

**Media release**

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## Strategic Grid 2040: principles for long-term grid planning

**The transmission grid is the key to a sustainable energy future and an important pillar of the Energy Strategy 2050. However, the energy transition brings with it challenges for secure grid operation. To ensure that electricity continues to flow reliably in the future and grid congestion is avoided, long-term and forward-looking grid planning is required in the form of the «Strategic Grid 2040». Swissgrid has defined six principles for this.**

The energy transition is placing ever greater demands on infrastructure and constantly increasing the need for secure grid operation. However, the modernisation of the transmission grid has slowed down in the past few decades. Two-thirds of the grid, which spans 6,700 kilometres, pre-date 1980. One of Swissgrid's key statutory tasks is to continuously further develop the Swiss transmission grid.

To ensure that the grid meets future needs, Swissgrid periodically draws up a multi-year plan known as the Strategic Grid. The expectation is that Swissgrid will start updating its multi-year plan for long-term grid planning, the «Strategic Grid 2040», in November 2022, following the approval of the energy scenario framework for Switzerland by the Federal Council.

Sustainable, resource-saving, environmentally friendly and economically efficient grid planning is important to Swissgrid. The transmission grid of the future should be stable and secure to operate. Grid expansion is carried out on the basis of comprehensible and transparent considerations. Swissgrid will be guided by the following six principles when creating the Strategic Grid 2040:

- **Minimise environmental impact:** Grid expansion is not carried out to accumulate reserve capacity. Wherever possible, Swissgrid first optimises the existing grid and enhances it as necessary. Obsolete lines and substations are dismantled wherever possible. When searching for the best line corridor and selecting the transmission technology (overhead line/underground cable), Swissgrid takes into account the spatial and environmental impacts, as well as technical and economic factors. Synergies are exploited and infrastructures are bundled wherever possible.
- **Avoid future grid congestion:** Grid congestion is eliminated by optimising, enhancing and expanding the grid. In order to identify critical grid elements, Swissgrid refers to findings from current grid operations as well as a grid simulation for the target year 2040.

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- **Ensure dynamic grid stability:** The inertia stored in large generators stabilises the frequency of the grid. The dismantling of large power plants in Europe reduces the rotating mass on the transmission grid. By conducting stress tests, Swissgrid and foreign transmission system operators assess whether grid stability can still be guaranteed in the future or whether measures need to be taken as part of grid planning.
- **Take into account the flexibility of storage systems, generators and consumers:** Artificial intelligence, decentralised consumption control and smart peak shaving in photovoltaic and wind production offer new potential for flexibility. However, Swissgrid can only take this into account if it can be activated and used by Swissgrid at any time. To achieve this, the regulatory framework conditions must be created, products developed and contracts concluded.
- **Ensure a positive cost-benefit ratio:** If a grid project costs more than one million Swiss francs, Swissgrid carries out a uniform cost-benefit comparison. This shows the benefits of different criteria in either monetary, quantitative or qualitative terms for each project.
- **Communicate transparently:** Swissgrid coordinates long-term grid planning with all the relevant stakeholders. These include, for example, the transmission system operators of neighbouring countries, distribution system and power plant operators, the Swiss Federal Office of Energy (SFOE) and the Swiss Federal Electricity Commission (EiCom). Swissgrid communicates the procedure and results of strategic grid planning in a transparent and comprehensible manner.

For more information, visit [media@swissgrid.ch](mailto:media@swissgrid.ch) or call +41 58 580 31 00.

### Powering the future

Swissgrid is the national grid company. As the owner of Switzerland's extra-high-voltage grid, it is responsible for operating the grid safely and without discrimination and for maintaining, modernising and expanding the grid efficiently and with respect for the environment. Swissgrid has more than 600 highly qualified people from 28 countries at its sites in Aarau, Prilly, Castione, Landquart, Laufenburg, Ostermundigen and Uznach. As a member of the European Network of Transmission System Operators for Electricity (ENTSO-E), it is also responsible for grid planning, system management and market design in the European exchange of electricity. The majority of Swissgrid's share capital is jointly held by various Swiss electricity companies.