

SUSTAINABILITY REPORT 2022



zwanzig
dreißig!



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1

STATEMENT BY THE MANAGEMENT BOARD

GRI 2-22



Dr. Christoph von dem Bussche
Managing Director GASCADE,
NEL Gastransport and
OPAL Gastransport



Ulrich Benterbusch
Managing Director GASCADE,
NEL Gastransport and
OPAL Gastransport

We are looking back on an eventful year 2022 that will remain a troubled memory for many people. The war in Ukraine has shaken Europe to its foundations. The suffering of the people in Ukraine is unbearable. Immediately after the outbreak of the war, we strongly condemned the war of aggression. A continuation of the economic partnership with Russian enterprises that has been established over decades has become impossible within a very short time. The repercussions are being felt all over Europe and are also affecting the energy supply as well as our transport business.

In the light of a shift away from Russian gas purchases and diversification of supply sources, the directions of gas flows in the European internal market and the requirements for our transport services have strongly changed. Our well-integrated transmission networks will continue to play an important

role in the transport of liquefied natural gas from the German coast, Belgium and the Netherlands. In December 2022, we completed Germany's first connection to a floating regasification unit plant for importing liquefied natural gas in Lubmin, making an important contribution to securing Germany's supply. We are currently planning a grid connection for FSRUs in the port of Mukran and are building an offshore pipeline from Lubmin to Mukran with the support of the German government.

Due to our entrepreneurial adaptability and resilience – both integral facets of our corporate culture – we are optimistic about our future. We are rising to the challenge of climate change and associated sustainability issues. We are clearly committed to the goals of the Paris Climate Agreement and the German Federal Climate Change Act and to achieving net-zero emissions by 2045 at the latest.

In the short to medium term, our goal is to make gas transport more environmentally and climate friendly.

The move away from fossil fuels that has been heralded will have an impact on our business activities. Our future will lie in the transportation of hydrogen, which is why we are continuously driving forward projects in this area. We want to be a pioneer in tomorrow's energy supply and actively shape the transformation of the energy system. Our projects „Flow - making hydrogen happen“ and „AquaDuctus“ are leading the way in building a hydrogen economy. At the same time, we are working on making our classic gas transport more sustainable as well as evaluating all processes from network control and service-related mobility to our relationships with suppliers.

In the reporting year, we consolidated our company-wide sustainability commitment in the „zwanzigdreißig!“ program. Our goal is to establish sustainable guidelines for all business activities by 2030. In 2022, a separate department for hydrogen and sustainability was created to do greater organizational justice to these future issues and to manage our projects centrally.

Our Sustainability Report gives you an overview of our measures, projects and plans in the area of sustainability. We introduce you to the colleagues who make our transport business a little more sustainable every day. We hope this will bring you a little closer to our companies. We wish you an exciting read!



„Net-zero
emissions
at the latest in
the year 2045.“

2 OUR TRANSMISSION COMPANIES



2.1 Details on Sustainability Report and Organization

GRI 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-14

This Sustainability Report has been prepared for the following companies:

- GASCADE Gastransport GmbH (hereinafter referred to as GASCADE),
- NEL Gastransport GmbH (hereinafter referred to as NGT),
- OPAL Gastransport GmbH & Co. KG (hereinafter referred to as OGT).

All companies have their head office in Kassel. The business activities take place exclusively in Germany. The shareholder of the companies GASCADE, NGT and OGT is W & G Transport Holding GmbH (WGTH). WGTH is a subsidiary of WIGA Transport Beteiligungs-GmbH & Co. KG, a joint venture of Wintershall Dea AG and SEFE Securing Energy for Europe GmbH.

GASCADE not only operates and controls its own gas network, but also acts as a service provider in this function for pipelines (in particular EUGAL, NEL, OPAL) that are jointly owned by several German transmission system operators. Regarding reporting aspects on emissions and energy consumption, these are primarily attributed to the GASCADE network according to operational management and are not broken down according to ownership.

This Sustainability Report is based on the calendar year 2022. It is the first Sustainability Report published by our transmission system operators. In the future, we will submit this report annually and align the reporting cycle with our financial reporting. For our sustainability reporting, we comply with the internationally recognized GRI standards and apply the specified structure.

The contact for this report is the Sustainability Management at GASCADE. Please feel free to contact us by e-mail at Nachhaltigkeit@gascade.de.

The content of the Sustainability Report and the topics identified have been approved by our management and are supported by them. An external audit has not been carried out.

Together with NGT and OGT, GASCADE plans, builds, and operates one of the largest gas transmission networks in Germany. We offer our customers competent and comprehensive transport services. With our pipeline system measuring more than 4,100 kilometers in length and an hourly transport capacity of 13 million cubic meters of natural gas, we directly connect five European countries. For Germany and Europe, we make our contribution to secure energy supply through reliable gas transport – today with natural gas and in the future with hydrogen.

Almost 500 employees at 15 locations in Germany are working for the gas market of today and

tomorrow. We transport gas flexibly to more than 100 exit points. Around 70 billion cubic meters of natural gas flow through our networks every year. This is roughly equivalent to Germany's natural gas consumption. In our business operations, we distribute gas for the heating market and various industrial customers throughout Germany and supply our neighboring European countries via transit pipelines. Natural gas continues to be an essential raw material for thermal and chemical processes in industry, and natural gas is currently also being

increasingly used in power plants against the background of the phase-out of nuclear power.

On the one hand, gas importers who want to transport natural gas, biogas and, in the future, hydrogen or synthetic methane to or within Germany are relevant business partners for us. On the other hand, gas traders and downstream network operators book our gas transport capacities and act as intermediaries with industrial customers and municipal utilities. The communication and transmission of metering and transport data requires a

complex information technology (IT) infrastructure, which is why IT service providers also work for us. To realize our large-scale infrastructure projects, many specialized civil engineering companies and pipe producers are in action. We operate high-performance compressors to transport gas volumes at a high-pressure level. For these assets, we intensively work with plant construction and engineering companies.



2.2 Organizational Structure

GRI 2-9, 2-10, 2-11, 2-12

The corporate governance of the independent transmission system operators GASCADE and NGT consists, in addition to the management board in accordance with the binding requirements of the law on the electricity and gas supply, the German Energy Industry Act, also of a Supervisory Board. This is to be formed in accordance with the relevant provisions of the Stock Corporation Act. The Supervisory Board performs the duties imposed on it by law and by the Articles of Association, is responsible for monitoring the Management Board, and acts in the interest of the companies. Although the Supervisory Board may not exercise any management functions, certain decisions of the Board of Management require the approval of the Supervisory Board. The German Energy Industry Act also assigns certain responsibilities to the Supervisory Board, such as deciding on the dividends to be paid to the shareholders. The Supervisory Board fulfills its monitoring function at regular meetings and by submitting reports on the course of business, the situation of the company and fundamental issues of business policy. Sustainability issues are subject of both the meetings and the management reports.

The Supervisory Board, which is elected by the shareholder WGTG, currently (Status July 2023) consists of the following members:

Mario Mehren, Chairman

Chief Executive Officer of Wintershall Dea AG, Celle / Kassel

Dr. Egbert Laege, Deputy Chairman

Managing Director of SEFE Securing Energy for Europe GmbH, Berlin

Burkhard Genge

Retired, former Management Spokesman of WINGAS GmbH, Kassel, and former Member of the Executive Board of the former Wintershall Holding GmbH in Celle / Kassel

Margarita Hoffmann

Senior Vice President at Wintershall Dea AG, Celle / Kassel

Dr. Jörg Kammerer

Director Legal of SEFE Securing Energy for Europe GmbH, Berlin

Otto Musilek

CEO of MEC Management-Energy-Consultancy, Vienna, Austria, former Managing Director of OMV Gas GmbH, Vienna, Austria

OGT's supreme supervisory body is the shareholders' meeting, which is composed of the Management Board of OGT, the Management Board of the sole shareholder WGTG, an equal opportunity commissioner and a secretary. As a rule, the shareholders' meeting takes place twice a year, but is held at least once a year in the first eight months of the fiscal year. Sustainability issues are also discussed at the shareholders' meeting.

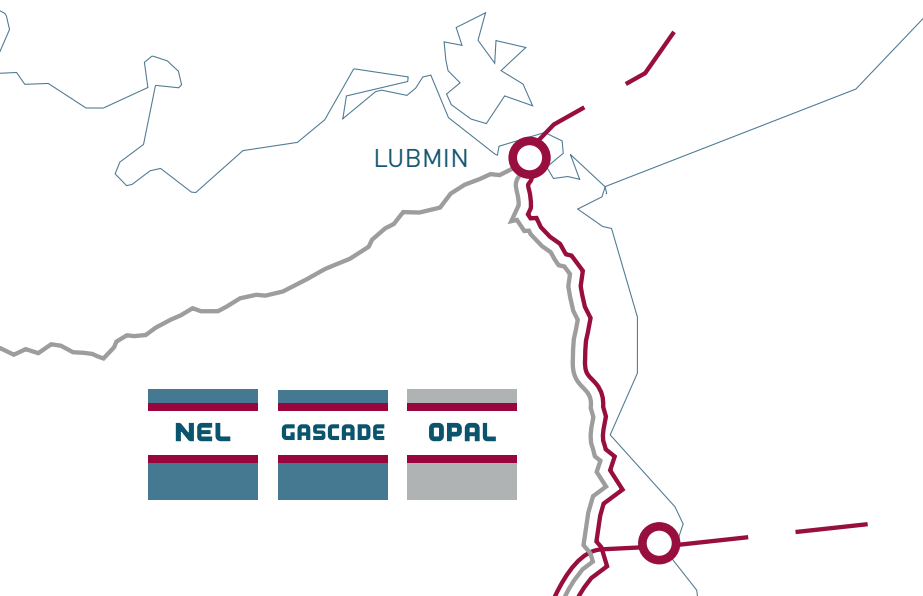


2.3 Memberships

GRI 2-28

GASCADE is an established member of the main national and European industry associations or initiatives. Here, we contribute to proactively shape the industry environment. Among others, GASCADE is a member of:

- BDEW Bundesverband der Energie- und Wasserwirtschaft e.V.
- DVGW Deutscher Verein des Gas- und Wasserfaches e.V.
- EASEE-gas European Association for the Streamlining of Energy Exchange - gas
- ENTSOG European Network of Transmission System Operators for Gas
- FNB GAS E.V. Vereinigung der Fernleitungsnetzbetreiber Gas e.V.
- GIE Gas Infrastructure Europe
- OGMP Oil & Gas Methane Partnership 2.0
- PRISMA European Capacity Platform GmbH
- THE Trading Hub Europe GmbH



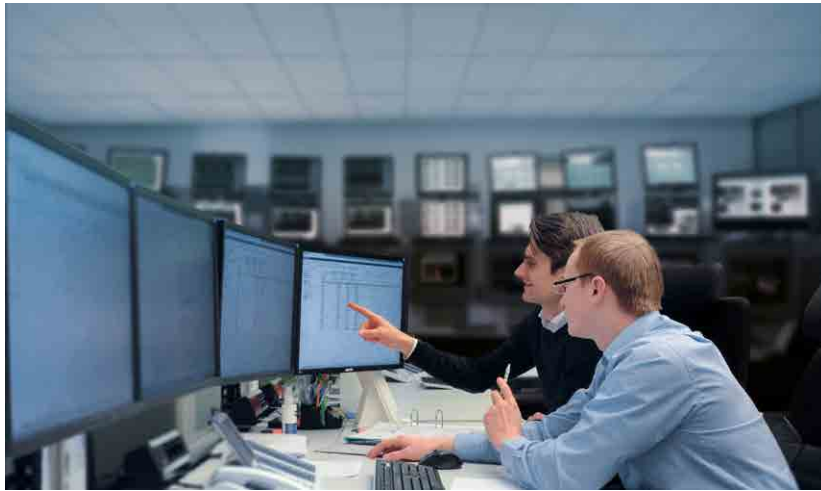
2.4 Current Situation and Security of Supply

The year 2022 represents a watershed for us, as it does for many other companies in Germany and Europe. Russia initially continued to restrict gas flows to Europe and Germany, stopping them completely on August 31, 2022. Since there was an emerging risk that the European gas market could not be adequately supplied, enormous price jumps on the gas trading market accrued. The filling of storage facilities required for the winter was significantly jeopardized. The German Federal Ministry for Economic Affairs and Climate Action (BMWK) therefore declared the early warning level under the German Gas Emergency Plan on March 30, 2022, and the alert level on June 23, 2022, which will be active until the report is prepared in April 2023. Since then, the German transmission system operators in particular and their joint market area managers Trading Hub Europe GmbH (THE) have been in regular contact with BMWK and the Federal Network Agency to jointly avoid a gas shortage.

We also had to react to the changed situation in a very short time. In cooperation with the other German transmission system operators, we ensured that the lack of replenishment of the German transmission system from Russian sources could be compensated for by transporting additional volumes from the west (Netherlands, Belgium, Norway) to the east. Flexible network operation and technical adjustments in the network made this possible.

As a result, we were able to make a significant contribution to filling natural gas storage facilities ahead of schedule and, in addition to maintaining security of supply in Germany, also supply countries in Eastern and South-Eastern Europe with natural gas from Western Europe.

To further improve the supply situation in Germany, we completed the first connection to a terminal that regasifies liquefied natural gas (LNG) in Lubmin in December 2022. In just a few weeks, GASCADE completed the connection pipeline to the Greifswald landing station of NEL and OPAL, into which the floating regasification vessel of Deutsche Regas GmbH has since been feeding gas. The underlying grid connection request was submitted in summer of 2022, and the implementation took place within a very short time. GASCADE has thus made another valuable contribution to the German and European supply security. The 450-meters long connection line has a feed-in capacity of roughly six gigawatt hours per hour and can also be used to feed in hydrogen in the future. From the Greifswald landing station, the regasified liquefied gas can be transported to Germany and Europe via the OPAL, NEL and EUGAL gas pipelines.



2.5 Customer Satisfaction and Complaint Management

GRI 2-25

GASCADE conducts a customer satisfaction survey every two years. Our customers can rate various categories regarding customer support and online applications as well as other experiences with GASCADE. Here, for example, transparency, professional competence, and problem-solving orientation are assessed with school grades. The results of the past three surveys show a consistently high level of overall satisfaction among our transport customers: from 2.0 in 2018 to 1.7 in 2020 to the most recent result of 1.8 in 2022. In order to confirm this high level of satisfaction and to further improve in other areas, proven customer orientation measures (face-to-face meetings if possible, implementation of training courses) will be continued. A new, modern website is also to be launched and will contribute to even more structure and transparency. In 2022, we also surveyed customers on their perception of sustainability for the first time. With a score of 2.3, we were also able to achieve a good result in this aspect, which we intend to improve significantly in the future. With the establishment of a sustainability management system and annual reporting, we believe we are on the right track to achieving this goal.

According to the quality management's process description, problems from customers or contractual partners that cannot be resolved within one day at

the latest are considered as complaints. Therefore, the focus is on customer and partner relations in the Capacity Management department.

All complaints received by the Capacity Management are summarized within a calendar year and presented to the management in a report at the end of the year. The complaints are grouped into categories and initial solutions or approaches to solutions are presented.

In 2022, there were a total of eight complaints, which can be divided into IT problems, operational difficulties, and general communication problems. Systematic problems in IT were solved promptly.

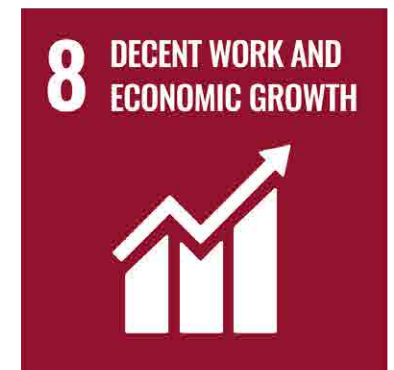
The „Complaint Management“ process is a proven tool for obtaining an overview of unsolved or difficult-to-solve customer problems and monitoring the development of solution concepts. In addition to the regular exchange of information with customers and contractual partners, the „Customer Satisfaction Analysis“ provides all customers with a further opportunity to highlight weak points or problems.

3

MATERIALITY AND SUSTAINABILITY STRATEGY

3.1 United Nations: Sustainable Development Goals

We embrace the United Nations initiative for sustainability and are committed to contributing to the achievement of the 17 Sustainable Development Goals. In particular, we will advance measures to achieve the following six goals:



4 Quality education

Goal: Ensure inclusive, equal, and high-quality education and promote lifelong learning opportunities for all.

