

Annual Report

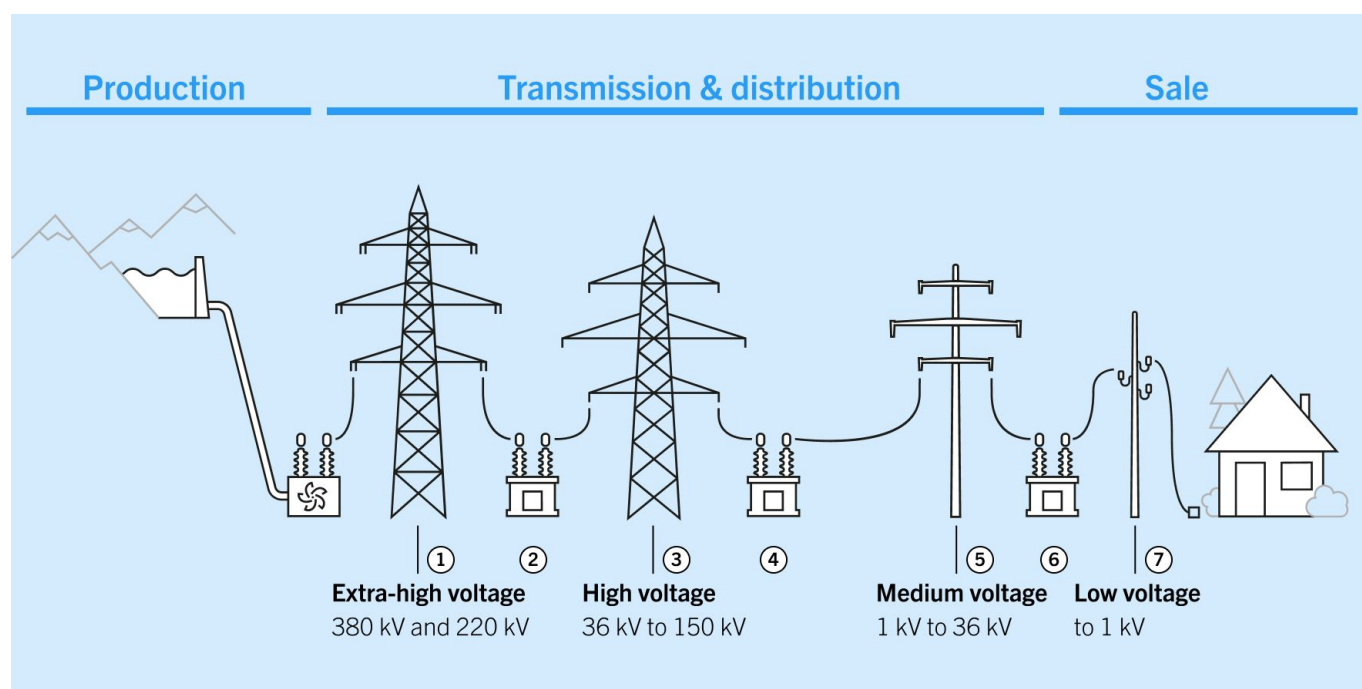
Company

GRI 2-6

Swissgrid is the national grid company and owner of the Swiss extra-high-voltage grid. Its mandate is governed by the Electricity Supply Act (ESA, SR 734.7) and the Electricity Supply Ordinance (ESO, SR 734.71). The Federal Electricity Commission (ElCom) monitors compliance with these regulations. Swissgrid is responsible for the operation, maintenance, renewal and expansion of the Swiss transmission grid. In doing so, the company makes an important contribution to security of supply in Switzerland.

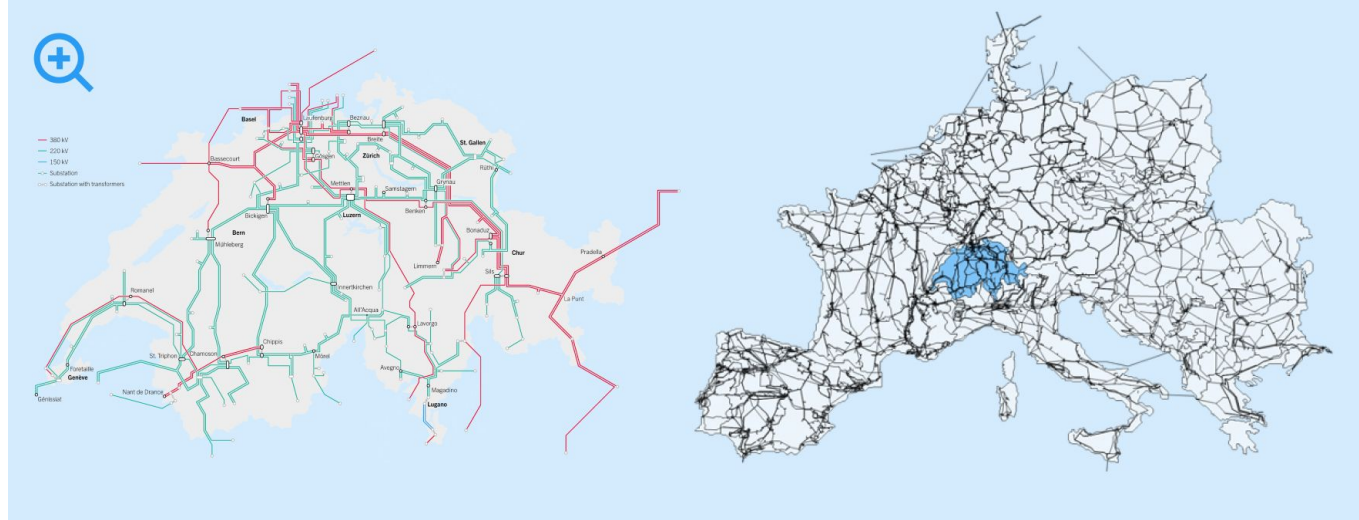
Value chain of the Swiss electricity industry

