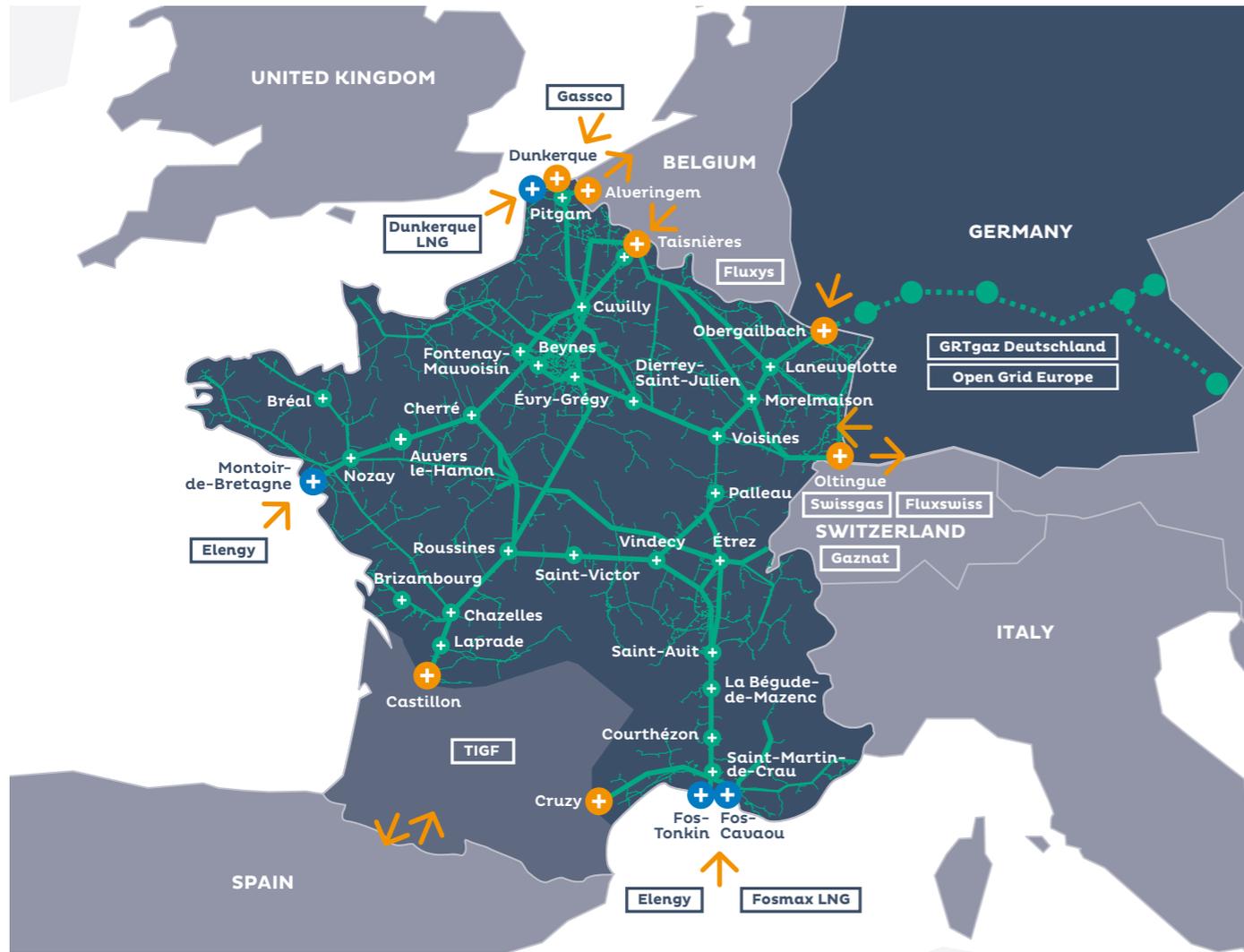




OVERVIEW
2019

GRTgaz, connecting the energy of tomorrow



GRTgaz transmission networks (March 2019)

- | | | | | | | | |
|--|--------------------------------|--|--|--|---|--|--|
| | Transmission network (France) | | 26 compressor stations (France)
598 MW of installed capacity | | 7 Interconnections with adjacent networks | | Direction of natural gas flow |
| | Transmission network (Germany) | | 6 compressor stations (Germany)
Participation in Megal (1,161 km of high pressure pipeline) | | 4 Interconnections with LNG terminals | | Adjacent transmission and LNG terminal operators |

GRTgaz services and develops the natural gas transmission network that covers most of France. It contributes to the energy security of the regions and performs public service missions to guarantee the continuity of supply to natural gas consumers:

- industrial sites directly connected to the transmission network;
- private individuals, local authorities and businesses served by the public distribution networks, themselves supplied by the transmission network.

