we make the move

Annual Financial Report 2021
Fluxys Belgium

fluxys

#wemakethemove

Planet

Our infrastructure is the bridge to the future. With hydrogen and the other molecules of tomorrow. Plenty of challenges, plenty of opportunities. We're opening up new possibilities for society. And for our own activities: we're very much on track towards climate neutrality.

Climate neutrality firmly in sight

Our approach

We are working hard to help build a carbon-neutral energy system. Our commitment to the climate targets is an integral part of our Health, Safety and Environment Policy:

- We are committed to accommodating the energy carriers of the future
- We invest in reducing our greenhouse gas emissions
- We improve our ecological footprint

Our focus in 2021

- Go to the market with tangible proposals for open access hydrogen and CO_2 infrastructure in Belgium's various industrial clusters
- Further promote LNG and bio-LNG as alternative fuels in transport and shipping
- Through our Go4Net0 project, halve our greenhouse gas emissions by 2025 compared to 2017 levels. We are aiming to achieve full climate neutrality by 2035

Decarbonising society is a huge challenge. It requires choices. We have made decisions with Fluxys Belgium. We work on all fronts to be able to transport the molecules of tomorrow. At the same time, we are making our own infrastructure climate neutral.

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Proposals for open access hydrogen and CO_2 infrastructure in Belgium's various industrial clusters

Stable

Carbon intensity transmission and storage

(compared to 2020)
Page 78
-7% compared to 2017

-27%

Carbon intensity LNG terminalling

(compared to 2020)
Page 78
+2.6% compared to 2017

Transporting the molecules for a low-carbon future

Policy approach

Fluxys Belgium plays a key role in the smooth energy transition to a carbon-neutral society. We are getting everything ready to convert our network, in line with market needs, into a multi-use system in which, in addition to natural gas and biomethane, we also transport hydrogen, CO_2 or other molecules. At the same time, we are supporting the development of the biomethane market and promoting the market for LNG and bio-LNG in transport and shipping, which is already producing immediate benefits for the environment.

Related risks and opportunities

Risk

Drop in demand for natural gas due to the energy transition: the risk that part of Fluxys Belgium's infrastructure can no longer be used.

Measures

- Investment plan with projects to gradually reconfigure infrastructure as part of a carbon-neutral energy system (see also 'Opportunity' in this table)
- Every new connection to the network is ready to support hydrogen from 2023 onwards
- Facilitate the development of the biomethane market and the injection of biomethane into the existing network
- Help encourage the use of biomethane, LNG and bio-LNG as alternative fuels in transport and shipping

Opportunity

Develop new activities to advance the energy transition: compared to building new infrastructure, converting existing natural gas infrastructure is a cost-efficient solution to transport molecules for a carbon-neutral future.

Actions

Investment planning with projects to gradually reconfigure the existing network as part of a carbon-neutral energy system.

Building the hydrogen and CO_2 infrastructure for Belgium

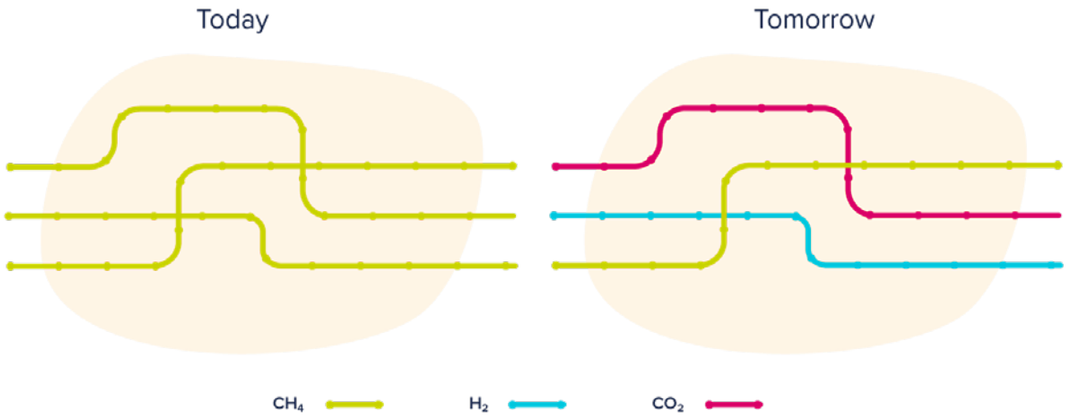
Using our infrastructure sustainably for the energy transition

Thanks to its energy transition strategy, Fluxys Belgium is ready to sustainably use its infrastructure as a vital tool to help shape a carbon-neutral society. Our approach is fully in line with the hydrogen strategies of the European Commission and the Belgian federal government as well as the climate approach at regional level.

Taking into account the necessary legal and regulatory developments, we want to transform and develop our infrastructure into a multifaceted system. In this system, in line with changing market needs, we will be transporting natural gas and biomethane as well as increasing quantities of hydrogen, CO_2 or other molecules that are needed to make the energy transition a success.

60%

Fluxys Belgium's indicative investment programme for 2022-2031 represents total investments of over €1.5 billion. The planned investments in the development of hydrogen and CO_2 infrastructure and other investments earmarked for the energy transition are estimated to account for around 60% of that total.



Gas infrastructure can transport various types of molecules, just as electricity infrastructure can transport electrons from wind, solar, natural gas, nuclear and coal production.

