

An aerial photograph of a multi-lane highway at sunrise. The sun is low on the horizon, creating a warm, golden glow and long shadows. In the background, a large body of water is visible, surrounded by a dense forest. The foreground shows the highway with several vehicles, including a large truck and a car. The overall scene is peaceful and scenic.

G

2021



**GASUM
GREEN FUNDING
IMPACT REPORT**

GREEN FUNDING IMPACT REPORT 2021

Gasum's Green funding impact report highlights our investments into renewable energy and our contribution to the circular economy and climate change mitigation. The green financed loan raised under Gasum's Green Funding Framework is allocated to financing our assets in the biogas segment, which facilitates sustainable growth in the future and contributes to the UN Sustainable Development Goals.



CONTENT

CEO's comment	1
Commitment to Sustainability	2
Circular Economy	3
Green Funding Framework	4
Green Loans	5
Environmental Impact	8
Health, Safety and Environment	10

CLEANER ENERGY

“Our business has a positive impact in the current and years ahead global megatrends – climate change mitigation and circular economy. The company has a single purpose: **cleaner energy**.”

We deliver cleaner energy, and renewable biogas has a key role in our future growth. We help reducing greenhouse gas emissions and removing particulate and sulphur emissions from the seas, roads, and industry. We are growing our role in the wind power market and accelerate recycling of society's waste and residues into energy and recycled nutrients.

Helping customers in their efforts to reduce greenhouse gas emissions is at the core of our business. We continuously develop our products and services to also meet the demands of tomorrow. We are aiming for a cumulative reduction of a million tonnes in carbon dioxide emissions to mitigate climate change by increasing the availability of biogas by bringing to market by 2025 a total of 4 TWh of biogas from our own production and that of our certified European partners.

The Finnish Government Programme sets the objective of strengthening Finland's role as a pioneer in the circular economy, and biogas has been included in the distribution obligation of transport fuels effective from the beginning of January 2022. We believe the distribution obligation will speed up the transition of road transport to a cleaner fuel. We are also looking into various possibilities to produce other renewable gases such as synthetic methane and green hydrogen in the Nordics.

The role of gas as an energy source will increase further over the longer term as action is taken against climate change and the Nordic countries transit towards carbon-neutral energy production. Both the industrial as well as transport use of gas is projected to grow strongly in the years ahead.



Gasum's financing strategy promotes the transition to a low-carbon society. The biogas assets financed under our Green Funding Framework help our customers in road and maritime transport and in industry to reduce their own carbon footprint as well as that of their customers. We are involved in the transformation of the entire society.”

Sustainability is a long-term strategy and an integral part of Gasum's strategy to promote development towards a carbon-neutral future.

Kai Laitinen
Interim CEO, Gasum

SUSTAINABILITY IS A KEY ELEMENT IN GASUM'S STRATEGY

Gasum's strategy is to promote development towards a carbon-neutral future in industry as well as in road and maritime transport together with customers and partners. The company's work has a shared purpose: cleaner energy. Gasum is developing gas distribution logistics, infrastructure and the company's production and procurement portfolios on land and at sea. The company creates value by developing a low-carbon society and helping its customers to reduce their own carbon footprint as well as that of their customers.

We regard sustainability as a comprehensive approach, and take our social, environmental and economic responsibilities into account in our daily operations and decision-making. Gasum's commitment to long-term profitability and sustainability is set out in our sustainability program, which steers our work in all operating countries. The program addresses six themes identified as material to Gasum and to our stakeholders: safety and security, climate, circular economy, access to cleaner energy, responsible business, and people. Objectives are set for each theme and progress is communicated through annual Sustainability Report. The Report is prepared in accordance with the Global Reporting Initiative (GRI) framework and has been published since 2010.