Ensuring the stable and safe construction and operation of our pipeline network is a top priority in our business activities. Our employees ensure that gas transport runs smoothly. The complex technical and commercial processes involved in our day-to-day business as a regulated network operator require high-quality training for our employees, whose ideas help us to constantly optimize our processes and make them more sustainable. In addition to regular training opportunities, we also promote transfers within our transmission system operators (more on this in 5.6). In addition, we introduce students to jobs at our transmission system operators while they are still studying and create highly qualified jobs at our operating sites through vocational training programs, even in rather structurally weak regions.

7 Affordable and clean energy

Goal: Ensure access to affordable, reliable, sustainable, and modern energy for all.

It is our aspiration and self-conception to guarantee our customers an efficient and reliable energy supply.

The results of our stakeholder analysis (more on this in 3.4) confirm that we are well positioned in the

areas of „stable and secure pipeline network“ and „affordable gas supply“. To ensure that the costs of energy transport remain affordable in a decarbonized energy future, we are working intensively on the rededication and continued use of existing natural gas pipelines for the transport of hydrogen and climate-neutral gases (more on this in 7.1-7.3).

8 Decent work and economic growth

Goal: Promote lasting, broad-based and sustainable economic growth, full and productive employment and decent work for all.

We cannot make our contribution to sustainable economic growth without fair working conditions that comply with the industry standards. We therefore see job security, work-life balance, adequate, fair remuneration and development prospects as a matter of course (more on this in 5.1-5.7).

9 Industry, innovation and infrastructure

Goal: Build a resilient infrastructure, promote broad-based and sustainable industrialization, and support innovation.

Our transmission infrastructure connects five countries in the heart of Europe. We want to use our infrastructure to transport climate-neutral gases and hydrogen (more on this in 7.1-7.3) to pave the way for a decarbonized production for our customers and European industry. To achieve this, we are already involved in several hydrogen projects and want to actively shape the development of a

European hydrogen infrastructure. This will enable us to significantly reduce both our operational greenhouse gas emissions and those of our industrial customers in the future.

13 Climate action

Goal: Take immediate action to combat climate change and its effects.

With the aim of achieving a more climate-friendly gas transport, we are pursuing technical approaches to reduce CO₂ emissions during the gas transport and to minimize methane emissions (more on this in 4.3). We see a significant reduction of our methane emissions as the most effective measure to help stop climate change. Our plant engineers and technicians are passionate about developing ways to further minimize our greenhouse gas emissions.

Increasing the use of electric compressors instead of gas turbines and sourcing green power are also ways to reduce emissions in our operations.

When it comes to construction measures, restoring the site to its original pre-construction condition is our top priority. We reclaim habitats, respect biodiversity and take ecological compensation measures (more on this in 4.4). In the future, we would like to promote ecological diversity even more strongly with the areas we own and, where possible from a regulatory perspective, make greater use of renewable energies.

17 Partnerships for the goals

Goal: Strengthen the means of implementation and bring new life into the global partnership for sustainable development.

Since the founding of our company, we have been represented in relevant international initiatives and associations and are actively shaping the development of the energy market (more on this in 2.3). For cross-border gas transport, cooperation with players and market participants, at national and international level, is indispensable. In building the infrastructure for a hydrogen market, partnerships are equally essential and a crucial building block for the success of the transformation to a climate-neutral energy supply.



3.2 Opportunity-Risk Assessment

GRI 11-2, 201-2

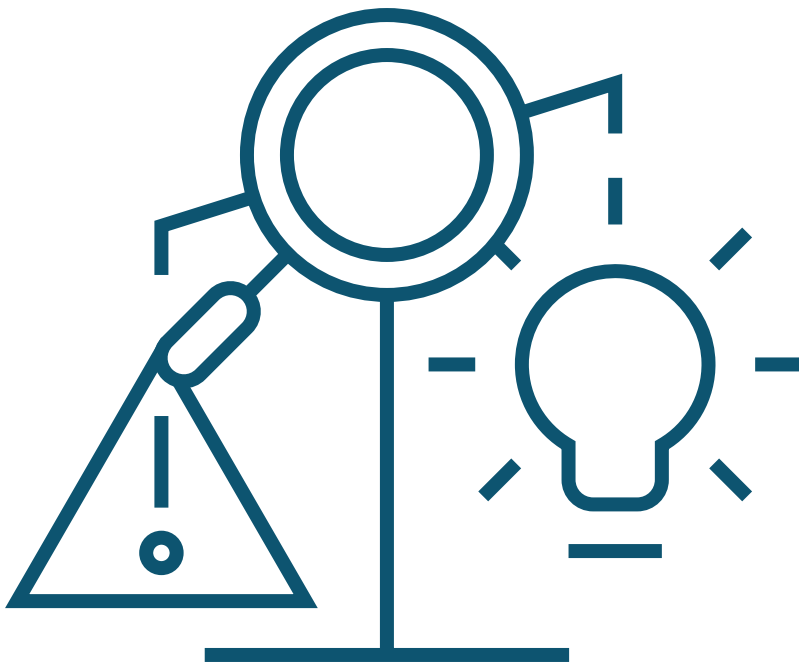
Our business activities are currently limited to services related to the transport of gases in Germany. Our networks are modern, efficient, and powerful and designed to operate for many decades. There are no physical risks directly associated with climate change, for example storms, drought, or flooding, for our transport pipelines or our business operations.

In the wake of political and regulatory measures to mitigate climate change, the greatest risk to our current operations is the accelerated shift to non-fossil fuels. Due to relatively long depreciation periods on our transmission pipelines, it is becoming more difficult to recoup the associated investments in operations by transporting natural gas. It is also possible that a changed legal and regulatory framework will further complicate the technical operation of gas pipelines – for instance, through leakage prevention requirements from methane regulation. Another risk is the possible restriction on the continued use of our current natural gas networks for future hydrogen transports. Therefore, the strict separation of natural gas and hydrogen networks has been discussed at the European level, which in the event of occurrence would frustrate current efforts at decarbonization by the gas industry. If there

was no prospect of continuing to use our pipelines, it would also become increasingly difficult to recruit or retain skilled workers for the safe operation of our infrastructure.

We cannot completely rule out the occurrence of the risks described, but we are observing positive developments that make their occurrence less likely and allow us to derive opportunities. The accelerating shift away from fossil natural gas in the wake of the Ukraine war offers the opportunity for a significantly faster market ramp-up for the sustainable hydrogen economy. With our modern and widely ramified pipeline system, we are ready to implement projects of European scope and to use our pipelines for hydrogen and synthetic gases in the future. As a clear outlook for our role in the energy industry of the future emerges, we should be able to continue to attract skilled workers to our transmission system operators and remain an attractive employer.

We are not yet able to estimate financial consequences if the risks materialize. We will carry out a stronger monetary analysis of the opportunities and risks while aligning sustainability reporting with financial reporting.



3.3 Material Topics

GRI 3-1, 3-2, 3-3

In order to assess the material topics for us, we first considered the GRI 11: 2021 Oil and Gas Standard. As a regulated network operator, we are solely responsible for operating our gas infrastructure and transporting gas within Germany, or we perform this function as a service provider for other German network operators. Due to regulatory and legal requirements, transport is strictly separated from the production and trading of gas. Therefore, many of the material issues defined in these areas are not considered material for us.

The material topics specified in the GRI 11: 2021 Oil & Gas Standard were analyzed by a panel of experts from sustainability management, strategy and business development in a workshop and assessed regarding their current status. For many topics, there was either no sufficient probability of occurrence or the materiality of the impact was not given in our assessment. Nevertheless, we identified topics that we currently consider unlikely to be material, but which could become so in the future. For these topics, such as biodiversity, occupational health and safety, or air emissions, we also provide disclosures in this report, even if according to our initial assessment the threshold for materiality is not fully met.

The following list shows the material topics specified in the GRI 11: 2021 Oil & Gas Standard in the

prioritization for our transmission companies. We have chosen a traffic light system to illustrate the respective priority for us. The topics highlighted in green are considered to be material, and those highlighted in red to be non-material. Further, we consider the topics in yellow to be currently not material, although they have the potential to become material in the coming years, which is why we are continuously evaluating them - just like the other probably material topics.

List of material topics

- + GHG emissions (GRI 11-1)
- + Climate-related adaptation, resilience, and transition to a low-carbon economy (GRI 11-2)
- Occupational safety and health (GRI 11-9)
- Biodiversity (GRI 11-4)
- Air emissions (GRI 11-3)
- Asset integrity and critical incident management (GRI 11-8)
- Non-discrimination and equal opportunities (GRI 11-11)
- Political influence (GRI 11-22)
- Decommissioning and remediation (GRI 11-7)
- Economic impact (GRI 11-14)
- Anti-competitive behavior (GRI 11-19)
- Conflict and security (GRI 11-18)
- Waste (GRI 11-5)
- Water and wastewater (GRI 11-11-6)
- Employment practices (GRI 11-10)
- Forced labor and modern slavery (GRI 11-12)
- Freedom of association and collective bargaining (GRI 11-13)
- Local communities (GRI 11-15)
- Land and mineral rights (GRI 11-16)
- Indigenous peoples' rights (GRI 11-17)
- Payments to the state (GRI 11-21)
- Anti-corruption (GRI 11-20)

3.4 Stakeholder Analysis

GRI 2-29

In order to highlight the material aspects of our corporate activities in connection with sustainability, we conducted a comprehensive stakeholder analysis including a survey in 2020. We consider it important to regularly analyze and survey relevant stakeholders to focus on key sustainability goals. A new survey of our stakeholders is planned for 2023 and will be repeated regularly thereafter.

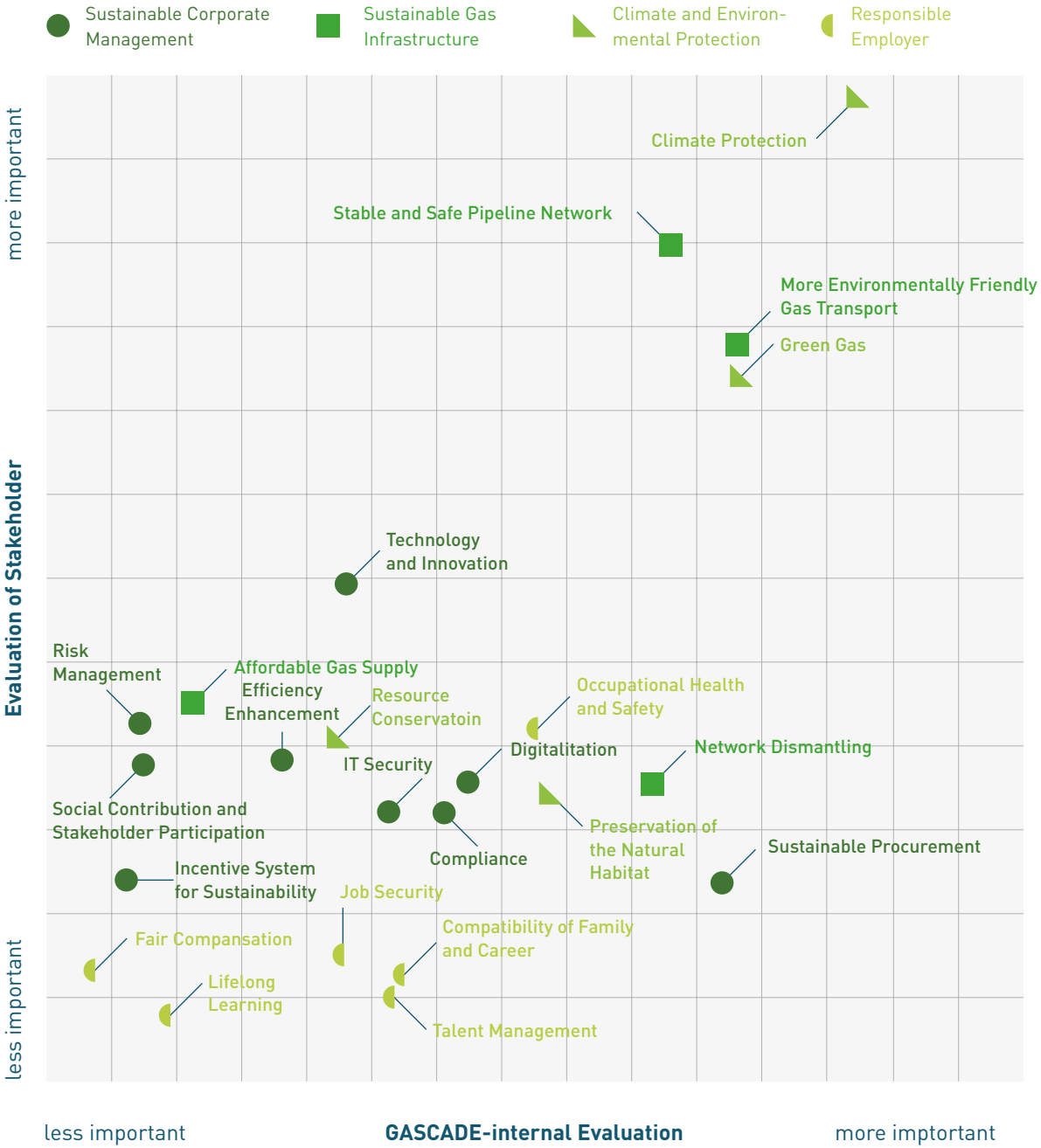
In addition to our employees, the survey also included many external stakeholders such as customers, business partners, business and environmental associations, representatives of authorities, and contacts from politics and science.

For the survey, we initially identified the following 23 relevant sustainability topics from four fields of action:

● Sustainable Corporate Management	■ Sustainable Gas Infrastructure
<ul style="list-style-type: none"> • Sustainable Procurement • Digitization • Compliance • IT Security • Incentive System for Sustainability • Risk Management • Efficiency Enhancement • Social Contribution and Stakeholder Participation • Technology and Innovation 	<ul style="list-style-type: none"> • More Environmentally Friendly Gas Transport • Stable and Safe Pipeline Network • Network Dismantling • Affordable Gas Supply
▲ Climate and Environmental Protection	◐ Responsible Employer
<ul style="list-style-type: none"> • Climate Protection • Green Gas • Preservation of the Natural Habitat • Resource Conservation 	<ul style="list-style-type: none"> • Occupational Health and Safety • Compatibility of Family and Career • Talent Management • Job Security • Lifelong Learning • Fair Compensation

For a prioritization of the relevant sustainability topics, we have summarized the results of the survey in the following materiality matrix:

The results show that our stakeholders see little need for action on aspects such as job security, fair compensation, and lifelong learning. We see ourselves as a responsible employer and see this claim confirmed by the feedback from our stakeholders. We also want to be well positioned in the important fields of action of sustainable corporate governance such as IT security, compliance, and digitalization, which our stakeholders confirm. Nevertheless, we strive to continuously improve our processes and maintain our high level.



The sustainability topics with the greatest importance from our stakeholders' point of view originate from the areas of climate and environmental protection as well as sustainable gas infrastructure. Four issues have the highest priority for our stakeholders:

- Climate protection
- More environmentally friendly gas transport
- Stable and secure pipeline network
- Green gas

The stakeholder survey also analyzed our strengths and weaknesses. The following picture emerged:

The results show that three of the four identified key areas for action are associated with the greatest need for action – complemented by the topic of technology and innovation. Our stakeholders believe that we are well positioned in the areas of occupational health and safety and affordable gas supply. We are also rated as highly competent in network expansion and the operation of a stable and secure pipeline network.



3.5 Sustainability Strategy

GRI 2-22

Our sustainability strategy comprises four core topics in which we see a need for action and in which we want to achieve an improvement or maintain our high level in the coming years. The results of the stakeholder analysis have guided us in identifying the core topics. Our strategic focus areas will be adjusted based on the results of future stakeholder surveys. We are focusing on the four core themes, namely „Environmentally friendly gas transport,”

„Stable and secure pipeline network,” „Climate-neutral energy supply,” and „Responsible company”. These core topics form an overarching framework for various measures which we will drive forward and implement in the coming years. We see them as a suitable framework for a holistic approach to sustainability at all levels of our business activities and as an opportunity to anchor the topic of sustainability as a normative guiding principle.

