

## **bayernets**

### **Committed to a future with green gas**

Our gas infrastructure means that we are an ideal partner for shaping the energy transition. Below you can read more about our activities that support a future with green gas.

#### **What is green gas?**

Green gas originates from renewables and is produced from wind, solar and biomass sources. Due to the significant reduction in CO<sub>2</sub>, green gas contributes to efficient climate protection and is thus an essential pillar for shaping the energy transition. Today, as a transmission system operator, we can already deliver green gas to our customers through our existing gas grid.

#### **Fields of activity for green gas**

In order to prepare the existing world of energy for challenges the future will bring, a number of areas are in focus:

- The energy system of the future can only be achieved by means of intelligent **sector coupling**. This includes electricity, heat and gas grids along with the mobility sector. A holistic and open approach comprising all technologies and innovative energy sources with integrated solutions including the existing gas infrastructures makes sense and is a basic requirement for achieving the energy transition and climate protection targets by 2050.
- Using existing gas infrastructures, the **transmission and storage** of green gas is already possible today. Power-to-Gas technology means that wind energy, converted into gas by means of electrolysis, can be stored and easily transmitted. A procedure that will contribute to continuously increasing the share of climate-neutral gas in future. The generation of electricity and the heat market offer great potential for reducing CO<sub>2</sub> emissions. Gases and gas pipelines are opening up vast energy storage potential for the energy transition. Gas can be successfully stored over longer periods of time and can complement short and medium-term power storage devices. Existing gas infrastructures are therefore ideal partners for renewable energy sources. Integrating the gas infrastructure also significantly reduces the need for further expanding the electricity pipelines from 2035.
- By using **gas-fired power plants** far less greenhouse gas will be emitted compared to coal-fired power stations. They provide a reliable source of electricity and the flexible way gas-fired power plants can be operated means they can be effectively combined with renewable energies.
- Climate protection is possible in the **heat market** by using gases combined with modern heating technology. Modern gas heating systems can be operated using green gases without having to make technical changes to the system.

- Emissions can be reduced quickly and cost-effectively by using gas in the area of **transportation**. By simply merging various technologies and drive systems, challenges posed by energy and climate policies can be solved. Everywhere where heavy loads have to be transported over vast distances, gas and liquid fuels produced from gases can prove their potential for climate protection.
- Including the gas infrastructure is a prerequisite for guaranteeing **security of gas supply** at its hitherto high level – especially in extremely cold periods and periods when solar and wind power generation is low.

### **Our activities**

Our company is already involved in several green gas initiatives and is actively working on studies regarding the shaping of the energy world of tomorrow. Find out about how the energy transition can succeed by integrating green gas:

#### Intelligent sector coupling with gas:

- ▶ As a member of the association of transmission system operators (FNB Gas), *bayernets* stands for intelligent sector coupling with gas. We invite you to read here the study of the FNB Gas “The Value of the Gas Infrastructure for the Energy Transition” (in German): <https://www.fnb-gas.de>

#### Integrated energy transition:

- ▶ *bayernets* is a partner of the dena pilot study Integrated Energy Transition. Further information (in German) is available at: <https://www.dena.de/de/integrierte-energiewende/>