SYSTEMATIC TRANSFORMATION WITH FORESIGHT

VNG in profile

KEY FIGURES
FOR THE 2021 FINANCIAL YEAR AND CHANGE ON THE PREVIOUS YEAR

Billed revenue*

€18,479 million

7,700 km
Pipeline network

€225 million
Adjusted EBIT**

38 Biogas facilities
As of 01/04/2022

€141 million
Consolidated result

Storage capacities of the four underground gas storage facilities
2.2 billion m³

Gas sales
762 billion kWh

1,462
Employees (total for all fully consolidated companies)

* Before application of the IFRIC agenda decision on IFRS 9
** Excluding non-recurring, unplanned earnings effects

WE ARE PURSUING OUR GOALS EVEN IN TIMES OF CHANGE

We are no stranger to change and transformation. As one of the largest energy companies in eastern Germany, we always have a clear view of our mission, even in times of change. We ensure a constant and economical energy supply. Against the backdrop of fulfilling this social mission, we are addressing our current challenges with the utmost intensity: the diversification of our supply relationships as well as the market ramp-up and business development of green gases. However, with the Russian war of aggression against Ukraine, the conditions for the energy industry and for our company again changed significantly in early 2022 and will continue to do so.

We are now implementing our vision “Green. Digital. With Gas.” with even greater ambition and speed. Green gases from regional production and – over a certain period of time – also natural gas from different countries of origin are helping ensure economic stability in Germany. At the same time, we are further developing our business models and meeting our responsibilities as a trader, a supplier, an operator of critical infrastructure and as an employer.

2021

OUR FINANCIAL YEAR 2021

2021 was an extraordinary year for VNG and in terms of financial performance, a good year. Despite the coronavirus pandemic, the tightening of European and national climate targets, and the historically sharp increase in the price of natural gas, VNG performed exceptionally well and posted good results (see page 2). VNG is able to act effectively and is economically successful in all its business areas. On this basis we will be able to continue to successfully shape our transformation.

CONTENTS

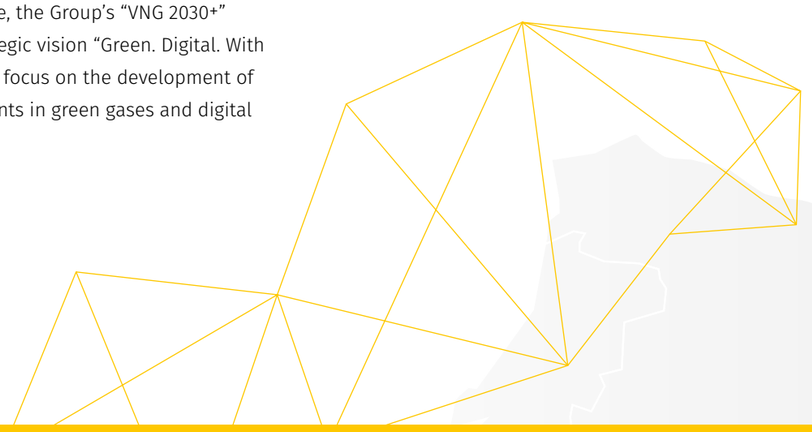
VNG AT A GLANCE

More than 20 companies, more than 1,400 employees, more than 60 years of experience in the industry. VNG, headquartered in Leipzig, is a strong group of companies with a broadly based service portfolio in gas and infrastructure. The Group has gained its expertise in gas with its German and European companies and holdings almost along the entire value chain.

VNG combines activities in the business areas of trading & sales, transport, storage and biogas. Based on this core expertise, the Group's "VNG 2030+" strategy and its strategic vision "Green. Digital. With Gas" place a growing focus on the development of new business segments in green gases and digital infrastructure.

In addition, VNG is following an ambitious roadmap in its commitment to renewable and climate-neutral gases, driving forward the transformation of the company as well as the entire energy system.

The issue of security of supply is at the forefront of everything we do. For VNG, this means procuring natural gas today and green gases tomorrow from secure sources of supply and at competitive conditions for our customers.



OUR LOCATIONS

BALANCE VNG Bioenergie GmbH
GDMcom GmbH
Geomagic GmbH
Infracon Infrastruktur Service GmbH & Co. KG
MGMTree GmbH
Moviatec GmbH
ONTRAS Gastransport GmbH
VNG AG
VNG Gasspeicher GmbH
VNG Handel & Vertrieb GmbH
VNG Innovation GmbH

TRADING & SALES

Gas trading is one of the Group's core activities. VNG offers services related to gas, electricity and energy. The spectrum ranges from full supply to individual and highly flexible supply concepts. With the regionally organised **VNG Handel & Vertrieb GmbH**, its trading companies and holdings, VNG ensures the reliable supply of regional utility companies, industrial users as well as commercial and household customers at home and abroad.

TRANSPORT

With the distribution of gas and the provision of network-related services, the Transport business segment is a guarantor for security of supply in Germany. As an independent transmission system operator, **ONTRAS Gastransport GmbH** provides its customers non-discriminatory network access and – together with its subsidiaries – contributes to an efficiently functioning European gas market. ONTRAS is also a pioneer of green energy in the German gas network. One focus is the development of future options for the sustainable use of gas infrastructure in the new energy world.

STORAGE

Underground storage facilities are central to the gas infrastructure and also indispensable in the energy system of tomorrow. As the third largest gas storage operator in Germany, VNG – through its subsidiary **VNG Gasspeicher GmbH** – ensures the reliable, safe and efficient storage of gas, backed by comprehensive know-how stretching from operation through to maintenance and the marketing of storage capacities. The range of services includes intelligent and flexible storage products as well as special engineering services.

