Network Development Plan Fluxys c-grid

2026-2035

Disclaimer

With respect to the present development plan, the general disclaimer applies that the information contained herein is based on working assumptions regarding future investments and the potential re-use of existing infrastructure, which may be affected by, among other factors, changing market conditions, the timing and outcome of permitting procedures, financing terms and risk-mitigating measures provided for under the applicable legal or regulatory framework, the availability of resources, and any changes in the legal or regulatory framework. The author of the present development plan disclaims any and all liability for any loss or damage resulting from the use of, reliance on, or interpretation of the information contained herein.

1. Purpose and legal framework

The purpose of this document is to describe the network developments and investments that are foreseen in Flanders & Wallonia by the designated Carbon Network Operator Fluxys c-grid ("CNO"), for a period of at least ten years. The network development plan outlined in this document can serve as a basis for the tariff proposal.

The scope and timing of these infrastructure developments and related investments may evolve in response to:

- Changing domestic and international market dynamics;
- The actualization and maturation of market demand and commitments;
- Technical and regulatory constraints, including permitting, availability of pipelines that can be reused and overall project readiness;
- The availability of risk mitigation mechanisms and supporting policy frameworks.

As such, this plan should be interpreted as an evolving framework, intended to provide transparency and guidance while remaining adaptable to future developments. The execution of this plan is subject to signed contracts and analyses confirming the technical feasibility and economic justification of the investments.

This document has been prepared for the exclusive use by the recipient in the context of current and future requests for the development of the CO_2 backbone (hereafter referred to as the "CO_2 backbone").

The information in this document is provided according to Fluxys c-grid's best ability and in good faith based on feedback and business intelligence that Fluxys c-grid collected and developed. This document is established in accordance with articles 19 and 39 of the Flemish decree dated 29 March 2024 on the transport of carbon dioxide through pipelines in the Flemish Region (the "Flemish decree") and article 23 of the Walloon decree dated 28 March 2024 on the transport of carbon dioxide through pipelines (the "Walloon decree").

2. Context

The aforementioned Flemish and Walloon decrees provide, among others, the tasks that the designated Carbon Network Operator of the CO_2 backbone needs to fulfil upon their designation. The Flemish decree also provides for the designation of local carbon network operators, i.e. operators of local clusters. Local clusters are transport infrastructure networks within a confined geographical area transporting carbon dioxide of at least two producers which are located within that area. For the avoidance of doubt, this network development plan is limited to the investment plan of Fluxys c-grid only and does not consider any investments within the local Antwerp cluster.

Fluxys c-grid was incorporated on the 23rd of November 2023, with the goal of becoming operator of the CO_2 pipeline infrastructure in both the Flemish and the Walloon Regions. The Walloon and Flemish Governments appointed Fluxys c-grid as the CNO in the Walloon and Flemish Region on, respectively, 17th of July 2025 and 24th of October 2025.

According to both the Flemish and the Walloon Decrees, the designated carbon network operator has the obligation to draft and submit a network development plan ("NDP"), including amongst others different development scenarios, an investment program with planned investments over different periods, and a detailed description of the eligible existing transport infrastructure from other operators and to be built CO_2 transportation infrastructure.

The NDPs, with a horizon of at least ten years, have to be filed for approval every two years (Flemish Region) and revised once a year (Walloon Region)[1]. These plans are approved by the Flemish and Walloon Governments, upon advice of, respectively, the Flemish regulator VNR and the Walloon regulator CWaPE.

For the avoidance of doubt, these plans are indicative and their realisations (or part thereof) are subject to investment decisions of the respective relevant governance bodies of Fluxys c-grid and positive business cases.

[1] Decree adaptation being prepared to modify frequency to every two years

3. Network Development Plan

a. Flemish Region (excl. Antwerp cluster)

i. Detailed estimation of capacity needs, with indication of underlying hypotheses and future expectations for a period of respectively 3 & 10 years

In 2021, Fluxys[2] started a cooperative commercial process to better understand the capacity needs of the market. The cooperative commercial process is an ongoing and iterative process and will further evolve over time based on market changes.

Potential emitters were invited to fill in a **'Request for Information'**, resulting in a clear need for CO_2-network infrastructure in certain locations by a certain time. Based on the 'Request for Information', Fluxys published an information memorandum to explain the key principles of the expected commercial model[3]. To develop the infrastructure in an efficient way, Fluxys invited the market to confirm their interest in the proposed CO_2-network infrastructure via an **'Open Season'**. The 'Open Season' is a call for tender showing an intention to subscribe long term capacity on the future CO_2 network in a transparent and non-discriminatory way. The emitters indicated their preferred exit options being, a.o.,

- Zeebrugge (via offshore pipeline to a storage in the North Sea (e.g., UK or Norway)),
- Antwerp terminal (via ship to a storage in the North Sea) or
- The Netherlands via onshore pipeline.

Fluxys is developing a CO_2 export hub including compressor station in Zeebrugge, connecting the onshore network with an offshore pipeline to Norway being developed by Equinor or to an offshore pipeline to UK. The market showed significant interest in the exit option Zeebrugge given the value chain cost to exit via offshore pipeline appears to be lower compared to the shipping alternative if sufficient volumes materialize.

The Open Season is followed by the 'Expression of Interest', a contract between Fluxys and the emitter. Based on the requested capacity and timeline, Fluxys commits to perform a feasibility study to connect the emitter with the CO_2-network. The signed Expressions of Interest and latest market intelligence indicate no transport capacity need by end 2028 and around 21 Mtpa by 2035, of which around 10 Mtpa for a vapour network and 11 Mtpa for a dense transit pipeline[4]. The vapour network should be developed to connect emitters

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[2] Initially Fluxys Belgium and, upon its creation and designation as CNO, Fluxys c-grid.

[3] The information memorandum is published on the website https://www.fluxys.com/nl/projects/carbon-preparing-to-build-the-network

[4] The expected volumes for the dense transit pipeline are 11Mtpa flowing on Flemish and Walloon soil and should not be double counted.

located in Belgium with their preferred exit point. The dense pipeline should transport volumes collected in Eynatten (Belgian-German border) to Zeebrugge. These assumptions are based on current market intelligence and might change in the future.