The GRTgaz network enjoys a strategic position at the heart of the gas flows in Europe thanks to interconnections with neighbouring countries and a seaboard where it can receive natural gas from all over the world in gaseous or liquefied form in French LNG terminals.

GRTgaz thus contributes to the energy security of France and the smooth operation of the European natural gas market.

With more than 32,000 km of buried pipes, GRTgaz transports its customers' gas under the best conditions of safety, cost and reliability while preserving the activity of the regions, landscapes and biodiversity.

The commitment to energy transition is clear. GRTgaz contributes to this with innovative solutions for developing renewable gases, encouraging new uses in the mobility and boosting the synergies of electricity and gas systems.

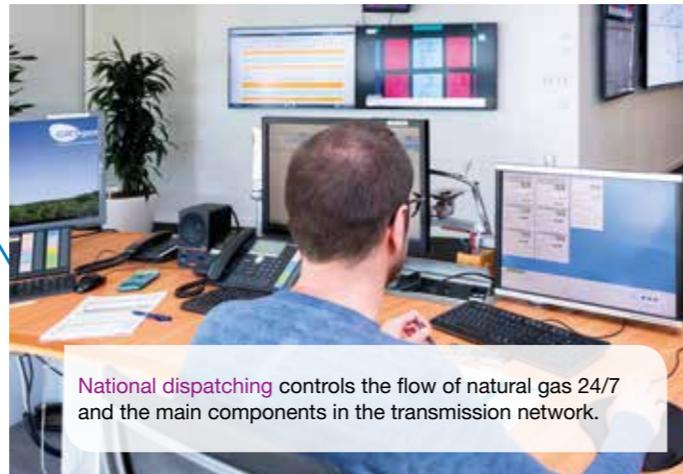




A discreet and efficient network



Gas pipelines made of steel from 80 to 1,200 mm in diameter, buried under a metre of soil, transport large quantities of natural gas.



National dispatching controls the flow of natural gas 24/7 and the main components in the transmission network.



Every 150 to 200 km, compressor stations equipped with compressors and measuring, control and safety systems, boost the pressure of the gas moving along the pipes.



On the surface, yellow terminals and markers indicate the location of the gas pipelines. The network is monitored continuously on the ground - on foot, in the air (aircraft, helicopters, drones), by car and even remotely from regional monitoring centres.

Open, participatory innovation.
GRTgaz runs projects with large manufacturing groups, research bodies and universities. In addition, with its call for projects system, the Open Innovation Factory, it actively develops its relationships with innovative start-ups, SME and micro-businesses. Maintenance, design, training, market applications, etc., digital technology is spreading to all areas. Every staff member can also contribute throughout the year to innovation by becoming involved in the search for solutions via a collaborative platform.

“Continuous monitoring on the ground - on foot and in the air”



Supported by gas infrastructures, ideally distributed all over France (LNG terminals, storage facilities), the transmission network stores huge quantities of energy, withstands the vagaries of climate (storms, cold snaps, etc.) and ensures solidarity between regions.



Commercial and operational excellence

Tailored and scalable services

The transmission capabilities marketed by GRTgaz on a European platform provide shipper customers easy access to the French markets and thus contribute to the fluidity of trading. GRTgaz assists industrial companies connected to its network thereby contributing to their competitiveness, particularly in the area of energy performance, but also ensuring a high level of reliability of delivery and continuity of supply. GRTgaz also supports, with the same objectives, projects for converting industrial sites to natural gas.

Focused on needs

GRTgaz engages in active consultation to assess the needs of users of the natural gas transmission network. It cooperates with the LNG terminal and underground storage operators in France and with the transmission companies of neighbouring countries to provide the best service and facilitate cross-border trading. Concerned to ensure optimal use of the existing infrastructure, GRTgaz develops the capacity of its network to increase the safety and competitiveness of gas supplies. For industrial consumers, GRTgaz develops solutions making access to the gas market easier to optimise their supply. Since 1 November 2018, France has had a single market area with the creation of the TRF (Trading Region France), which ensures a single wholesale gas price, a significant benefit for our industry.