The core topic „Environmentally friendly gas transport” currently comprises most of the measures. Making gas transport more environmentally and

climate friendly is also our biggest challenge. It is a long-term, continuous optimization process that we cannot shape alone because load flow management depends on the needs of our transport customers. Large-scale gas compressors that are needed to operate the grid cannot be decarbonized in the short term. Nevertheless, we have developed various approaches to address these issues. For example, we are working on concepts for the use of renewable energy and trying to optimize our load flow management via sustainability criteria. At the same time, we are reducing our methane emissions by using trans-

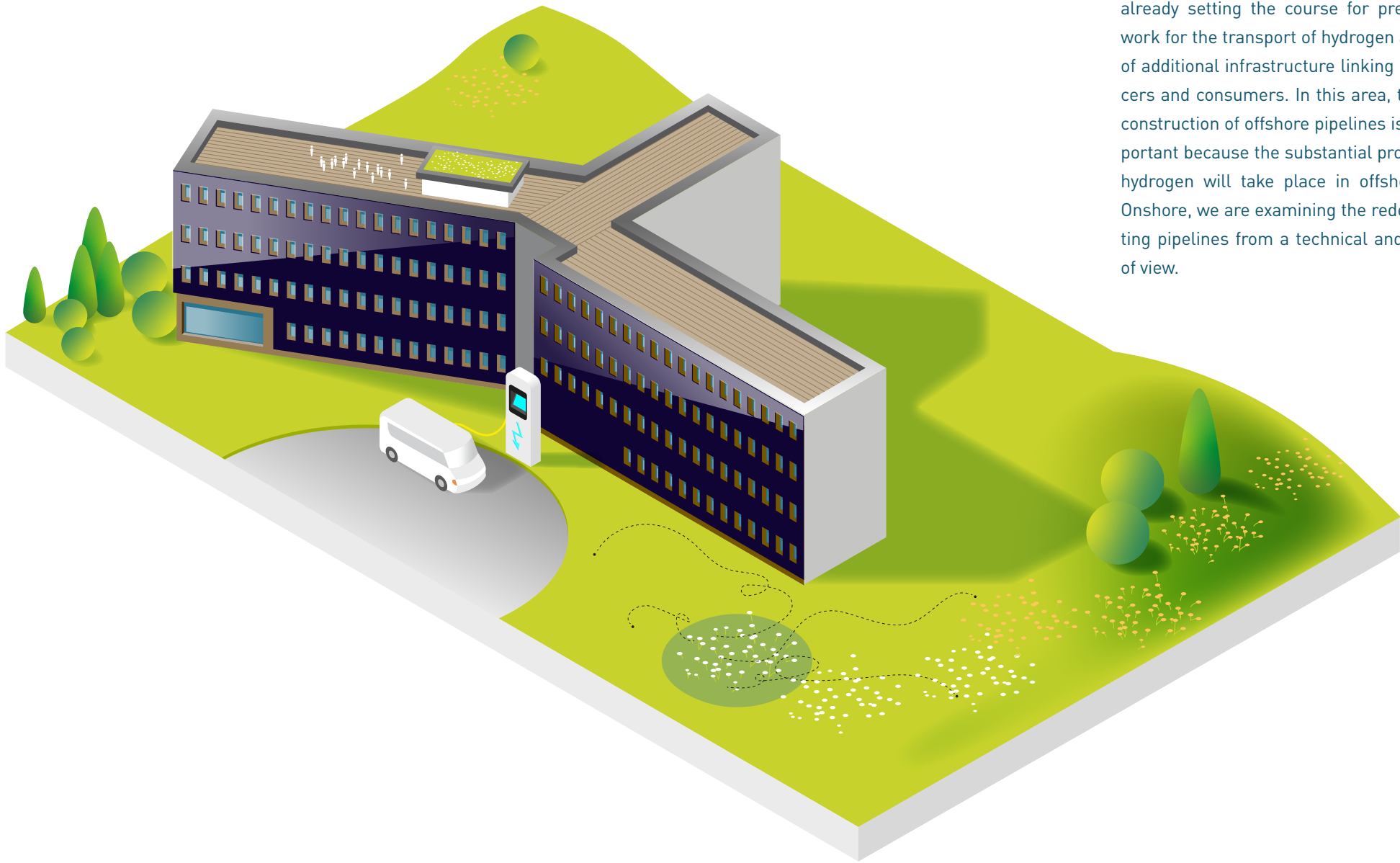
ENVIRONMENTALLY FRIENDLY GAS TRANSPORT	STABLE AND SECURE PIPELINE NETWORK
<ul style="list-style-type: none">• use of renewable energies• sustainable load flow control• methane emission reduction measures• renaturation and promotion of biodiversity• energy efficiency measures	<ul style="list-style-type: none">• occupational safety• HSE measures to prevent accidents• security of supply• governance and management systems• digitalization
CLIMATE-NEUTRAL ENERGY SUPPLY	RESPONSIBLE COMPANY
<ul style="list-style-type: none">• development of hydrogen infrastructure• compensation measures for emissions	<ul style="list-style-type: none">• buildings• mobility• suppliers• personnel issues• social commitment

COMPRESSOR STATION 2030



fer compressors.

We see less acute need for action on the core issue of a stable and safe pipeline network. In general, the secure supply of our customers and the issue of occupational safety have always been our first priority and remain the basic prerequisite for economically sustainable action. We therefore aim to maintain our high standards through various activities in the area of Health, Security and Environment Protection (HSE), process optimization and established management systems.



Another core topic, „Climate-neutral energy supply,” is derived from the long-term orientation of our business activities for the transport of gases. We are already setting the course for preparing our network for the transport of hydrogen and the planning of additional infrastructure linking hydrogen producers and consumers. In this area, the planning and construction of offshore pipelines is particularly important because the substantial production of green hydrogen will take place in offshore wind farms. Onshore, we are examining the rededication of existing pipelines from a technical and economic point of view.

Moving closer to the goal of climate neutrality, reducing and avoiding emissions is a high priority. However, some emissions cannot be reduced in the short term for economic or process-related reasons, which is why the aspect of emission compensation can make a valuable contribution in some cases.

We pursue a holistic approach to sustainability and actively seek to make processes more sustainable that are not part of our core business. That is why we see ourselves as a „responsible company“. The operational focus on material issues is important, but a shift in thinking towards a resource-efficient management is taking place at all levels at our company. By this, we understand, for instance, sustainable mobility for our employees, a sustainable building and its management, but also our social commitment.

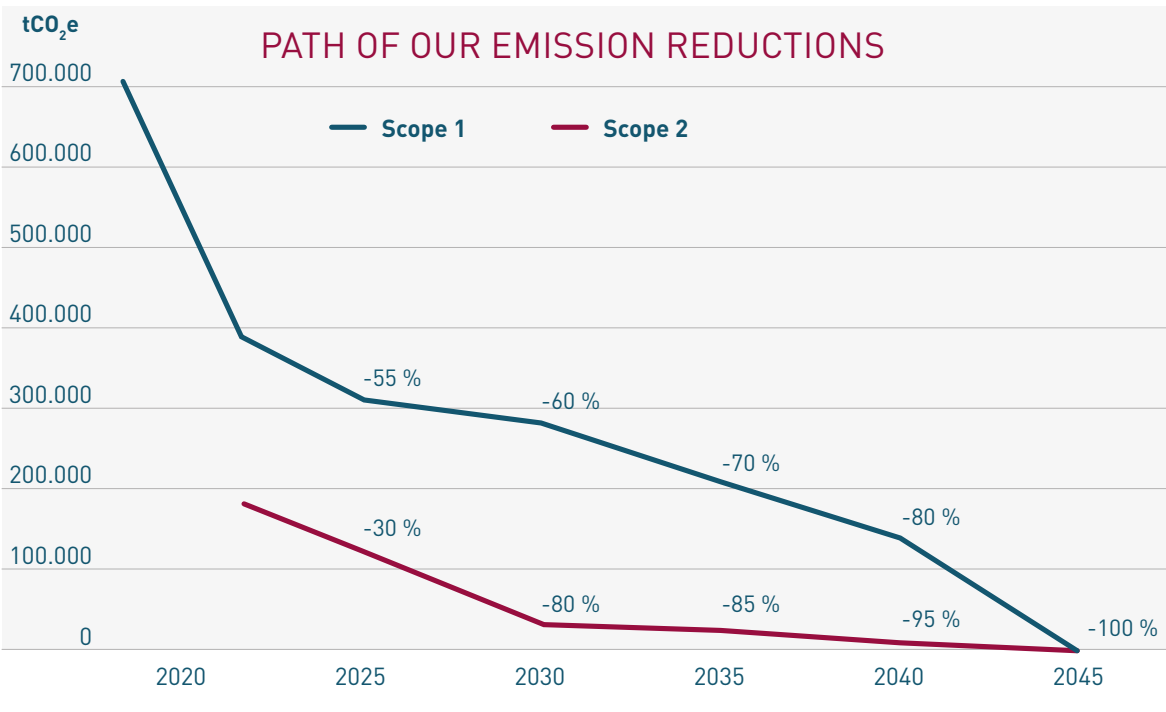


GASCADE donated 1,000 trees to a reforestation area in the Habichtswald near Kassel

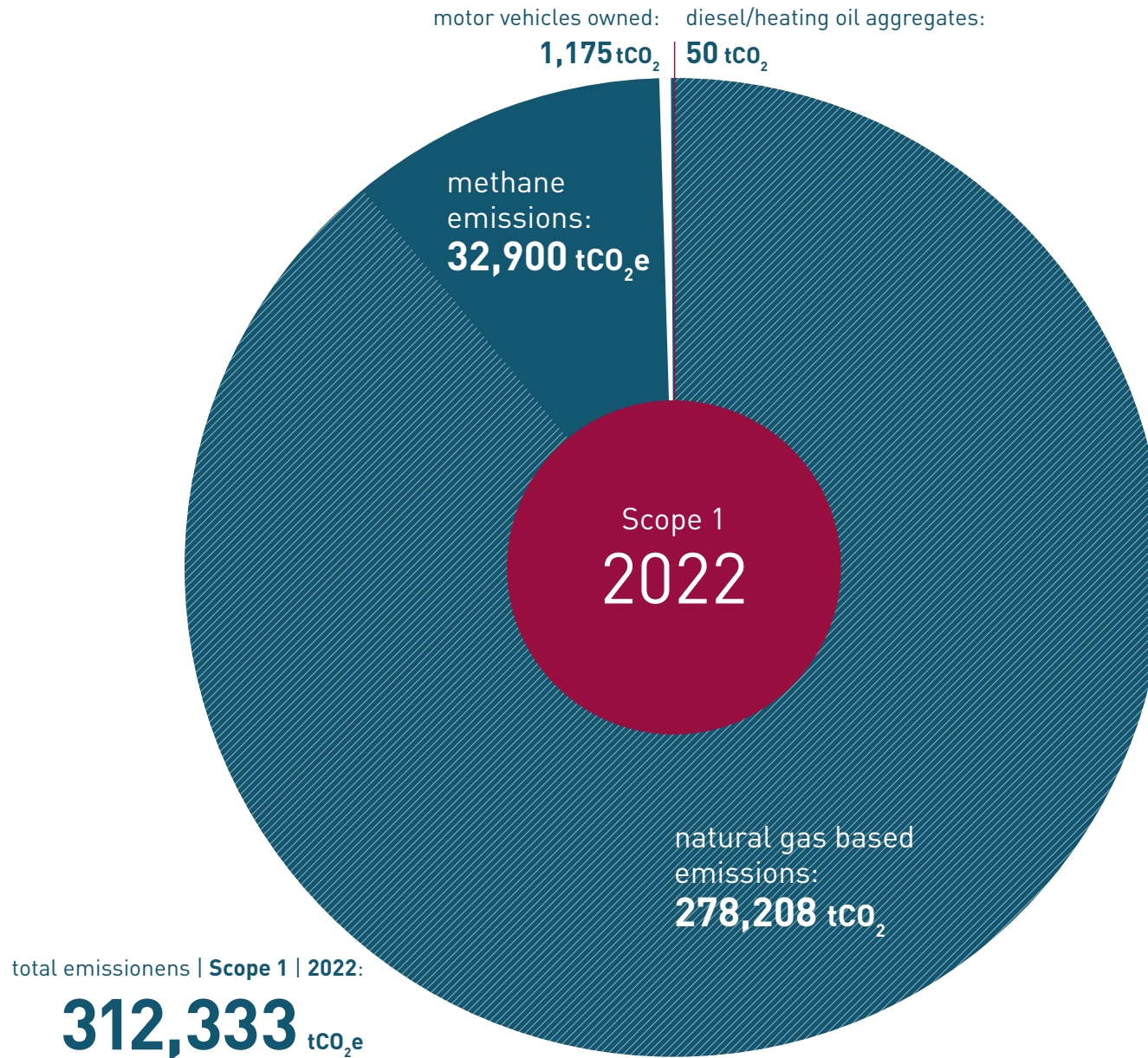
3.6 Our Path to Climate Neutrality
GRI 11-2

We are committed to the goals of the Paris Climate Agreement and the German Federal Climate Change Act and want to make our contribution to a climate-neutral world. The following graphic shows our reduction path in the coming years with the clear goal of reducing our activity-related emissions to net zero by 2045 at the latest.

In general, we see ourselves as a company well equipped for the transition to a low-emission economy. Assuming that hydrogen and climate-neutral gases will play a significant role in energy supply, we can continue to operate our infrastructure in the future in a similar way to how we do today. GASCADE employees are already working on this energy future and want to play an active role in shaping the transition to a climate-neutral energy future by providing the necessary infrastructure. For further evaluation of the resilience of our future strategy, we must first await the German and European market design for hydrogen transport.



	Scope 1	Scope 2
base year	2018	2022
2025	-55 %	-30 %
2030	-60 %	-80 %
2035	-70 %	-85 %
2040	-80 %	-95 %
2045	-100 %	-100 %



4 ENERGY AND ENVIRONMENT

4.1 Emissions

4.1.1 Scope 1 emissions

GRI 11-1, 305-1

SCOPE 1

- Natural gas based emissions
- Motor vehicles owned
- Diesel/heating oil aggregates
- Methane emissions

Reduce Scope 1 by 55 % by 2025*

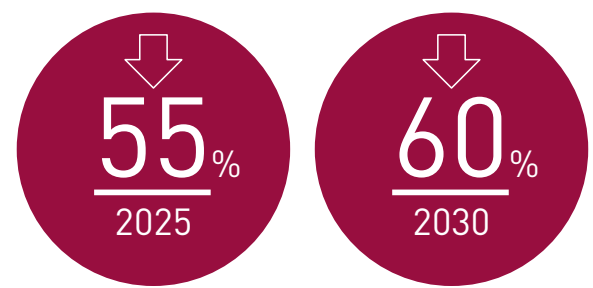
* compared to base year 2018

Emission sources

By far our largest direct emission source are natural gas-fueled compressors and stations. Thus, our Scope 1 emissions are primarily from natural gas-based consumption units. Natural gas is also used for heating the building at many sites. In addition, emissions from our motor vehicles must be added.

Moreover, our stations have mostly diesel-powered emergency supply units, which are operated every year at least for test purposes and cause direct emissions. Also included in Scope 1 emissions are methane emissions, which are generated operationally and as fugitive emissions during our grid operations. A significant part of our current measures in the area of energy and environment (more on this in 4.3) are primarily aimed at reducing our methane emissions.

Targets



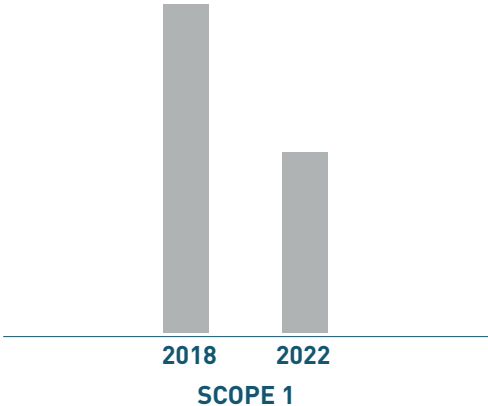
We are committed to further continuously reducing our Scope 1 emissions. We aim to reduce emissions by 55 percent until 2025. In recent years, we have already implemented optimizations in network operations and measures to avoid methane emissions to enable us to achieve our emissions reduction targets. By 2030, we aim to reduce our Scope

1 emissions by 60 percent, which will actually exceed the European climate targets. By 2045 at the latest, we will reduce our direct emissions to net zero.