To optimise the investment cost of the CO_2 network to be developed, Fluxys envisions to start with a commercial model offering capacities from an entry point to an exit point. Consequently, interested emitters have been asked to identify their preferred exit point.

A capacity of 1.1 Mtpa was requested from the Mons area to the Antwerp terminal from the end of the 20's. In the horizon of the early 30's, capacity requests by emitters located in Flanders and Wallonia were identifying Zeebrugge as exit. Finally, a capacity demand of 11 Mtpa has been expressed for the dense pipeline. Adding additional compression pumps could increase the capacity of the dense pipeline if market demand increases.

The expected volumes over time for a period of ten years are shown on the figure below:

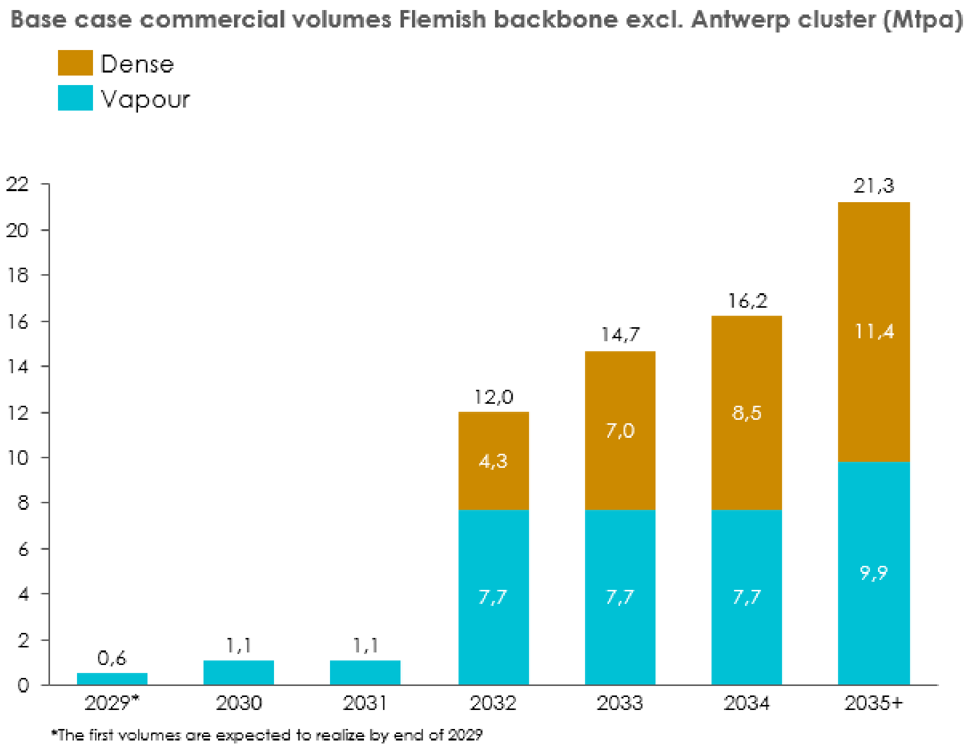

FIGURE 1: BASE CASE COMMERCIAL VOLUMES FLEMISH BACKBONE

ii. Investment program for network development, including concretely planned investments for period of 3 years and planned investments for a period of 10 years

Based on the identified capacity needs, the entry points and the preferred associated exit options as described in the previous section, the infrastructure and its related investment are developed. The network will be developed in phases based on analyses confirming the technical feasibility and economic justification of the investments, and subject to supporting signed contracts.

To connect the prospect having expressed interest from the late 20's with the requested exit point of Antwerp terminal, pipeline infrastructure on Flemish territory between Brakel (interconnection point Flemish and Walloon regions) and Kallo (interconnection point Flemish region and Antwerp cluster) is required.

To act as a responsible and diligent network operator and to limit the investment in a first phase, Fluxys c-grid is investigating the possibility to repurpose eligible existing Fluxys Belgium's CH4 pipelines between Zomergem-Brakel, and temporarily re-use Zelzate Klein Rusland-Zomergem and the Fluxys hydrogen's pipeline between Zelzate JFK and Kallo, provided the CH_4 and H_2 market does not require the pipeline[5]. Subject to the availability of these pipelines, only a small section between Zelzate Klein Rusland and Zelzate JFK requires a new-built CO_2-pipeline that still needs to be constructed.

The development of the pipeline infrastructure between Brakel, via Zomergem, Ghent and Kallo consists of around 105 km pipeline. The investments to enable a connection for the first customer between Mons and the Antwerp liquefaction terminal will already start within a period of 3 years, aiming at completion in 2029. The assumed timeline remains subject to signed commercial contracts and alignment with the development schedule of the Antwerp liquefaction terminal.

An overview of the project segmentation, pipeline diameter, and length for this first phase is presented in the table below.

[5] All assumptions regarding temporary or definitive re-use of CH_4 or H_2 pipelines have been made coherently through the respective CH_4 or H_2 network development plans

Project location	New/ Re-use	Network length [km]
Zelzate JFK - Kallo	Temporary re-use (DN600)[6]	~35
Zelzate Klein Rusland – Zelzate JFK	New-built (DN600)	~3
Zelzate Klein Rusland-Zomergem	Temporary re-use (DN600)	~21
Zomergem-Brakel	Repurposing (DN1000)	~46
Total	/	**~105**

TABLE 1: INVESTMENT OVERVIEW FLEMISH BACKBONE BY 2029[7]

The initial investment by 2029 is however not sufficient to serve the identified transport capacity for the next ten years. Complementary investments are required to connect the additional identified emitters to the network in a second phase and reinforce the axis Zelzate JFK-Kallo to allow additional flows from Ghent area & Wallonia to and from the Antwerp area.

The Zeebrugge station is a key asset in the CCUS value chain to increase pressure (to transform CO_2 from vapour to dense phase) before exiting via offshore pipeline (to storage in UK or Norway) and unlocking the most cost competitive exit route.