BIOGAS

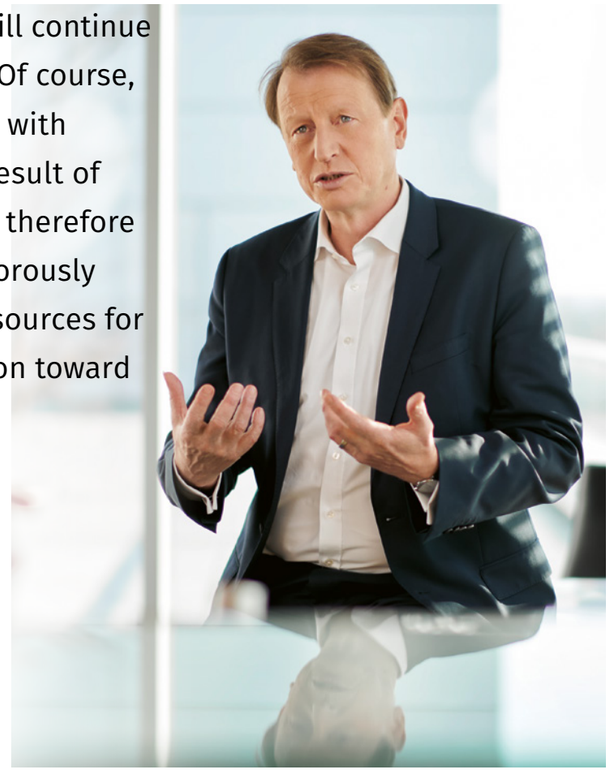
Since 2020, VNG has bundled its biogas and biomethane activities in its biogas business segment. Biogas is one of the most important growth areas. **BALANCE Erneuerbare Energien GmbH** currently operates 38 biogas facilities in eastern and northern Germany. The focus of activities is the optimisation of such facilities and successive enhancement of added value as the plant operator. In the future, VNG wants to open up additional opportunities to increase the share of renewable energies in the gas network.

FASTER TRANSFORMATION FOR LONG-TERM SUCCESS

Security of supply is invaluable and we are fully aware of our responsibility towards our customers, the people and companies in this country. This is why conventional natural gas will continue to be important in the years to come. Of course, the starting point for our cooperation with partners in Russia has changed as a result of the terrible escalation in 2022. We will therefore now be pressing ahead even more vigorously with the diversification of our supply sources for natural gas and with our transformation toward green gases.

ULF HEITMÜLLER
CHAIRMAN OF THE EXECUTIVE BOARD

More on these issues on page 12/13



In 2021, VNG invested almost EUR 200 million in the development and implementation of new business models with green gases and in the implementation of the “VNG 2030+” corporate strategy. The company has thus laid solid foundations for remaining future-proof and being able to respond to changing framework conditions with new ideas and concepts, especially with regard to green gases and digitalisation.

Trading in natural gas has always been a core element of VNG’s business activities. For natural gas, however, the sources of supply must now be further diversified in order to ensure security of supply. In the medium and long term, the importance of natural gas will decrease. By 2045 at the latest, it will be completely replaced by climate-neutral and decarbonised gases such as biogas and hydrogen.

Our mandate to reliably supply energy informs one of our core tasks. We supply numerous large industrial companies, municipal utilities and regional distributors with energy, today mostly with natural gas, in the future with renewable and decarbonised gases. In this way we are helping to create and retain thousands of jobs in industry as well as in manufacturing and processing businesses.

What will the world of gas look like in the future?
We have long been looking at the world of future gas: The major changes in how gas is produced, transported and used are having a significant impact on our business and on the entire energy industry. Based on the megatrends that were already foreseeable in 2017, we developed our “VNG 2030+” strategy and the “Green. Digital. With Gas” vision.

- **Green:** A modern energy system must be sustainable. Regenerative green gases will be important partners for renewable energies from wind, sun or water. In addition to climate protection, security of supply and affordability remain of great importance.
- **Digital:** Smart processes will play a key role in sector coupling and in the development, operation and coordination of critical infrastructure. The focus is, for example, on the expansion of fibre optic communications.
- **With Gas:** Natural gas will continue to be needed for the transition to the renewable age. Gas is particularly climate-efficient and, thanks to its flexibility and properties, offers numerous options for the future. In industry and in the heating market, green and decarbonised gases will take over from natural gas by 2045 at the latest.

CLEAR OBJECTIVES COMBINED WITH THE WILLINGNESS TO FLEXIBLY SHAPE THE PATH TO GET THERE

The framework conditions for our tasks and services change frequently. We respond to this constructively. We regularly review our “VNG 2030+” corporate strategy, which we developed in 2017. Where necessary, we hone down the strategy further, optimising its precision and reinforcing it with specific interim goals and the appropriate measures to achieve them.

With this flexibility, we benefit from one of the main strengths of our company – we change our ideas, concepts and methods consistently and successfully when new political requirements or new market conditions make this necessary. The courage and willingness to change are now deeply embedded in the collective consciousness of our company. That is why the employees of VNG support the transformation strategy unreservedly.

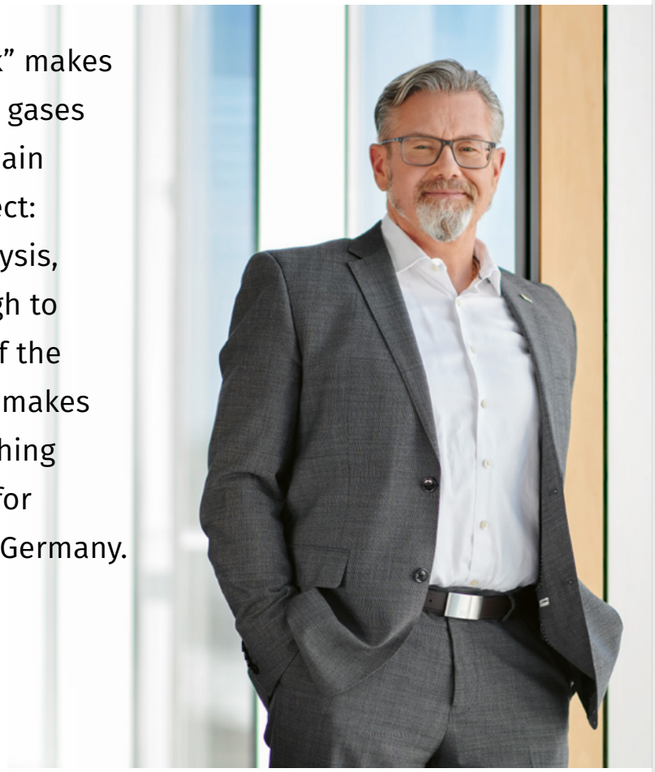
It goes without saying that we comply with rules and regulations, and adhere to agreements made with our partners in all of our business transactions. Such reliability is an elementary prerequisite for our business activities. It is also the basis of our good reputation and the great trust that VNG enjoys among its customers in the energy industry, as an employer and in public.