GASUM AND THE SDGS

Gasum as a provider of cleaner energy supports the UN Sustainable Development Goals (SDGs) of the UN 2030 Agenda. The SDGs are global goals adopted by the UN in 2015 as a universal call to action to solve by 2030 the urgent economic, social, and environmental challenges facing our world. Gasum has identified six priority SDGs towards which we can contribute the most in our operations.



CLIMATE ACTION

We are committed to help our customers to reduce their climate emissions. We aim at 1,000,000 t CO₂ reduction for our customers with biogas by 2026 and develop to expand future decarbonisation pathways. We use 100% renewable electricity in all our operations and are committed to continuous energy-saving actions.



AFFORDABLE AND CLEAN ENERGY

We offer and develop low-carbon and renewable energy products and energy market services for our customers. Our investment outlook improves the availability of renewable energy. We increase access to cleaner fuels with a developed gas infrastructure in the Nordics, above all in the maritime and heavy-duty road transport segments.



DECENT WORK AND ECONOMIC GROWTH

We respect human rights and promote the well-being, work ability and competence of our personnel. We have a strong safety culture and aim at zero harm for our employees and contractors.



INDUSTRY, INNOVATION, AND INFRASTRUCTURE

We develop infrastructure for cleaner energy. We advance innovations, build partnerships, and participate in the activities of various research and development networks in circular economy, cleaner energy, decarbonization and resource-efficiency.



SUSTAINABLE CITIES AND COMMUNITIES

We increase the availability of our low-carbon and renewable energy products for the transport and industry segments, which positively impacts the local air quality in urban areas. We help cities to be more sustainable with partnerships in circular economy and clean energy solutions.



RESPONSIBLE CONSUMPTION AND PRODUCTION

We treat a substantial share of society's biodegradable waste and residues and produce biogas and recycled nutrient products from it. We participate in activities promoting the further development of technologies, feedstocks, and partnerships in this field.

WE STRIVE ACTIVELY TO INCREASE BIOGAS AVAILABILITY

Circular economy is seen as a necessity in supporting climate change mitigation, resource efficiency and sustainable growth. Utilization of biowaste and biodegradable side streams in biogas production is an efficient way of mitigating climate change and at the same time promoting the circular economy in the form of energy and recycling nutrients from raw materials for uses such as fertilizers. Gasum's investments in the Nordic gas ecosystem facilitate the rapid growth of biogas production and use.

Global, EU-level, and national energy and climate policies and targets are strongly committed to a rapid decrease in greenhouse gas emissions. The importance of gas as a low-emission energy source over the longer term will increase further as the Nordic countries transition towards carbon-neutral energy production and support growth in the production and use of biogas.

The use of gas is projected to grow strongly in the years ahead, particularly in industry as well as in road and maritime transport. Gasum has been preparing for the growth in demand by investing purposefully in the development of the Nordic gas infrastructure for several years already. The expanding gas infrastructure creates a good foundation for the increased production and use of biogas. So far, only a fraction of the biogas production potential is in use. Gasum's investments in the Nordic gas ecosystem and in new business functions facilitate future growth. The capacity to operate more broadly in the energy market strengthens Gasum's position comprehensively as an energy company of the future.

The company strives actively to increase own biogas production capacity and is also involved in a number of different projects with cooperation bodies which are also plan-

ning to develop the production of other renewable gases, such as synthetic methane and green hydrogen, in the Nordic countries.

BIOGAS IS SUSTAINABLE

Biogas is a completely renewable fuel produced from agricultural, industrial, and household waste and residues. Biogas use can help to reduce greenhouse gas emissions by up to 90% compared with fossil fuels. When biogas is produced from manure, the emission reduction can be beyond 100%. This is because the greenhouse gas emissions generated in the traditional manure treatment and storage are avoided.

In the biogas production process, the biodegradable feedstocks are converted into energy and recycled nutrient products by anaerobic microbes that feed on the biomass.

The biogas can be used locally as such, or upgraded to biomethane and further liquefied, which enables the transport of the gas over longer distances. Renewable biogas can be used as a fuel for cars, buses, heavy-duty vehicles, and maritime transport, as well as in industry and energy production.

