

# THE BAUMGARTEN GAS STATION

## NEED-TO-KNOW INFORMATION ABOUT GAS

Thanks to new technologies such as power-to-gas, it is now possible to produce hydrogen or synthetic gas from excess solar and wind power. The advantage of this conversion is that – unlike electricity – these gases can be stored for a long time and in the required quantities. These renewable gases can be stored in existing gas storage facilities – international and domestic research projects are already delivering promising results. Another form of green gas can be extracted from renewable and biogenic raw materials – namely biogas. Residues from agriculture, sewage

sludge or biowaste from households can be used for the production of biogas. The existing and well-developed gas infrastructure can be used cost-effectively for the transportation and storage of renewable gas.

As a substitute for coal, natural gas is already making a drastic contribution to the reduction of CO<sub>2</sub>. In the future it will itself become a climate-neutral energy source and will thus become part of the energy transition.



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Energy, everywhere.

# THE BAUMGARTEN GAS STATION

is Austria's largest reception point and the main distribution hub for imports from Russia, Norway and other countries.

### Commissioned/Milestones:

- 1959** Baumgarten gas facility
- 1968** First gas shipment from Russia
- 1974** Trans Austria Gas Pipeline
- 1978** Süd Ost Gas Pipeline
- 1980** West Austria Gas Pipeline
- 1988** TAG II
- 1996** Hungaria Austria Gas Pipeline
- 1996** Penta West Gas Pipeline
- 1998** Gas imports from Russia pass the 100 bcm
- 2001-2005** TAG Loop 2
- 2013** WAG Expansion 3

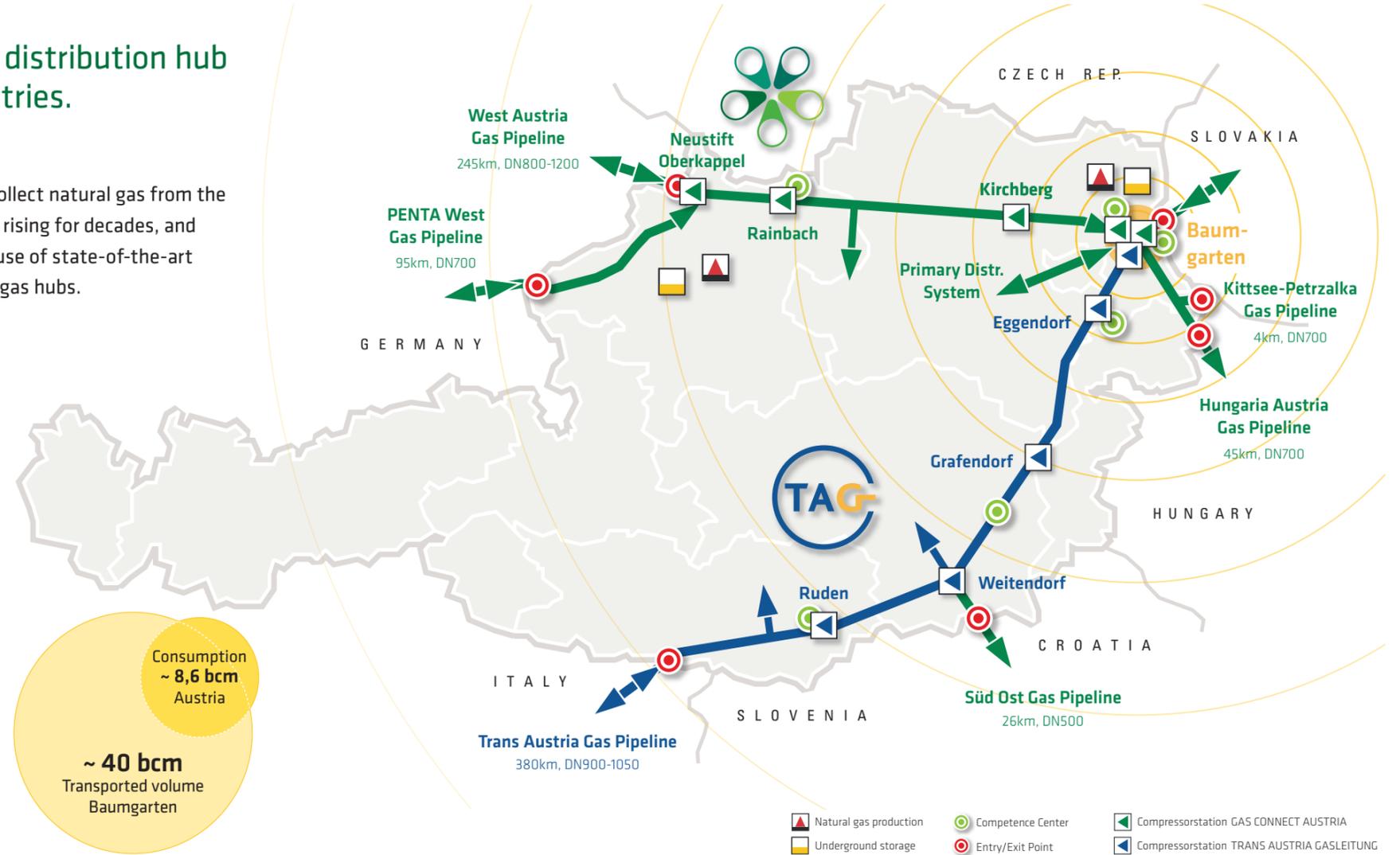
Several cross-border pipelines transport natural gas across the Slovakian border to Baumgarten. Via the West Austria Gas Pipeline (WAG) and the Penta West natural gas reaches Baumgarten via Germany. Gas flows are delivered to domestic and international business partners via Austria's 2,000 km transmission and Primary Distribution System. Gas Connect