A regulated activity

GRTgaz operates transparently within a regulated framework without discrimination towards its customers. The Energy Regulation Commission (CRE) sets the public use tariffs for networks, supervises its investments and verifies the quality of the service rendered. Today, the proportion of the final bill for a private individual with gas heating set aside for "transport" remains limited to 8% on average.

An integrated research centre: RICE

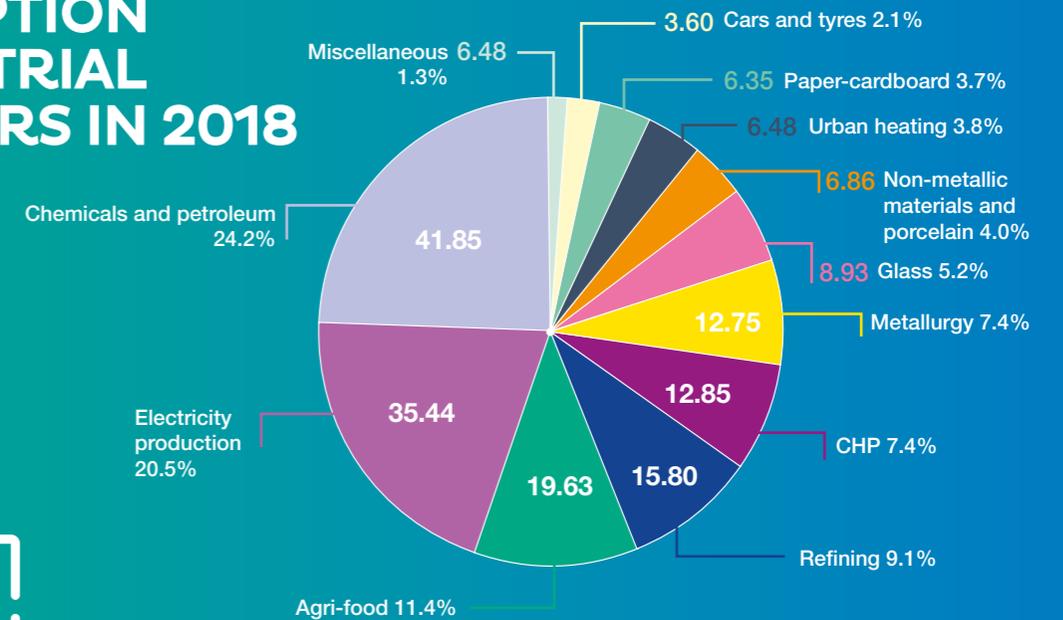
Since 1 January 2018, GRTgaz has had its own research centre, christened RICE (Research & Innovation Centre for Energy). The main research themes in this centre relate to industrial safety and operational excellence, but also cover the emergence of new gases and, renewable gas like biomethane, for example. RICE also continues to work and cooperate with international research bodies.

Fuel oil-gas and coal-gas conversion

Nearly 2.5 TWh of gas consumption are linked to the new conversions by industrial customers in 2018. Conversions since 2012 prevented the emission of 2.2 Mt of CO₂ in 2018.

CONSUMPTION BY INDUSTRIAL CUSTOMERS IN 2018

172.9 TWh
2018 vs 2017: -9%

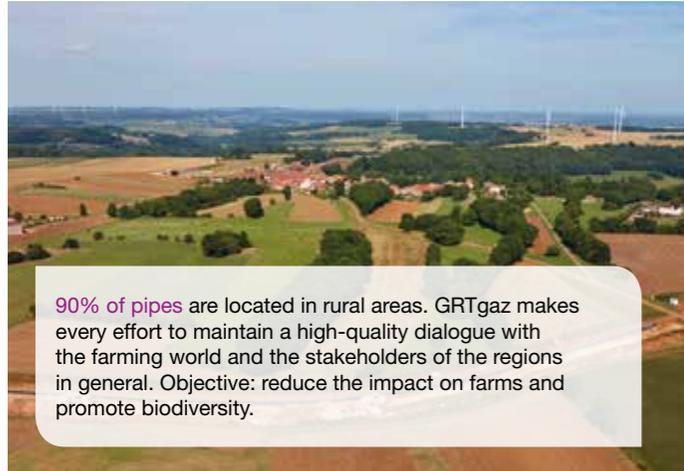


Breakdown of consumption by industrial customers in 2018 (in TWh and in %)



A responsible company

8



90% of pipes are located in rural areas. GRTgaz makes every effort to maintain a high-quality dialogue with the farming world and the stakeholders of the regions in general. Objective: reduce the impact on farms and promote biodiversity.



