

# **Energy Sector Overview**

Overview of the framework conditions and challenges in the energy sector

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#### Introduction

Total energy consumption by the Swiss population and economy rose to 767,450 terajoules in 2023 (+0.3%). It was covered by 35% petroleum fuels, 26.3% electricity, 11.5% mineral oil fuels, 12.3% gas, and 14.9% other energy sources (e.g. wood energy, district heating, industrial waste, and renewable energies). The breakdown by consumer group included 33.6% industry and services, 37.7% transportation, and 27.4% households. The energy sector accounted for 4.6% of Switzerland's gross domestic product (GDP), measured in terms of end consumer expenditure of CHF 36.4 billion in 2023. While natural gas and oil products are imported in their entirety, 56.6% of domestic electricity generation totaling 72.1 billion kWh (+13.5%) in 2023 was generated by domestic hydropower. Swiss nuclear power plants contributed a further 32.4% of electricity production. Conventional thermal power plants and renewable plants accounted for 11% of domestic electricity production.

There are currently around 600 network operators in Switzerland. Many of them operate as integrated companies also supplying water and/or gas. Their basic functions are to produce electricity and feed it into the grid, transport electricity over long distances through the transmission grid, and distribute electricity via regional and local distribution grids to the end consumer. The entire Swiss electricity grid at all grid levels covers around 226,000 km.

#### **General Conditions & Market Structures**

Based on the Electricity Supply Act (StromVG), the Swiss electricity market is currently undergoing a gradual process of liberalization. Since 2009, large consumers with an annual consumption of over 100,000 kilowatt hours have been free to choose their electricity supplier. Full market liberalization, i.e. freedom of choice for all electricity customers, was originally scheduled to take place in 2014. However, this step was postponed indefinitely by the Federal Council.

Opening up the electricity market requires that all market participants are guaranteed non-discriminatory grid access. As a natural monopoly, the electricity grid must therefore be regulated accordingly. Cross-subsidization between grid operation and other activities such as production, trading, and sales should no longer be possible (Art. 10 StromVG). The Federal Electricity Commission (Elcom) is responsible for regulation, in particular for monitoring grid usage tariffs and fees, and decides on grid access in the event of a dispute. The transmission grid has been fully transferred to the national grid company Swissgrid, which is responsible for the



operation, security, expansion, and, since 2022, the tendering of the hydropower reserve.

In addition to the prices for grid usage, Elcom also monitors the electricity tariffs applicable to consumers without free grid access. These shall be based on production costs for efficient production. Electricity suppliers are largely free to set the electricity tariffs for customers with free grid access.

The majority of Swiss electricity suppliers, producers, and grid operators are directly or indirectly publicly owned. As large parts of the range of services offered by these companies effectively fall within the scope of the basic supply, support from the public owners can often be assumed in the event of imminent insolvency. In the case of partner plants, the shareholders also undertake to cover the costs of the electricity produced and thus provide a purchase and cost guarantee. Appendix 1 visualizes an excerpt of the ownership structure of major electricity groups.

To promote the expansion of electricity generation from renewable energies, Switzerland had a cost-covering feed-in tariff (KEV). This was replaced by the new feed-in remuneration system (EVS) in January 2018. The aim of the EVS is to promote renewable energy generation in a more cost-efficient and market-based manner. In some EU countries, particularly Germany, the expansion of renewable energy capacity is already well advanced thanks to generous subsidies. The resulting price collapse on the electricity market, among other things, put many power plant operators in Switzerland under economic pressure. This situation changed dramatically in 2021/2022. Among other things, the ongoing geopolitical tensions led to an exponentially increased, highly volatile electricity price. Base-load 2025 tariffs tripled to EUR 200/MWh at the end of September 2022. Although this was generally advantageous for power plant operators, it led to liquidity management challenges in electricity trading in connection with the necessary margin requirements. In December 2024, prices for Baseload 2025 were guoted at around EUR 90/MWh.

After Alpiq submitted an application for federal support in December 2021, but withdrew it shortly afterwards, Axpo applied to the federal government for a temporary credit line of up to CHF 4 billion in September 2022 as a precautionary measure to secure liquidity. At Axpo's request, the federal government's order for the credit line was revoked as of 01.12.2023. Axpo did not have to draw on this at any time. Federal support was provided via an emergency ordinance. This emergency ordinance was replaced by the Federal Act on Subsidiary Financial Aid to Rescue Systemically Critical Companies in the Electricity Industry (FiREG) and is limited until the end of 2026. FiREG is to be replaced by new regulations after 2026.

As the first follow-up act, the Federal Act on Supervision and Transparency in Wholesale Energy Markets has been pending in parliament since the end of 2023. This law aims to make energy trading more transparent, strengthen supervision, and increase the stability of the system and security of supply.

In a second step, a partial revision of the Electricity Supply Act is planned. This is intended to reduce the economic risks posed by large electricity supply companies. In particular, the law should help to minimize the liquidity and over-indebtedness risks of these companies.

In addition, further measures are planned in a third step. These include regulations to ensure that central functions such as electricity production and group balance management can be maintained at all times (business continuity management, BCM).

#### **Outlook**

The Swiss electricity market is currently undergoing a transformation process that will be further intensified by the "Mantelerlass", a key law on the secure supply of electricity from renewable energies. In a referendum on June 9, 2024, the Mantelerlass was adopted with a clear majority of 68.7% in favor. This law forms the framework for Switzerland's longterm energy policy and aims to massively expand renewable energies, increase energy efficiency, and improve security of supply. With the Mantelerlass, the focus on the implementation of the Energy Strategy 2050 was concretized. The energy strategy includes:



- Gradual phase-out of nuclear energy: The existing nuclear power plants will be decommissioned at the end of their safe operating life and not replaced by new ones.
- Promotion of renewable energies: Production losses due to the nuclear phase-out are to be compensated for by a massive increase in electricity production from hydropower, photovoltaics, wind power, and biomass. By 2035, renewable energies excluding hydropower should supply 35 TWh and by 2050 45 TWh.
- Increase security of supply: Electricity production from renewable energies is to be increased by 6 TWh, particularly in winter. Investments in storage solutions such as battery storage and hydroelectric storage are key measures.
- Expanding the grid infrastructure: Smart grids and modern control technologies should efficiently integrate the increasing proportion of irregular electricity generation from wind and solar power.

The Mantelerlass marks a turning point in Swiss energy policy. Clear targets and deadlines will accelerate the expansion of renewable energies and strengthen security of supply. However, successful implementation will depend on how quickly necessary projects can be realized and regulatory obstacles removed. At the same time, the international context remains crucial, particularly with regard to integration into the European electricity market and the stabilization of energy prices.

The currently volatile electricity prices continue to pose a challenge. However, the Mantelerlass creates a clear framework for investments in renewable energies and infrastructure, which should ensure long-term planning security for electricity suppliers.

Another aspect is the planned full market liberalization of the Swiss electricity market. This would allow all end consumers to freely choose their electricity supplier, although this remains politically controversial. The negotiations with the EU on a bilateral electricity agreement, which have been ongoing since 2007, have been given new impetus by the Mantelerlass, as it facilitates Switzerland's integration into the European internal electricity market. At the end of December 2024, the Federal Council took note of the successful material conclusion of the negotiations on the electricity agreement.

The far-reaching upheavals in the electricity sector that have already begun and the various political uncertainties will continue to influence the institutional framework conditions and the market environment for electricity supply companies in the future. These developments must therefore be closely monitored and adequately taken into account when assessing the creditworthiness of companies in the electricity sector.



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