Calculation methods

We have chosen operational control over operating units as the consolidation approach for calculating our Scope 1 emissions, as it is the case for other reporting requirements. Since we operate individual operating units as jointly owned operators, an ownership-based breakdown of emissions would be more beneficial to us. However, we would like to be as consistent as possible in our published data. We chose 2018 as the base year, because we were already operating comparable and similarly performing gas infrastructure at that time. For the emission values, we calculated using the measured natural gas consumption and standard factors for the conversion from calorific value to heating value and the standard emission factor of the German Emissions Trading Authority (DEHSt). Carbon dioxide (CO₂) equivalents of methane were calculated in terms of relative global warming potential (GWP) with a value of 28 and a time horizon of 100 years. For the Scope 1 emissions recorded, we limited ourselves to the greenhouse gases CO₂ and methane (CH₄) that are essential for our

business activities.



SCOPE 1

	2018	2022
Natural gas-based emissions	635,208 tCO ₂	278,208 tCO ₂
Motor vehicles owned	1,175 tCO ₂	1,175 tCO ₂
Diesel/fuel oil aggregates	50 tCO ₂	50 tCO ₂
Methane emissions	67,424 tCO ₂ e	32,900 tCO ₂ e
Total emissions	703.857 tCO₂	312.333 tCO₂e

Explanatory note:

For the emissions from motor vehicles and diesel aggregates, we used the emissions of 2022 as comparative values for 2018. It can be assumed that the actual emissions in this area were higher in 2018. In the methane area, the emissions are based on an extrapolation of our database between 2015 and 2022.

Share of methane emissions
of Scope 1

10,5 %

We have already achieved our target of reducing emissions by 55 percent by 2025 ahead of schedule. However, 2022 represents an unusual year for our transmission companies, with significantly lower injections of Russian natural gas into our pipeline system compared to previous periods. With an increase in transportation volumes from other origins, a greater use of natural gas compressors in our system is possible again, which is why we are sticking to the 2025 target for now.

4.1.2 Scope 2 emissions

SCOPE 2

- electricity
- district heating

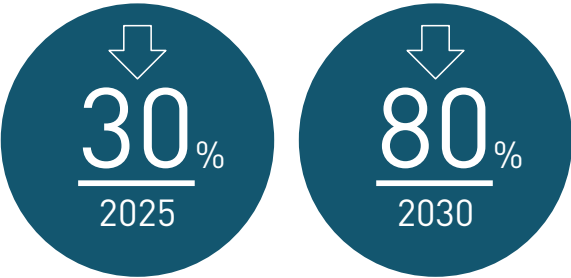
**Reduce Scope 2
by 30 % by 2025****

** compared to the base year 2022

Emission sources

Scope 2 emissions at our company consist of the purchase and use of electricity and district heating. Electricity is required to drive our electric compressors and generally for the building management at our headquarters and operating sites. We obtain district heating at one location from a power plant which primarily runs on fossil fuels. A change in the use of fuels in this area may be possible in the coming years, but is not within our decision-making authority.

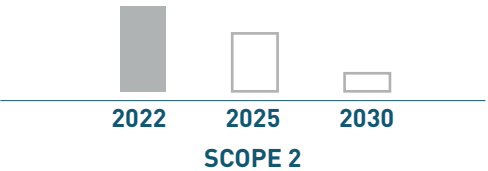
Targets



Due to changes in gas flows in our transmission system, the utilization structure of compressors has also changed. In 2022, the electric compressors in our system operated significantly more hours than in previous years. As a result, our electricity consumption increased substantially in 2022 – including the associated emissions. With an electricity supply agreement valid from 2023 onwards, our transmission companies purchase fully renewable electricity at existing grid connections. At non-grid-connected sites, however, we remain dependent on electricity production from fossil fuels, which is why we will not yet be able to fully reduce our Scope 2 emissions in the coming years. Currently, we expect this situation to change from 2028 onwards. We are therefore optimistic that we will achieve a significant reduction in our Scope 2 emissions by 2030.

Our short- and medium-term targets are therefore as follows:

We are also committed to reducing our Scope 2 emissions to net zero by 2045 at the latest.



SCOPE 2

	2022
Electricity	165,049 tCO ₂
District heating	13,617 tCO ₂
Total emissions	178,666 tCO ₂

Calculation methods

For the calculation of our Scope 2 emissions, we have chosen operational control over the operating units as the consolidation approach, as we did for Scope 1 emissions. We selected the current reporting year 2022 as the base year for our Scope 2 emissions, as the reversal of gas flows has drastically increased our electricity use and the associa-

ted emissions. We used the emission factor calculated by our electricity supplier for the electricity mix we purchased in 2021 as the emission factor for the 2022 electricity mix was not yet available at the time of reporting. Furthermore, we used the emission factors from the German Federal Environment Agency for electricity production (as of 15/2022), and for district heating we used the emission factor from the “KfW Bankengruppe” info sheet regarding CO₂ factors (as of 11/30/2022).

At 178,666 tCO₂, our Scope 2 emissions are higher than in previous years due to a significant increase in electricity consumption. We aim to successively reduce this figure by purchasing green electricity.

4.1.3 Scope 3 emissions

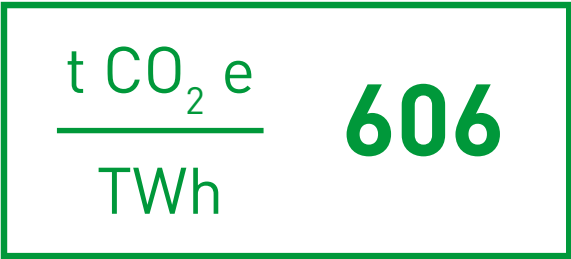
Like many other companies, we are also facing the challenge of correctly and fully recording Scope 3 emissions, but have decided not to publish any Scope 3 emissions data in the 2022 reporting year. In particular, upstream indirect emissions from suppliers, service providers and construction companies require extensive analysis and research. We have started to do this, but in our data collection, sufficient accuracy takes precedence over speed, as otherwise setting reduction targets would not be appropriate either.

We are currently also in intensive exchange with other German transmission system operators in order to exploit synergies in data collection and to

establish comparability of the data to be published. The first publication of Scope 3 emissions is planned for the 2023 reporting year.

Emission intensity

Emissions in t CO₂ e (Scope 1 + Scope 2) per transported energy in TWh



4.1.4 Methane emissions

Reduce methane emissions by 50 % by 2025***

*** compared to the base year 2015

Together with other transmission system operators, we are committed to reducing our methane emissions. Methane, the main component of the natural gas we transport, is more climate-impacting than CO₂.

For the recording of methane emissions, we have set up a software system in recent years that documents emissions digitally and archives them in an audit-proof manner. The basis for this recording is a large number of measurement campaigns car-

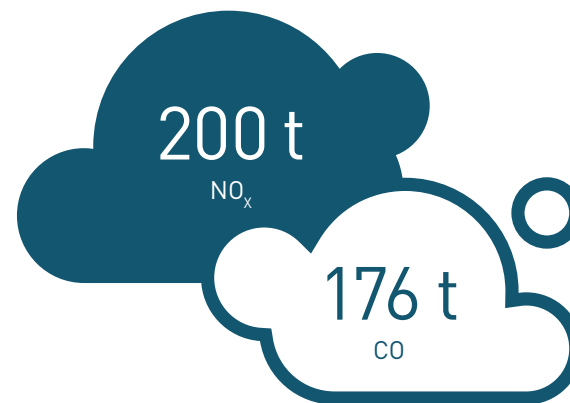
ried out by certified measurement service providers. The precise knowledge of emission sources and quantities helps us to take appropriate measures to quickly and safely stop methane escaping into the atmosphere.

In 2022, we started to examine our entire network for methane emissions with a comprehensive measurement campaign. This measurement campaign will be continued in 2023. In order to ensure object-related recording (for example, valves, filters, flanges) and archiving of methane emissions, the piping and instrumentation diagrams (R&I's) will be digitized and revised.

Based on initial measurement values from 2015, we have since been consistently pursuing the goal of achieving a 50 percent reduction in methane emissions by 2025. The development of the measurement results confirms that our reductions are within the expected schedule and target corridor.

4.1.5 Air emissions

In addition to CO₂ and methane emissions, we also continuously record other air emissions, primarily carbon monoxide (CO) and nitrogen oxides (NO_x), and report on them in accordance with the German Federal Emission Control Act (BImSchV). Our HSE department regularly takes measures to improve combustion processes and reduce process-related air emissions.



4.2 Energy Consumption

GRI 11-1

4.2.1 Energy Consumption

The highest energy consumption is due to the use of natural gas in our compressor stations and other operating facilities. In 2022, 1,534 gigawatt hours (GWh) of energy was consumed. Compared to our 2018 baseline of 3,495 GWh, we more than halved our energy use in this area. We want to further reduce energy consumption; however, we are dependent on the bookings of our transport customers with regard to network operation and associated use of compressors. By developing and implementing energy efficiency measures we want to further reduce energy consumption.

Due to the reversal of transport flows in our network and a changed operating structure, our electricity consumption has increased significantly in 2022. More electric compressors are being used for transport from west to east. In the reporting year we consumed a total of 172 GWh of electricity.

In terms of energy consumption, we have only considered consumption within our transmission system operators. The recording of energy consumption outside our transmission system operators correlates very strongly with the indirect Scope 3 emissions, which we are currently investigating in an internal project. A complete publication of these energy consumptions is also planned for the Sus-

tainability Report in the reporting year 2023, as well as the energy consumptions of our vehicle fleet, which are not yet included.

4.2.2 Share of Renewable Electricity

We aim to continuously increase the share of renewable electricity. The electricity mix we procure is connected to the public power grid, hence, the share of renewable electricity was 10 percent in 2021. If we relate the share of renewable electricity to our total electricity consumption, the share drops to 3.2 percent. In any case, we have a clear need for improvement here and are already in the process of leveraging the potential. Our goal for 2023 is to increase the share of green electricity in our electricity consumption to 25 percent.

Total energy consumption

Year	Used energy source	Power consumption (kWh/a)	Share of total energy consumption (%)
2022	Electricity	172.206.932	10 %
	Natural gas	1.534.285.526	87 %
	District heating	48.630.727	3 %
	Diesel/fuel oil	215.048	0,01 %
	Total	1.755.338.234	100 %

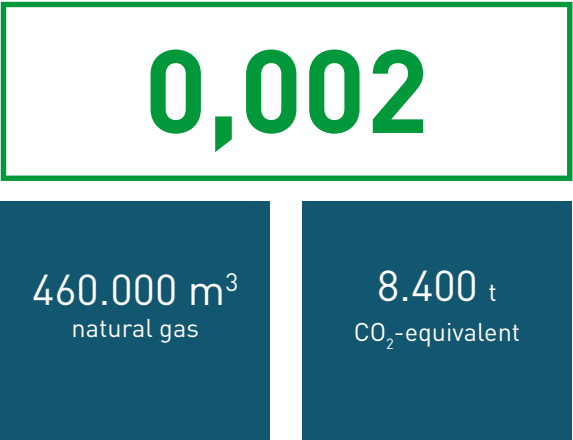
4.3 Measures in the Area of Energy and Environment

Technical optimization of grid operation

During repair or maintenance work, large volumes of gas are pumped from the transport pipelines to other pipeline sections by default instead of being blown out into the atmosphere. In 2022 alone, 460,000 cubic meters of natural gas were pumped over and reused for two major measures. This corresponds to a CO2 equivalent of 8,400 tons.

Energy consumption intensity

Energy consumption in kWh/a
(Consumption within the organization without a vehicle fleet) per transported energy in kWh/a



For a further reduction of our methane emissions, mobile transfer compressors have been used since 2022 for maintenance work involving a smaller volume of gas, for example for maintenance work at our stations. The majority of stations already have the technical equipment to prevent methane emissions during maintenance and servicing work. If pumping over is not possible, GASCADE has been using a mobile flare during maintenance and servicing measures since 2022 so that the less environmentally harmful CO2 is emitted instead of methane.

In addition, GASCADE has been in possession of an infrared camera for methane detection since the

reporting year. With the help of this camera, we can check our plants flexibly and independently for methane emissions and leaks.

Emission reduction in gas analysis

Besides, we are working to minimize methane emissions from our gas composition analysis. Several projects are designed to make future gas composition analysis lower in emissions.

Optimization of exhaust gas emissions

Environmental compatibility and emission prevention play a key role in decision-making processes and the construction of new plants. For this reason, we rely on hermetically sealed electric compressors when building new compressor stations or expanding existing ones, such as Reckrod 2. Since 2012 and 2013, respectively, such emission-free electric compressors have already been in operation in Rehden and Bunde.

Preheating instead of blowing out

Because gas cools down when pressure is reduced, we operate stations with large boiler systems in our transport network for preheating. To depressurize plant areas, we use boiler plants to burn this natural gas, among other things. The natural gas from the plant areas is recovered for energy and not blown out.

Leakage gas recirculation

In order to reduce methane emissions, GASCADE uses a technique of leakage gas recirculation, in which sealing gas from station plants is fed to the station heating system. Since station heaters are not in operation throughout the year, concepts for further methane reduction are currently being developed.

Reduction of process-related methane emissions

It is our goal to permanently eliminate the sealing gas as an emission source. Against this background, abatement concepts are being developed for these process-related methane sources. In the course of the conceptual design, technical alternatives were investigated and compared. The result and the ecologically most effective solution is the recompression of direct emissions. After the commissioning of a first prototype in 2023, this concept will potentially be applied to other compressor stations.



**4.4 Environmental Protection,
Ecology and Biodiversity**

Due to construction and maintenance measures on our infrastructure, which is a necessary part of our business activities to maintain safe transportation, interventions in ecosystems cannot be completely avoided.

We are committed to minimizing the impact on the sensitive balance of native ecosystems and to restoring or compensating for any impacts that do occur. At the same time, we are working to create lasting added value for biodiversity and species diversity by implementing a consistent greening concept at our stations. In this way, we ensure safe gas transports on the one hand and at the same time make an im-

portant contribution to preserving a diverse range of species and our native ecosystems as habitats. We dedicate ourselves holistically to the topic of environmental protection and nature conservation – before, during and after construction measures. In the various phases of construction and maintenance projects, we face different challenges and differentiate according to:

Protective measures and preventive work during planning phases	Protective measures during construction phases	Protective measures after construction phases
<ul style="list-style-type: none">• Close coordination and early involvement of the responsible authorities in intervention and compensation planning• Avoidance and/or minimization of interventions in nature and landscape• Commissioning and continuous integration of ecological construction monitoring for all measures• Consideration of ecological factors such as breeding and setting times	<ul style="list-style-type: none">• Installation of tree and woody plant protection (protection of breeding trees, cavity trees, etc.)• Construction of protective fences for amphibians and reptiles• Minimization of interventions in and around water bodies (temporary water body piping at crossings and open water body crossings, protection of bank slopes and water body bottoms at dewatering discharge points, discharge of clear water by installing sedimentation traps, etc.)• Temporary and permanent establishment of replacement habitats• Relocation or fencing of protected species	<ul style="list-style-type: none">• Recultivation and renaturation by restoring the construction site to its previous condition (fields, meadows, paths, reestablishment of wooded areas and hedges outside protective strips to be kept free of trees in the direct surrounding of the pipelines)• Compensation measures outside the construction field. These measures are carried out in the same natural area as the intervention, for example through the creation of biotopes and their maintenance, ecological forest conversion or reforestation measures• Implementation of and compliance with site-adapted greening concepts for all compressor stations, gas pressure regulating and metering stations and shut-off stations



Compressor Station Lippe

Between 2018 and 2020, we built the EUGAL. This pipeline system runs over a distance of 480 kilometers from the German Baltic Sea coast to the border between Germany and the Czech Republic and, thereby, crosses three German states. Recultivation and compensation measures lasted until the end of 2022. Using this project as an example, we present our diverse conservation measures in three federal states below.

In the agriculturally dominated states of Mecklenburg-Western Pomerania and Brandenburg, EUGAL runs predominantly under arable farmland and grassland. Confirmed findings are available here regarding the effect of our protective measures. In the Free State of Saxony, the presentation focuses on a project that creates added value for biodiversity and species diversity to a particular extent and is described as a multifunctional compensation measure.