The Baumgarten gas station was originally built in 1959 to collect natural gas from the Zwerndorf field. Demand for natural gas in Europe has been rising for decades, and thanks to its location at the heart of the continent and the use of state-of-the-art technology, Baumgarten is one of Europe's most important gas hubs.

Austria operates the entire network, with the exception of the Trans Austria Gas Pipeline (TAG). The WAG can transit gas both from east to west, and from west to east, meaning that it can supply Germany and France, as well as Austria and Central and Eastern Europe. The Penta West Gas Pipeline branches off from the WAG to southern Germany, and has likewise had bidirectional capability since 2011. Operated by Trans Austria Gasleitung GmbH, the TAG, which also starts in Baumgarten, and the Süd Ost Gas Pipeline systems carry supplies to Croatia, Italy and Slovenia. Supplies to Hungary travel along the Hungaria Austria Gas Pipeline in eastern Austria. The

March Baumgarten Gas Pipeline links Slovakia's LAB gas storage facility with the Baumgarten hub. The Kittsee-Petrzalka Gas Pipeline runs from Berg/Kittsee to the Slovakian border. The Primary Distribution System is used exclusively for domestic supplies, delivering natural gas to Vienna and Lower Austria.

The expansion and modernisation of infrastructure, and the possibility of links to planned international pipeline projects will strengthen Baumgarten's position in the future, as well as securing energy supplies for Europe.



Transported volume vs. consumption 2019

## TURNING UP THE PRESSURE

### 1 TRANSPORTATION

Natural gas shipments cover a distance of up to 4,000 km before arriving at Baumgarten. The gas flows through steel pipes 1.2 metres below ground. It can be neither seen nor heard, and transportation is completely unaffected by the weather.



### 2 CLEANING

The incoming gas is purified by removing all solids and liquids. It is cleaned by filter separators, and then subjected to quality tests.



### 3 METERING

The precise quantity of gas is determined at metering stations. The data are recorded and transmitted to the Vienna headquarters. Gas quality is permanently monitored by latest gas chromatographs. The gas flows are controlled by the dispatching centre in Vienna.



### 4 COMPRESSION

The gas is compressed to 70 bar at compressor stations, which are driven by modified aircraft turbines. Alternatively, highly efficient and environmentally friendly electric compressors are also used.



### 5 COOLING

Compression causes the gas to heat up, so it must pass through a bank of gas coolers.



### 6 DEHYDRATION

Water vapour is removed from the gas in dehydration columns, using the glycol process. Glycol is a liquid with excellent moisture absorption properties.



### 7 MAINTENANCE

Natural gas pipelines are regularly inspected, maintained and cleaned. Cleaning or "intelligent pigs" are inserted in the pipeline through so-called "pig traps" and propelled along the pipeline by the gas flow.



### 8 THE NEXT LEG

The natural gas is now ready for the next leg of its journey. After leaving the compressor station, it is shipped to Austrian distribution companies or to neighbouring countries.