People work at VNG who are driven by a conviction and also by a passion for our business, who can deal with the difficult environmental conditions we are currently experiencing. No one company can hope to master the huge challenges of the energy transition alone. That is why we are open to far-reaching cooperation models with other companies. This is also a fundamentally important part of our transformation.

BODO RODESTOCK
MEMBER OF THE EXECUTIVE BOARD, FINANCE/HUMAN RESOURCES

More on these issues on page 16/17

The “Bad Lauchstädt Energy Park” makes the enormous potential of green gases clear. The entire value-adding chain is modelled in this flagship project: green power generation, electrolysis, gas storage and transport through to application. We are very proud of the project because the Energy Park makes the energy transition into something tangible. This is important, also for regional development in central Germany.



HANS-JOACHIM POLK
MEMBER OF THE EXECUTIVE BOARD,
INFRASTRUCTURE/TECHNICAL AFFAIRS

More on these issues on page 22/23

SIGNIFICANT ACCELERATION IN THE MARKET RAMP-UP FOR GREEN GASES OVERALL

Germany cannot replace the large amounts of Russian gas overnight – these currently account for around 50 per cent of the total gas requirement. Establishing new trade relationships with other supplier countries and building the necessary infrastructure takes time and a range of investments. These investments must be planned, agreed with policymakers and the public, decided upon and implemented. Fossil gas will also continue to play an important role in energy supply in the immediate future.

In 2021, the industrial sector was responsible for 36 per cent of Germany’s annual consumption of natural gas. If, for example, we do not supply an industrial customer with the required gas quantities, there is a real risk of production downtime or the interruption of process and supply chains. This, in turn, can have a domino or even snowball effect, in the manufacturing sector for example.

Germany will therefore remain dependent on natural gas for the time being, also in order to manage the transition to the age of renewable energies as quickly and climate-efficiently as possible. (see page 12/13)

TRANSFORMATION AS A CONTRIBUTOR TO REGIONAL STRUCTURAL CHANGE

Therefore, at the same time, the development and ramping up of the green gas markets must as soon as possible reach the level that the German economy needs, not just to continue to function but also to thrive. The faster this ramp-up can be implemented – and that includes the expansion of renewable energies as well as the shortening of inspection and approval periods – the faster supposed dependencies can be resolved without calling security of supply into question.

VNG will play an active role in the change processes in the energy system – in our role as a trader and as an infrastructure operator, and with an accelerated transition to green gases. We are challenged here as active participants, and we gladly accept this challenge. With this transformation, we are also driving structural change in the central and eastern region of Germany.

NATURAL GAS: ELEMENTARY BUILDING BLOCK IN THE ENERGY SUPPLY

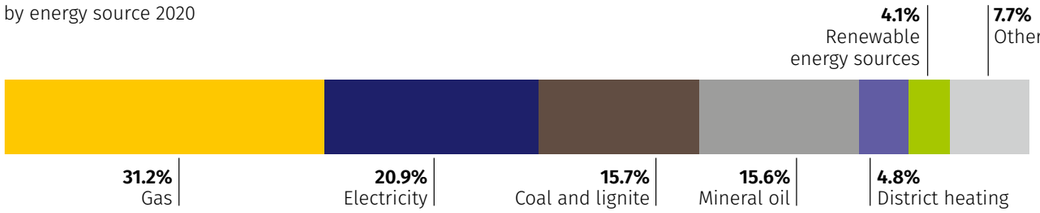
Natural gas is a mainstay in the energy mix and currently provides almost 27 per cent of the energy consumed in Germany. Almost every second household is heated with natural gas. 1.8 million commercial and industrial companies use this climate-friendly energy source, e.g. for the generation of process heat or industrial electricity.

Along with renewable energy sources, natural gas has steadily gained in importance in recent years – also due to the requirements of climate protection. Natural gas is significantly lower in emissions than coal or oil and can immediately contribute to climate protection and considerable CO_2 savings as an energy source for heating energy in the heating market, in gas-fired power plants to generate electricity, and as a fuel in transport.

Natural gas is, in fact, the most important energy source and currently an indispensable part of numerous processes for the manufacturing industry in Germany. The glass and ceramics industries in particular are dependent on natural gas, as an energy source that can generate the temperatures of up to 1,500 °C and maintain temperatures at this level,

ENERGY USE IN INDUSTRY

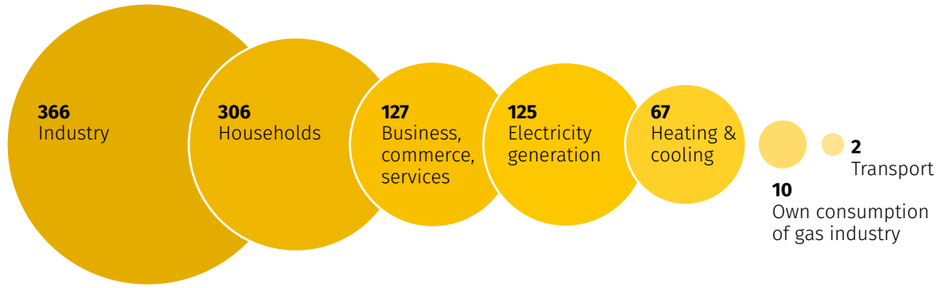
by energy source 2020



Source: German Federal Statistics Office, 2021

NATURAL GAS SALES BY CUSTOMER GROUP 2021

Total natural gas consumption: 1,003 billion kWh

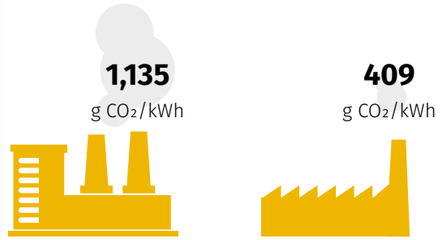


Source: BDEW (German Assoc. of Energy and Water Industries); forecast values for 2021; data in TWh

which is essential in many thermal processes. For the chemical industry, natural gas is the number one energy source and is used, among other things, in the production of fertilisers and in oil refineries – in 2021, 120 billion kilowatt hours of gas energy were consumed. Nor is there any substitute available at present in the steel industry for natural gas.

Natural gas also plays an important role in the electricity market. Modern gas-fired power plants emit up to 70 per cent less CO_2 than lignite-fired power plants. By switching from coal to gas, around 120 million tonnes of CO_2 emissions could be saved each year. Gas power stations are the perfect complements to volatile renewables and help secure the electricity supply. They are flexible and can compensate for the fluctuating generation of wind and sun energy.