The Swiss transmission grid is a relevant part of the supply chain for the Swiss electricity system. This is made up of four areas: electricity generation, transmission, distribution and sale. Electrical energy is transmitted and distributed via a total of seven grid levels. These are the extra-high, high, medium (1, 3 and 5) and low-voltage levels (7), and three connecting transformer levels (2, 4 and 6). Immediately after being generated in large power plants, electrical energy is fed into grid level 1, the transmission system. The following grid levels take care of the national, regional and local distribution of electricity as far as the power outlet, and transform it as required. Given the increase in decentralised energy production, the feed-in to the grid, for example of energy from photovoltaic plants, is increasingly taking place via the distribution grids.



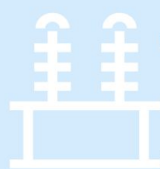
Swissgrid is responsible for grid level 1 and therefore for the secure transmission of large volumes of electrical energy over long distances. The Swiss transmission grid consists of 380 and 220 kilovolt lines extending over a length of 6,700 kilometres and supported by more than 12,000 electricity pylons. For the extra-high-voltage grid to function smoothly, it needs an elaborate infrastructure consisting of perfectly harmonised components. These include the two grid control rooms in Aarau and Prilly, 125 substations with a total of 147 switchgears and 25 transformers, as well as protection and station control technology.

The transmission system in 2024



In addition to the domestic transmission of electricity, the Swiss transmission grid also enables the import, export and transit of energy. With 41 international connection lines, it is closely integrated into the European interconnected grid. The Swiss transmission grid plays an important role in the cross-border transport of electrical energy throughout Europe. Today, the European interconnected grid guarantees a secure supply of electricity for more than 530 million consumers in over 30 countries.

Key figures: the transmission system in 2024



147

switchgears

6,700

kilometres long



2

grid control rooms

Voltage of **380** and **220** kilovolts



12,000

electricity pylons

41

cross-border lines



7

locations

GDI 2-1

The missions of the national grid company

In accordance with the Electricity Supply Act, Swissgrid ensures the non-discriminatory, reliable and efficient operation of the transmission system at all times as an essential basis for the secure supply of electricity in

Switzerland. At the grid control rooms in Aarau and Prilly, the company ensures that the system frequency of 50 hertz is constantly maintained and that electrical energy is transported safely. Swissgrid also coordinates the schedules of Swiss power plant operators and electricity traders, eliminates and minimises congestion and prevents overloads in the grid.

The company is responsible for the planning, replacement, expansion, maintenance and repair of the entire extra-high-voltage grid infrastructure. Swissgrid invests not only in the operation and modernisation of the grid to ensure grid-related security of supply, but also in market development. It helps to develop trading platforms for control energy and ensures cross-border capacities for energy exchange.

Due to the close integration of the Swiss transmission grid with the European interconnected grid, Swissgrid has an important role to play in Europe. As Coordination Centre South, it ensures smooth system management with European transmission system operators by monitoring the frequency of the European extra-high-voltage grid in association with the German transmission system operator Amprion (Coordination Centre North). Swissgrid is involved in the coordination of operational security processes and the European exchange of electricity.

It also helps plan pan-European grid expansion. Swissgrid works with foreign transmission system operators and represents Switzerland's interests in the corresponding bodies.

From now on, Switzerland will be included in the capacity calculation for transnational electricity trade in Central Europe. Swissgrid and the transmission system operators in the «Core» region have signed a corresponding agreement, which was approved by the applicable regulatory authorities in the reporting year (see the «Year in review» section).

Establishment as the Swiss transmission system owner

Swissgrid was founded in 2005 in view of the gradual liberalisation of the Swiss electricity market with the aim of harmonising and centrally operating Switzerland's transmission system. Prior to that, different electricity grid companies were simultaneously responsible for power transmission in Switzerland. Since 2008, the Electricity Supply Act (ESA) has stipulated that the transmission system must be owned by the national grid company. As the national grid company, Swissgrid has been in charge of the operation and safety of the extra-high-voltage grid since 2009.

Swissgrid took over ownership of the grid in 2013 and has since been responsible for its maintenance and expansion. Swissgrid's headquarters are located in Aarau, while the redundant site is in Prilly. Swissgrid also operates bases in Castione, Landquart, Laufenburg, Ostermundigen and Uznach.

Business activities in a strictly regulated environment

Swissgrid operates in a strictly regulated environment (see the «Regulatory business model» section). Providing consumers with a secure supply of electricity is in the public interest and requires a reliable and efficient infrastructure. On account of its economic characteristics, the grid also represents a natural monopoly, which is recognised as a legal monopoly under ESA and ESO. Consequently, there is an undisputed need for regulation to ensure a grid infrastructure and grid management that are as efficient as possible. This task is performed by the Swiss Federal Office of Energy SFOE and – as the supervisory authority for the implementation of ESA and ESO – the Federal Electricity Commission (ElCom). In accordance with the law, Swissgrid is established as a public limited company under private law with its registered office in Switzerland. The grid company must also ensure that the majority of its capital and the associated voting rights belong directly or indirectly to the cantons and municipalities (see the «Corporate structure and shareholders» section).