Nutrient residues created as a by-product in the biogas process can be returned to the food chain as fertilizers or refined for industrial purposes to replace mineral and fossil nutrients and fertilizers.

WE BOOST AVAILABILITY OF BIOGAS

Gasum has prepared for the growth in gas demand by investing in the development of the Nordic gas infrastructure. Recent years have seen major leaps forward in the availability of gas for traffic, maritime and industry segments as our network of terminals, traffic filling stations and supply solutions for maritime transport have grown significantly. Gasum is one the few companies who can offer biogas production and biogas availability on an industrial scale in the Nordics.



Gasum offers biogas production and biogas availability on an industrial scale in the Nordics

WE HAVE AN AMBITIOUS CLIMATE TARGET

Our products help our customers and the society at large to reduce greenhouse gas emissions. We seek to increase the availability of biogas to reduce our customers' greenhouse gas emissions by a million ton of CO₂eq by 2025. We will make 4 TWh of biogas available through our own production and certified European partners during the set timeframe. In addition, we continue to implement energy efficiency measures and reduce emissions in our own operations.

GASUM ESTABLISHED A GREEN FUNDING FRAMEWORK AS PART OF THE COMPANY'S FINANCING STRATEGY

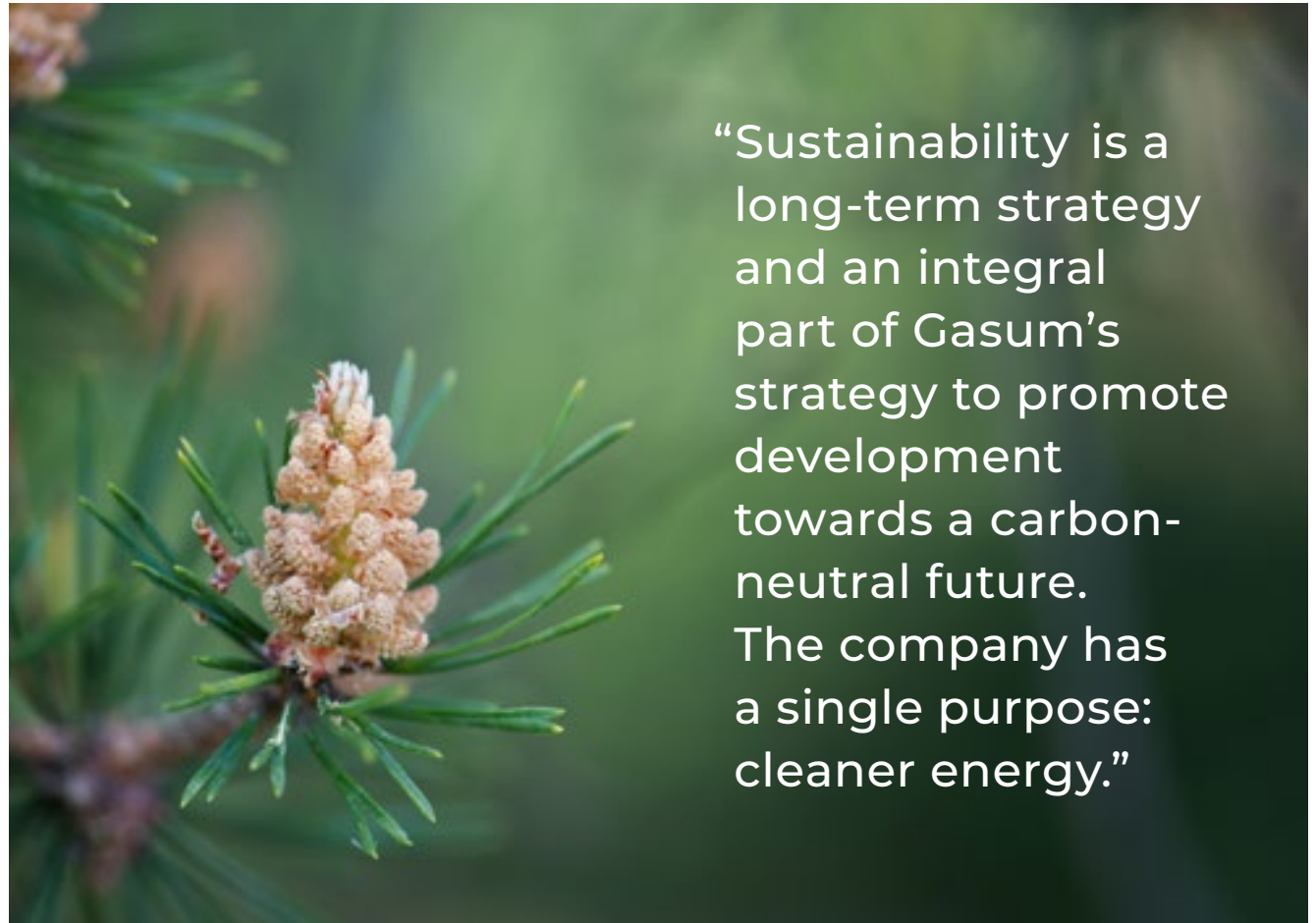
Gasum's Green Funding Framework governs bond issuances as well as green loans as part of the Company's financing strategy.