**Our greening concept at a glance:
consistent measures to preserve biodiversity
at our stations**

- Unused open spaces are to be greened as a matter of principle
- Food offerings must be created for insects (e.g. flowering meadows)
- Biodiversity must be integrated (e.g. „insect hotels“, raptor perches, nesting boxes)
- Ecological integration of fire ponds as habitat for fish, birds, and insects

Our nature conservation measures in Mecklenburg-Western Pomerania

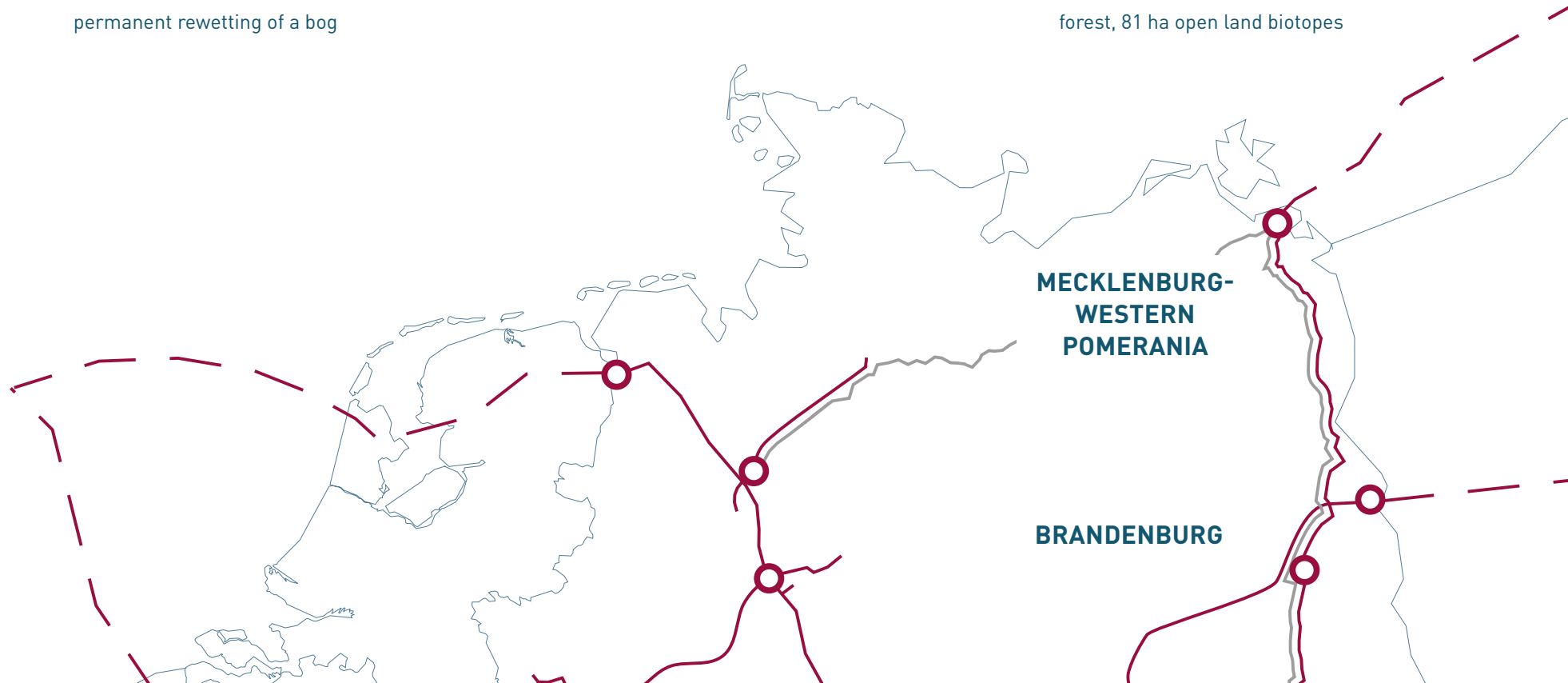
- Size of the working strips and intervention area: 537.1 ha
- Of which recultivated by the end of 2022: 100 %
- Size of the area that will be kept permanently free of groves: 8.5 ha
- Total size of the area permanently compensated elsewhere: 89.5 ha
- Of which: 27.8 ha initial reforestation („A new forest is created.“), 7.7ha replanting of a climate-resistant mixed deciduous forest, 54 ha permanent rewetting of a bog

Exemplary:

In the area of the so-called White Moor, a permanent habitat for local flora and fauna was created on 54 hectares through permanent renunciation of use and rewetting by retaining water in a dried-up bog.

Our nature conservation measures in Brandenburg

- Size of the working strips and intervention area: 1,285 ha
- Of which recultivated by the end of 2022: 100 %
- Size of the area that will be kept permanently free of groves: 114 ha
- Total size of the area permanently compensated elsewhere: 312 ha
- Of which: 116 ha initial reforestation („A new forest is created.“), 115 ha ecological forest conversion to a climate-resistant mixed deciduous forest, 81 ha open land biotopes



Our nature conservation measures in Saxony

„Masers Loch“: five hectares for waterfowls, amphibians and reptiles

The restoration of „Masers Loch“ has created a potential breeding ground for cranes, gray geese, mallards, and teals, as well as little and black-necked grebes, and a habitat for tree frogs and adder. The wetland biotope near Lauchhammer – a relic of the Ice Age – often runs dry in summer. The habitat of many endangered species was at risk of becoming unstable. Together with the nature conservation authority, we have lowered „Masers Loch“ and developed reed beds. The biotope can thus be kept permanently moist even in summer and serve as a permanent habitat for waterfowls, amphibians, and reptiles.

A multifunctional compensation measure: renaturation of a horse pond in Saxony

When EUGAL's plans for the Dresden section of the planning approval process in the Free State of Saxony took concrete shape, not only were the route of the pipeline axis and the working strips required for the construction of the pipeline determined, but also the associated impact on nature and the landscape as well as the need for compensation under nature conservation law.

Planning phases are always characterized by a large number of technical consultations with representatives of the authorities and nature conservation associations. We are particularly proud of the result of the constructive coordination with the responsible nature conservation authority of Meißen County and the Saxon state association of the Nature and Biodiversity Conservation Union (NABU). The NABU



regional association approached GASCADE with a compensation proposal for the near-natural restoration of the silted-up water body „Horse Pond“. The proposed renaturation measure is located in the „Vierleich Freitelsdorf“ nature reserve and is also part of the flora-fauna habitat area „Große Röder between Großenhain and Medingen“.

Within these protected areas, the structural diversity of small-scale habitats in the horse pond was to be restored on the one hand, and the water regime in the area of the adjacent bog Vierleich was to be stabilized on the other hand. In order to achieve this, the lake bottom of the completely silted-up Horse Pond was remodeled, and a drainage structure was built in the direction of the bog, with which the water discharge from the Horse Pond can be controlled as needed. The result is a water bio-



Masers Loch in summer 2022

tope that is characterized by the alternation of dry and wet areas as well as shallow and deeper water zones, even in summer. This has created habitats for endangered and rare amphibians, reptiles, and insects as well as plant species.

4.5 Water Consumption and Waste Management

Waste management is a major challenge – on both a small and large scale. A lack of or inadequate waste management can have devastating effects on cities, the environment, and the climate. Globally, more than seven billion tons of waste are generated each year, according to the United Nations Environment Program.

Our transmission system operators generate unavoidable waste as a result of our core business of transporting energy. This waste is collected by local disposal companies. Paper, plastic, and metal waste is recycled, and residual waste is incinerated. Wood waste is further processed by the recycling company.

As part of legal and internal reporting requirements, we collect and evaluate the necessary data on waste disposal.

GASCADE has been preparing an annual waste balance sheet for waste such as wood, residual waste, paper, packaging, special waste, and hazardous waste since 2015.

In 2022, GASCADE, OGT, and NGT generated a total of around 83 tons of waste, which was properly disposed and partially recycled according to its pro-

perties.

Wastewater at our sites is disposed of in accordance with local regulations. The volume of wastewater in the reporting year was 13,338 cubic meters.

4.6 Mobility

Mobility is important for our day-to-day work. Even though the emissions resulting from it are not among our material sources of emissions, every kilometer traveled in the course of business trips or journeys is associated with emissions. In contrast to our operation of compressors powered by natural gas, where a switch to lower-emission alternatives such as electric compressors is a long-term process, we can provide incentives in the area of mobility to noticeably reduce our mobility-related emissions. We are working on a future-proof and sustainable mobility concept for our transmission system operators.

For some time now, we have offered all employees an employer subsidy for the purchase of leased bicycles, which many employees have already opted for. Since 2017, more than 200 bikes have already been purchased for our employees. With a joint competition, the „Bike Challenge“, we motivate our employees to cover as many kilometers as possible by bicycle each year.

The option of mobile working, which has been anchored in our transmission system operators by means of a company agreement, also helps to reduce commuting emissions for those who use fos-

sil-fuel-powered vehicles.

For 2022, for the first time we have recorded all emissions resulting from the mobility of our employees. Therefore, we conducted a company-wide mobility survey determining the emissions caused by commuting to work to achieve robust results. This enabled us to calculate the emissions from commuting using the percentage of the mode of transport used with the actual distance between home and the place of work, while taking into account the average attendance at the place of work. Further emissions result from the use of motor vehicles, trains, and airplanes for business trips. To calculate emissions from business travel, we used the passenger kilometers traveled per mode of transport and the emission factors of the Department for Environment, Food and Rural Affairs (DE-



FRA). As an overview, the following table shows our transport-related emissions:

It shows that by far the most emissions in the mobility sector are caused by motor vehicles. This confirms our view that we should increasingly provide incentives for alternatives to car use in this area precisely.

Emissions	in t CO ₂ e
Business trip	
Car	2291
Train	6
Plane	41
Rental Car	15
Commuting	
Car	276
Train	6
Public Transport	5
Total	2640



5 PEOPLE

Teamwork is our strength. With a team of almost 500 employees today, GASCADE has implemented some of the largest pipeline projects in Germany. We benefit from 30 years of experience in pipeline construction and gas transport, as well as from the innovation and commitment of our employees. Working at GASCADE means actively contributing to the company's success, achieving goals together, and taking on responsibility right from the start. At GASCADE, employees with diverse backgrounds work in an interdisciplinary manner on projects that are highly relevant to secure the gas transport and enabling the energy transition. Above all, the innovative strength, great commitment, and courage for new things are required and important in order to jointly drive forward and shape the energy transition.

Making sure that we can continue our success story, our team has recently grown considerably. More detailed information about the number of our employees and our offers and services for socially fair jobs are described in the following chapters.

5.1 Occupational Safety and Accident Statistics

As a certified transmission system operator and responsible employer, we give the highest priority to health, safety, and environmental protection. They are the premise of all our actions and always take precedence over economic concerns. This applies to the company and to every single employee. Nothing is so important that these principles can be ignored.

Our HSE awareness is the result of many years of experience in the construction and operation of transmission networks, as well as regular reviews in the form of analyses and audits, and our own company suggestion scheme. The goal is always to become even better.

We take our social responsibility towards our environment and the public seriously and demand the same from our business partners and service providers. Safe and healthy workplaces are the focus with regard to our employees and business partners or service providers.

LTIF in 2022:

HSE guidelines and employee training on occupational safety

Occupational safety is an enormously important issue for us. This is reflected in our low accident frequency rate (LTIF-Lost Time Injury Frequency) in 2022.

To ensure a high level of occupational safety for all our employees, we have implemented various guidelines tailored to the specific requirements of our employees' day-to-day work:

For our employees on construction sites, we have developed our own assembly manual covering all safety standards. Our service providers are subject to the strict requirements of our HSE Contractor Guideline. This becomes a binding part of the contract when a contract is awarded, in addition to regular HSE prequalification.

All HSE manuals, which are part of the HSE Management System, are covered by the HSE Guideline. The manuals address different units and areas of activity with clear „designations“.

Topic-specific instructions in hazard assessments, operating and work instructions take place on a regular basis and are fully documented. The training schedules of all employees are regulated in individual manuals.

Accident Statistics 2022 (Status: 31.12.2022)

	Own employees	Contractors	Over all
FAT (fatality)	0	0	0
LTI (lost time incident)	1	1	2
RWC (restricted work day case)	0	0	0
MTC (medical treatment case)	0	1	1
Working Hours	910.362	313.181	1.223.543
LTIF rolling average (lost time injury frequency; last 12 months; and 1.000.000 working hours)	1,10	3,19	1,63

5.2 Employment relationships

GRI 2-7, 2-8

498 Employees

A productive, loyal environment and enjoyment of one's work are important prerequisites for long-term successful employee retention.

The demands of our employees have changed significantly in recent years. In the past, job security and fair pay were decisive criteria for choosing a job or staying with a company. Today, younger employees in particular increasingly want meaningful tasks that promote their personal development and enable them to reconcile private and professional goals. Helping to shape their professional environment has become essential for many employees.

We want to continue to place our employees at the center of the company and be a reliable, fair employer for motivated and highly qualified specialists.

Employment relationships

Employees at GASCADE have a secure and permanent future. 90 percent of the 498 employees have permanent contracts, the majority (82 percent) are full-time.

We determine the number of our employees as a cut-off date elicitation as of December 31 of each year.

Period of employment

The average length of service of our employees at



GASCADE is 18 years. Since OGT and NGT were established at a later date, the average length of service at these companies is nine years.

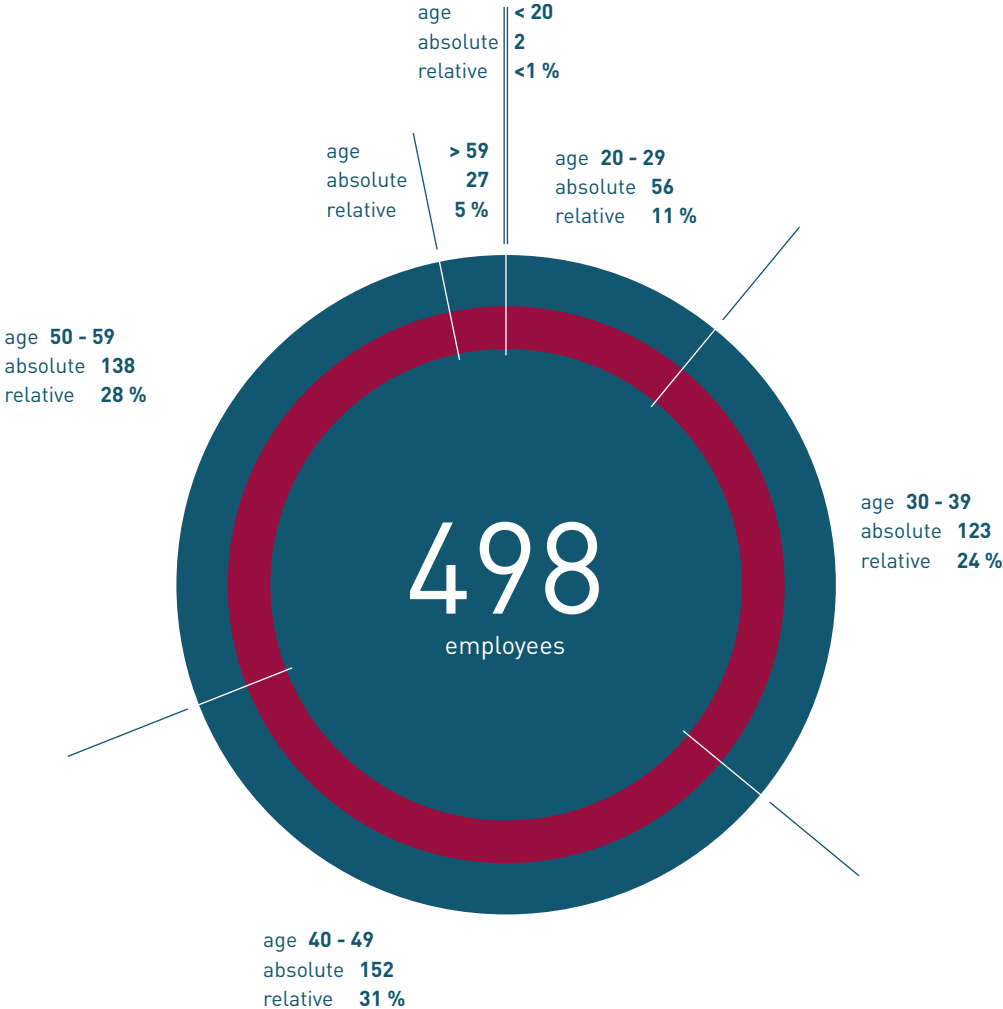
The long job tenure is an expression of the high level of identification and satisfaction of our employees.

Information on employees and other personnel

The age structure of our employees is a balanced mix of young talents and relevant experience, so that specialist knowledge is passed on to younger generations, entrepreneurial innovation is promoted, and conventional structures are broken down. We are ideally positioned for demographic change and the retention of specialist skills. The balance and satisfaction of our employees is reflected not only in our age structures and company affiliations, but also in our low sickness rate of 3.3 percent. We pay attention to a fair workload.

