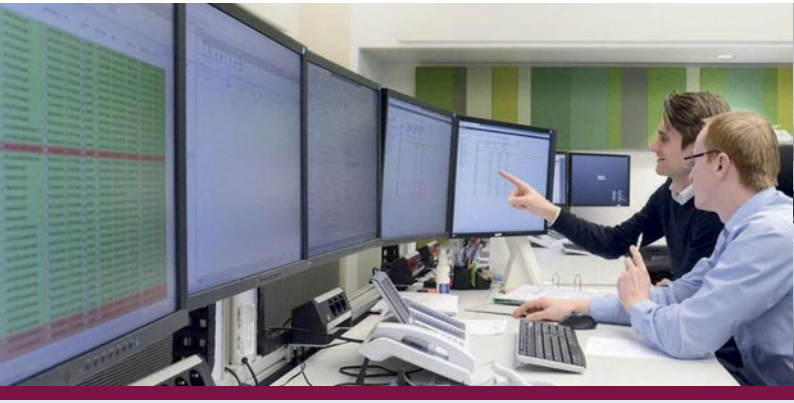
GASCADE

THE GAS COMPRESSOR STATION OLBERNHAU

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.

OLBERNHAU COMPRESSOR STATION

Located on the fringes of the Central Ore Mountains in Saxony, the Olbernhau compression station with its three gas turbines ensures the pressure required in STEGAL (Saxony-Thuringia Gas Pipeline). At the site, covering 50,000 square meters, the gas is measured, dried, and then transported onward. Gas can be imported from the Czech Republic, as well as exported to it. Up to 1.6 million cubic meters of gas an hour can flow through our pipelines. By comparison: The average household uses around 2,700 cubic meters per year.

Olbernhau, which is located in the Flöha river valley, was GASCADE's first compressor station. It was put into operation when STEGAL came on stream in October 1992. STEGAL is 314 kilometers in length and connects Olbernhau with MIDAL (Central Germany Pipeline Link) near Reckrod in Hesse.

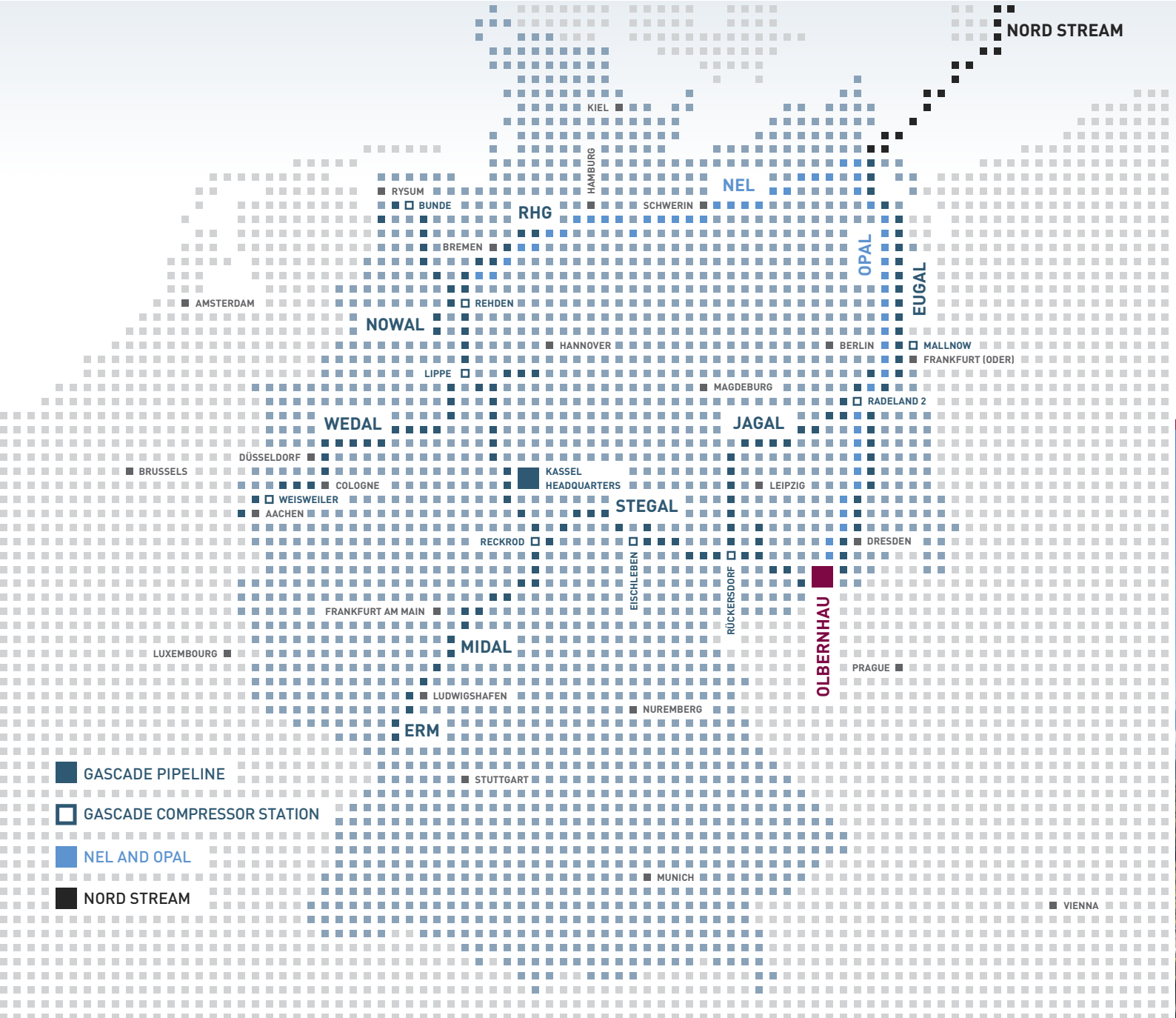
Our Pipeline Service East unit is located in Olbernhau. From here, our employees control and maintain STEGAL, JAGAL, OPAL, NEL and EUGAL. At the site – alongside the compressor buildings – are a gas drying plant, an import- and export metering station, a utility and an operations building, and a workshop.

TECHNICAL INFORMATION

1 Fuel gas conditioning
2 Operations building
3 Warehouse and workshop
4 Gas drying plant
5 Intake filters
6 Measurement building
7 Gas coolers
8 Compressor buildings

TECHNICAL DATA	
Compressor output	28.35 MW (3 x 9.45 MW)
Number of compressors	3
Type of drive	Gas turbine THM
Max. operating pressure	90 bar
Capacity (m^3/h at normal conditions	1.6 million
Commissioned in	10/92

GASCADE'S PIPELINE NETWORK



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