The Framework has been assessed by an independent third party, CICERO Shades of Green, which is a subsidiary of the Center for International Climate and Environmental Research (CICERO) in Norway.

Based on the review of Gasum's governance framework for selecting and reporting on green eligible assets, as well as of the corporate sustainability policies, CICERO Shades of Green found the Framework to be in alignment with the Green Bond and Green Loan Principles. CICERO gave Gasum's Green Funding Framework the grade of dark green, which is allocated to the most climate-friendly projects or business solutions that promote the long-term vision of the transition to a low-carbon society.

Under the Green Funding Framework, established in 2019, Gasum can finance projects and assets connected to renewable energy and circular economy adapted products, waste management and pollution prevention, and control and energy efficiency - in line with categories by the taxonomies of the Green Bond and Green Loan Principles. Investments in the company's LNG business area are excluded.

The CICERO Shades of Green's second opinion and Gasum's Green Funding Framework are available on our website.



“Sustainability is a long-term strategy and an integral part of Gasum’s strategy to promote development towards a carbon-neutral future. The company has a single purpose: cleaner energy.”

ASSETS FINANCED WITH GREEN LOANS IN 2021

During 2021 no new loans were raised under the Green Funding Framework and thus the amount equal to the net proceeds of Gasum's green funding remained at EUR 152 million. This is allocated to financing Gasum's assets in the biogas segment. This equals 23.2% of the total amount of loans taken out from the credit facility at end of 2021.