Analysis also indicated that it is most efficient and cost effective to transport volumes from Eynatten to Zeebrugge in dense phase. When CO_2 is kept at higher pressure and enters a dense or supercritical state, its density increases significantly compared to vapour phase. This allows the same pipeline diameter to carry a much larger mass flow, making long distance transport more efficient and reducing pressure losses along the route. As a result, dense phase transport is generally preferred for corridors where high volumes and consistent throughput are required over a longer distance, offering a practical and robust solution for CO_2 transmission.

The complementary investments in the vapour and the dense networks indicated in the table below as envisaged in a second phase, should be sufficient to serve the current market demand, but remain subject to analyses confirming the technical feasibility and economic justification of the investments and signed contracts. If the market demand

[6] Pipeline built for transport of hydrogen by Fluxys hydrogen but temporarily used for transport of CO_2 in the first phase only

[7] Investments are best estimates based on current market intelligence and are subject to revision

increases significantly, additional investments will be considered if technically feasible, economically justified and supported by additional signed contracts. An overview of the expected additional investment by 2035 can be found in the table below.

Project location	New/ Re-use	Network length [km]	COD[8]
Kallo-Zelzate JFK	New (DN1000)	~35	2032
Zomergem-Zeebrugge	New (DN1200)	~29	2031
Ghent NL border (incl. metering)	New (DN1000)	~3	2032
Zelzate – Gent Rodehuizendok	New (DN600+DN1000)	~8	2032
Zeebrugge-Vreren[9]	New (DN700)	~222	2032
Zeebrugge station[10]	New	/	2031-2035
Total	**/**	**~297**	**/**

TABLE 2: OVERVIEW OF COMPLEMENTARY INVESTMENTS FLEMISH BACKBONE BY 2035[11]

[8] COD: Commercial Operational Date

[9] The pipeline Zeebrugge-Vreren is part of the transit pipeline Zeebrugge-Eynatten which will be constructed in Flanders & Wallonia and crosses the border multiple times.

[10] Zeebrugge station includes ~10km intersite pipelines

[11] Investments are best estimates based on current market intelligence and are subject to revision

A visual overview of the Flemish part of the long-term network is shown on the figure below:

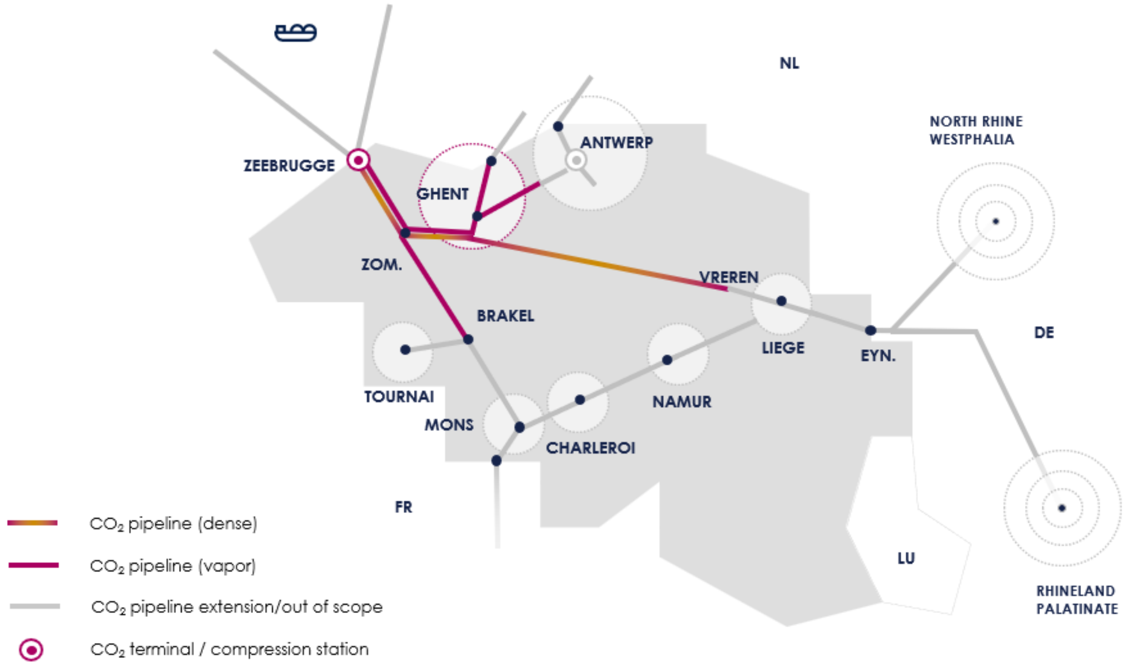

Figure 2: Indicative network development Flemish backbone by 2035

iii. Description of the expected future level of use of the network

Expected future transport capacity needs, including the preferred exit options defined by the commercial process, serve as input to determine the pipeline diameter for each section of the network. It is assumed that emitters will use 100% of the transport capacity requested.

iv. Detailed plan of existing parts and parts to be built of network

A detailed overview of reuse of existing pipelines and new to be built pipelines is given in the previous section.

v. Technical description of existing and to be built pipelines and CO_2 quality specifications with which such pipelines will be compatible

The operational parameters are defined to accommodate CO_2 transport via reused and new pipelines.

For the vapour network, CO_2 will be transported in a gaseous state between 20 barg and 35 barg. Within the operating temperature range of 10 and 40°C, the pressure is always kept below 35 barg to avoid the formation of CO_2 in the liquid phase and the complexity of two-phase flows.

For the CO_2 dense-phase network between Eynatten and Zeebrugge, transport is carried out in a dense phase to ensure high capacity and efficiency. The pipeline has a total length of approximately 270 kilometres. The pressure range typically lies between 100 and 160 barg, with a design pressure of around 180 barg, ensuring that CO_2 remains in a stable dense phase under all operating conditions. The operational temperature is maintained within a range of 10°C to 40°C.

A CO_2 transport pipeline network usually consists of several components, which are listed below:

- Transport pipelines

The pipelines are made of carbon steel and comply with the standards of the American Petroleum Institute (API) and the International Organization for Standardization (ISO). Based on an analysis of network capacity carried out by the Fluxys group, the diameters may vary. For CO_2 transport in gaseous form, the diameter will vary between DN600 and DN1200 (DN = nominal diameter), depending on the volumes to be transported and the distances to be covered.