CARBON FOOTPRINT OF ELECTRICITY GENERATION



The great importance of natural gas is also amplified by the well-developed infrastructure. Gas network and gas storage facilities are the backbone of the energy supply system and contribute to system stability in Germany and Europe.

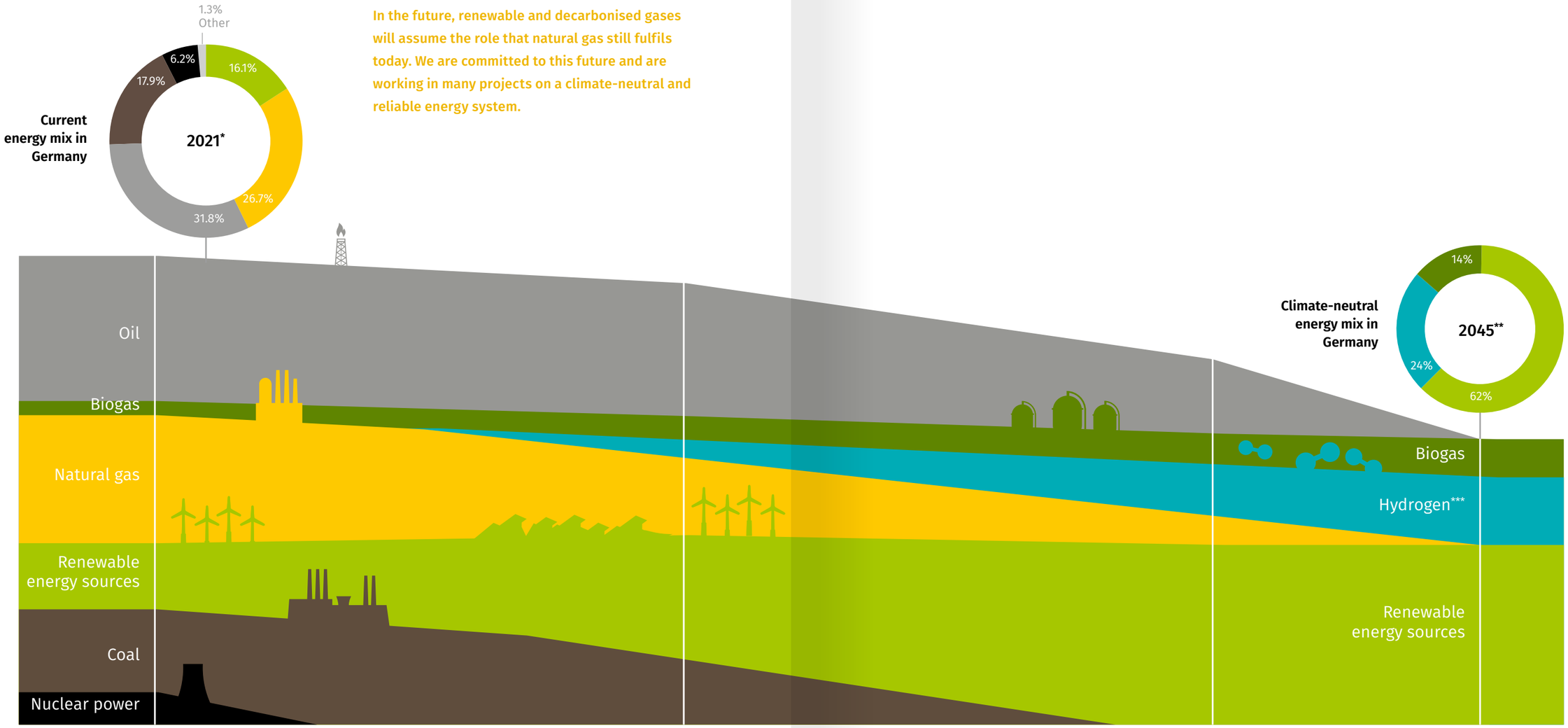
DECARBONISATION OF NATURAL GAS CONTINUES TO GAIN IN IMPORTANCE

As climate-friendly as natural gas is, for a climate-neutral lifestyle and production, the energy source must continue to develop, just like its infrastructure and applications. The transformation of the gas economy has already started. Hydrogen and biogas are set to replace today's natural gas and, together with renewable electricity, to provide climate-neutral power for households and industry. We are actively involved in this transformation that is essential to secure all our futures.

49.5 %

Germany heats with natural gas. According to the BDEW, natural gas meets personal heating requirements in around half of all households in Germany. New gas heating systems are particularly efficient, reducing energy consumption and CO_2 emissions. According to the Federal Association of the German Heating Industry ("BDH"), almost 1 million new heating systems were installed in 2021. Around 70 per cent of these are fired by natural gas.

THE FUTURE LIES WITH GREEN GASES



In the future, renewable and decarbonised gases will assume the role that natural gas still fulfils today. We are committed to this future and are working in many projects on a climate-neutral and reliable energy system.

Germany is to become climate neutral. By 2045 at the latest, there are to be no more net CO_2 emissions in generation, transport and use of energy – and therefore in all areas of the economy and everyday life. This means that in all sectors of our economy, only renewable or decarbonised energies will be used.

At VNG, we are doing everything we can to develop solutions for a climate-neutral future with green gases. Fossil natural gas is gradually being replaced by biogas and hydrogen.

Green gases and the gas infrastructure will provide answers to many questions of the energy transition, for example how renewable energy can be stored for extended periods and in sufficient quantities to reliably and securely supply households and businesses even in times when not enough renewable electricity is available. Biogas can be produced regionally, and hydrogen can be imported from many different countries to supplement domestic production. This will result in a diversification of energy sources and increased security of supply.

Together we want to further accelerate the transformation. VNG has been involved for some time in various projects for a future climate-neutral gas supply, especially since the “VNG 2030+” strategy was adopted, and is working with many partners on the green energy future. A selection of projects is briefly presented on the following pages.

This simplified schematic representation shows the forecast development of energy supply by energy source in Germany.
* Primary energy consumption 2021; Source: AG Energiebilanzen, as of December 2021
** Climate-neutral energy mix from 2045; Source: own projections and estimates
*** This relates to green, blue and turquoise hydrogen.