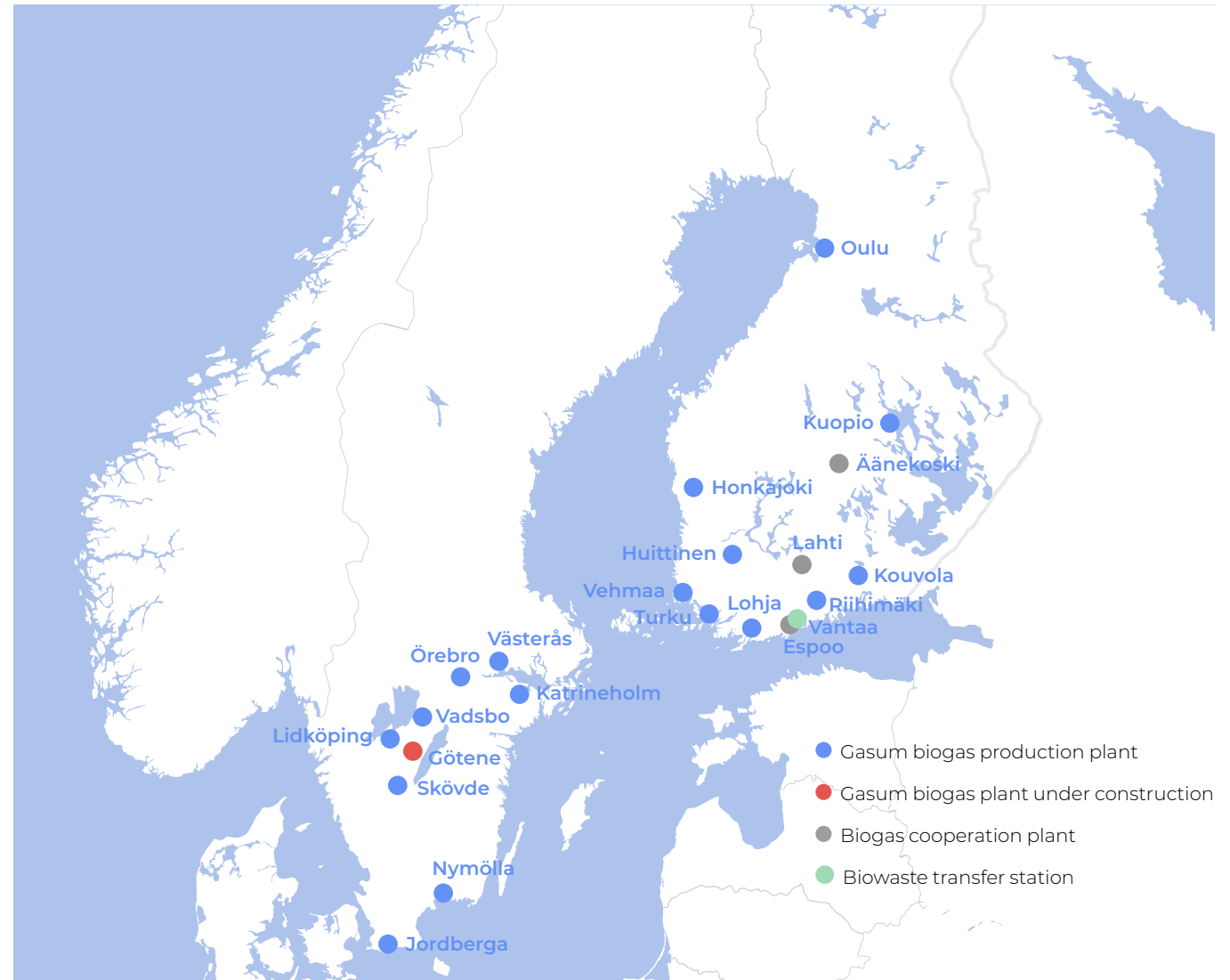
Gasum continued investments in the green biogas assets, which within Gasum's Green Funding Framework are eligible with the criteria of verified asset category 'Renewable or circular economy adapted products'.

The ongoing operations spread across 21 locations in both Finland and Sweden.

In 2021, 10 projects were ongoing with an aim to further increase the production capacity of biogas while simultaneously improving the efficiency of the plants.

During 2021 Gasum opened a new biogas plant in Lohja. The plant uses biodegradable waste from the Helsinki region to produce renewable biogas and organic recycled fertilizer suitable for organic farming. In addition, Gasum opened a biowaste transfer station in Vantaa and agreed with Metsä Fibre, part of Metsä Group to have a cooperation in biogas processing in Äänekoski.

In Sweden, Gasum opened a new LBG production plant in Nymölla in 2021. Gasum has also made the decision in 2020 to build a 120+40 GWh/a LBG production plant in Götene with manure as a main feedstock. The LBG production in Götene is planned to be operative in 1st half of 2023.