The pipes are made from metal sheets that are folded into the shape of a pipe and the ends are welded or fused together to form a pipe section. The pipes are tested before they leave the steel mill to ensure that they meet the pressure and strength requirements for transporting CO_2.

Coating is applied to the pipes to ensure that they do not corrode once they are placed in the ground. The purpose of the coating is to protect the outside of the pipe from moisture, corrosive soil, and construction-related defects that cause corrosion and rust, among other things. For pipes with a larger diameter (currently from DN600), a flow coating is applied. This is an internal coating with the main purpose of providing a smooth pipe inner surface with minimal friction. In addition, the pipelines are protected by cathodic protection, a technique in which an electric current is sent through the pipe to prevent corrosion and rust formation.

- Injection & measuring stations

Each injection & exit point is equipped with measuring systems to continuously measure the injected volumes and gas composition.

Measuring stations are installed at interconnection points, which are located at the Belgian border or at the exit points. Specialized meters (Coriolis) are used to measure the CO_2 as it flows through the pipeline, without impeding the flow.

- Grid Sectioning Valves (GSV)

A CO_2 transport network contains a large number of valves along the entire route. These valve nodes are used in the event of an emergency or in the context of planned maintenance work, so that work crews have safe access to the infrastructure. These installations are placed at least every 15-20 km along the pipeline.

Reuse of existing pipelines for CO_2 transport, when available, is a strategic solution to rapidly develop a CO_2 network while making optimal use of existing infrastructure. Instead of building new pipelines, sections of existing grids are adapted to safely and efficiently carry CO_2.

The core of this approach involves disconnecting selected sections from the existing grid and reconnecting them to the CO_2 network. All components — pipes, valves, and stations — must be made compatible with CO_2 service, which requires a series of technical interventions.

First, connections to the existing CH_4 or H_2 grid are removed and replaced with new links, often to allow pigging (internal inspection and cleaning) over long stretches. Valves nodes must be checked and adapted for CO_2 service. Complex nodes are simplified into GSV (Gas Sectioning Valve) arrangements to eliminate dead ends and improve safety. At strategic points, new quality and temperature measurements are installed to continuously monitor the CO_2 flow. Stations along the route will require tailored modifications: some only need valve adjustments, while others require major works, including new connections, pig stations, and measurement facilities.

The CO_2 quality specifications are an essential part in a well-functioning CO_2 transport infrastructure. By carefully defining and enforcing these specifications, a sustainable and safe CO_2 transport environment can be created. The specifications will be based on key factors:

- Network integrity
- Operational safety
- Interoperability with adjacent networks

In March 2022, Fluxys Belgium made an initial proposal by publishing a CO_2 quality specification on its website. This proposal aimed to increase the involvement of the value chain and to receive feedback on the document presented. It was indicated that this publication was a first step towards a specification that would be aligned with adjacent systems in the future.

Fluxys c-grid aims to revise the CO_2 quality specification through collaboration between experts from Fluxys and scientific research centres to find the right balance between, on the one hard network integrity, operational safety, and interoperability, and, on the other hand market needs. In addition, Fluxys c-grid will continue to engage in dialogue with market actors to keep them involved in this development process.

Although a new revision of the CO_2 quality specification will serve as a guideline, it will be the result of scientific testing that shapes the specification. Fluxys c-grid is convinced that this approach will ensure that future revisions will always be based on scientific experience and data, thereby increasing the reliability and effectiveness of the specifications.

Within the European context, Fluxys c-grid participates in various working groups and research studies to share information with European stakeholders. Fluxys c-grid is transparent in sharing knowledge with neighbouring transmission system operators so that a harmonized CO_2 quality specification can be studied. Fluxys c-grid is involved in initiatives triggered by the European Commission to play its part in the debate on interoperability with neighbouring systems.

In the fall of 2024, tests were carried out on a potential CO_2 composition on behalf of Fluxys c-grid. The aim of these tests was to determine whether there could be adverse acid formation in predicted CO_2 flows. These tests were carried out in the test laboratory of IFE (Institute for Energy Technology) in Norway. Fluxys c-grid conducted these tests in collaboration with, among others, the Norwegian energy company Equinor. Although the initial results of these tests are promising, further research is necessary.

In 2025 two test campaigns were conducted, providing additional knowledge and insights for further defining a CO_2 quality specification with an acceptable risk level, allowing pipeline degradation of the steel pipeline at an acceptable low speed versus the lifetime of the pipeline. The test results indicate that for gaseous CO_2, a combination of impurities in specific quantities results in an acceptable pipeline degradation, which offers perspectives for developing less stringent limits. In addition, Fluxys c-grid has successfully secured eight test slots from the end of 2025 onwards to set up a comprehensive test program. This research will further refine the CO_2 quality specification in line with industrial requirements, while maintaining the integrity of the pipeline network.

On European level tests were organized during 2024 at the IFE test laboratory under the supervision of the *Deutscher Verein des Gas- und Wasserfaches* (DVGW). The DVGW is a recognized standardization body for the gas and water industry and acts as a centre for technical and scientific expertise in these sectors. The organization is involved in developing technical regulations and standards to ensure the safety and reliability of gas and water supplies. Fluxys c-grid, together with various co-sponsors — including future emitters, transport infrastructure, and storage sites — conducted tests to set criteria for a German CO_2 quality standard. Completed in early 2025, the tests produced inconclusive results, requiring further analysis to refine impurity limits.

A timeline is presented below outlining both the steps already completed and the planned actions within the process of establishing specifications acceptable to all stakeholders. The timeline begins with preparatory activities conducted prior to 2024. In early 2024, a revision of the CO_2 quality specification (Preliminary-1 CO_2 spec) was developed in collaboration with Equinor and subsequently tested in the autumn of 2024. In 2025, building upon these test results, efforts were undertaken to develop a second revision (Preliminary-2 CO_2), which underwent testing during the same year.

Furthermore, the schedule for future progress includes eight testing slots secured by Fluxys c-grid, commencing at the end of 2025 and continuing through early 2027.