New hires and employee turnover

In the year under review, 32 employees left us, while 53 new employees joined our team. Measured against the total number of employees, the gross fluctuation rate is 2.9 percent. This is well below the industry average, which was 16.1 percent for the chemical industry and 15.4 percent for utility companies last year.



	17 - 19	20 - 29	30 - 39	40 - 49	50 - 59	> 60	
absolute	2	56	123	152	138	27	498
relative	1 %	11 %	24 %	31 %	28 %	5 %	100 %

5.3 Worker Participation

GRI 2-30

Our corporate group is committed to freedom of association, collective bargaining, and the protection of employee representatives. Importance is attached to trusting and constant cooperation with all bodies involved in co-determination.

	Entry	Exit
Permanent Staff	24	16
Temporary Employees	10	5
Working Students	19	11
Fluctuation Rate	2.9 %	

Our works council

At our transmission system operators, there is a works council at the Kassel site with nine members, a works council in the operating areas East and West with five members each, and a general works council. The latter consists of six members delegated from the three works council bodies. In addition, representatives of our transmission system operators are invited as guests to the meetings of the group works council of BASF SE.

The works council is responsible for representing both employees covered by collective pay-scale agreements and those not covered by collective pay-scale agreements.

A new works council is elected every four years. The elected body in turn elects the chairperson and deputy chairperson from among its members. The last election took place in 2022.

The works council participates in the following committees and working groups of our transmission system operators and exercises its co-determination rights:

- Group Works Council BASF SE
- Economic Committee
- Works Committee
- Remuneration Negotiation for Employees Covered by Collective Bargaining Agreements and Employees Not Covered by Collective Bargaining Agreements
- Ideas Management
- Working Group IT
- Working Group Working Hours
- Performance Bonus Negotiation
- Contact Person For Shift Colleagues
- Bike Leasing
- Discounts
- Mobbing Commissioner
- Working Group Prevention and Support
- Health Management
- Job Ticket

The works council has concluded numerous company agreements with the employer on the following topics:

- Arrangements for a retirement plan (pension fund)
- Working time regulations
- Remuneration
- Appraisal interviews
- Representative for severely disabled persons
- Work life balance

These company agreements can be viewed by all employees on the intranet.

At the Kassel site there is also a representative body for disabled employees, which attends the meetings of the works council and general works council and has its own agenda item at all meetings. The representative body for disabled employees advises employees on applications from disabled people and people of equal status, as well as on the design of workplaces suitable for disabled people and takes part in the meetings of the health and safety committee.

However, the works council is not the only form of actively organized co-determination at our company. We also conduct regular surveys of our employees, successfully operate an ideas management system, and are organized under a collective agreement of the Mining, Chemical and Energy Industrial Union (IG BCE).

Employee surveys

All surveys carried out in the company are subject to co-determination and are always supported by the works council. The works council looks at the questions in advance and can exert influence if it has concerns, for example if answers could jeopardize the anonymity of the survey. The works council also conducts its own surveys of employees on relevant topics in order to gauge employee sentiment before possible new company agreements are decided.

Collective bargaining agreements IG BCE

We have concluded our own collective labor agreement with IG BCE. The current collective agreement is valid until May 31, 2023, and will be renegotiated together with the collective bargaining commission. In addition to the employer representative (head of the Human Resources department) and the collective bargaining secretary of IG BCE, the members of the collective bargaining committee include a total of six employee representatives.

The contents negotiated in our covering agreement

and in the other collective agreements within our scope of application apply without exception to all our employees covered by collective agreements and those not covered by collective agreements.

Ideas management

Ideas from our employees contribute to improving processes or procedures and, thus, to even greater efficiency and the overall success of GASCADE, NGT and OGT. By implementing useful ideas, for example, costs can be saved, processes simplified, emissions or energy use reduced, and innovations developed. Our employees' ideas are diverse and affect many areas of our everyday work.

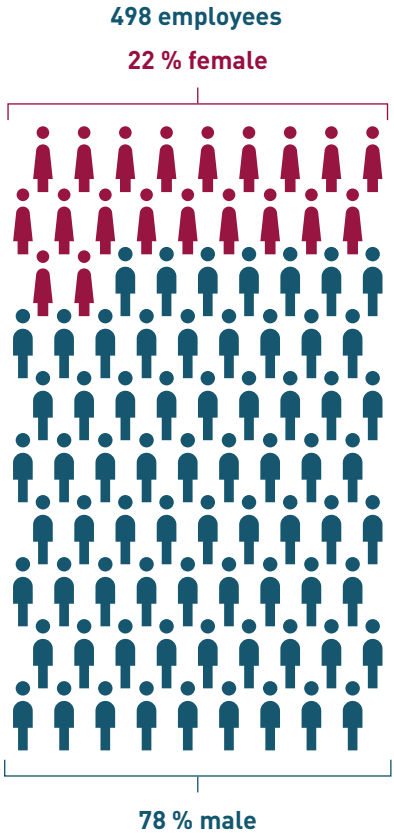
With respect to centrally handling the internal idea management, we revised the existing process for the employee suggestion scheme in the reporting year and converted it into an idea management tool.

Due to a lack of visibility, transparency and internal complexity, the former suggestion scheme lacked acceptance and participation.

In order to tap the creative potential in the heads of our employees and benefit from their ideas, a working group has relaunched the suggestion scheme as an IT-supported ideas management system.

The introduction of an IT solution ensures the transparency of the idea management process. No idea gets lost anymore and employees can view all submitted ideas and their processing status at any time. The new idea management system has many advantages. By inviting our employees to think along,

GASCADE, NGT, and OGT can benefit from everyone's ingenuity. All employees have the chance to actively shape work processes in our companies. In this manner, the new idea management serves to strengthen the networking of employees from different areas and is the basis for an active exchange. The new digital idea management greatly promotes the culture of innovation in our transmission system operators.



5.4 Diversity and Equal Opportunities

Our employees come from different countries of origin and bring a wealth of experience as well as various professional specializations. Experienced employees and those just starting their careers complement each other, work together on exciting projects, and contribute to the success of our projects and the achievement of our goals through the shared exchange of knowledge.

We live respect, openness, and tolerance and are convinced that diversity promotes inventiveness, strengthens our innovative power, and provides the necessary inspiration to ensure the continued existence of our companies. Equal opportunities for all our employees are a matter of course for us.

Whether in the field of operating technology, in plant or construction planning, in IT project management or in controlling: GASCADE offers diverse fields of activity and exciting tasks. We are proud of the di-



versity of our employees. Currently, we employ people from 14 different nations.

Measured against the distribution in the overall population, women are underrepresented among our employees with a share of 22 percent. The same applies to the proportion of female managers, which currently stands at 13 percent. We are aware of this and are trying to inspire more women to take up jobs with our transmission companies and want to get more women into management positions.

	Quantity			Share	
	Women	Men	Total	Women	Men
Management Board / Head of Department	0	3	3	0 %	100 %
<30 years	0	0	0	0 %	0 %
30-50 years	0	2	2	0 %	100 %
>50 years	0	1	1	0 %	100 %
Department Management	2	15	17	12 %	88 %
<30 years	0	0	0	0 %	0 %
30-50 years	1	5	6	17 %	83 %
>50 years	1	10	11	9 %	91 %
Team Leader	3	18	21	14 %	86 %
<30 years	0	0	0	0 %	0 %
30-50 years	3	8	11	27 %	73 %
>50 years	0	10	10	0 %	100 %
Employees without managerial responsibility	107	350	457	23 %	77 %
<30 years	16	42	58	28 %	72 %
30-50 years	72	198	270	27 %	73 %
>50 years	19	110	129	15 %	85 %
Total	112	386	498	22 %	78 %

5.5 Reconciling Family and Career

As a modern employer, we know that an essential prerequisite for the best possible performance is a good balance between work and private life - the so-called work-life balance.

As part of flexible working time models, we support our employees during parental leave and when returning to work. In 2022, a total of 25 employees took

their statutory parental leave, of which 14 were men and 11 women. With this number, we feel confirmed that the parental leave model is established at our company and that many male employees also take advantage of the parental leave offer in the spirit of equality. In addition, working hours can be arranged according to individual life situations in order to care for children or relatives in need of care. In addition, our employees receive a financial allowance for childcare. In 2022, each employee was able to apply for a childcare subsidy of 300 euros per child in a childcare facility for the actual costs incurred.

For employees who wish to take a career break, we offer the option of a sabbatical year. This involves building up the time off entitlement for the sabbatical phase in advance during a working period.

Valuable models that also facilitate the work-life balance include mobile working and teleworking.

5.6 Training and Continuing Education

As a medium-sized company, we benefit from the advantages of flat hierarchies. Free space to help shape the future as well as for creativity and constructive cooperation are key prerequisites for us to be successful together. It is important to us that all employees contribute their professional and personal strengths, but also that they can develop and expand them. Our holistic personnel development is the prerequisite for this.

New employees benefit from our mentoring and introduction system to ensure that they quickly beco-

me part of our team. To ensure that our employees make the best possible use of their potential and knowledge, comprehensive introduction, internal and external training and continuous knowledge transfer are a matter of course for us and are actively promoted from the outset. This is the only way to master the dynamics of our business area in the energy sector and drive innovations forward. In 2022, we spent around 590,000 euros on training. With our 448 permanent employees, this results in an amount of 1,266 euros per employee as of December 31, 2022.

We do not only focus on further training through seminars or development in our own area of responsibility. Those who want to expand their expertise or acquire new knowledge can benefit from two personnel development measures at our company that are rather atypical for medium-sized companies. We offer our employees the opportunity to complete internal internships of up to four weeks in other specialist areas. This provides insights into day-to-day business and strengthens interdisciplinary cooperation. In 2022, three employees took advantage of this opportunity. A further opportunity to expand one's own specialist knowledge is offered by a temporary transfer to another unit. In this way, employees gain in-depth insights into a different area of work and responsibility over a longer period of time but have a guaranteed option to return to their previous position.

Some employees are also seconded to our Euro-



pean Network of Transmission System Operators for Gas (ENTSOG) in Brussels. This allows these employees to gain international experience and contribute their valuable expertise to the development of the European gas market.

In addition to more than 30 working students for our transmission system operators, we also support two students from the University of Münster and the Rheinisch-Westfälische Technische Hochschule Aachen with scholarships. We would like to get potential employees interested in our business as

early as possible and at the same time give young people the opportunity to gain important insights into professional practice.



5.7 Health and Retirement Care

Health management

Our transmission system operators have a health management working group consisting of employer and employee representatives. Together, they work on topics related to the health of our employees. Since 2015, we have conducted annual health campaigns with the aim of raising awareness on issues including heart health, nutrition, allergies, and psychological stress. In 2022, the focus was on skin. All employees were offered a free skin cancer screening. Informative meetings have addressed ways to protect against the sun in everyday life and protection against tick bites. In recent years, we have provided all employees with preventive information on

health issues and supported them in their personal preventive care.

All employees of our companies can get an annual flu vaccination from us. During the Corona pandemic, we offered Covid-19 vaccinations to all employees and their families in 2021 and 2022. To protect our employees and maintain the operation of our critical infrastructure, we have also provided our employees with IT equipment to enable them to work from home.

Corporate sports program

We offer a wide range of sports to promote interdisciplinary team spirit, collegiality among all employees, rapid integration of new employees, and sporting exercise as a balance to everyday working life. With 13 corporate sports groups ranging from yoga and back training to soccer and ice hockey, we are well-positioned to offer a wide variety of sports.

Retirement provision

In Germany, state pension provision is primarily financed by employees subject to social insurance contributions via a pay-as-you-go system. In response to demographic change and further increases in life expectancy, the pension level has been lowered. At the same time, the German government is calling for supplementary private provision. Our employees have the opportunity to save additional entitlements for their old age in the form of a company pension scheme. Our transmission system operators encourage this. Furthermore, we support all employees in the event of serious and protracted illness by paying sick pay subsidies on a sliding scale according to length of service. In addition, we offer participation in a share program, which can be a further building block for our employees' asset accumulation.



5.8 Social and Local Commitment

Donations and sponsoring

We have taken a clear position against the Russian war of aggression and condemn it. To support refugee children from Ukraine and enable them to attend school and network with friends and acquaintances from afar, we donated 15 laptops to the association „Brücke zur Heimat“ in Reckrod, Hessen, in the reporting year and presented them to refugee families.

In 2022, GASCADE paid the entry fee for 1,100 starting places in the mini marathon in Kassel, again supporting around one-third of the schoolchildren starting the race. We continued our long-standing partnerships with Offene Schule Waldau and Anne-Frank-Schule from Homberg/Efze and cooperated with Ahnatal-Schule Vellmar for the first time. Without GASCADE, it would not have been possible for many children to take part in the run.

Our transmission companies made donations to charities and non-profit organizations of 32,555 euros in total in 2022. The largest single measure, at around 13,000 euros, was the Kassel mini marathon.

Private donations for local initiatives and Ukraine

The willingness of our workforce to donate after the outbreak of the Ukraine war was enormous. Within a very short time, almost 15,000 euros were collected and doubled to 30,000 euros by our management teams. We collect donations for charitable purposes every year, but the amount for Ukraine represents a record in our private fundraising activities. In addition, we supported refugees with donations in kind.

Our employees also collected donations totaling 7,000 euros for the day-care center „Panama Soziale Hilfe e.V.“, a drop-in center for homeless people and people released from prison, and the children's hospice „Kleine Riesen Nordhessen gGmbH“.





5.9 Construction of a Corporate Headquarter

We are currently planning to build our own corporate headquarter for our transmission companies at our main site in Kassel. In addition to the use of sustainable materials and raw materials as well as an efficient, resource-saving energy concept, we are also focusing on the socio-cultural and functional suitability of the building. We strive to create an optimal working atmosphere with a high quality of stay in the indoor and outdoor areas as well as offers for work-life balance. The company's headquarter will consist of three building wings and, in addition to 360 workstations, will offer plenty of space for personal communication and creative work. The central location right next to Kassel's main train station will enable employees to use public transportation.

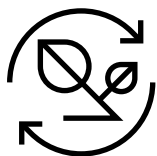
A special feature of the building is the facade design. The building envelope will generate electricity via a photovoltaic curtain wall. The planned photovoltaic modules on the roof and facade will be able

to provide nearly half of the building's annual electricity consumption. Brine-to-water heat pumps are planned for heating and cooling, using the ground as the primary energy source. This is done with 70 geothermal probes, which are brought to a depth of up to 100 meters. With the help of a circulating heat transfer fluid, heat is extracted from or supplied to the ground. From a depth of around 10 meters, the average temperature in the ground is a constant 11 degrees Celsius. In addition, the building is to be equipped with modern control technology as well as waste heat utilization and heat recovery systems to reduce operating costs and CO2 emissions.

Construction activities are scheduled to start in 2023. Completion is scheduled for the end of the year 2025.



6 GOVERNANCE



6.1 Sustainability Management

GRI 2-13

The department that focuses on hydrogen and sustainability issues was established in the reporting year. Two of its employees deal exclusively with sustainability issues. Many other employees from other departments contribute to the success of our „zwanzigdreißig!“ sustainability program through their involvement in projects and individual measures.

The regular review and analysis of key issues, identification and management of sustainability measures, and compliance with reporting requirements and publication of an annual Sustainability Report are now managed centrally by a specialist department. This illustrates the importance attached to

the area of Environment, Social and Governance (ESG). It is our declared goal to improve in all areas of ESG and to develop new projects. Responsibility for the opportunity-risk analysis related to climate change also lies with the hydrogen and sustainability department.

Our management teams are informed at regular intervals about our sustainability activities and are involved in decision-making on future measures and projects. Our sustainability management addresses targets at the management board that are then decided by them. The supervisory bodies of the transmission system operators, as the central steering bodies, are informed of all measures and targets regarding sustainability at least every six months at their regular meetings.

In the course of Group reporting, there is also close coordination with WIGA Transport-Beteiligungs-GmbH & Co. KG.