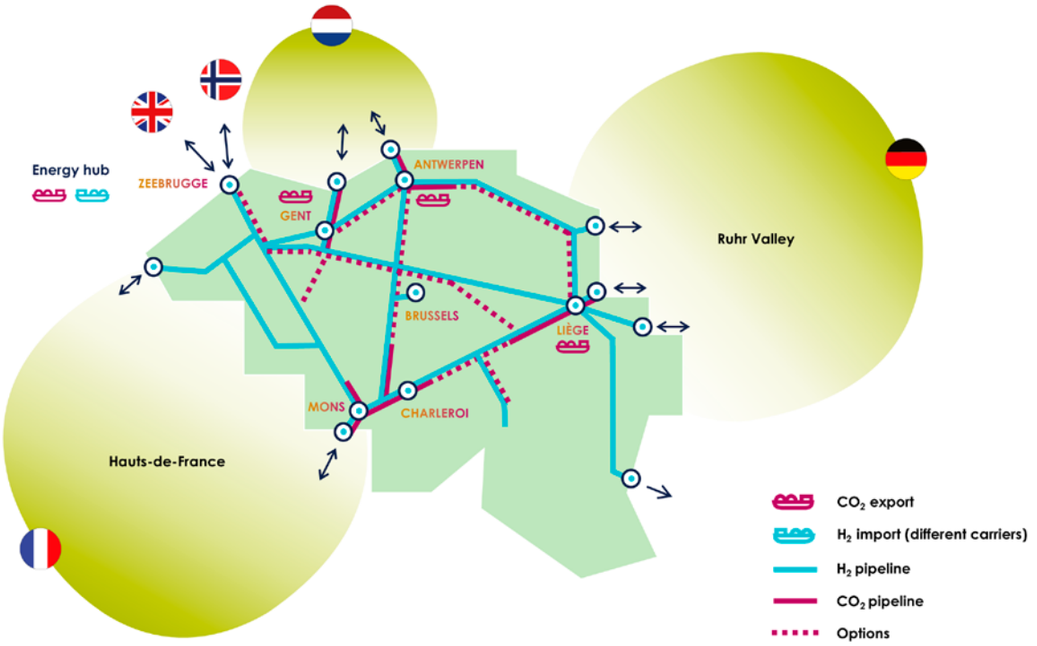
First infrastructure in 2026

Our approach to providing Belgium with the necessary hydrogen and CO_2 infrastructure takes shape in cooperation with our customers, the authorities, neighbouring operators, distribution system operators and other stakeholders.

The plan is to develop, in line with market needs, infrastructure in industrial clusters and establish connections between them and with neighbouring countries. This will allow us to lay the foundations for Belgium's lasting role as an energy hub in North-West Europe for the molecules of the future.

In early 2021, Fluxys Belgium started a joint commercial process for the development of hydrogen and CO_2 infrastructure in Belgium. The subsequent informative consultation with potential users and industry players clearly highlighted how market needs might evolve geographically and over time.

In late 2021 and early 2022, we went back to the market. We produced tangible proposals for open access hydrogen and CO_2 infrastructure in various industrial clusters. The market's response provided direction regarding the construction of new pipelines and the reallocation of existing infrastructure. This will enable Fluxys to provide Belgium with its first hydrogen and/or CO_2 infrastructure by mid-2026.



Infrastructure to transport hydrogen and CO_2: a dual solution

Approximately 40% of Belgium's CO_2 emissions are generated by energy consumption or process emissions in industry. Reconfiguring our infrastructure is a cost-efficient solution to cutting industrial CO_2 emissions, consequently making a major contribution to achieving climate targets.

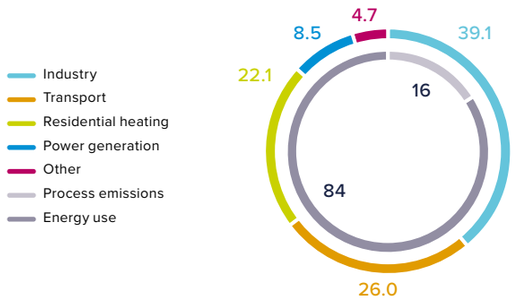
Industrial processes for which electricity is not an option

A range of industrial processes require high temperatures where (renewable) electricity is not an option. Connecting these industries into hydrogen supply enables them to switch to a carbon-neutral alternative. The same goes for industries that use carbon-intensive feedstock.

Industrial processes that produce CO_2

The capture and use or storage of CO_2 is considered a key technology for reducing CO_2 emissions and creating clusters for the circular reuse of CO_2 in the production of, for example, carbon-neutral biofuels. This technology is particularly important for hard-to-abate sectors with processes inherently generating carbon emissions. The availability of infrastructure to transport captured CO_2 to destinations for reuse or storage is a cornerstone of this solution.

Belgium: breakdown of CO_2 emissions
(in million tonnes, source: klimaat.be)



Saving time, space and resources

We are reusing existing infrastructure as much as possible to create the hydrogen and CO_2 backbone. In addition to the circularity aspect it means a significant saving of time, space and resources.

Embedded in Europe's hydrogen backbone

Other gas transmission system operators in neighbouring countries are also in the process of developing hydrogen infrastructure. In light of this, we see Belgium's hydrogen infrastructure becoming part of a European backbone and, from an international perspective, laying the foundations for consolidating and shoring up our role as the energy hub at the heart of North-West Europe for many years to come.