The consultation with future emitters and the broader CCUS value chain is continuously ensured, as shown in the summary timeline below:

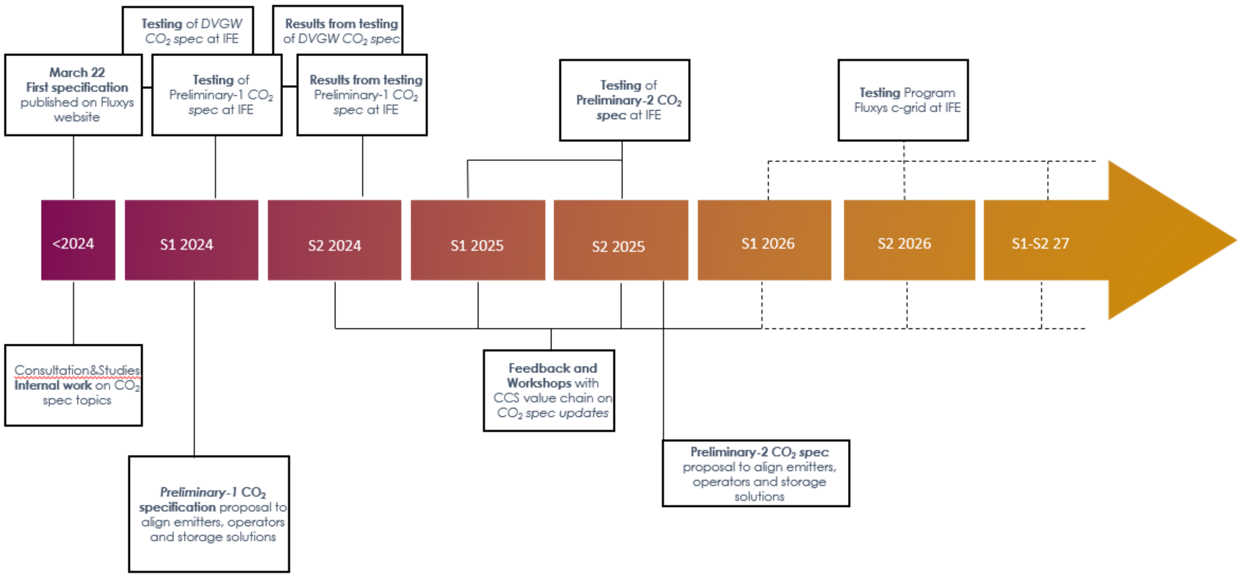

FIGURE 3: CO2 QUALITY TESTING OVERVIEW

vi. Connections with adjacent CO_2 transport infrastructure (local cluster / networks in Belgium or abroad) and liquefaction terminals

There are multiple connections with adjacent CO_2 transport networks under development. A connection with the Walloon vapour network is foreseen in Brakel, with the Antwerp cluster in Kallo and with the Dutch CO_2 network in Zelzate. The dense pipeline between Eynatten and Zeebrugge crosses the Flemish-Walloon border multiple times. In Zeebrugge, a compressor station is under development. The goal of it is to pressurize flows from the vapour and dense CO_2 network before exiting via an offshore pipeline to storages in the

North Sea (Norway or UK). A liquefaction terminal is under development in Antwerp, which is not in scope of this document.

vii. Possible alternative ways for CO_2 transport to which the transport network will connect

Some emitters are interested in transport modi apart from the pipeline solution. Other CO_2 transport options like train or ship are evaluated on an ad-hoc, customised basis depending on the specific situation.

b. Walloon Region

i. Explanation of scenarios used and underlying hypotheses

In 2021, Fluxys[12] started a cooperative commercial process to better understand the capacity needs of the market. The cooperative commercial process is an ongoing and iterative process and will further evolve over time based on market changes.

Potential emitters were invited to fill in a '**Request for Information**', resulting in a clear need of CO_2-network infrastructure in certain locations by a certain time. Based on the 'Request for Information', Fluxys published an information memorandum to explain the key principles of the expected commercial model[13]. To develop the infrastructure in an efficient way, Fluxys invited the market to confirm their interest in the proposed CO_2-network infrastructure via an '**Open Season**'. The 'Open Season' is a call for tender showing an intention to subscribe long term capacity on the future CO_2 network in a transparent and non-discriminatory way. The emitters indicated their preferred exit options being, a.o.,

- Zeebrugge (via offshore pipeline to a storage in the North Sea (e.g., UK or Norway)),
- Antwerp terminal (via ship to a storage in the North Sea) or
- The Netherlands via onshore pipeline.

Fluxys is developing a CO_2 export hub including compressor station in Zeebrugge, connecting the onshore network with an offshore pipeline to Norway being developed by Equinor or with an offshore pipeline to UK. The market showed significant interest in the exit option Zeebrugge given the value chain cost to exit via offshore pipeline appears to be lower compared to the shipping alternative if sufficient volumes materialize.

The Open Season is followed by the 'Expression of Interest', a contract between Fluxys and the emitter. Based on the requested capacity and timeline, Fluxys commits to perform a

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[12] Initially Fluxys Belgium and, upon its creation and designation as CNO, Fluxys c-grid.

[13] The information memorandum is published on the website https://www.fluxys.com/nl/projects/carbon-preparing-to-build-the-network

feasibility study to connect the emitter with the CO_2-network. The signed Expressions of Interest and latest market intelligence indicate no transport capacity need by end 2028 and around 16 Mpta within a ten years horizon, of which around 5 Mtpa for a vapour network and 11 Mtpa for a dense transit pipeline[14]. The vapour network should be developed to connect emitters located in Belgium with their preferred exit point. The dense pipeline should transport volumes collected in Eynatten (Belgian-German border) to Zeebrugge. These assumptions are based on current market intelligence and might change in the future.

To optimise the investment cost of the CO_2 network to be developed, Fluxys envisions to start with a "point-to-point" commercial model offering capacities from an entry point to an exit point. Consequently, interested emitters have been asked to identify their preferred exit point.

A capacity of 1.1 Mtpa was requested from the Mons area to the Antwerp terminal from the end of the 20's. In the horizon of the early 30's, capacity requests by emitters located in Flanders and Wallonia were identifying Zeebrugge as exit. Finally, a capacity demand of 11 Mtpa has been expressed for the dense pipeline. Adding additional compression pumps could increase the capacity of the dense pipeline if market demand increases.