ACHIEVING MORE TOGETHER: GREEN GAS PROJECTS

Natural gas and biogas today, hydrogen tomorrow. In the coming years, VNG aims to transform itself into a company that operates with green gases in all areas – from generation to transport and storage to trading.

Green gases are important factors in the climate-neutral energy supply of tomorrow's Germany and Europe. Along with our partners, we are continuously driving forward the transformation of the energy system.

Together we are making an important contribution to the success of the energy transition and thus actively shaping the energy world of tomorrow. First of all, this applies to the area of biogas. The renewable gas is already available regionally in large quantities and offers great potential for assuring a CO_2-neutral energy supply. As one of the largest biogas producers in Germany, we supply around 50,000 households with renewable electricity and more than 49,000 households with green gas.

In addition, hydrogen will play an essential role in the future climate-neutral energy system. We want to be H_2-ready in all business areas by 2025. This means that the technological applications and the business models for the generation, storage and transport of hydrogen must be developed to such an extent that they can be scaled up for market needs without further preparatory work. Our well-developed infrastructure will store and transport an increasing proportion of green gases through the increasing admixture of hydrogen. The "Bad Lauchstädt Energy Park" will be one of the first projects in which the entire hydrogen value-added chain becomes a concrete reality.

CURRENT PROJECTS (SELECTION)

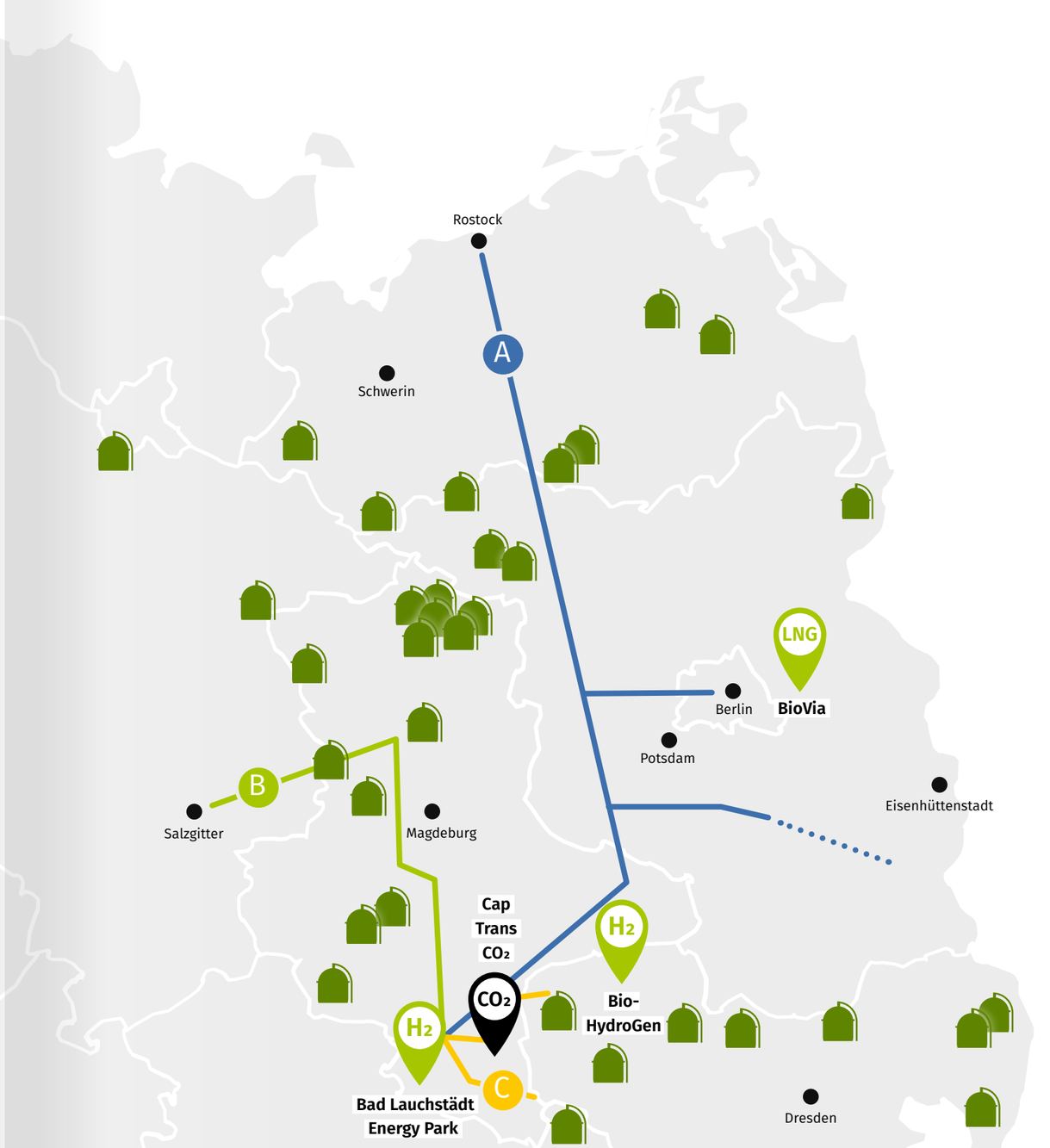
BioVia
Construction and operation of a biomethane liquefaction plant for the production of bio-LNG.
www.balance-envitec-bio-lng.de/en

BioHydroGen
On-site production of green hydrogen from raw biogas using a specially modified steam reforming plant.

CapTransCO₂
Feasibility study for the development of climate-neutral industry in central Germany through a networked CO_2 transport infrastructure for CCU/CCS.

Bad Lauchstädt Energy Park
Production-scale regulatory sandbox for intelligent production, storage, transport, marketing and use of green hydrogen.
www.energiepark-bad-lauchstaedt.de

HyTur (location undetermined)
Construction of a pilot plant for methane pyrolysis to produce turquoise hydrogen.