To this end, since 2020 we have been working with other energy infrastructure companies within the European Hydrogen Backbone initiative. The initiative has since grown into a joint approach to developing dedicated hydrogen infrastructure in 27 European countries. In 2021, the initiative expanded its aims, namely to create a network of 40,000 km of pipelines by 2040, a significant proportion of which will reuse infrastructure currently used to transport natural gas.

European Hydrogen Backbone initiative 2021, supported by Guidehouse

Optimum reuse of our infrastructure: knowledge is power

Together with various academic institutions and partners, Fluxys Belgium is looking into the modalities for transporting hydrogen and CO_2 in our infrastructure in order to prepare for the molecules of tomorrow.

HyFit and Hysource

Two projects with universities intended to study the influence of hydrogen on pipeline steels and welding.

PIPELHYNE

Programme with GRTgaz, National Grid and ENGIE to test different types of steel for their sensitivity to hydrogen.

Underground storage

We are investigating the modalities for hydrogen storage at our Loenhout underground storage facility. In 2021, preparations were made to inject hydrogen for underground storage and we expect to be able to carry out the first tests in 2022.

Other research avenues

Fluxys Belgium is working with universities to map additional research to support the development of hydrogen and CO_2 infrastructure. Other possible research includes additional solutions to help Fluxys make its own activities climate-neutral.

FutureGrid hydrogen test facility

Fluxys Belgium is working with National Grid, its UK counterpart, and Northern Gas Networks, the distribution system operator for the North of England, to develop a hydrogen test facility. The facility is intended to test the transmission of hydrogen in real conditions in various domains, with existing natural gas infrastructure forming a mini-network separate from the existing network.

The tests will start in 2022 and are an important addition to our own research into the reuse of existing natural gas infrastructure. Expert group DNV and the universities of Durham and Edinburgh are also involved in the test facility.

Research also under way into optimal cooperation between gas and electricity networks

The role of gas in a low-carbon context:

A project with universities investigating the role of renewable molecules in the energy transition. The research is intended to produce an energy system model to support a renewable energy policy that combines support for renewable electricity and for renewable gas.

Interaction between energy networks:

Together with a university, research is being conducted into the interactions between different energy networks with a view to creating a simulation model for the Belgian energy system that integrates electricity, hydrogen and natural gas.

Other projects intended to foster the market for the molecules of the future

Within our parent company Fluxys, efforts are under way with a range of partners and on various projects to carve out a place for hydrogen as a carbon-neutral energy carrier and for CO_2 capture and reuse/storage chains within the energy system and the wider economy.

Hydrogen imports

Any viable hydrogen economy requires enough renewable electricity to be generated to produce green hydrogen. However, at present Belgium only has limited potential to generate renewable electricity as a source of green hydrogen. 'Blue hydrogen' is one alternative. This is hydrogen produced from natural gas, where the released CO_2 is captured and reused or stored. Using available technologies, more than 95% of the CO_2 released can be captured and other technologies such as pyrolysis are also being developed to produce low-carbon hydrogen.

The import of carbon-neutral hydrogen is an important option if the hydrogen sector continues to grow. DEME, ENGIE, EXMAR, Fluxys, the ports of Antwerp and Zeebrugge and WaterstofNet have joined forces in the Hydrogen Import Coalition. The partners completed a large-scale industrial study mapping out the financial, technical and regulatory aspects of the entire hydrogen import chain, from production abroad to supply via ships and pipelines to Belgium and internal distribution.

The study concluded that hydrogen imports are both technically and economically feasible. This forms the basis of subsequent action, including pilot projects to supply green molecules from countries where wind and sun are available in abundance.

The Hydrogen Import Coalition is supported by Flux50 and receives financial support from Flanders Innovation & Entrepreneurship.

FLANDERS INNOVATION & ENTREPRENEURSHIP flux50
Clusters for Innovation

The federal government concluded agreements with Namibia and Oman in 2021 to import green hydrogen. The ports of Antwerp and Zeebrugge concluded a similar agreement with Chile.

Hydrogen panels

Researchers from KU Leuven have developed game-changing hydrogen panels that are a highly efficient means of producing green hydrogen from sunlight and water vapour in the air. Fluxys installed several of these panels on the green roof of its Anderlecht lab with a view to joining forces with the university and conducting extensive tests for a year.

The measurements and analyses conducted at the Fluxys lab will highlight variations in the production profile and hydrogen composition depending on the direction of the panels, the weather conditions, the time of day and the season. Researchers from KU Leuven can then use these data to further hone the technology.

H2GridLab

H2GridLab is an initiative to establish a participatory lab on the Anderlecht site of distribution system operator Sibelga to carry out tests, roll out pilot projects and amass knowledge of green hydrogen, local storage thereof, injection into networks and its role in the decarbonisation of public distribution. H2GridLab is supported by Belgium's federal Energy Transition Fund.

Semi-industrial installations such as gas turbines and fuel cells will be set up and tested in a second phase starting in late 2022.

