

**Energy** National Research Programmes 70 and 71

## Card

The gas grid





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# Market # Energy grids # Europe / EU # Energy storage

## The gas grid



**Gas grid.** Source: www.iet.hsr.ch/fileadmin/user-upload/iet.hsr.ch/power-to-Gas/Kurzberichte/05\_erdgasinfrastruktur\_Schweiz.pdf

Natural gas covers 14 % of Swiss final energy consumption. Domestic natural gas reserves are too small for economically viable extraction; only around 1 % of the gas fed into the grid originated from domestic biogas production in 2017.<sup>1</sup> Natural gas has to be fully imported – primarily from the EU, Russia and Norway. The gas is imported via 16 border crossing points via which Switzerland is connected to the European gas transport grid.<sup>2</sup> Natural gas is currently supplied to more than 900 municipalities by 120 local providers.

The gas grid also has a hierarchical structure: in 2016, the transport grid with a pressure of more than 5 bar comprised pipelines with a length totalling 2,243 kilometres; the distribution grid with pressures of under 5 bar is around 17,500 kilometres long. Pressure reduction stations ensure that natural gas has a pressure of less than 1 bar when it is received by energy consumers. Some 145 natural gas service stations supply energy to gas-powered means of transport, while 27 biogas plants make a domestic contribution to the gas supply. The gas grid is not comprehensive – certain mountain regions are not connected. There is no basic service mandate in place for gas.

Six smaller natural gas storage facilities serve as a grid buffer in order to balance out fluctuations in daily requirements. The storing of larger quantities of gas in the natural gas grid is not planned. Among other reasons, this is because the geological conditions for underground and pore storage facilities are lacking. In Europe, the largest natural gas reserves are stored by Germany and Italy. These reserves are primarily used as a store of value: the natural gas is purchased at low prices during the summer and stored – and resold



in winter at higher prices when there is significant demand. Gas storage could also become an issue in Switzerland in future as "power-to-gas" solutions allow sustainably produced electricity to be converted into gas and to be stored for as long as necessary.

## Notes and References

1 https://gazenergie.ch/de/news-events/news/detail/news/11-prozent-mehr-schweizer-biogaseingespeist/

2 Erdgas/Biogas in der Schweiz. Ausgabe 2018. VSG-Jahresstatistik.