The expected volumes over time for a period of ten years are shown on the figure below:

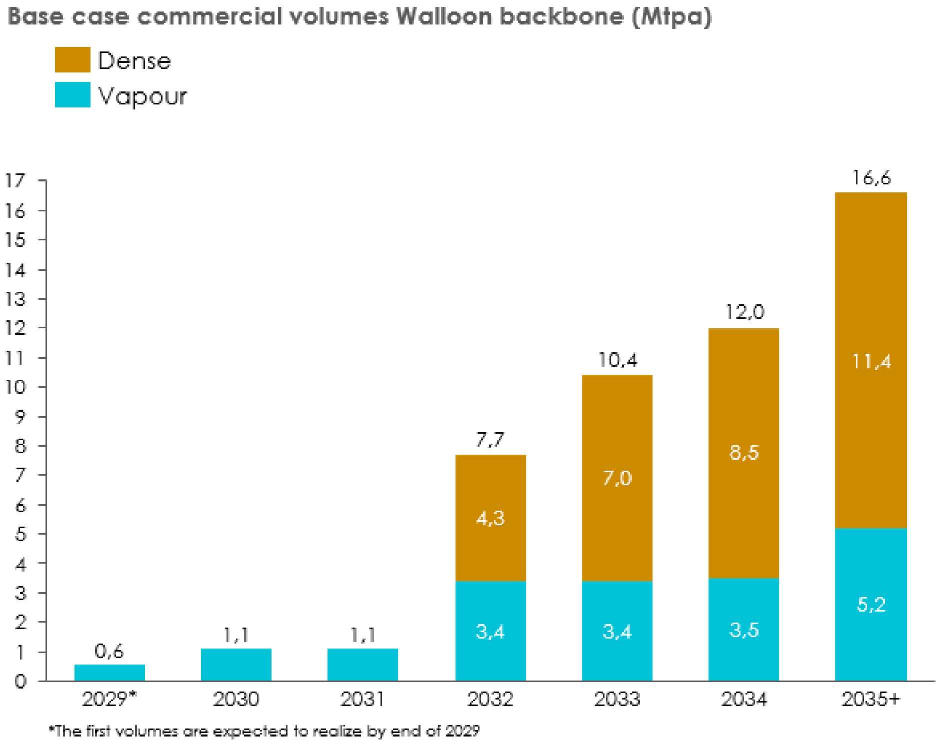

FIGURE 4: BASE CASE COMMERCIAL VOLUMES WALLOON BACKBONE

[14] The expected volumes for the dense transit pipeline are 11Mtpa flowing on Flemish and Walloon soil and should not be double counted.

Two different networks are currently under development, a vapour network, connecting Belgian emitters and transporting CO_2 in gaseous phase, and a dense transit pipeline, connecting Eynatten (at the Belgian/German border) to Zeebrugge. For the vapour network, a connection with the Flemish network is foreseen in Brakel. The dense pipeline crosses the Flemish-Walloon border multiple times, with a connection in Eynatten (with the German network developed by OGE). The different sections of the network will be developed, considering the expected future volumes based on the emitters' requested transport capacity. The development of the dense corridor and the Zeebrugge compression station[15] was reinforced in summer 2025 by a Memorandum of Understanding (MOU) between Fluxys, Equinor and OGE.

ii. Investment program for network development, including investments planned in the short term and in the long term

Based on the identified capacity needs, the entry points and the preferred associated exit options as described in the previous section, the infrastructure and its related investment are developed. The network will be developed in phases based on analyses confirming the technical feasibility and economic justification of the investments and subject to supporting signed contracts

To connect the prospect having expressed interest from the late 20's with the requested exit point Antwerp terminal, pipeline infrastructure in the Walloon area between the injection point in Mons and the regional connection point in Brakel (connection point between the Flemish region and the Walloon region) is required.

To act as a responsible and diligent network operator and to limit the investment in a first phase, Fluxys is investigating the possibility to repurpose eligible existing Fluxys Belgium's CH_4 pipelines between Mons and Brakel, provided the CH4 market confirms the disposal of the pipeline section. Subject to the availability of this pipeline, only a small pipeline section in the Mons cluster will be a new-built pipeline.

The development of the pipeline infrastructure in the short term (by 2029) consists of around 49 km pipeline. The investments to enable a connection for the first customer between Mons and the Antwerp liquefaction terminal, of which Mons and Brakel within this scope, will already start within a period of 3 years from the redaction of this document, aiming at full completion in 2029, in line with the market demand. The assumed timeline remains subject to signed commercial contracts and alignment with the development schedule of the Antwerp liquefaction terminal.

An overview of the project segmentation, pipeline diameter and length is presented in the table below.

[15] The Zeebrugge compression station is integrated within Fluxys c-grid and part of the network

Project location	New/ Re-use	Network length [km]
Cluster Mons	New (DN900)	~3
Cluster Mons	Repurposing (DN900)	~2
Brakel-Ville-sur-Haine	Repurposing (DN1000)	~44
Total	/	**~49**

TABLE 3: INVESTMENT OVERVIEW WALLOON BACKBONE BY 2029[16]

The initial investment by 2029 is however not sufficient to serve the identified transport capacity for the next ten years. Complementary investments are required to connect the additional identified emitters to the network in a second phase and reinforce the axis Zelzate JFK-Kallo to allow additional flows from Ghent area & Wallonia to and from the Antwerp area. The Zeebrugge station is a key asset in the CCUS value chain to increase pressure before exiting via offshore pipeline (to storage in UK or Norway) and unlocking the most cost competitive exit route.

Analysis also indicated that it is most efficient and cost effective to transport volumes from Eynatten to Zeebrugge in dense phase. When CO_2 is kept at higher pressure and enters a dense or supercritical state, its density increases significantly compared to vapour phase. This allows the same pipeline diameter to carry a much larger mass flow, making long-distance transport more efficient and reducing pressure losses along the route. As a result, dense phase transport is generally preferred for corridors where high volumes and consistent throughput are required over a longer distance, offering a practical and robust solution for CO_2 transmission.