In 2018, GRTgaz invested €520 million to modernise and develop the network. In coordination with the stakeholders of the regions, it endeavours to maximise local positive impacts.



Gender balance, diversity and equal opportunities. In 2017, AFNOR renewed the GRTgaz Diversity Label granted in 2015 for its commitment to equal opportunities and non-discrimination.

GRTgaz supports regional stakeholders for successful energy transition by making data available and carrying out prospective studies in conjunction with the roll-out of new sectors (methanisation) and new uses (NGV, bioNGV stations).

“Maintain a high-quality dialogue with the farming world and the stakeholders of the regions”

9



Excavation work can damage pipes. To prevent this risk, GRTgaz marks their routes, informs local residents and holds meetings to recall the declaration obligations for proposed work (DT)*. GRTgaz provides support on the ground, free of charge to companies having declared their intention to start work (DICT).

*to declare your work projects, go to: www.reseaux-et-canalisations.gouv.fr



The energy of all possibilities

The GRTgaz transmission network provides solutions of the future to support the regions in the energy transition and encourage the development of new uses for gas.

NGV and bioNGV: ecological and competitive fuels

Natural gas vehicle (NGV) and bioNGV are excellent fuels in compressed or liquefied form. This fuel is an efficient solution for reducing greenhouse gas emissions and improving air quality in urban areas. Based on a mature technology and an expanding vehicle offering especially in the HGV, bus and coach sector, NGV and bioNGV provide competitive and flexible solutions for all fleet managers. GRTgaz encourages the emergence of these alternative fuels by promoting the development of the necessary infrastructures. There were 123 public fuelling points at end 2018. The Open Data Gas Mobility platform displays their locations.

Power to Gas: storing renewable energy

Power to Gas consists of converting renewable electricity into gas to provide a storage solution. In practical terms this means that wind and solar facilities produce electricity, but not always when consumers need it. Power to Gas uses this surplus electricity to produce hydrogen by water electrolysis. The hydrogen can then be combined with carbon dioxide (CO₂) to obtain synthetic methane, with identical properties to natural gas. The process also provides a recycling solution for carbon dioxide gas. The synthetic methane can then be injected into the gas transmission network. GRTgaz is planning the first injection of hydrogen during 2019, with the commissioning of the first industrial-size demonstrator in France - Jupiter 1000 - at Fos-sur-Mer.



Biogas, a local renewable energy

Produced from organic waste generated by farming or household waste, biogas has the same characteristics as natural gas and can be injected into the network. Once purified, this biogas becomes biomethane and can be injected into the gas networks. In 2018, 714 GWh were injected into all the French networks (+76%) and a total of nearly ninety sites are in service today, including 64% agricultural projects.

GRTgaz plans to connect five new biomethane units to its network in 2019 and is working towards expanding injecting capacities by adapting its installations. The first so-called "reverse flow" stations will be installed in 2019, reversing flow from the distribution network to the transmission network when there is insufficient consumption downstream. In addition, GRTgaz is working with various partners in developing pyro-gasification (gas obtained from materials with little or no fermentable potential, such as wood and plastic for example).





Beyond our borders

Research and cooperation

GRTgaz is opening up to international markets to export its know-how to countries with a growing gas industry: assistance to the Prime Contractor for construction projects; support in procedures of due diligence and in the asset buyout; consultancy and audit; technical services.

GRTgaz also cooperates, via RICE, with international research bodies like the Pipeline Research Council International (PRCI) and the European Gas Research Group (GERG).

GRTgaz Deutschland

Our subsidiary in Germany, GRTgaz Deutschland, operates the MEGAL gas pipeline linking the Czech Republic, Germany, Austria and France. This high-capacity artery passing through Germany from East to West plays a major role in routing gas towards France. The GRTgaz Deutschland network holds a strategic position in the European gas transmission system.

Elengy

GRTgaz holds **100% of the company Elengy**, the leader in LNG terminal services in Europe. Elengy operates and develops the terminals at Montoir-de-Bretagne (Atlantic seaboard), Fos-Tonkin and Fos-Cavaou (Mediterranean). It serves all energy suppliers who wish to import natural liquefied gas to supply the French and European markets.