Antwerp@C

Antwerp@C is a project to halve CO_2 emissions in the port of Antwerp by 2030 by building open access CO_2 infrastructure. In this initiative, Fluxys joins forces with Air Liquide, BASF, Borealis, ExxonMobil, INEOS, Port of Antwerp and TotalEnergies. Once the technical studies are complete, a final investment decision is expected by the end of 2022.

Antwerp@C was awarded a European grant from the Connecting Europe Facility. The funds are used to conduct studies into a CO_2 pipeline at the port of Antwerp, a CO_2 pipeline to the Netherlands and a terminal to liquefy captured CO_2 for export by ship.

Co-financed by the Connecting Europe Facility of the European Union

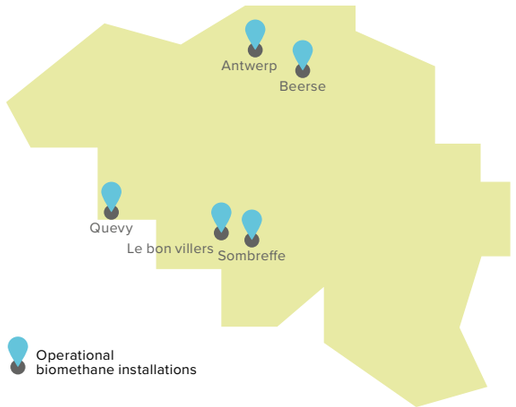
Ghent Carbon Hub

Fluxys, ArcelorMittal and North Sea Port join forces to develop an open access CO_2 terminal in the port of Ghent. The idea is to liquefy CO_2 captured in the wider port area at the terminal for export.

Helping to develop the biomethane market

Out of the starting blocks

The production of biomethane in Belgium is getting off the ground, but is still lagging behind neighbouring countries. At present, five biomethane units are operational: two in Flanders and three in Wallonia. An additional five are expected by 2024, increasing annual generation to around 1 TWh.



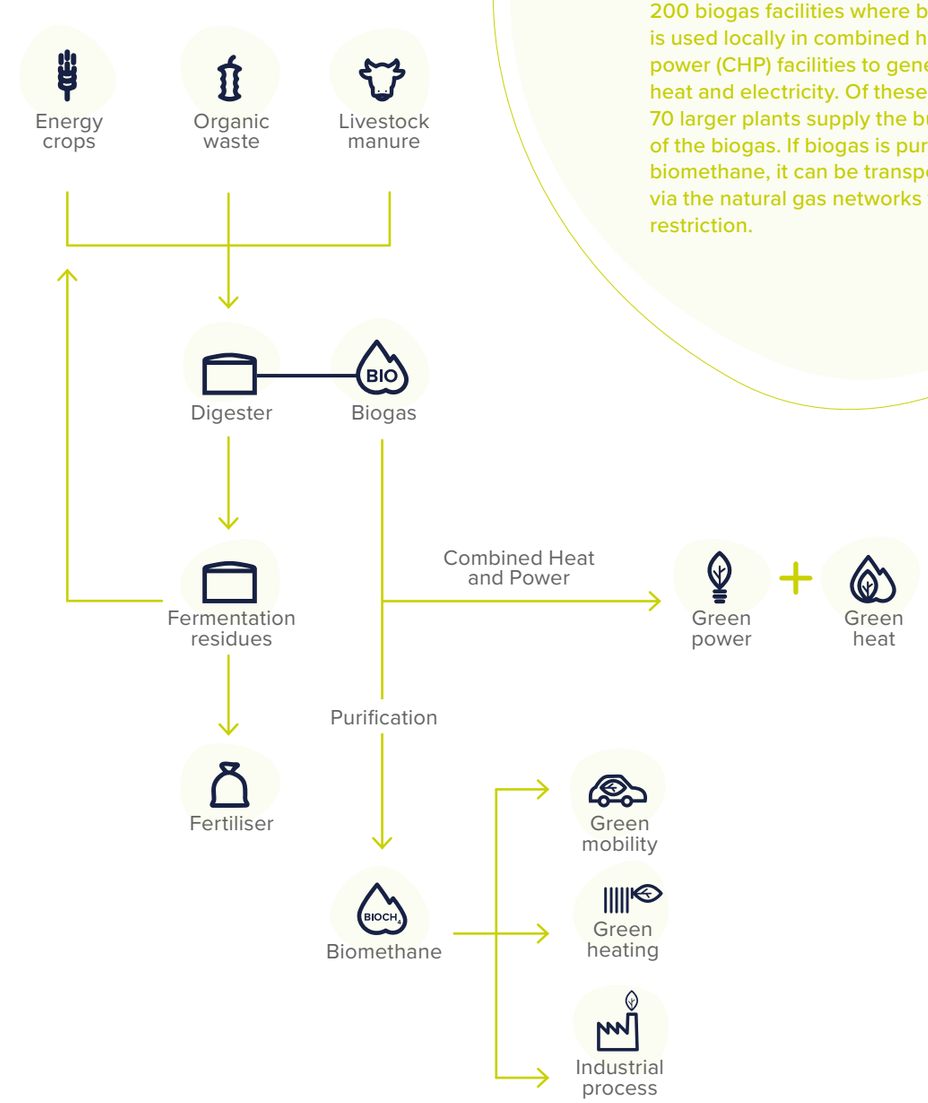
Significant potential

At the request of the Belgian gas federation gas.be, Val-Biom carried out a study into the potential contribution of locally produced biogas in Belgium, concluding that biogas could cover about one fifth of household gas consumption by 2030. In addition, biomethane can also be imported from neighbouring countries in the future through certificates and guarantees of origin. Cross-border exchanges of biomethane should be encouraged by developing an international system of guarantees of origin and sustainability certificates.