The complementary investments in the vapour and the dense networks indicated in the table below as envisaged in a second phase should be sufficient to serve the current market demand but remain subject to analyses confirming the technical feasibility and economic justification of the investments and signed contracts. If the market demand increases drastically, additional investments will be considered if technically feasible, economically justified and supported by additional signed contracts. An overview of the expected investment for the Walloon backbone by 2035 can be found in the table below.

[16] Investments are best estimates based on current market intelligence and are subject to revision

Project location	New/ Re-use	Network length [km]	COD[17]
Cluster Tournai	New (DN600)	~9	2031
Tournai-Gibecq	New (DN900)	~35	2031
Namur-Liège	New (DN900)	~12	2035
Ville-sur-Haine-Namur	New (DN900)	~75	2032
Ville-sur-Haine -Namur	Repurposing (DN900)	~14	2032
Cluster Liège	New (DN600)	~8	2035
Cluster Charleroi	New (DN600)	~15	2031
Cluster Namur	New (DN600)	~8	2032
Vreren-Eynatten[18]	New (DN700)	~46	2032
Total	/	**~222**	/

TABLE 4: OVERVIEW OF COMPLEMENTARY INVESTMENTS WALLOON BACKBONE BY 2035[19]

iii. Detailed plan of network to be developed for the next 10 years reflecting different development stages

The network will be developed in different phases to connect industrial hubs and hard-to-abate industries with the adjacent Flemish network. The first part of the network will connect the Mons industrial area with the Flemish network in Brakel to reach the exit point Antwerp liquefaction terminal. The expansion of the network after phase 1 depends on the market demand and if the further network expansion is proven to be technically feasible and

[17] COD: Commercial Operational Date

[18] The pipeline Vreren-Eynatten is part of the transit pipeline Zeebrugge-Eynatten which will be constructed in Flanders & Wallonia and crosses the border multiple times.

[19] Investments are best estimates based on current market intelligence and are subject to revision

economically justified. Industrial areas in Tournai, Charleroi, Namur and Liège will be connected with the adjacent Flemish network to transport CO_2 in Brakel to exit via Zeebrugge (via the offshore pipeline to Norway or UK), Antwerp (via ship) or The Netherlands (via pipeline). An overview of the indicative Walloon part of the network (vapour and dense) is shown on the figure below.

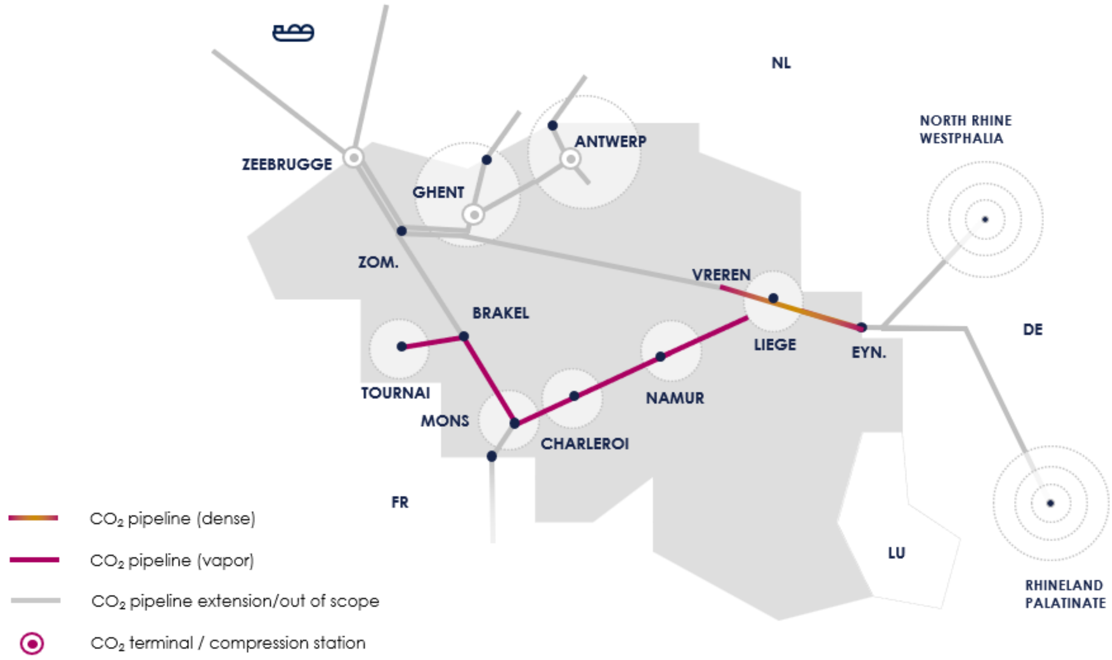

FIGURE 5: INDICATIVE NETWORK DEVELOPMENT WALLOON BACKBONE BY 2035

iv. Description of the expected future level of use of the network

Expected future transport capacity needs, including the preferred exit options defined by the commercial process, serve as input to determine the pipeline diameter for each section of the network. It is assumed that emitters will use 100% of the transport capacity requested.

v. Identification of existing transport infrastructure that may be reused for CO_2 transport

Fluxys Belgium, currently owns and operates approximately 4,000 km of pipeline in Belgium that is currently used for the transport of CH_4. The effective reuse of eligible existing transport infrastructure depends, amongst other, on technical, commercial and regulatory parameters.

A technical analysis shows that, in general, most of all pipelines in the existing Fluxys Belgium network can be reused for the transport of gaseous CO_2, subject to limited investments.

For CO_2 in dense form, the pipes generally need to have thicker walls than those laid for CH_4. As a result, existing pipelines are unsuitable for re-use and inclusion into the CO_2 dense transport network.

Further analysis has demonstrated that the existing CH_4 transport pipeline between Mons and Brakel is technically suitable for conversion to CO_2 service. The final decision regarding repurposing also depends on market demand for CH_4. Fluxys Belgium remains in active dialogue with all relevant stakeholders, including French authorities and the French network operator, to address the potential disposal of the Mons-Brakel pipeline to be refitted and integrated into the Fluxys CO_2 network.