Brussels

GRTgaz has set up a representative office in Brussels to promote gas and its infrastructures to European decision-makers better. Its programme includes: the role of renewable gas in the renewable energy directive, clean mobility, the review of the gas directive and the future of gas, which is due to be covered by a dedicated legislative package in late 2019. Its missions include: supporting the role of gas as a destination energy in an energy mix targeting carbon neutrality by 2050; drawing on GRTgaz projects for the future to show what natural and renewable gas can offer; sharing our vision of the role played by gas infrastructures to connect the energies of tomorrow.

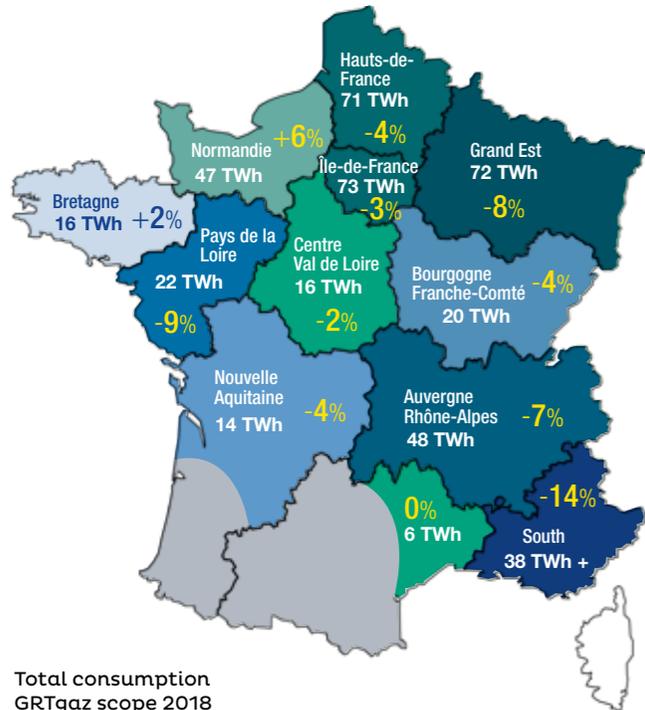


Key figures

Scope
GRTgaz France

Gas consumption in the GRTgaz network

In TWh
2018 us 2017 in %



Total consumption
GRTgaz scope 2018
442 TWh

NETWORK

Pipelines



Total length **32,548 km**
as of 01/01/2019



Minimum diameter
80 mm

Maximum diameter
1,200 mm

Network pressure

74% of the transmission network is operated
at a maximum pressure of **67.7 bar**

16 bar
Minimum pressure

95 bar
Maximum network
pressure



Stations Delivery stations



3,389
public distribution
stations

991
industrial consumer
stations

770
Regulating
stations

4,813
Sectioning/cut-off stations

Odourisation

Figures at end 2018



32
Sites and installations

- Odourisation testing **sites** including **31 operated** by GRTgaz
- **Odourisation installations** (injection UHT + testing) in **25 sites** including **12 operated** by GRTgaz and **6** in biomethane stations

Compression



26
Compressor **stations**

Main structures commissioned in 2018

→ Commissioning of
Val de Saône pipeline

4 biomethane
projects
commissioned

SAFETY OF PIPELINES

Control of third party work

83,849
Number of DT⁽¹⁾ + DICT⁽²⁾ received
and processed by GRTgaz in 2018

79,259
Number of DT + DICT
involving GRTgaz

Incidents due to third party work:

2
2018

4
2017

4
2016



(1) Work Project Declaration
(2) Declaration of Intent to Start Work

QUANTITIES OF NATURAL GAS TRANSPORTED

645.68 TWh
in 2018

Customers

150
shipper customers
at end 2018



742

19
distribution network
operators connected

industrial customers active in 2018,
including **13** electricity-generating **plants**
consuming natural gas at end 2017

Human resources

Number of GRTgaz France employees: 3014
(Statutory electricity and gas active workforce, excluding
collective agreements classed as non-statutory)



709
Women



2,305
Men

Investment 2018

€520M

2018 financial results

Financial data (consolidated data
in IRFS standards, in GRTgaz France
scope) - In €M

€1,884M
Revenü

€1,051M
EBITDA

€308M
Net income from
recurring operations



Health and safety at work (2018)



0.5
Frequency rate

12.0
Extended
frequency index

0.02
Severity rate

4.4
Frequency rate outside
contractors providing
services for GRTgaz

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