Producers: connect to our network

In addition to being able to inject into the networks of distribution system operators, large biomethane plants can also connect to our high-pressure network. Based on the applications we received in 2021, we expect to establish the first connections from 2024 onwards.

Biogas is carbon neutral and is extracted from organic matter such as sludge, garden waste, the remains of fruit and vegetables, or animal waste like cow manure.
Belgium is currently home to around 200 biogas facilities where biogas is used locally in combined heat and power (CHP) facilities to generate heat and electricity. Of these, some 70 larger plants supply the bulk of the biogas. If biogas is purified into biomethane, it can be transported via the natural gas networks without restriction.



Supporting the market for LNG in transport by HGV and shipping

In shipping and transport by HGV, switching to LNG would rapidly help cut greenhouse gas emissions and limit air pollution. That is why Fluxys Belgium and parent group Fluxys are investing heavily in infrastructure and services to open up LNG for these segments. The advantage of small-scale LNG infrastructure and the fleet of LNG-powered ships and trucks is that no additional investments are needed to switch to carbon-neutral bio LNG as it becomes available.

Four additional truck loading stations at LNG terminal

At Zeebrugge LNG Terminal, trailers are loaded with LNG to supply LNG-powered ships and filling stations for trucks running on LNG. In order to be able to continue meeting increasing demand, four additional truck loading stations are under construction at the terminal. These stations will be commissioned in 2023.

LNG terminal makes bio-LNG available

Since 2020, the LNG terminal in Zeebrugge has been certified as a European approved process plant to make bio-LNG available as a fuel for transport. In 2021, around one hundred trailers and two bunker vessels were loaded with bio-LNG. As bio-LNG enables shipping and heavy goods transport to fully decarbonise, we expect demand for bio-LNG at the terminal to rise sharply in the coming years.

Port of Antwerp: LNG bunker vessel now also in use

Parent company Fluxys is active in the port of Antwerp, working with partners to open up access to LNG as a fuel. For example, ship bunkering with LNG trucks was facilitated at quay 526/528, and an LNG bunkering point where ships can refuel has also been opened. Furthermore, Fluxys teamed up with Titan LNG to build the LNG bunkering barge Flexfueler 002. It has made LNG more widely available as an alternative marine fuel since 2021. The advantage of the bunkering barge is that ships can be bunkered with LNG wherever they load or unload.

Indicator - Transporting molecules for a carbon-neutral future: preparations progressing well

10 Proposals for open access hydrogen and CO_2 infrastructure in various industrial clusters

Systematically reducing our own climate impact

Policy approach

With its Go4Net0 project, Fluxys Belgium aims to achieve net zero greenhouse gas emissions for its own operations by 2035. This target was set in 2021. The previous milestone is to halve its own greenhouse gas emissions by 2025 compared to 2017 levels.

Related risks

Risk

- Greenhouse gas emissions from Fluxys Belgium's activities do not decrease in line with climate targets.
- Greenhouse gas emissions may have a financial impact.

Measures

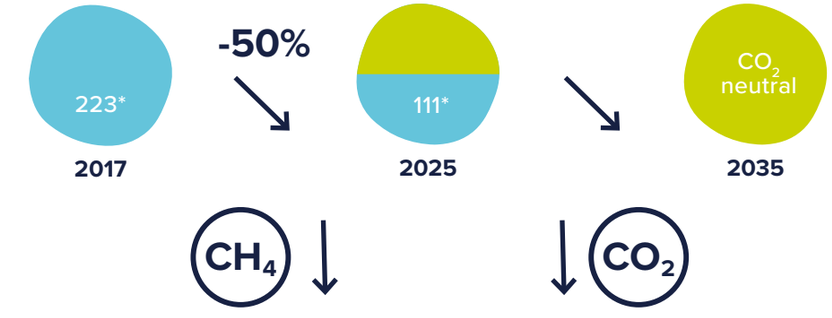
- Go4Net0 project to lower Fluxys Belgium's greenhouse gas emissions to net zero by 2035, including methane emissions from our activities and interventions.
- Project to further cut CO_2 emissions by building additional regasifiers with seawater at Zeebrugge LNG Terminal.

Opportunity

Improve the energy efficiency of our activities.

Actions

Renewable energy technology improves both energy efficiency and greenhouse gas emissions.



* in thousand tons CO_2-equivalent

Approach

Methane emissions

Total methane losses on the Fluxys Belgium network equal 0.02% of the total volume transported. This is less than the average methane losses on the European transmission system, which were estimated at 0.05% in a study conducted in 2018 by MARCOGAZ, the Technical Association of the European Natural Gas Industry.

Ambitious objective

Our goal to halve our greenhouse gas emissions on 2017 levels by 2025 is particularly ambitious. It means that we are committed to reducing our greenhouse gas emissions in nominal terms from 223,000 tonnes to 111,000 tonnes. Moreover, we are doing this at a time when regasification activities at the Zeebrugge LNG terminal are increasing in line with the dynamics of the global LNG market.

GO4 NET0

The Go4Net0 project encompasses four ways to address the sources of methane emissions.