EXAMPLES OF PROJECTS FINANCED WITH GREEN LOANS: CONSTRUCTION OF GASUM'S BIOGAS PLANT IN LOHJA, FINLAND

CASE

THE CONSTRUCTION OF GASUM'S BIOGAS PLANT IN MUNKKAA WASTER CENTER IN LOHJA, WAS COMPLETED IN 2021.

The biogas plant on the site of Lohja will process around 60,000 tonnes of biomass a year to produce 40 GWh of renewable biogas, equivalent to the annual fuel consumption of 100 heavy-duty vehicles or 4,000 cars a year. The plant will also produce around 50,000 tonnes of organic fertilizers for organic farming and are enough for around 2,000 hectares of arable land.

Gasum strives actively to increase biogas production capacity by building new biogas plants and also by increasing biogas procurement from partners. Demand for biogas is growing in all segments and Gasum is constantly pursuing new opportunities to increase production capacity.

The Lohja biogas plant has been granted support of EUR 7.83 million by the Ministry of Economic Affairs and Employment under the Bioeconomy and clean solutions key project. The objective of the key project is to increase in a sustainable way the share of renewable energy of the energy used in Finland by, in particular, improving its availability.



EXAMPLES OF PROJECTS FINANCED WITH GREEN LOANS: NYMÖLLA BIOGAS PLANT

CASE

CIRCULAR ECONOMY COOPERATION WITH STORA ENSO

Gasum is making a circular statement with the biogas plant at Stora Enso's pulp and paper mill in Nymölla, that was completed in 2021. The plant shows how to utilize the advantages between the two industries in close cooperation.

The biogas plant in Nymölla recovers organic matter from the wastewater during the treatment process and turns it into liquefied biogas. The plant is expected to produce around 75–80 GWh of biogas a year, which is equivalent to the annual consumption by as many as 200 trucks.

The plant extracts the organic matter in the mill's effluent and turns it into renewable biogas, which is then liquefied (LBG).

Stora Enso's pulp and paper mill in Nymölla produces around 340,000 tonnes of pulp and 485,000 tonnes of wood-free office paper each year. Gasum's biogas plant is wall-to-wall on the mill site. Large pipes conduct the wastewater from the paper mill to a large buffer tank, where it is optimized using nutrients.



EXPECTED ENVIRONMENTAL IMPACT

Renewable energy production financed with green loans promotes positive climate impacts of the company's business. In 2021, the biogas production financed with green loans totalled about 680 GWh. The corresponding estimated annual greenhouse gas emissions reduction was 173,000 tonnes of CO₂ equivalent.

Biogas produced by Gasum is 100% renewable. During the reporting year, biogas production met fully with the sustainability criteria laid down by the Renewable Energy Directive.

In 2021, the biogas plants utilized a wide base of biomass in biogas production. A total of 880,000 tonnes of bio-degradable feedstocks were sourced from the food industry, retail outlets, municipalities, and agriculture, consisting of biodegradable waste and residues, municipal wastewater sludge, and agricultural by-products and crops. In addition, 4,000,000 tonnes of forest industry waste water was received as a feedstock for biogas production. Biogas production enabled the re-use of biodegradable waste material as energy, thereby reducing the energy lost in processes such as waste combustion or composting.

In addition, around 950,000 tonnes of nutrient residues were generated as a by-product in the biogas production process. These are returned either as recycled nutrients for industry, or as recycled fertilizers for agriculture.

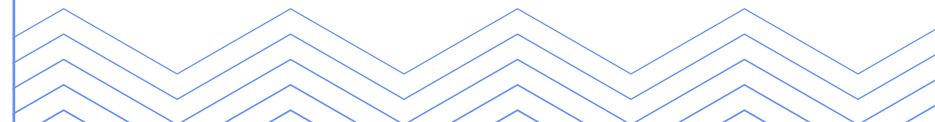
Our network of biogas plants improves economy of scale and efficiency and allows biomass processing to be optimized between plants depending on, for example, logistics, capacity, market conditions and different feedstocks.

