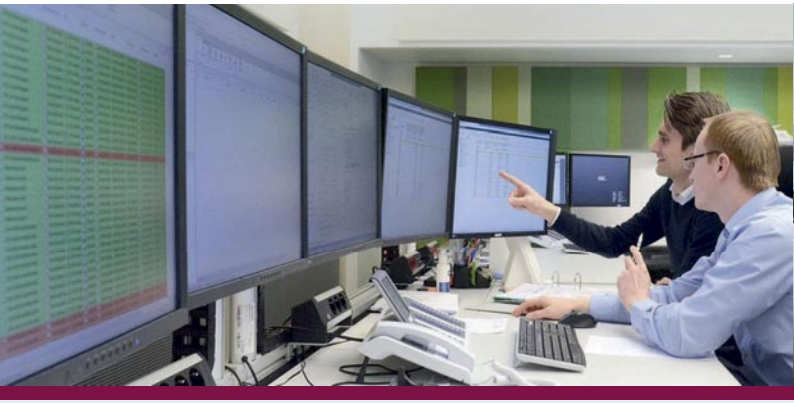
GASCADE

THE GAS COMPRESSOR STATION RÜCKERSDORF

GAS FOR EUROPE

On the path to climate-neutral supply with renewable energies, the gas market is changing: Declining natural gas production within Europe, the diversification of supply sources, and the development of new sources such as hydrogen and climate-neutral gases are issues that also concern GASCADE. In line with the climate targets, we are already developing approaches to make our pipeline network in the middle of Europe fit for the energy future. We take natural gas and climate-neutral gases to where they are needed. Our system receives the gas from transit pipelines at Germany's borders and transports it reliably to consumers in Germany and Europe. We directly connect a total of five European countries, thus making a significant contribution to supply security, both now and in the future.

PRESSURIZING GAS



From the source to where it's used, the gas travels many thousands of kilometers in pipelines measuring up to 1.4 meters in diameter. During this journey it loses pressure as the molecules rub against each other and the inside of the pipe.
To keep the density and hence the transport speed of the gas constant, it is compressed in gas compressors.
These are the core of of the eleven GASCADE compressor stations that are spaced at around 250 kilometers apart in the pipeline network.

What happens in the compressor?

Several impellers are securely arranged behind each other on a rotating, cylindrical shaft in a steel casing and rotate at a speed of up to 3,600 and 10,300 revolutions per minute. This spins the molecules of the inflowing gas outward, thus compressing them more densely together. The compressors are driven by gas or electric motors located in enclosures in compressor houses for the purpose of noise control. The gas' volume is reduced when it is compressed. That means more energy can be transported through the pipeline. The pipeline's capacity increases – and so does supply security for customers.

RÜCKERSDORF COMPRESSOR STATION

It is located at a node: The Rückersdorf compressor station in Thuringia is where two of major natural gas pipelines, JAGAL (Yamal Gas Pipeline Link) and STEGAL (Saxony-Thuringia Gas Pipeline), converge. More than 338 kilometers long, JAGAL connects the network operated by GASCADE to JAMAL, while STEGAL transports the gas westward.

Flexible flow direction

Like a train switching yards, the Rückersdorf station can effectively send the gas in all directions: from east to west, west to east, or even northward. It also supplies gas directly to GASCADE customers. A total of up to three million cubic meters of gas an hour can pass through the station. By comparison: The average household uses roughly 2,700 cubic meters per year.