GRID PROJECTS

A **doing hydrogen**

B **Green Octopus Mitteldeutschland**

C **LHyVE: Leipzig Hydrogen Value chain for Europe**

Biogas facilities of BALANCE Erneuerbare Energien GmbH
www.balance-vng.de

As of 31 March 2022

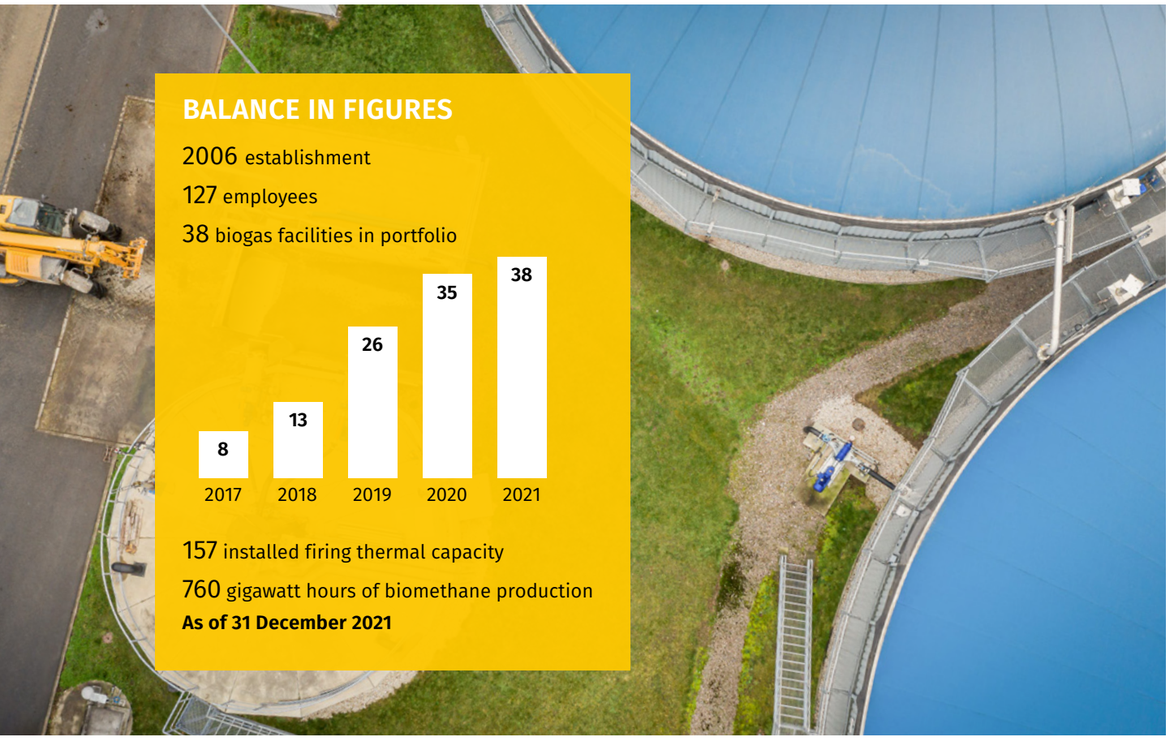
RENEWABLE GAS, PRODUCED LOCALLY

The VNG subsidiary BALANCE Erneuerbare Energien GmbH produces biogas and biomethane at 38 locations. Renewable gas is already making an important contribution to climate protection and security of supply.

Biogas and biomethane will play an increasingly important role in the decentralised supply of electricity and heat. The capacities of biogas production in Germany are far from exhausted. As part of VNG's green gas strategy, the subsidiary BALANCE has been developed to become one of the leading biogas plant operators in Germany. Since 2017, the company has nearly quintupled its asset portfolio and now provides 157 MW_{FTC} of renewable energy.

In 2021, BALANCE has once again expanded its facility portfolio. In parallel, existing facilities were optimised and partially expanded and prepared for future sustainability certification. This proves that the requirements for sustainability as well as environmental and social standards are met for the production of the raw materials used.

Furthermore, the joint venture BALANCE EnviTec Bio-LNG GmbH laid the foundation for the liquefaction of biomethane. With bio-LNG, the joint venture will provide a renewable, low-emission fuel alternative for road goods transport under the auspices of the BioVia project. Depending on the composition, the biomethane from our own facilities could provide negative greenhouse gas emissions in accordance with the Renewable Energy Directive RED II, as is already the case with biomethane produced from agricultural waste.



BALANCE IN FIGURES

2006 establishment

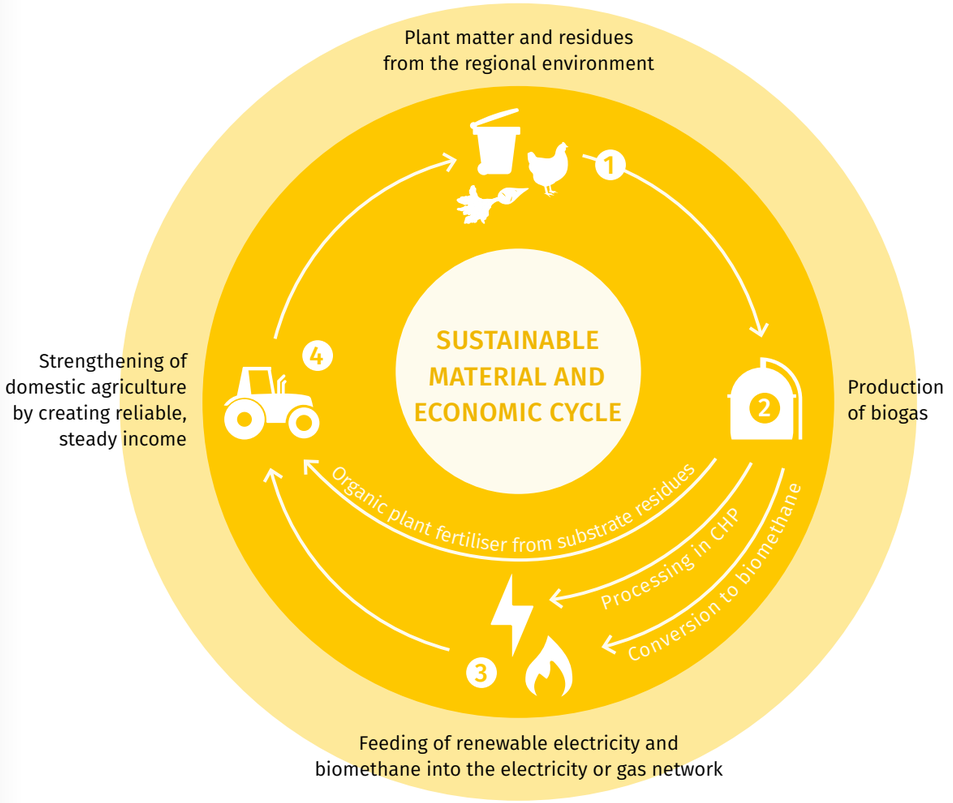
127 employees

38 biogas facilities in portfolio

157 installed firing thermal capacity

760 gigawatt hours of biomethane production

As of 31 December 2021



SUSTAINABLY PRODUCED

The generation of climate-neutral energy is continuous, i.e. independent of the time of day or season. Compared to energy from wind and sun, biogas is easily stored and can be used to generate a base load, promoting the development of regional material and economic cycles. Energy production happens behind the scenes: The facility's fermenters are fed with a substrate mixture consisting of plant materials such as green maize and whole-plant silage as well as residues such as dry chicken manure from the surrounding farms.