CLIMATE IMPACT CALCULATION PRINCIPLES

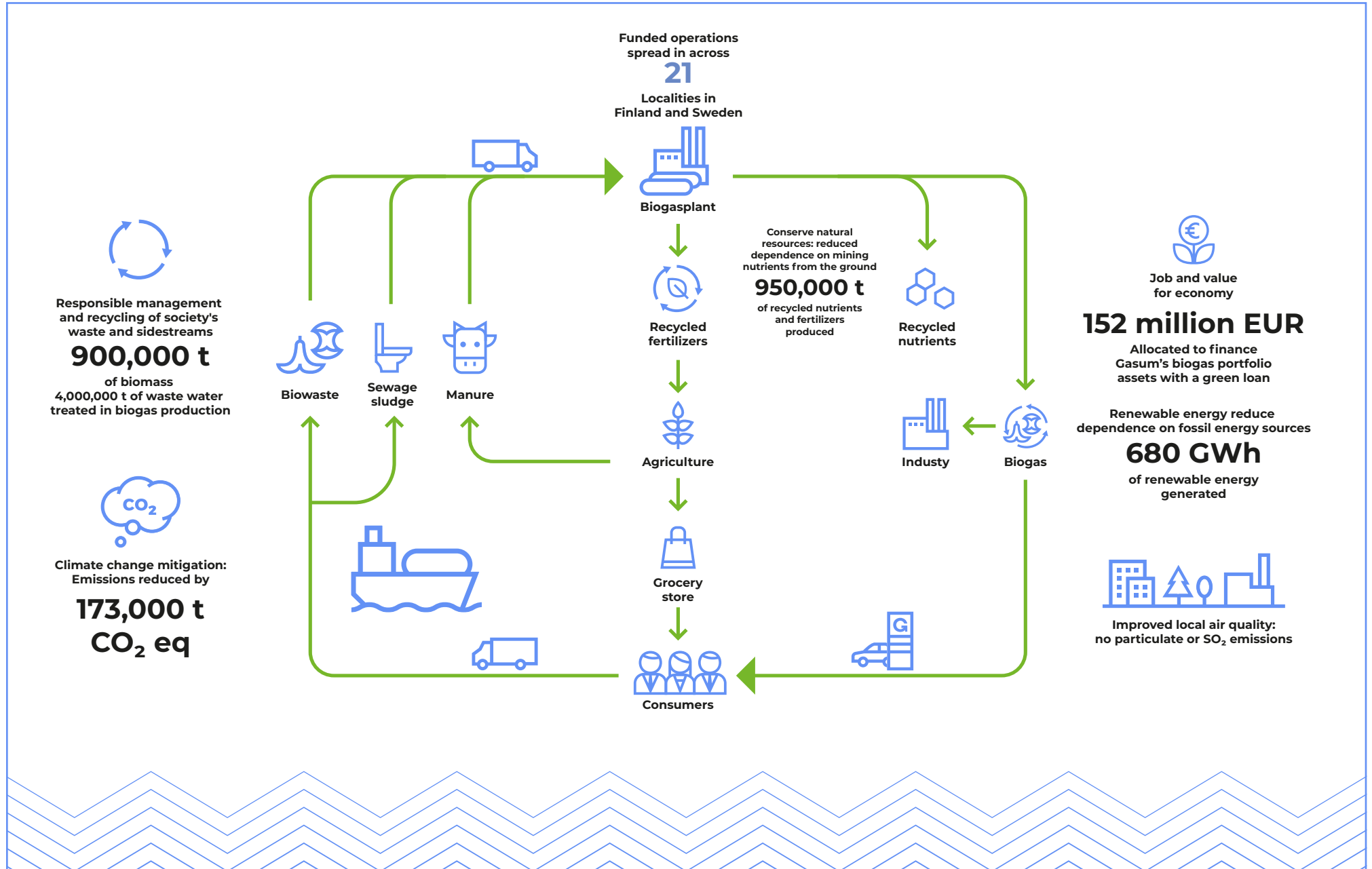
The estimated tonnes of CO₂eq emissions avoided because of assets to which green funding proceeds have been allocated, have been calculated according to methodologies and assumptions described below.