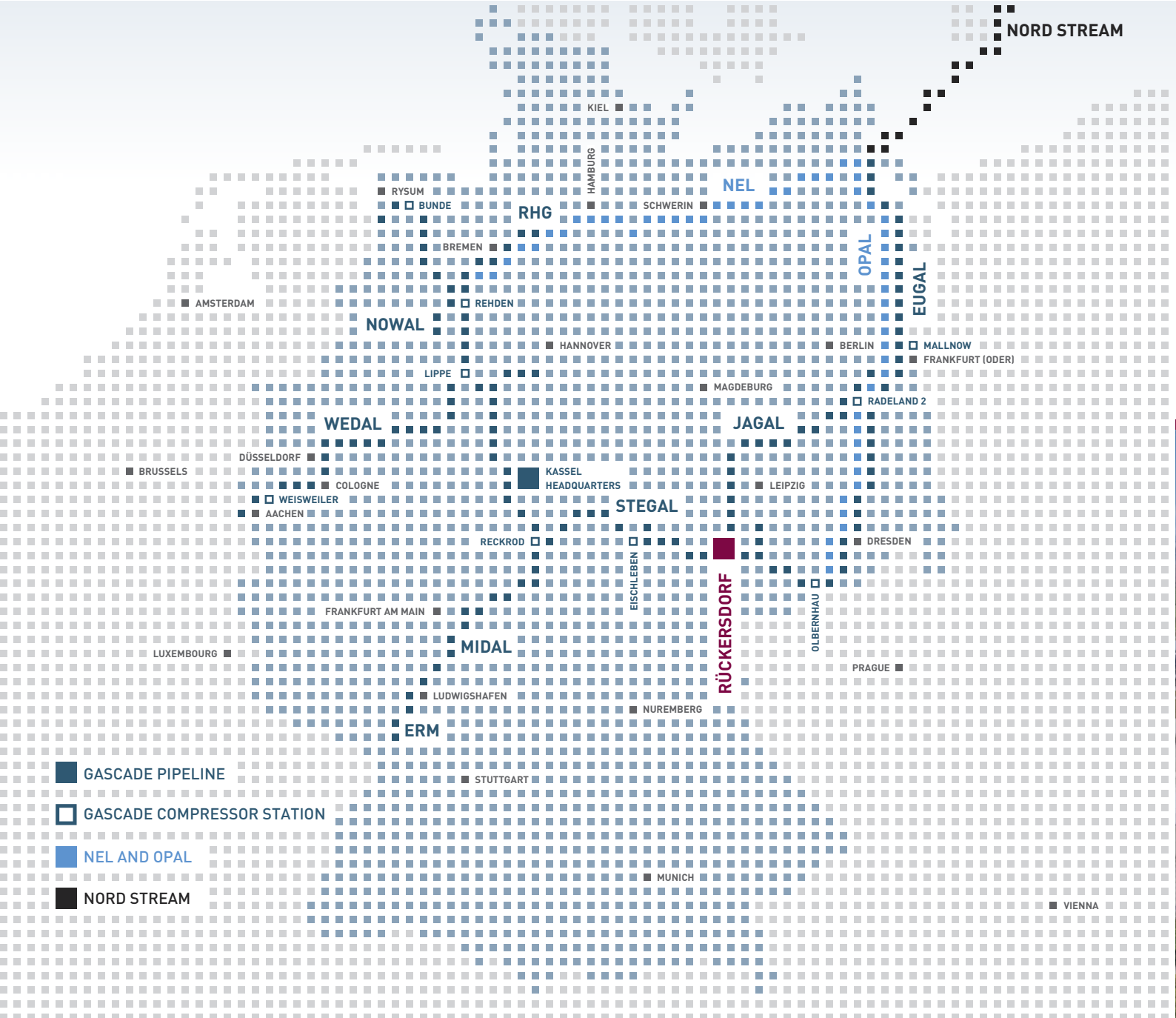
The employees control the quantities and the pressure at all times. They are the ones who ensure overall that everything runs safely and smoothly on site. The site covers ten hectares and has three compressor buildings, a gas pressure control system, a utility and operations building and a workshop.

TECHNICAL INFORMATION

1 Fuel gas conditioning	4 Intake filters
2 Service building	5 Gas coolers
3 Warehouse and workshop	6 Compressor buildings

TECHNICAL DATA	
Compressor output	76.2 megawatts (3 x 25.4 MW)
Number of compressors	3
Type of drive	FT8 gas turbine
Max. operating pressure	100 bar
Capacity (m^3/h at normal conditions)	2.20 million
Commissioned in	07/99

GASCADE'S PIPELINE NETWORK



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