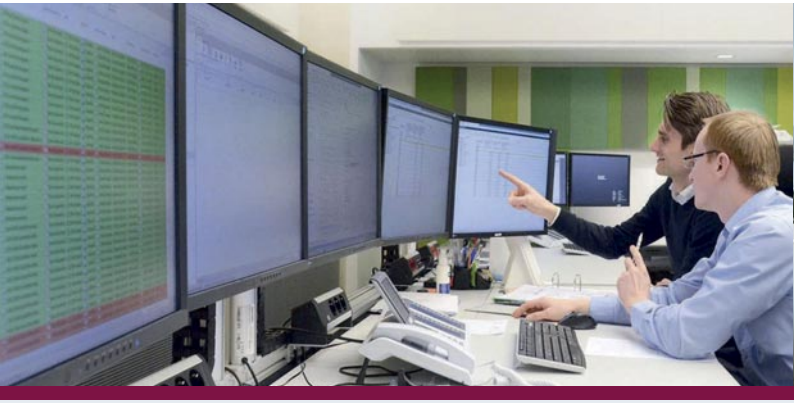
GASCADE

THE GAS COMPRESSOR STATION RECKROD

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.

RECKROD COMPRESSOR STATION

The Reckrod compressor station near Fulda is located in the center of Germany and hence at the center of the GASCADE pipeline network. The station is where the STEGAL (Saxony-Thuringia Gas Pipeline Link), MIDAL South and MIDAL Central (Central Germany Pipeline Link). From here, the gas can be transported in all directions. The maximum flow rate is two million cubic meters of natural gas per hour. By comparison: The average European household uses around 2,700 cubic meters per year.

Expertise and know-how, no compromises

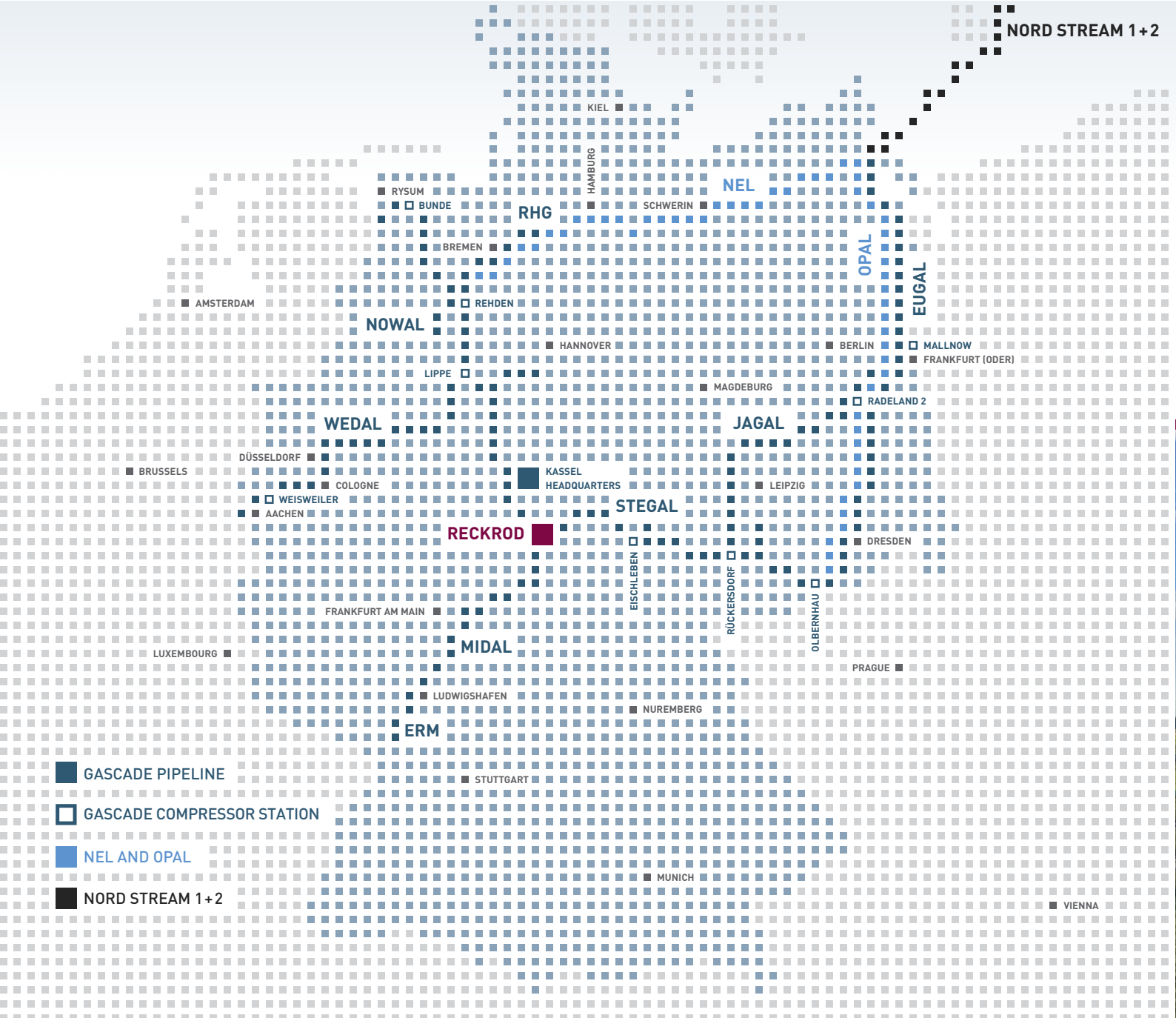
GASCADE employees on site have already been making sure that the station runs smoothly since 1994. It currently has five gas turbines with a total compressor output of 76 megawatts. The maximum operating pressure is 90 bar. Alongside the compressor units, the technical facilities include various gas pressure control and measuring systems, and intake filters. The site covers 4.3 hectares and has three gas compressors, a utility and an operations building, and a workshop. In addition, the GASCADE employees also look after sections of the MIDAL and STEGAL pipelines covering a length of 300 kilometers. A team is also responsible for the fiber optic cables that run parallel to the pipeline are are used, among other things to monitor the GASCADE network.

TECHNICAL INFORMATION

1 Service building and workshop
2 Fuel gas conditioning
3 Compressor buildings
4 Gas coolers

TECHNICAL DATA	
Compressor output	75.8 megawatts (4 x 12.6 MW and 1 x 25.4 MW)
Number of compressors	5
Type of drive	Gas turbine THM 700, gas turbine FT8
Max. operating pressure	90 bar
Capacity (m^3/h at normal conditions)	1.91 million
Commissioned in	08/94 (THM), 04/05 (FT8)

GASCADE'S PIPELINE NETWORK



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