

Media release

1. September 2022

Swissgrid Media Service
Bleichemattstrasse 31
P.O. Box
5001 Aarau
Switzerland

T +41 58 580 31 00
media@swissgrid.ch
www.swissgrid.ch

Strengthening security of supply for the city of Zurich and the western shore of Lake Zurich

Extension of the high-voltage lines in the Zurich South area

Swissgrid is upgrading the 150-kilovolt line on the western shore of Lake Zurich between Samstagern, Thalwil, Waldegg (Zurich) and Obfelden to 220 kilovolts (kV) in stages. This will better connect the city of Zurich and its region to the transmission grid. Construction work will begin on the first section between Schweikrüti (Thalwil) and Kilchberg in the Gattikon area in October 2022, and is expected to continue until the end of 2023. Afterwards, the current line, which partly runs through local recreation and residential areas, will be dismantled.

Currently, the greater Zurich area is much better connected to the extra-high-voltage grid from the north than from the south. In the north, the extra-high-voltage grid reaches as far as the city of Zurich via the Auwiesen and Fällanden substations. In the south, on the other hand, the Obfelden and Samstagern (Richterswil) connection points are only connected to the city boundary via one 150 kV line each. Swissgrid is therefore planning to upgrade the line between Samstagern, Thalwil, Waldegg (Zurich) and Obfelden to 220 kV in six sub-projects. With the connection of the new Waldegg substation to the extra-high-voltage grid and the reinforcement of the lines, the extra-high-voltage grid will in future also reach the city of Zurich from the south. This will increase the transport capacity as well as the security of supply for the city and the entire Zurich region. The construction costs of the entire project amount to around CHF 170 million. The work on the various sections and the dismantling of the existing line sections is expected to take until 2030.

Start of construction on the Schweikrüti (Thalwil) – Kilchberg section

In October 2022, Swissgrid will start building the foundations for six new pylons in the Gattikon area. This will mark the start of work on an initial 1.7 km section of the new overhead line between Schweikrüti (municipality of Thalwil) and Kilchberg. The construction and installation sites will be set up as early as September. The pylons will then be erected and the aluminium alloy conductors installed in 2023. A total of around 2,200 tonnes of concrete, 330 tonnes of steel and 32 kilometres of conductor and earth cables will be required for the construction of this first section, consisting of six new pylons. The electricity company of the city of Zurich, ewz (Elektrizitätswerk der Stadt Zürich), has been commissioned with the implementation as general planner.

Swissgrid will put the new line between Schweikrüti and Sihlhalden into operation at the end of 2023, initially at 150 kV, so that the old ewz line can be dismantled along this section in 2024.

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Construction work on the second section between Sihlhalden and Kilchberg will start in 2025. Here, the new line will largely run along the existing overhead line route. According to current planning and assuming optimal project progress, the line from Samstagern to Thalwil will be put into operation at extra-high voltage (220 kV) at the end of 2025. The line between Thalwil and Waldegg (Zurich) is expected to be connected to the extra-high-voltage grid in 2030.

Increasing regional security of supply

The Thalwil substation will be connected to the extra-high-voltage grid as part of the expansion work between Schweikrüti (Thalwil) and Kilchberg. The substation is essential for supplying the western shore of Lake Zurich. The section between Schweikrüti (Thalwil) and Kilchberg is also very important for Swiss Federal Railways (SBB) because two 132 kV railway power lines will be carried on the new pylons. These two SBB lines will connect the Sihlbrugg substation with the Zurich substation, significantly improving the security of supply for SBB in the greater Zurich area.

Relieving local recreation, conservation and residential areas

In each project, Swissgrid endeavours to select a line route that affects residential and conservation areas as little as possible. Technical feasibility and economic efficiency also play an important role. In the Gattikon area, the new line runs around the local recreation and conservation area near Gattikerweiher and the Gattikon residential area. In 2024, eight pylons from the old line in Gattikon will be dismantled, freeing the area from the line. As soon as the Thalwil substation is connected to the extra-high-voltage grid, Axpo's 110 kV Obfelden – Thalwil line (known as the Albis line) will also be dismantled. This will substantially reduce the burden on the residential areas of Langnau and Gattikon as well as the Albiskette – Reppischtal area listed in the Federal Inventory of Landscapes and Natural Monuments (ILNM). The exact date for the dismantling of the Albis line is not yet known due to the high complexity and interdependencies between the various sub-projects.

Plans for an underground cable through the Uetliberg tunnel and an underground substation

A ten-kilometre underground cable is planned for the section from Kilchberg to Waldegg (Zurich), which is expected to be under construction from 2026. This will run along the motorway from Kilchberg to Frohalp near Zurich Manegg station. The underground cable will then be laid in the conduit blocks built during the construction of the two tunnel tubes of the Uetliberg tunnel before continuing to the Waldegg substation via a two-kilometre underground tunnel. This will preserve the nationally protected landscape near the Uetliberg mountain. Bundling with an existing motorway tunnel is also possible. The substation in Waldegg (Zurich) will itself be underground. Swissgrid will therefore rely on innovative construction techniques and the bundling of infrastructures whenever technically feasible opportunities arise that are likely to be approved.