Cut emissions from equipment

Modify equipment generating emissions or replace it with equipment controlled by electricity or compressed air.

Reduce fugitive methane emissions

Regular Leak Detection And Repair (LDAR) campaigns enable us to detect fugitive emission sources and repair or optimise them.

Limit emissions during work on the network

During works, natural gas often has to be removed from a pipeline section by releasing it into the air in a controlled manner. We avoid doing so wherever possible, for example by re-injecting it in the network.

Other ways

Various studies are currently exploring other ways to reduce methane emissions, such as the recovery of these emissions by starting and stopping facilities.

CO_2 emissions

Minimising compression

When balancing the network or controlling gas flows, Fluxys Belgium strives to use its compressor facilities as little as possible.

Regasification using the heat from seawater

The LNG terminal in Zeebrugge has been using an regasifier with seawater since 2013. Using the heat from seawater to regasify LNG will significantly reduce the terminal's energy consumption and emissions.

Green gas

Fluxys Belgium buys green gas certificates from biomethane producer IOK Beerse to heat its head office and Anderlecht site. We are looking into expanding the use of green gas certificates for our activities.

Green electricity

The electricity Fluxys Belgium buys has been entirely renewable since 2021. As a result, we minimise the indirect impact of our electrical facilities.

Fluxys Belgium also generates green electricity for its own use. This is done with solar panels on some of our industrial buildings. The further expansion of our solar farm is currently under consideration.

Three additional regasifiers with seawater

In 2021, we started building three additional regasifiers with seawater at the LNG terminal in Zeebrugge. The facilities are expected to be commissioned in 2024 and will mark a milestone in the further reduction of energy consumption and emissions at the terminal.

Results

The results in this report include both direct and indirect emission sources:

- Direct emissions of carbon dioxide (CO_2) and methane (CH_4) from the operation of gas infrastructure, including employee use of motorised vehicles;
- The company's electricity consumption is a source of indirect emissions.

External verification

The quality and accuracy of the figures used for CO_2 equivalent emissions in this report undergo external verification pursuant to the International Standard on Assurance Engagements (ISAE) 3000 (Revised), a model developed for the attestation of non-financial data. The attested indicators are marked with a (☑) - see page 78 (indicators) and page 38 (limited assurance report).

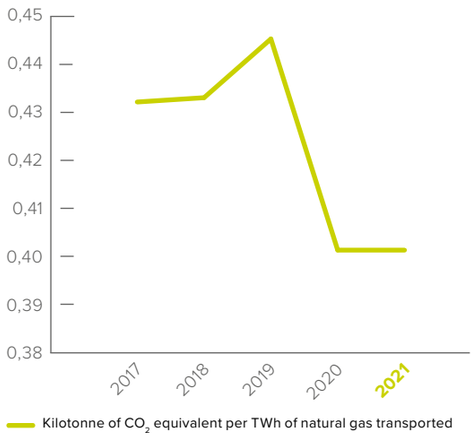
Fluxys Belgium has CO_2 emission rights for each of its five sites that are subject to the EU Emissions Trading Directive. Internal audits are organised for these sites every year and the annual emissions report for each site undergoes an external audit.

Greenhouse gases: transmission and storage

In 2021, the GHG intensity of transport and storage remained stable compared to 2020 levels.

- The initiatives and investments for cutting methane emissions reduced methane emissions by about 12% compared to the previous year. Methane emissions were therefore reduced by more than a third compared to 2017 levels.
- CO_2 emissions rose by almost a quarter compared to the previous year. This increase is mainly due to the more intensive use of the storage facility in Loenhout and also to the colder temperatures, which demanded more intensive use of the network. Compared to the reference year 2017, CO_2 emissions were 9% higher. As for storage at Loenhout, investments are being made in research to further reduce CO_2 emissions.

Change in greenhouse gas intensity

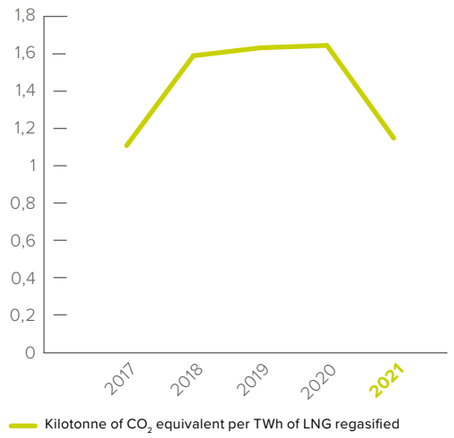


Greenhouse gases: LNG terminalling

The greenhouse gas intensity of the LNG terminal fell by 27% in 2021 compared to 2020 due to less LNG being regasified. The necessary capacity could, to a large extent, be provided by the regasifiers with seawater and the conventional regasification facilities were used less. Thanks to maximum use being made of the regasifiers with seawater, 53,000 tonnes of CO_2 were avoided in 2021.

Although the greenhouse gas intensity of the LNG terminal fell significantly in 2021, the nominal CO_2 emissions at the terminal were much higher than in the reference year 2017, when regasification activity was relatively low and the heat demand could be fully covered by the regasifier with seawater. We are building three extra regasifiers with seawater to boost send-out capacity at Zeebrugge LNG Terminal. The new facilities will further minimise the greenhouse gas intensity of the LNG terminal (see page 75).