6.2 Compliance and Business Ethics

GRI 2-23, 2-24, 2-26, 2-27

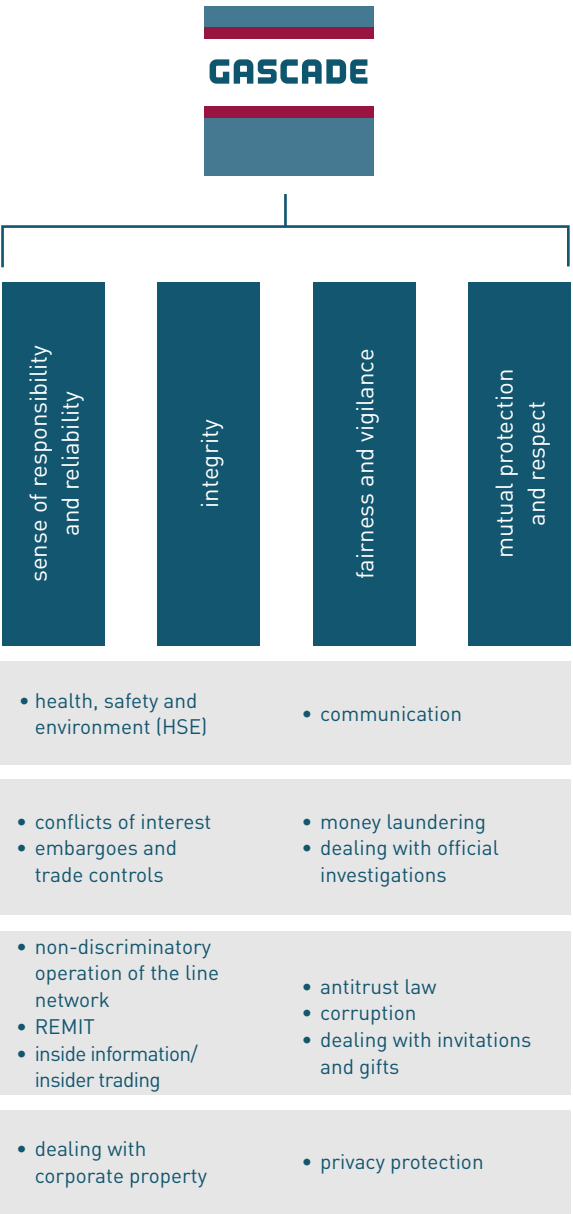
Corporate action in compliance with all applicable laws and regulations, operational rules, and ethical and moral principles is subsumed under the term compliance.

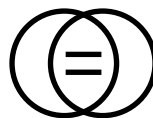
Compliance is an integral part of the sustainable value orientation of our transmission system operators, providing guidance for all of us in our daily operations. With our compliance management system, we have set up a comprehensive program to ensure that our values remain consistent and that we conduct ourselves in an orderly manner. It supports us in complying with external and internal regulations and protects our businesses from harm. All managers and employees receive mandatory training to help them internalize our Code of Conduct and apply it in practice in their daily work. The training courses, which are mandatory for all employees, are held after they join the company and

are regularly refreshed. In 2022, 328 employees and managers were trained in our compliance program. Regular audits monitor and confirm the quality and efficiency of our compliance program. Compliance audits and the documentation of compliance incidents ensure the highest possible transparency and assistance for our team. Our employees from the legal and insurance department provide support in the event of questions and uncertainties. There is no need to mention that the compliance requirements are approved by our management. We take our social responsibility very seriously and demand the same from our business partners and service providers. Here, we rely on our internal Business Partner Compliance Program. Our entire compliance program focuses on both prevention and early detection of potential risks with the aim of quickly limiting or eliminating any dangers. This includes a well-established and structured data privacy management system, which we have integrated into our compliance program. Our Code of Conduct serves as a fundamental interface between our corporate sustainability va-

lues and objectives, our employees, and the desired behavior of third parties. The Code of Conduct is a central building block and supports us in all business activities involving people, the environment, assets, information, and business partners. We expect the same standards from our business partners and do not tolerate any form of direct or indirect corruption or influence peddling.

We are publishing our Code of Conduct for Suppliers on the GASCADE webpage.





6.3 Equal Treatment

GRI 2-27

Our transmission system operators are part of the so-called critical infrastructures (KRITIS) in Germany in accordance with § 2 of the Ordinance on the Designation of Critical Infrastructures under the Federal Office for Information Security (BSI) Act. GASCADE and NGT are certified by the Federal Network Agency as independent and fully regulated transmission system operators under the German law and on the basis of the Energy Industry Act. OGT is organized as an independent transmission system operator and has been certified since 2017 by the Federal Network Agency with the involvement of the European Commission. All three companies are, thus, legally obliged to conduct their transport business in a non-discriminatory manner and independently of the interests of their direct or indirect shareholders. The fulfillment of these obligations is monitored by an internal compliance program, an equal treatment compliance officer who is not bound by directives, and by the Federal Network Agency. GASCADE also performs the equal treatment function for the companies NGT and OGT. Due to this independent internal control function we consider ourselves to be extraordinarily well posi-

tioned to give economic misconduct and restraints of competition or even corruption no chance at our transmission companies.

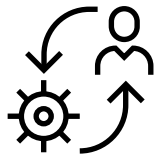


6.4 Data Protection and Information Security

Cyberattacks are increasing significantly in strategically, socially, and economically important areas and can cause considerable damage. For us as an operator of a critical infrastructure, it is therefore essential and also a legal duty to protect ourselves against attacks and to ensure the secure management of increasingly data-based business operations. Our IT security team is working hard to protect our network infrastructure from external attacks while at the same time raising employee awareness of the issue.

In 2022, our „Security Operations Team“ reviewed over 1,100 suspicious emails and attachments. In total, more than 6,000 security events were detected and processed. We put the number of external scans and attack attempts at around two million, executed by more than 10,000 suspected attackers. As part of our ongoing awareness and phishing campaign, we sent more than 2,800 emails to our employees in 2022 with an average detection rate of more than 90 percent. IT security training was completed by 98 percent of our employees in the

same period.



6.5 Management Systems

6.5.1 Energy management

Since 2016, we have implemented an energy management system (EnMS) that is operated and continuously improved according to the requirements of DIN EN ISO 50001. Energy management is an integral part of the overarching HSE management system. The aim is to optimize our energy consumption. The transparency of our consumption and load profiles as well as the further development of reports and the monitoring of key figures are just as much a part of energy management as training courses, internal audits, and regular management reviews. Operational and strategic targets are set here annually. Another important component for continuous improvement in energy management is idea management. Many of the ideas submitted have already made a valuable contribution. A management system also includes a suitable policy. This is integrated into our HSE policy and is publicly displayed in all buildings. DIN EN ISO 50001 requires us to regularly address the opportunities and risks of a strong EnMS and to consider the interests of the various stakeholders. There is an interdisciplinary energy team to implement an energy

management throughout the company and discuss relevant topics. These range from suitable energy targets to the further development of key figures and digitalization.



6.5.2 IT security

We were already classified as an operator of critical infrastructure with the first BSI-KRITIS Ordinance (BSI-KRITISV) and committed to the requirements of the IT Security Act.

Since the end of 2017, our Information Security Management System (ISMS) has been certified in accordance with the IT Security Catalog pursuant to Section 11 (1a) of the Energy Industry Act and DIN EN ISO 27001. As one of the largest transmission system operators in Germany and Europe, we play a pioneering role in information security throughout the industry. In the Initiative for Cooperation between Industry and Government to Protect Critical Infrastructures in Germany (UP KRITIS), we have been providing leadership in the industry working group on gas since 2016, tracking and commenting on upcoming legislative changes as well as consulting and discussing all topics with industry representatives, associations, and authorities.

In our annual IT risk analysis, we considered around 100 generic risk scenarios for approximately 80 as-

set groups, assessing more than 1,000 risks. In addition, a monitoring audit, internal ISMS audits and technical security audits were carried out in 2022. IT security is also essential for our supplier management. For this reason, we conducted 17 audits of ISMS-relevant processes at our suppliers and service providers in the reporting year.



6.5.3 Quality management

Our quality standards are based on the wishes and needs of all stakeholders. Legitimate interests form the basis for optimizing all processes in the course of continuous improvement and our strict customer orientation. That is quality management.

By designing effective management systems, we ensure that all requirements are implemented, impacts are assessed, and effectiveness and efficiency are continuously improved. We involve all stakeholders in this continuous improvement process at an early stage, thus enabling an open and targeted exchange. The so-called „plan-do-check-act“ cycle serves as a tool for this.

The establishment and maintenance of the quality management system are based on the internationally recognized DIN EN ISO 9001 standard and the applicable technical standards and regulations. As a regulated gas transmission system operator, we

are subject to various legal requirements and have also committed ourselves to quality management. We have described, evaluated, and standardized all processes that ensure the safe transport of gas. These processes and regulations have been incorporated into the quality management documentation as part of a process map. They are presented transparently for every employee and are available on the intranet.

We monitor this standard in our day-to-day business and through regular internal and external au-

dits. The DIN EN ISO 9001 certification is renewed every three years.

All new employees are instructed on the scope and handling of the quality management system within the first six months of joining our company.



An isometric illustration depicting a hydrogen energy network. A large blue body of water in the top left contains three offshore wind turbines. A network of white pipes, representing hydrogen transport infrastructure, runs across the landscape. The pipes connect various elements: a residential area with houses, a large industrial facility with multiple buildings and storage tanks, a smaller industrial site, and a large commercial or office building. A yellow marker with the letter 'T' is placed on the pipe network. A small drone is shown flying near the pipes. The entire scene is set on a light gray grid background.

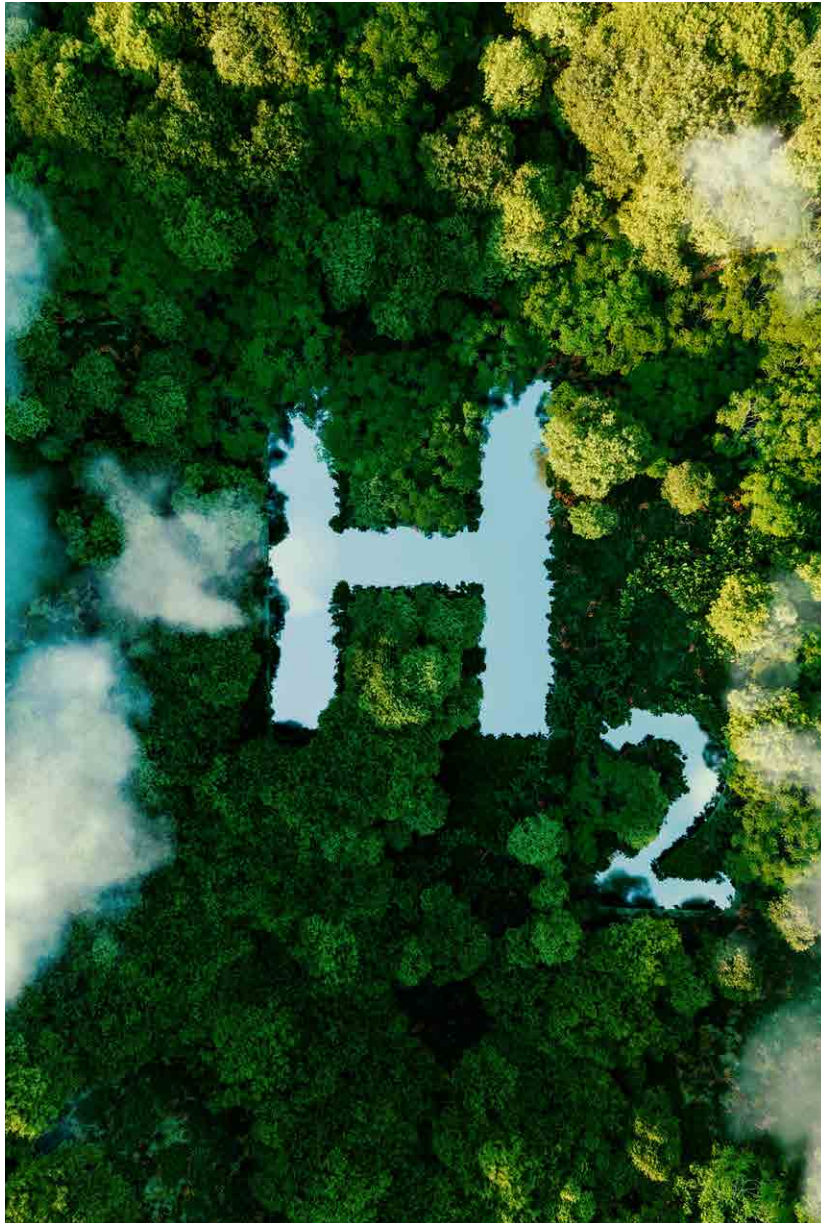
7 HYDROGEN AND THE FUTURE OF ENERGY

As a modern company in the field of molecule-based energy transport, we see ourselves as a dynamic link between producers and consumers, driving and mapping innovations around the decarbonization of energy supply.

Hydrogen will be one of the central building blocks in the energy system of the future. We want to play an active role in shaping and driving forward the transformation process in our industry. In line with the politically agreed climate targets, we are already developing solutions to rapidly realize the energy transition and the large-volume transport of hydrogen. Therefore, we are driving forward the integration of hydrogen into the existing network infrastructure and its further development.

We have a large north-south infrastructure and are involved in pioneering offshore projects in the North Sea and Baltic Sea.

Additionally, we are committed to repurposing existing gas infrastructure as a hydrogen transport and storage medium and can contribute valuable expertise in this area. Transporting green hydrogen in an existing infrastructure uses existing resources. There for it is cost-efficient and utilizes a Europe-wide network and storage capabilities.



7.1 Hydrogen – Energy Carrier of The Future

Hydrogen will play a key role in achieving energy and climate targets. As a flexible and easily transportable energy carrier, it has a wide range of applications. In order to reduce greenhouse gas emissions, the energy supply is to be converted from fossil fuels such as natural gas, crude oil, and coal to renewable energies. Since energy generation from renewable sources such as wind power and photovoltaics is weather-dependent and subject to strong fluctuations, it is essential to store energy from electricity in the form of hydrogen to ensure the security of supply and grid stability.

Hydrogen is a central component of this proposition, which will make an important contribution to the transition to a climate-neutral energy supply. The areas of application for hydrogen range from steel production and gas-fired power plants to cover peak loads to the mobility sector, where hydrogen can be used as a fuel for heavy-duty transport, shipping, and aircraft.

To promote and accelerate the use of hydrogen as an emission-free energy source in Europe, the European Union has developed a comprehensive strategy for hydrogen. The strategy is part of the European Green Deal, which aims to make Europe carbon-neutral by 2050. As an interim step, the European Commission has planned to produce 10 million tons of hydrogen by 2030 and import another 10 million tons.

With the adoption of the National Hydrogen Strategy

on June 10, 2020, the German government has also set a framework for action for the entire hydrogen value chain and is flanking this with an action plan. The measures range from the planned expansion of hydrogen production to an electrolysis capacity of 10 gigawatts in 2040, to the promotion of research and development of hydrogen technology with seven billion euros, to the development of hydrogen infrastructures and the use of hydrogen in industry.



7.2 Hydrogen Projects of Our Transmission System Operators

AquaDuctus

AquaDuctus is part of the AquaVentus initiative and will be a gigawatt-scale offshore hydrogen pipeline in the German North Sea. This pipeline will provide open, non-discriminatory grid access to multiple grid users (producers of green hydrogen from offshore wind farms). The project will connect large volumes of green hydrogen produced in the North Sea to mainland Europe and the emerging onshore hydrogen infrastructure. AquaDuctus will become the core of a new offshore infrastructure that can connect Germany with the North Sea countries of the Netherlands, Belgium, the United Kingdom, and Norway. This is how the European production and demand centers for green hydrogen will be interconnected.

The AquaDuctus project partners are focusing on a scalable, demand-driven infrastructure in two steps:

By 2030, AquaDuctus will connect the first large-

scale hydrogen wind farm site, SEN-1, with a generation capacity of about one gigawatt. SEN-1 is located in the German exclusive economic zone (EEZ) northwest of the island of Helgoland. The 200-kilometer pipeline will bring green hydrogen generated from offshore wind power to the German mainland and transport it further to European consumers.

In a second step, future hydrogen wind farm sites will be connected. AquaDuctus will then extend to the tip of the so-called “Duck’s Bill” area in the German EEZ, opening the way to connect with neighboring offshore hydrogen infrastructures from Denmark, Norway, the Netherlands, Belgium, and the United Kingdom. This opens the door for pipelined Europe-wide offshore hydrogen transport.