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The six subsections of the project**Samstagern substation connection (1)**

At the Samstagern substation, modifications to the substation and line must be implemented in order to connect the line, which is currently operated at 150 kV, to the 220 kV grid.

Samstagern – Schweikrüti (Thalwil) (2)

Between Samstagern and Schweikrüti (municipality of Thalwil), the line is already designed for extra-high voltage, but is only operated at 150 kV. Swissgrid is planning to increase the voltage to 220 kV. This will probably not require any major structural measures on the line.

Schweikrüti (Thalwil) – Kilchberg (3)

The construction of an underground cable is not possible on this section because two 132 kV SBB lines will be carried on the same pylons as the Swissgrid line. For technical reasons, the SBB lines must necessarily run above ground. The Thalwil substation, which is important for supplying the western shore of Lake Zurich, will be connected to the Schweikrüti – Kilchberg section.

Kilchberg – Waldegg (Zurich) (4)

The new line from Kilchberg to Frohalp near Zurich Manegg station will be built underground along the motorway. It will then be routed through the conduit blocks built during the construction of the two tunnel tubes of the Uetliberg tunnel before continuing to the Waldegg substation via a two-kilometre underground tunnel.

Waldegg (Zurich) underground substation (5)

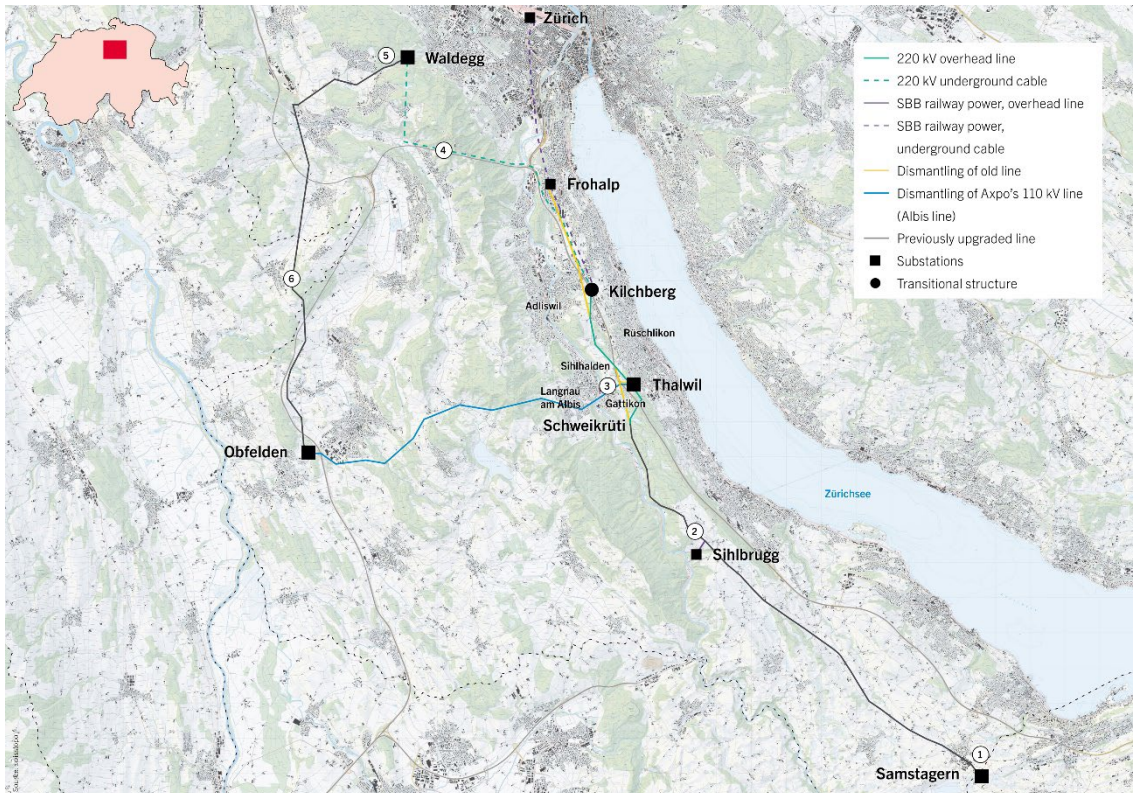
Swissgrid is planning a new underground substation with ewz. From here, electricity will flow into the city of Zurich. The substation will be built underground to minimise the impact on the landscape and the visibility for the neighbouring residential area.

Obfelden – Waldegg (Zurich) (6)

The line between Obfelden and Waldegg (Zurich) is already designed for extra-high voltage, but is only operated at 150 kV. Swissgrid plans to increase the voltage to 220 kV by 2027, so that the Waldegg substation can then be connected to the transmission grid. This will probably not require any major structural measures on the line.

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More information on the Obfelden – Samstagern grid project can be found via the following links:

- Media kit with images and maps: [here](#)
- Info flyer for the population in the municipalities of Oberrieden, Thalwil, Rüschlikon, Kilchberg, Adliswil and Langnau am Albis: [here](#)
- Project website: www.swissgrid.ch/obfelden-samstagern

Further information: media@swissgrid.ch or by phone +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.