The resulting biogas is fed into adjacent combined heat and power plants. Electricity is generated from this biogas, and the resulting heat can be fed into district heating networks. Twelve systems from BALANCE also feed processed biomethane into the network of ONTRAS Gastransport GmbH.

The residues from the fermenters are also reused. The substrate inputs that are not converted into biogas – around 80 per cent – are later returned to the fields as fertiliser.

With the organic fertiliser SNÄGG, BALANCE makes an additional contribution to sustainability and biodiversity – a perfect example of the recycling based economy.

More about SNÄGG

Sustainable substrate management also includes a close exchange with the respective communities and local farmers. The production of biogas strengthens local economies in rural areas; the regional added value and the cooperation with the respective communities as well as the local farmers are important aspects for BALANCE. Biogas facilities offer farmers economic and ecological added value.

More about BALANCE

TRANSPORT AND STORAGE IN THE FUTURE

Gaseous molecules as an energy carrier have two major advantages over electrons: They can be transported with the existing gas network infrastructure and stored in much larger quantities. The VNG Group is working on various projects to make grids and storage systems fit for the future.

THE NETWORK FOR GREEN GASES

A doing hydrogen
616 km hydrogen transport system forming connection between central Germany, Rostock, Berlin-Brandenburg and Eisenhüttenstadt.
More about the eastern German hydrogen hub

B Green Octopus Mitteldeutschland
Connects the eastern German hydrogen network and the Bad Lauchstädt underground gas storage facility with the Salzgitter steel region and the central German Chemical Triangle via a system of more than 300 km pipelines.

C LHyVE: Leipzig Hydrogen Value chain for Europe (part project of B)
Integration of the Halle-Leipzig region with a 100 km ring main pipeline into the European hydrogen economy.
To the joint project

The independent VNG subsidiary ONTRAS Gastransport GmbH operates the gas transmission network in eastern Germany. This network is approx. 7,700 kilometres long and still mainly supplies the connected consumers with natural gas, but in the future will also do this with green gases.

23 biogas facilities are already connected to the ONTRAS network. And the transport of hydrogen is nothing new for the company – green hydrogen has been flowing through the ONTRAS lines from two power-to-gas plants in eastern Germany since 2013. Three hydrogen infrastructure projects by ONTRAS – doing hydrogen, Green Octopus Mitteldeutschland with LHyVE Transport and the conversion of a natural gas pipeline to hydrogen as part of the Bad Lauchstädt Energy Park regulatory sandbox funded by the Federal Ministry of Economics and Climate Protection – will create an initial H_2 network of more than 900 km of pipelines by 2030.

For Green Octopus Mitteldeutschland and doing hydrogen, the application for funding has already been submitted in connection with the hydrogen IPCEI scheme – “Important Projects of Common European Interest”.

The core of the initial H_2 network will be formed by existing pipelines that will be converted from natural gas to hydrogen. Before switching to hydrogen, each line must be tested for suitability and, if necessary, upgraded. Many of the ONTRAS lines are already H_2-ready.

More about ONTRAS

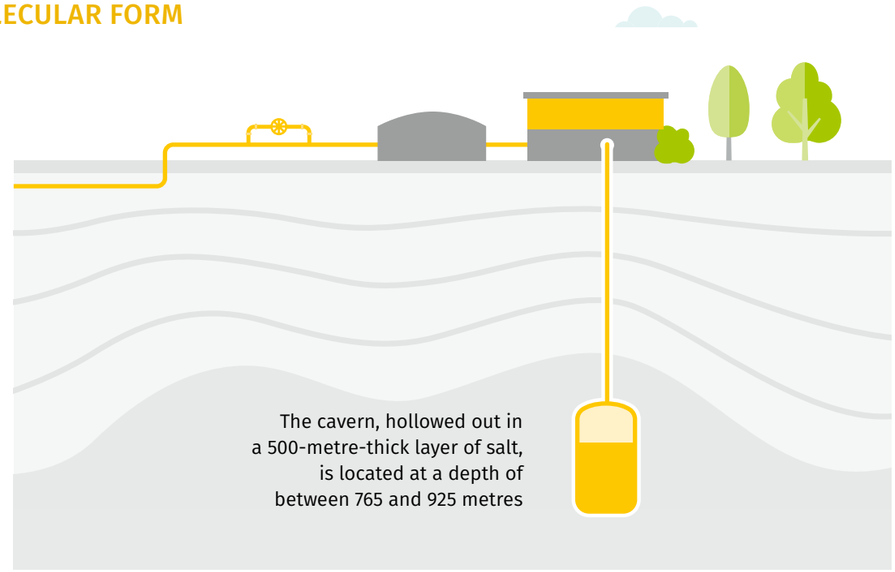
In gas pressure measuring and control units, the pressure of gas flows from the gas transmission network is brought up to the pressure required for local distribution networks. In the spring of 2022, ONTRAS commissioned the world’s first climate-neutral system of this type in Nesselgrund near Potsdam. From here, 400,000 customers in the region are supplied with gas.

A robust gas infrastructure will be an essential part of any sustainable energy supply system in the future. In contrast to electricity, gas can be easily stored between seasons. This means that in the summer, when the general demand for gas decreases, the storage tanks can be filled. In winter, when demand is higher, the gas can then be withdrawn from storage and delivered to end consumers.

Within the VNG Group, VNG Gasspeicher GmbH (VGS) is responsible for the operation and maintenance of four underground gas storage facilities. The Group markets 2.2 billion cubic metres of gas storage capacity in underground caverns and deposits in Germany.

