in Antwerp

- Open-access terminal
- Fluxys Belgium project with Advrio Stolthaven Antwerp and Advrio Gas Terminal
- Import terminal for green ammonia: use of green ammonia as a carbon-neutral feedstock and fuel and possibly also its conversion into green hydrogen for transmission in the hydrogen network
- Status: feasibility study
- Proposed timing: commissioning in 2027



#### 5 fluxys



### Ghent Carbon Hub

- Open-access terminal
- Fluxys Belgium project with ArcelorMittal Belgium and North Sea Port
- Multimodal terminal for receiving, liquefying and temporarily storing CO<sub>2</sub> and loading it onto ships to be taken to permanent offshore storage
- Capacity of up to 6 million tonnes of CO<sub>2</sub> per year
- Status: feasibility study
- Proposed timing: commissioning in 2028

