

## **Factsheet**

### **Grid of the future – grid development at Swissgrid until 2040**

**Date** 30 April 2025

The grid is the backbone of our country's secure energy supply. Due to the expansion of solar and wind energy, utility power generation is becoming increasingly decentralised and volatile. At the same time, electricity consumption is rising as a result of electrification. Further grid development is therefore required. Swissgrid is planning the grid of the future and will invest CHF 5.5 billion between now and 2040.

#### **What does the «grid of the future» consist of?**

The «grid of the future» comprises 31 grid projects. They include grid enhancements, the construction of new lines, the installation of additional phase-shifting transformers and the renovation of existing infrastructure (see overview map overleaf).

#### **Why does Switzerland need a «grid of the future»?**

The current transmission grid will no longer be sufficient to meet future requirements. It must be made more efficient, more flexible and more intelligent. The energy transition poses new challenges for the electricity system:

- Decentralised production with more photovoltaic and wind power, leading to a fluctuating electricity supply
- Higher electricity consumption, for example due to heat pumps, electromobility and data centres (AI)
- Digitalisation and new technologies are opening up potential for flexible use, storage and control

#### **What goals is Swissgrid trying to achieve with grid development up to 2040?**

- Eliminate grid congestion by expanding transfer capacity
- Increase security of supply by creating redundancies
- Improve the controllability of electricity flows by installing adjustable transformers
- Ensure grid connection for new large users, storage systems and generators
- Bundle infrastructure, thereby minimising the impact on the surrounding area and the environment

#### **How were the necessary projects determined?**

- The planning was based on the Swiss Federal Office of Energy's 2040 scenario framework. This is drawn up in line with the Confederation's energy policy objectives and macroeconomic framework data. It also takes into account the international environment and is reviewed every four years.
- Swissgrid updates its multi-year planning every four years.
- Swissgrid carries out a cost-benefit analysis for every grid project. Only the projects whose benefits outweigh the risks are retained.
- The plan was verified and confirmed by the Federal Electricity Commission (ElCom).

## Swissgrid is building the «grid of the future»

### 2040 Grid of the future

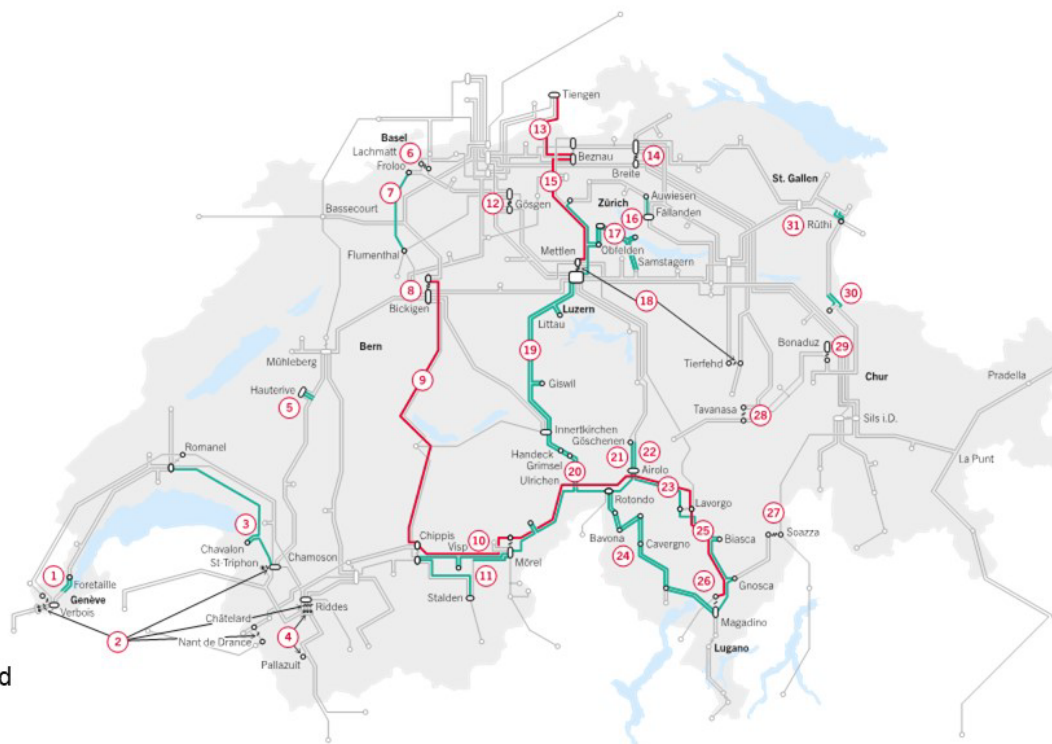
for the modernisation of the transmission grid in line with demand

### 31 grid projects

at different stages of implementation

### ~5.5 billion by 2040

Investments to expand and maintain the grid



- ② Phase-shifting transformers in Western Switzerland
- ⑨ Bickigen – Chippis
- ⑪ ②③ ②⑤ Chippis – Mörel – Lavorgo – Magadino
- ⑮ Bezau – Mettlen
- ②② Underground line in the Gotthard Road Tunnel
- ②④ All'Acqua – Maggia Valley – Magadino

#### Existing infrastructure

- 220/380 kV lines
- Switchgear
- /○ Switchgear with transformers

#### Switchgear with transformers

- 380 kV line
- 220 kV line
- Switchgear
- /○ Switchgear with transformers

#### Further information

To the map with a short description of all the projects: [Grid development requirements](#)

More information about long-term grid planning on the Swissgrid website: [Grid of the future](#)

[Explanatory film](#) on grid development at Swissgrid