More about VGS

STORAGE CAPACITY FOR ENERGY IN MOLECULAR FORM



In the future, these storage facilities will store hydrogen. Due to their natural structure, cavern storage facilities are extremely leak-proof, which is why they can also store hydrogen. However, pipes, control modules and fittings have to be adapted or renewed for this, both above and below ground.

VGS is actively involved in creating the hydrogen network “HYPOS East Germany” and is currently studying conversion requirements and the associated costs.

About the HYPOS Initiative

HYDROGEN: IDEAS BECOME BUSINESS CASES

With our diverse range of competences, we are able to establish ourselves broadly in the field of hydrogen and thus form part of the solution for transforming our energy supplies. All of VNG's business units are actively preparing for the hydrogen economy of the future – from investing in H_2 start-ups and participating in research projects and feasibility studies to generating business cases for hydrogen marketing.

TURQUOISE HYDROGEN FROM AND FOR EASTERN GERMANY

Turquoise hydrogen

SOURCE Carbon fuels such as natural gas

GENERATION Generation: methane dissociation (pyrolysis) at high temperatures produces hydrogen and solid carbon

$CH_4 > H_2 + C$

With the HyTur project, VNG is investing in the production of decarbonised hydrogen. The coveted energy source should be available as early as 2023.

In 2021, VNG signed a cooperation agreement with Wintershall Dea for the construction of a pilot plant to produce turquoise hydrogen. The plant will be one of the first in Germany to produce hydrogen and solid carbon from natural gas using thermal methane pyrolysis. The plant is expected to produce up to 5 GWh by 2023.

The technology was developed by British start-up HiiROC, in which VNG and Wintershall Dea invested in 2021. The production costs will be lower than they are today with green hydrogen due to the particularly efficient process. The model can also be scaled up to any size.

Discussions are being held with potential buyers of the decarbonised hydrogen. Many manufacturing companies in eastern Germany have already expressed great interest in using hydrogen.

37 TWh

According to a study by the Fraunhofer Institute, a potential hydrogen demand of 37 TWh is forecast for energy-intensive industries in eastern Germany. That corresponds to 37 billion kilowatt hours. It is unlikely that this demand can be covered solely by green hydrogen produced in eastern Germany. However, the production of decarbonised hydrogen could close the supply gap.

More about the H2 Master Plan Eastern Germany

Six strong project partners

DBI – Gastechnologisches Institut gGmbH

ONTRAS Gastransport GmbH

Terrawatt Planungsgesellschaft mbH

Uniper Hydrogen GmbH

VNG AG (project coordination)

VNG Gasspeicher GmbH

"BAD LAUCHSTÄDT ENERGY PARK" REGULATORY SANDBOX

Green hydrogen

SOURCE Renewable/regenerative sources such as green electricity and biogas

GENERATION Hydrogen and oxygen are produced by electrolysis or steam reforming

$H_2O > H_2 + O_2$

The "Bad Lauchstädt Energy Park" will be one of the first projects in which the entire value chain of tomorrow's hydrogen economy will become reality. Green hydrogen is generated here, stored in a salt cavern and then fed into the distribution network.

Cornelia Müller-Pagel, Head of Green Gases at VNG and Project Manager "Bad Lauchstädt Energy Park"

"We are demonstrating the intelligent and economically efficient integration of hydrogen into the energy supply system. We want to generate around 27 million cubic metres of hydrogen per year. The entire value added chain of the future decentralised green hydrogen economy will become reality: from the wind power-based generation of green hydrogen using large-scale electrolysis to storage and transport through to industrial use in the nearby Leuna Chemical Park and in mobility.

The connection and commissioning of the 30 MW electrolysis plant is planned for 2024. From the point of hydrogen production, research operations for hydrogen transport and later storage will follow. From 2030, the system should be self-supporting. The recognition as a "Regulatory Sandbox for the Energy Transition" by the Federal Ministry for Economic Affairs and Energy (BMWi) and the funding notification including handover on 9 September 2021 not only confirmed to us in what we had achieved so far, but also gave us all an additional boost in motivation."

Find out more about the project

INCREASING SUSTAINABILITY WITH NEW STRUCTURES AND PROCESSES

Sustainability is nothing new for VNG, but has been given more focus since the end of 2020. The issue is to be addressed even more systematically in the future, for example by realigning the Verbundnetz der Wärme initiative.

Companies are no longer judged solely on the basis of their economic performance. Sustainability and how a company deals with this issue is now an important topic for many stakeholders – from banks or customers to potential employees.

VNG has been dealing with sustainability issues for many years, especially in social, cultural and sporting spheres through the Verbundnetz der Wärme (VdW), the VNG Foundation or numerous university partnerships.

The VdW has been an advocate for the interests of voluntary work in former East Germany since 2001 and is also a platform for exchange, mutual support and a network for committed people and their associates.

In 2022, the VdW will consolidate its offers for voluntary associations and institutions under a new structure. Support is distributed across five different areas:

- Knowledge & learning
- Nature & climate
- Health & sport
- Social & integration
- Culture & history

The VdW website becomes a digital platform for information and communication. In addition, regional roundtables on volunteering will be set up in 2022, which are intended to promote exchange and networking between clubs, foundations, municipalities and initiatives. In addition, the VNG Foundation is looking at the current challenges and opportunities in volunteering, with a focus on eastern Germany, through the study “Voluntary work in former East Germany”.

As has been the case in the past, the presentation of the commitment prizes will be the highlight of the work of the VdW in 2022, this year for the first time with one prizewinner per commitment area.

GREATER FOCUS ON SUSTAINABILITY

However, the topic of sustainability is also becoming increasingly relevant for the core issues and activities of VNG. As part of implementing the “VNG 2030+” strategy, the company is, for example, increasingly committed to renewable and decarbonised gases (see p. 14/15). The VNG subsidiary ONTRAS is a pioneer in sustainability management. It has already set up its own sustainability programme under the motto “ONTRAS, going green”. A first sustainability report was published in 2020. In addition, VNG subsidiaries HANDEN, VNG Gasspeicher and VNG Handel & Vertrieb have also launched initial sustainability activities.

VNG is currently developing a group-wide sustainability strategy and is setting up a corresponding sustainability management system in order to structure the entire process, set goals and develop further measures. In terms of sustainability, the focus is on the areas of ecology, economy and social affairs.

More on VNG’s social engagement:

www.verbundnetz-der-waerme.de
www.vng-stiftung.de

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