Change in greenhouse gas intensity



Energy efficiency

The two main solutions for reducing greenhouse gas emissions (namely limiting use of compressor stations and maximising use of the ORV at the LNG terminal) primarily improve energy efficiency. After all, it is the reduction in energy consumption that ensures the reduction of greenhouse gas emissions.

In addition, we take various other measures for our operations. For example, we make operational agreements with the surrounding operators for energy-efficient use of the networks. For the best possible energy efficiency, we also make maximum use of the operational flexibility in the pipelines and ensure optimal settings in the pressure-reducing stations.

In recent years, various installations at the LNG terminal have been renovated and adapted to boost the energy efficiency of the infrastructure. The construction of three additional ORVs is the latest example of our mission to boost energy efficiency.

Indicators

Systematically reducing our own climate impact	2021	2020	2019	2018	2017
Greenhouse gas emissions: transmission and storage					
Greenhouse gas emissions in kilotonne of CO_2 equivalent	157 ☑	160	195.82	197.06	209.29
Methane (CH_4)	91	103	127	126	142
CO_2	65	52.76	64.39	66.3	59.83 ☑
Electricity	0	4.40	4.44	4.52	7.47 ☑
Volume of gas transmitted (TWh)	391.92	398.52	441.00	456.37	485.70
Greenhouse gas intensity (kilotonne of CO_2 equivalent/TWh of natural gas transmitted)	0.40	0.40	0.44	0.43	0.43
Greenhouse gas emissions: LNG terminalling					
Greenhouse gas emissions in kilotonne of CO_2 equivalent	52.52 ☑	83.35	42.74	13.86	13.86
Methane (CH_4)	0.07	0.03	0.05	0.02	0.01
CO_2	52.45	71.63	107.43	35.07	5.17 ☑
Electricity	0	11.69	11.74	7.65	8.68 ☑
Volume of regasified LNG (TWh)	44.03	50.87	73.27	26.89	11.95
Greenhouse gas intensity (kilotonne of CO_2 equivalent/TWh of regasified LNG)	1.19	1.64	1.63	1.59	1.16
Total greenhouse gas emissions	**209.52** ☑	**243.35**	**315.04**	**239.8**	**223.15**

More information about the methodology for calculating greenhouse gas emissions is provided on page 40

Energy efficiency: transmission and storage					
Energy consumed (MWh)**	337,554	281,109	311,549	329,431	305,121
Diesel and petrol	8.954	8.921	9.991	11.013	11.386
Electricity*	24.565	25.968	26.146	26.262	33.086
Natural gas	304.044	248.149	275.412	292.156	260.649
Volume of gas transmitted (TWh)	391.92	398.52	441.00	456.37	485.70
Energy intensity (MWh of energy consumed/MWh of natural gas transmitted)	0.00086	0.00070	0.00071	0.00072	0.00063
Energy efficiency: LNG terminalling					
Energy consumed (MWh)	320,125	426,640	622,491	242,007	85,867
Diesel and petrol	348	374	383	398	558
Electricity*	58.017	69.052	69.040	44.471	38.458
Natural gas	261.760	357.214	553.068	197.138	46.851
Volume of regasified LNG (TWh)	44.03	50.87	73.27	26.89	11.95
Energy intensity (MWh of energy consumed/MWh of regasified LNG)	0.00727	0.00837	0.00853	0.00896	0.00716

* 2.5 MWh of primary energy is needed for every 1 MWh of electricity. Fluxys only buys green electricity.
* Including buildings and vehicles.

Other environmental measures

Environmental impact assessments

Fluxys Belgium strives to minimise the impact on the environment and local residents during the design, construction and operation of its infrastructure.

Permit applications for the construction and operation of new facilities or for the renewal of the permit for existing facilities include assessments of their impact on the environment. Such environmental studies gauge a project's potential impact in various areas, including air, water and soil pollution, ambient noise, the production of waste, spatial integration, mobility, and the impact on biodiversity.

Preventive or mitigating measures are taken where necessary, such as:

- tailoring the working method to the surroundings (e.g. use of jacking or directional drilling) or minimising the work area
- optimally integrating the surface infrastructure into the landscape
- taking ecosystems into account when there is an intersection with a watercourse, more specifically by devising the soil profile to provide resting, feeding and spawning grounds for indigenous fish species

In 2021, Fluxys Belgium conducted 26 environmental studies as part of its permit applications.

Reducing noise pollution

Fluxys Belgium uses a number of techniques to limit the noise generated by its pressure-reducing stations, compressor stations and other facilities.

When building new infrastructure, a lot of attention is paid to potential noise pollution from the design phase onwards.

Fluxys Belgium also takes targeted control measures to monitor its existing infrastructure for potential noise pollution and then makes the appropriate adjustments where noise levels produced by its infrastructure are out of kilter with the surroundings.

Conservation of ecosystems

Fluxys Belgium takes great pains to conserve ecosystems wherever it builds infrastructure. Environmental impact assessments gauge infrastructure's impact on ecosystems (see above). When laying a new pipeline, Fluxys Belgium always takes care to ensure that the environment is disturbed as little as possible, that the site can be fully restored to its original state once the work is complete, or that investments can be made in compensatory measures beneficial to nature.