„Flow – making hydrogen happen“

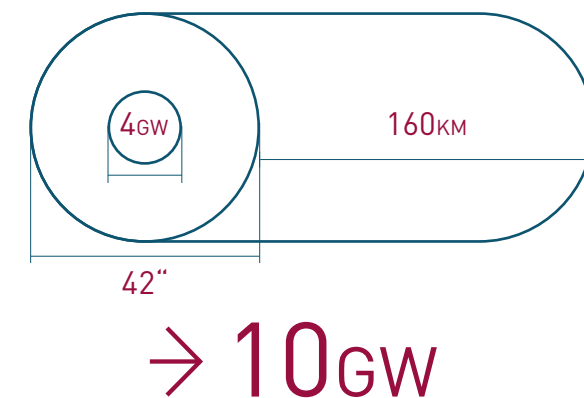
Together with cooperation partners from all relevant stages of the value chain, GASCADE’s „Flow – making hydrogen happen“ project aims to quickly create an efficient transport corridor for climate-neutral hydrogen. In several stages, existing pipelines are to be successively converted from natural gas to hydrogen in order to transport hydrogen from the German Baltic Sea coast to Baden-Wuerttemberg from 2028. The first section to Thuringia is to go into operation as early as 2025. As of 2028, the project is to be expanded internationally. An interconnector is planned to link the Danish island of Bornholm in the Baltic Sea to Lubmin, as well as connections to Poland and the Czech Republic. Connections to Austria and France are also to be realized via cooperation partners. In the final stage, an international hydrogen system with an hourly output of up to 20 gigawatts could be created.

By converting mainly existing infrastructure to hydrogen transport, GASCADE is laying the foundation for the ramp-up of a climate-neutral hydrogen economy. This is the only way to link production capacities and imports in northern Europe with hydrogen storage sites along the pipelines and the consumption centers in southern Germany. The switch from natural gas to hydrogen enables massive CO2 emission savings in energy-intensive industries, the mobility sector, and the heating market. Embedding in the European internal hydrogen market increases supply security and guarantees a market

with many producers, traders, and consumers at an early stage.

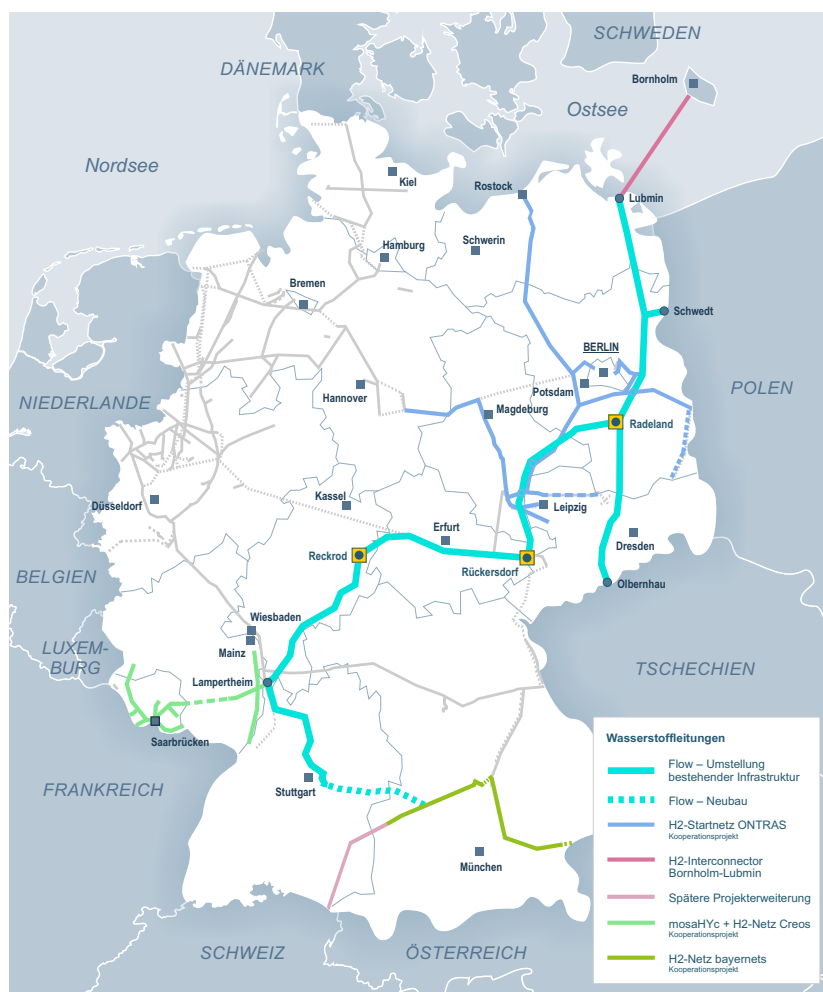
H2 Interconnector Bornholm-Lubmin (IBL)

The IBL is an offshore pipeline for transporting hydrogen from the Danish island of Bornholm to the German coast near Lubmin (see „Flow – making hydrogen happen“). Starting in 2029, hydrogen from green production projects on and around Bornholm will flow to Germany. In the future, it will be possible to receive and transport hydrogen from Sweden and Finland via the “Baltic Sea Hydrogen Collector”



to Bornholm.

The Bornholm-Lubmin interconnector will be approximately 160 kilometers long and designed for a capacity of 4 GW. The pipe diameter is to be 42 inches. A capacity expansion up to 10 GW is possible. The project partners GASCADE and „Copenhagen Infrastructure Partners“ have prepared a



preliminary study in which a rough pipeline route, the required capacity, and the costs have been determined. The Danish network operator Energinet was also involved.

The IBL applied for Project of Common European Interest (PCI) status in December 2022. In conjunction with „Flow - making hydrogen happen“ and other partner projects, IBL can be linked to Scandinavia with Germany, Poland, the Czech Republic, Austria, and France. This will allow hydrogen producers and consumers to benefit from a single European hydrogen market already at the beginning of the expected market ramp-up later this decade.

7.3 Green Gas Capability of Our Transport Networks

In practice, we devote ourselves to extensive investigations to check whether our gas infrastructure, including all its components, is fit for hydrogen transport. Only in this case we can help lead Germany into a climate-neutral hydrogen economy and achieve the federal government's decarbonization goals.

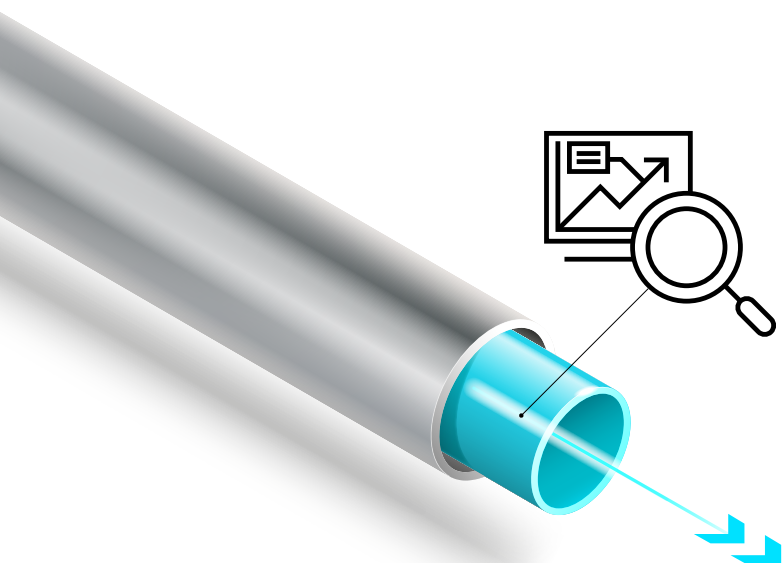
Irrespective of the fundamental question of whether an admixture of hydrogen in gases of the second gas family such as natural gas or pure hydrogen should or can be transported in the pipelines, precise investigations into the technical possibility of converting existing systems and pipelines are required. Questions about legal as well as planning and technical framework conditions must be answered to comply with the legal provisions regarding permits and gas acceptance for transport purposes. The conversion process of our natural gas transport system to a hydrogen transport system should be designed as efficiently as possible. For the conversion, the technical basis for qualification of the existing network for pure hydrogen operation and for the admixture of hydrogen must be checked, which should also be the basis for official procedures in accordance with the High-Pressure Gas Pipeline Ordinance.

The current network is being examined in various subject areas and topics (such as pipe material, fittings, and compressors) with regard to its suitability

for hydrogen. The first qualified results regarding the hydrogen compatibility of the existing GASCADE network (10 percent admixture versus complete hydrogen transport) were presented at the end of 2022. Reliable results are to be summarized and communicated in a final report by the end of 2023.

We are currently examining the following scenarios for feasibility:

- Up to 10 percent hydrogen admixture in the existing network
- Conversion of the existing network to full hydrogen transport (confirmation by the TÜV in an interim report on the investigations at the MIDAL-SÜD with a maximum permissible operating pressure of 90 bar)



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GLOBAL REPORTING INITIATIVE (GRI)-INDEX

Statement of use

GASCADE Gastransport GmbH has reported in accordance with the GRI Standards for the period 01/01/2022-31/12/2022

GRI 1 used

GRI 1: Foundation 2021

Applicable GRI Sector Standard

GRI 11: Oil and Gas Sector 2021

GRI Standard/ Other source	Disclosure	Location	Page
GRI 2: General Disclosures 2021	2-1 Organizational details	2.1	6
	2-2 Entities included in the organization's sustainability reporting	2.1	6
	2-3 Reporting period, frequency and contact point	2.1	6
	2-4 Restatements of information	2.1	6
	2-5 External assurance	2.1	6
	2-6 Activities, value chain and other business relationships	2.1	6
	2-7 Employees	5.2	40
	2-8 Workers who are not employees	5.2	40
	2-9 Governance structure and composition	2.2	8
	2-10 Nomination and selection of the highest governance body	2.2	8
	2-11 Chair of the highest governance body	2.2	8

GRI Standard/ Other source	Disclosure	Location	Page
	2-12 Role of the highest governance body in overseeing the management of impacts	2.2	8
	2-13 Delegation of responsibility for managing impacts	6.1	51
	2-14 Role of the highest governance body in sustainability reporting	2.1	6
	2-15 Conflicts of interest		
	2-16 Communication of critical concerns		
	2-17 Collective Knowledge of the highest governance body		
	2-18 Evaluation of the performance of the highest governance body		
	2-19 Remuneration policies		
	2-20 Process to determine remuneration		
	2-21 Annual total compensation ratio		
	2-22 Statement on sustainable development strategy	1, 3.5	4, 20
	2-23 Policy commitments	6.2	51
	2-24 Embedding policy commitments	6.2	51
	2-25 Processes to remediate negative impacts	2.5	11
	2-26 Mechanisms for seeking advice and raising concerns	6.2	51
	2-27 Compliance with laws and regulations	6.2,6.3	51
	2-28 Membership associations	2.3	9
	2-29 Approach to stakeholder engagement	3.4	17
	2-30 Collective bargaining agreements	5.3	42

GRI Standard/ Other source	Disclosure	Location	Page
Material topics			
GRI 3: Material Topics 2021	3-1 Process to determine material topics	3.3	16
	3-2 List of material topics	3.3	16
Material topics (GRI 11: Oil and Gas Sector 2021)			
11.1 GHG emissions			
GRI 3: Material Topics 2021	3-3 Management of material topics	3.3	16
GRI 302: Energy 2016	302-1 Energy consumption within the organization	4.2	
	302-2 Energy consumption outside of the organization		
	302-3 Energy intensity	4.2.1	
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	4.1.1	25
	305-2 Energy indirect (Scope 2) GHG emissions	4.1.2	
	305-3 Other indirect (Scope 3) GHG emissions		
	305-4 GHG emissions intensity	4.1.3	
11.2 Climate adaptation, resilience, and transition			
GRI 3: Material Topics 2021	3-3 Management of material topics	3.3	16
GRI 201: Economic Performance 2016	201-2 Financial implications and other risks and opportunities due to climate change	3.2	15
GRI 305 Emissions 2016	305-5 Reduction of GHG emissions	3.6	

Topics in the applicable GRI Sector Standards determined as not material

Topic	Explanation
GRI 11: Oil and Gas Sector 2021	
11.3 Air emissions	Topic is currently classified as not material because we classify the significance of the negative impacts as not significant for now. The severity is to be prioritized lower compared to the other emissions. However, we will continuously evaluate the topic and present the most important aspects in our report.
11.4 Biodiversity	Topic is currently classified as not material because we classify the significance of the negative impacts as not significant for now. The severity is to be prioritized lower compared to the material topics. However, we will continuously evaluate the topic and present the most important aspects in our report.
11.5 Waste	Topic is currently classified as not material because we classify the significance of the negative impacts as not significant for now. The severity is to be prioritized lower compared to the material topics. However, we will continuously evaluate the topic and present the most important aspects in our report.
11.6 Water and effluents	Topic is currently classified as not material because we classify the significance of the negative impacts as not significant for now. The severity is to be prioritized lower compared to the material topics. However, we will continuously evaluate the topic and present the most important aspects in our report.
11.7 Closure and rehabilitation	We currently consider the probability of occurrence of the negative impact to be low, which is why we classify the issue as non-material for now. We assume that we will continue to use our infrastructure for transport of climate-neutral gases in the future.
11.8 Asset integrity and critical incident management	We currently consider the probability of occurrence of the negative impact to be low, which is why we classify the issue as non-material for now. However, we will continuously evaluate our management of critical incidents.
11.9 Occupational health and safety	Although the topic is material to our business, we do not see any negative impact from our current handling of the issue, which is why we do not consider this to be material.
11.10 Employment practices	The topic is classified as non-material in its own right, as there is no significance.
11.11 Non-discrimination and equal opportunity	The topic is classified as non-material in its own right, as there is no significance.

Topic	Explanation
11.12 Forced labor and modern slavery	Not applicable, as not compatible with the regulatory framework in Germany.
11.13 Freedom of association and collective bargaining	The topic is classified as non-material in its own right, as there is no significance.
11.14 Economic impacts	The topic is classified as non-material in its own right, as there is no significance. In the definition of GRI 11.14, the economic impact on a local community must be significant, which we do not believe to be the case for our business activities.
11.15 Local communities	The topic is classified as non-material in its own right, as there is no significance. In the definition of GRI 11.15, the impact on a local community must be significant, which we do not believe to be the case for our business activities.
11.16 Land and resource rights	Not applicable, as not compatible with the regulatory framework in Germany.
11.17 Rights of indigenous peoples	Not applicable, as we operate exclusively in Germany.
11.18 Conflict and security	Non-material topic, as we consider the likelihood in Germany to be low.
11.19 Anti-competitive behavior	not applicable, as we are regulated transmission operators.
11.20 Anti-corruption	not applicable, as we are regulated transmission operators.
11.21 Payments to governments	not applicable, as we are regulated transmission operators.
11.22 Public policy	Non-material topic, as we did not identify any materiality of our political influence.

LIST OF ABBREVIATIONS

BlmSchV	Federal Emission Control Act	CH ₄	Methane
BMWK	German Federal Ministry for Economic Affairs and Climate Action	CO	Carbon Monoxide
BSI	Federal Office for Information Security	CO ₂	Carbon Dioxide
DEFRA	Department for Environment, Food and Rural Affairs	NO _x	Nitrogen Oxide
DEHSt	German Emissions Trading Authority		
EEZ	Exclusive Economic Zone	GW	Gigawatts
EnMS	Energy Management System	GWh	Gigawatt-hour
ENTSO-G	European Network of Transmission System Operators	kWh	Kilowatt-hour
EnWG	German Energy Industry Act		
ESG	Environment, Social and Governance	t	Ton
FSRU	Floating Storage and Regasification Unit	%	Percent
GRI	Global Reporting Initiative		
GWP	Global Warming Potential		
HSE	Health, Security and Environment		
IBL	Interconnector Bornholm-Lubmin		
IG BCE	Industrial Union for Mining, Chemical Industry and Energy Sector		
ISMS	Information Security Management System		
IT	Information Technology		
LNG	Liquefied Natural Gas		
LTI	Lost Time Injury		
LTIF	Lost Time Injury Frequency		
NABU	Nature and Biodiversity Conservation Union		
R&I	Piping and Instrumentation Diagrams		
THE	Trading Hub Europe GmbH		
WGTH	W & G Transport Holding GmbH		

DISCLAIMER

This report contains forward-looking statements based on current assumptions and information available at the time of preparation. Factors that cannot be foreseen today may have a lasting effect on these forecasts and cause actual developments to differ from the estimates given here. We therefore take no responsibility for the accuracy of these statements. GASCADE assumes no obligation to update the forward-looking statements contained in this report beyond the statutory requirements or to conform them to future events or developments.

IMPRESSUM

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