The evaluation is carried out based on portfolio-based specific emission calculations, based on an annual level analysis for 2021. The determination of emissions is based on the sustainability criteria guidelines provided by the Finnish Energy Authority and Swedish Energy Agency and is in accordance with the Renewable Energy Directive, RED2 (2018/2001/EU), which governed the climate impact calculation rules during the reporting year. Emission calculations have been carried out in the context of Gasum's certified sustainability systems in Finland and Sweden. The sustainability systems and the calculations are verified annually by an independent certification body.

In calculating the greenhouse gas emissions generated by the usage of electricity, grid factors of 106 g CO₂eq/kWh for Finland and 26 g CO₂eq/kWh for Sweden have been applied. In determining emissions reductions, the applied fossil fuel comparators are 94 g CO₂ eq/MJ for transport use, 80 g CO₂eq/MJ for production of useful heat, heating and/or cooling, and 183 g CO₂ eq/MJ for electricity production. Carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) emissions are considered in the total climate impact with GWP100 values defined in the RED2 (25 for CH₄ and 298 for N₂O).



GASUM'S GREEN FUNDING 2021 IN FIGURES



GASUM CONSIDERS HEALTH, SAFETY AND ENVIRONMENTAL ASPECTS WITH CARE

When constructing new and operating the existing biogas plants and related facilities, we consider the health, safety, and environmental aspects with care. We believe that all accidents related to people, environment and assets can be prevented.

Process safety starts with the design phase of building facilities and extends throughout their lifecycle, ensuring the facilities are operated safely, maintained systematically, and inspected regularly to identify and deal with any potential process safety hazards. Every one of us is responsible for following safety and security instructions, making observations, and eliminating hazards, and for taking part in safety and security training. Documenting observations helps to prevent damage, accidents, and injuries, and to ensure we continuously improve our daily operations. Where risks are identified, we set deadlines and responsibilities for corrective actions in response to them and monitor these actions.

Our key environmental aspects include air emissions, energy consumption, odor nuisances, and environmental impacts caused during project construction. We continue to invest in maintenance and process improvements to improve our environmental performance. We are committed to improving energy efficiency and favor renewable electricity in all our operations. At many of our biogas plants, efficient recycling means that no wastewaters are produced at all. All sites systematically follow up on any environmental deviations, pro-actively report observations, conduct safety rounds, and compile risk assessments. We use reporting tools in the management and re-portion of the environment-related actions, which helps us to improve the environmental performance and awareness.

Our certified integrated management system (IMS) supports our work in achieving operational excellence and continuous improvement. The IMS consists of quality, environmental, energy, occupational health, and safety management systems (ISO 9001:2015, ISO 14001:2015, ISO 50001:2018 and ISO 45001:2018 standards), as well as the certified sustainability systems. We verify our compliance with these standards by annual external audits.

We commit our business partners to our operating practices by providing them with training and continuously assessing our critical suppliers. Our Business Partner Code of Conduct sets the requirements we expect our partners to comply with when doing business with us. We work together to maintain high ethical standards and to conduct business in a responsible way. Our fundamental principles include e.g., avoiding bribery and corruption, competing fairly, respecting human rights and the environment, maintaining quality and regulatory excellence, as well as health, safety, and security. [The Gasum Business Partner Code of Conduct is available on our website.](#)



We continue to invest in maintenance and process improvements to improve our environmental performance

Gasum



GASUM GROUP

Revontulenpuisto 2 C, P.O. Box 21

FI-02100 Espoo, Finland

Phone +358 20 44 71

www.gasum.com