Wastewater treatment

All larger stations house a separate drain system and wastewater treatment plant (or reed bed filtration system).

Monitoring

The environmental coordinator received six external environmental complaints in 2021. These complaints related to noise, the smell of gas and/or possible contamination. All complaints were dealt with.

Fluxys Belgium did not receive any fines or sanctions for failing to comply with environmental legislation or regulations.

EU taxonomy for sustainable activities

The European Commission has rolled out a sustainable finance action plan. According to this regulation or 'taxonomy', listed companies like Fluxys Belgium must create a list of their environmentally sustainable activities.

From 2023 onwards, companies must report on the share of their activities that meet six environmental objectives set by the Commission. The first two objectives came into force in 2021: **climate change mitigation** and **climate change adaptation**.

An economic activity pursuing **climate change mitigation** must contribute substantially to the stabilisation of greenhouse gas emissions by preventing or reducing them, or by eliminating more greenhouse gases.

An economic activity pursuing **climate change adaptation** must contribute substantially to reducing or preventing the adverse effects of current or projected future climatic conditions, or the risk of such effects, whether on that activity itself or on humans, nature or assets.

Economic activities

For the 2021 financial year, Fluxys Belgium has identified the following **economic activities** that can contribute to the two environmental objectives set:

- 4.14) Transmission and distribution networks for renewable and low-carbon gases
- 9.1) Close to market research, development and innovation
  - Transmission of biomethane (see p. 68)
  - Provision of bio-LNG services at Zeebrugge LNG Terminal (see p. 97)
  - Retrofit of the transmission network that enables the integration of hydrogen and other low-carbon gases in the network
  - Leak detection and repairs of existing pipelines and stations to reduce methane emissions (see p. 91)
  - Research, development and innovation (see p. 64-67, 92)
- 6.5) Transport by motorbikes, passenger cars and light commercial vehicles
- 7.4) Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)
  - Electric or hybrid vehicles
  - CNG/LNG vehicles
  - Charging stations for electric vehicles
- 8.2) Data-driven solutions for GHG emissions reductions
- Purchase of environmentally sustainable energy and individual measures to achieve the low-carbon transport of natural gas or reduce greenhouse gas emissions
  - Purchase of green electricity (see p. 75-78)
  - Purchase of biogas (see p. 68-69)
  - The Go4Net0 project (see p. 74)
  - Construction and operation of regasifiers with seawater at the LNG terminal (see p. 75)

Turnover, capital expenditure and operating expenses

We then calculated the eligible **turnover, capital expenditure and operating expenses** for the aforementioned environmentally sustainable economic activities (2021).

In doing so, we adopted a strict interpretation of the new taxonomy in order to paint a transparent picture of the initial stage in which Fluxys Belgium finds itself in the process of making its activities more sustainable and the preparation time needed for projects to make the switch. Our indicative investment plan for the period 2022-2031, which amounts to over €1.5 billion, includes approximately **€934 million earmarked for the development of hydrogen and CO_2 infrastructure and other investments with a view to realising the energy transition**. More specifically, we want to have the first hydrogen and CO_2 infrastructure in place by 2026.

Fluxys Belgium is also actively minimising its own climate impact. With our **ambitious Go4Net0 project**, we are working on halving our own greenhouse gas emissions by 2025 compared to 2017 levels and achieving net-zero greenhouse gas emissions for our own activities by 2035.

Turnover

In 2021, no revenue was generated from the sale of transmission capacity for renewable or low-carbon molecules, aside from a very small amount for biomethane services. Revenue for the provision of bio-LNG services at Zeebrugge LNG Terminal was also limited.

Capital expenditure

- Capital expenditure covers both tangible and intangible investments, mainly as part of the Go4Net0 project to reduce our own climate impact.
- Fluxys Belgium also owns or leases a fleet of over 140 cars and commercial vehicles (electric, plug-in hybrid and, in particular, CNG).
- To boost our energy efficiency and cut greenhouse gas emissions, in 2021 we decided to build three additional regasifiers with seawater at the LNG terminal in Zeebrugge, involving an investment of €106 million.

Operating expenses

- Many of our employees are working with industrial partners, academia and government authorities on projects concerning CO_2, hydrogen and other molecules of the future, as well as on the Go4Net0 project to reduce our own climate impact. However, in accordance with European rules, these personnel costs are not included in the taxonomy.
- Operating expenses encompass costs for leak detection and repairs, including the pigging of pipelines and special helicopter surveys, as well as specific study costs and taxes.

Environmentally sustainable economic activities	Turnover (€)	Capital expenditure (€)	Operating expenses (€)
4.14) Transmission and distribution networks for renewable and low-carbon gases			
9.1) Close to market research, development and innovation	123,000	20,207,406	10,711,285
Individual measures to achieve the low-carbon transport of natural gas or reduce greenhouse gas emissions			
6.5) Transport by motorbikes, passenger cars and light commercial vehicles			
7.4) Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)	0	465,594	0
8.2) Data-driven solutions for GHG emissions reductions	0	99,000	92,000
- Purchase of environmentally sustainable energy	0	0	58,715
Total of eligible activities	123,000	20,772,000	10,862,000
Total for Fluxys Belgium (as per taxonomy)	573,000,000	59,100,000	153,480,000
Share of eligible economic activities	**0%**	**35,15%**	**7,08%**

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