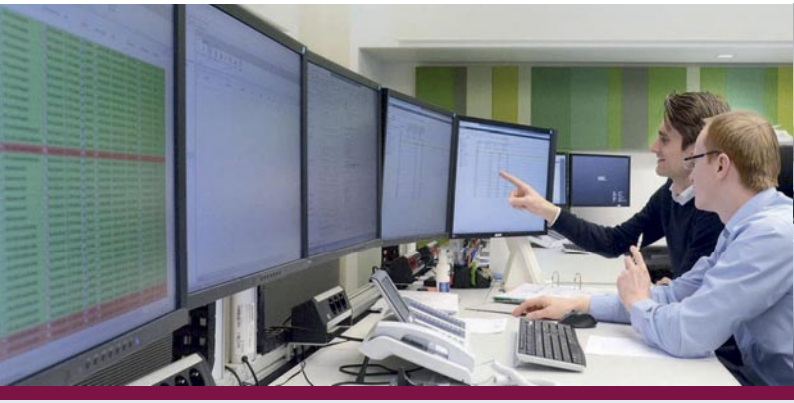
GASCADE

THE GAS COMPRESSOR STATION RÜCKERSDORF

NATURAL GAS FOR EUROPE

On the path to climate-neutral supply with renewable energies, in other words, solar, wind and water, gas plays an important supporting role in Europe, since it acts as a bridge, scoring points with its large reserves, low emissions and secure transport routes. And GASCADE guarantees the latter: We make sure that gas within Germany's borders reliably reaches its respective destinations. After all, while both industrial and private demand for gas is going up, the production volume within Europe is going down. That's why gas in our pipeline network moves from the major sources in Russia and Northwest Europe both to consumers in Germany and its neighboring countries of Belgium, France, the Netherlands, Poland and the Czech Republic, and on to Southeastern Europe.

PRESSURIZING GAS



From the source to where it's used, natural 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 natural 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 natural gas an hour can pass through the station. By comparison: The average household uses roughly 2,700 cubic meters per year.

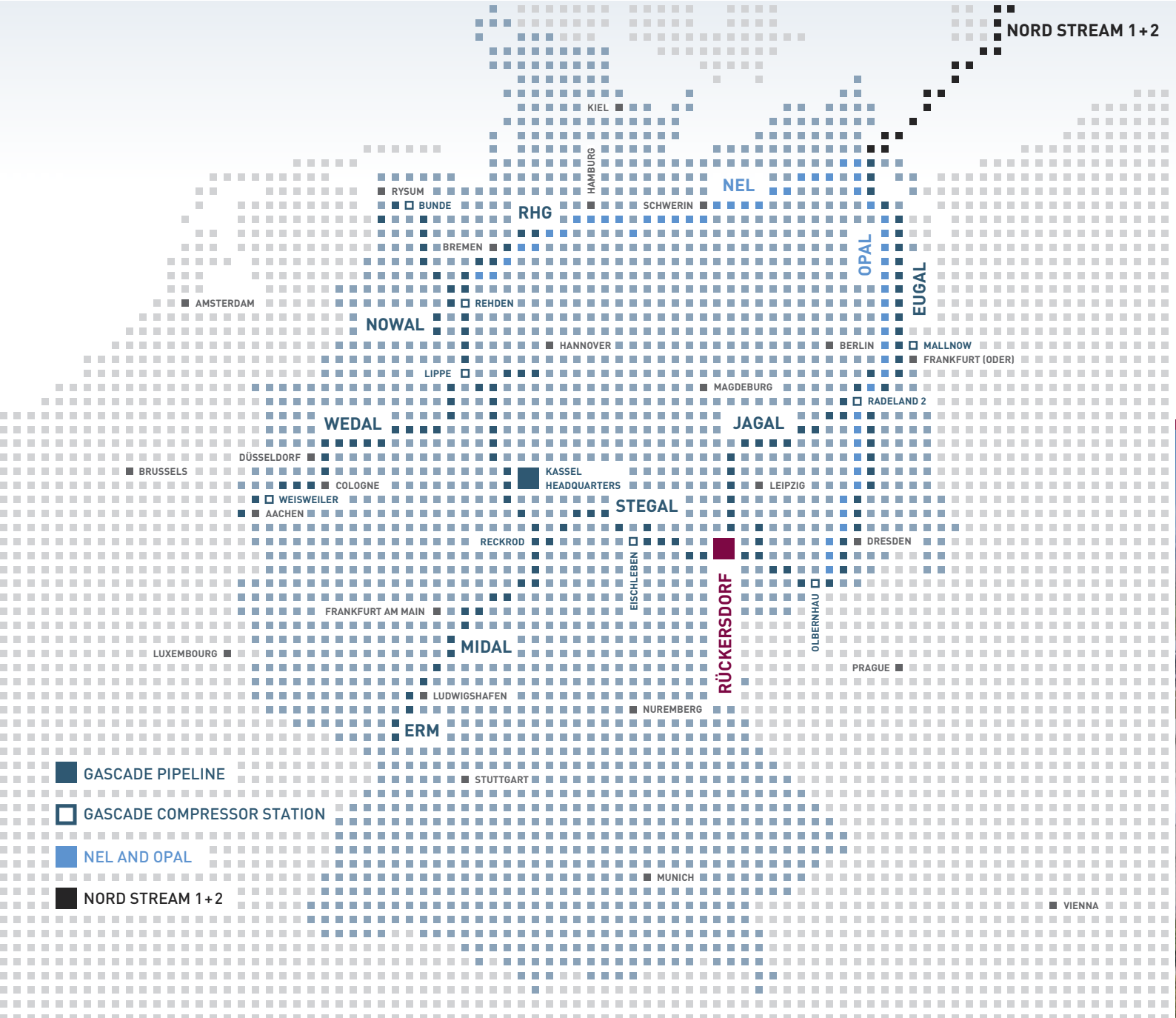
The employees control the quantities and the pressure at all times. They are the ones who ensure overall that everything runs safely and smoothly on site. The site covers ten hectares and has three compressor buildings, a gas pressure control system, a utility and operations building and a workshop.

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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