The Mons–Brakel pipeline occupies a strategic position as an asset in the development of Belgium's national CO_2 transport network. Its location links major industrial clusters in Wallonia and Flanders, positioning it as an optimal backbone for cross-regional carbon capture and storage (CCS) projects. Technical evaluations confirm that its diameter, and material specifications, support efficient vapour-phase CO_2 transport.

Incorporating the Mons–Brakel line into the CO_2 infrastructure would minimize the necessity for new construction, thereby expediting project timelines and materially reducing the burden of the permitting process and the overall capital costs. Additionally, its proximity to established CH4 infrastructure and key interconnection points facilitates seamless integration with anticipated offshore storage routes.

From a regulatory standpoint, redirecting this pipeline for CO_2 aligns with both European and national strategies that emphasize the reutilization of existing assets to advance decarbonization goals. Designating the Mons–Brakel corridor as a prime candidate for conversion enhances Belgium's role as a regional hub for CO_2 transport and aids industrial emitters in achieving climate commitments.

vi. Connection with adjacent transport infrastructure (in other regions and/or abroad) and liquefaction terminal(s)

The vapour transport network will be connected with the Flemish transport network in Brakel. The dense transit pipeline crosses the Walloon/Flemish border multiple times and will be connected in Eynatten with the German transport network developed by OGE. The CO_2 transport network in Wallonia will be connected with exit points Zeebrugge (offshore pipeline to Norway and/or UK), Antwerp terminal and The Netherlands.

vii. Possible alternative ways for CO_2 transport to which the transport network will connect

Some emitters are interested in transport modi apart from the pipeline solution. Other CO_2 transport options like train or ship are evaluated on an ad-hoc, customised basis depending on the specific situation.

c. CAPEX

The table below provides the CAPEX for Phase 1 and for Phase 2.

Project location	CAPEX [M€, nominal][20]	Network length [km]
Phase 1	241	154
Phase 2	3.268	484
Total	**3.509**	**638**

TABLE 5: OVERVIEW OF INVESTMENTS BY 2035[21]

As described above in the document, the picture below describes the hypotheses taken in terms of entry and exit combinations that have been used to dimension the CO_2 Backbone.

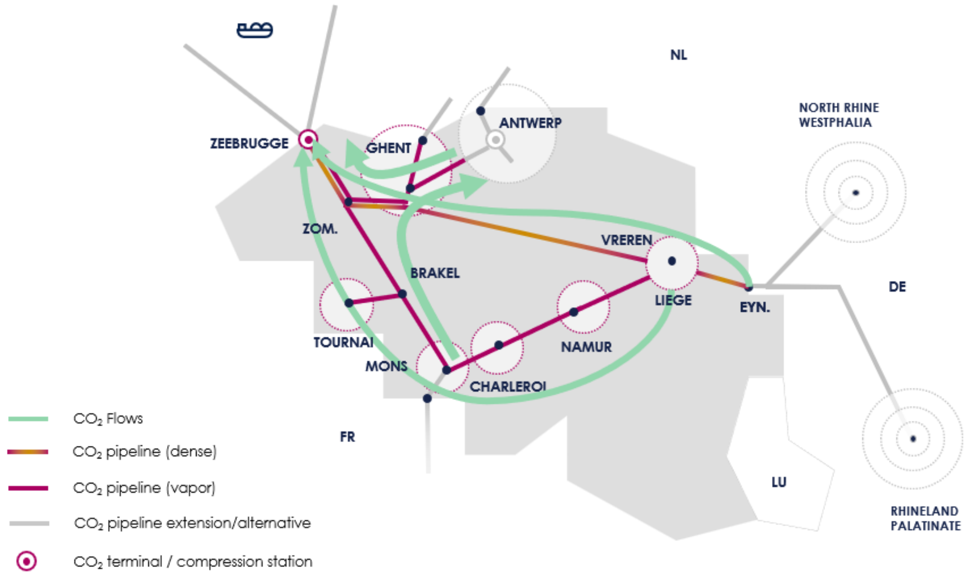

FIGURE 6: INDICATIVE NETWORK DEVELOPMENT BY 2035

[20] Capex includes construction capex for new-built pipelines; retrofitting works and RAB for re-used pipelines, but does not include any CAPEX for a metering installation in Brakel or in Kallo

[21] Investments are best estimates based on current market intelligence and are subject to revision

4. Additional transport possibilities

The network as described in this document could accommodate additional transport requests on top of the base case commercial volumes (figures 2 & 5) to a certain extent and subject to some additional conditions as the case may be. Depending on the market requests, some portions of the network could be reinforced.

In order to provide the reader with an idea on the affordability of additional volumes, a sensitivity analysis has been performed by adding 1 Mtpa of vapour CO_2 transport on different possible routes of the backbone. This analysis does not presume to cover all possible route combinations. Other routes could potentially also be accommodated. The table below describes the results of this sensitivity analysis, including the applicable conditions. It is also assumed that the exit points can accommodate the additional calculated capacities. A reinforcement of the segment Zomergem-Zelzate appears to be required in most additional transport request scenarios. The capex for a DN1000 on Zomergem-Zelzate is estimated at 147M€.

Potential additional transport request	Can be accommodated subject to:
Mons → Zeebrugge	• Backbone as described above with materialisation of all contractual volumes (i.e. incl. contractual link between entry and associated exit point), or • Backbone as described above and reinforcement pipeline segment Zomergem - Zelzate due to pressure requirements in Zomergem
Mons → Antwerp (Kallo)	• Backbone as described above, and • Construction of an additional pressure regulation[22] between Zomergem and Zelzate
Antwerp (Kallo) → Zeebrugge	• Backbone as described above, and • Reinforcement pipeline segment Zomergem - Zelzate
Zelzate → Zeebrugge	• Backbone as described above, and • Reinforcement pipeline segment Zomergem - Zelzate
Zelzate → Antwerp (Kallo)	• Backbone as described above

TABLE 6: INDICATIVE OVERVIEW OF 1 MTPA ADDITIONAL TRANSPORT POSSIBILITIES ON THE FLUXYS C-GRID'S BACKBONE

[22] Depending on the technical characteristics, capex can be estimated at 10 million euro.