



APG: July Shows Importance of Strong Electricity Infrastructure

APG Factbox: In July an intervention in the schedules of electricity supply was necessary on 25 days to avoid bottlenecks in the power grid. A secure power supply and, above all, the transformation towards a sustainable energy system urgently requires a high-capacity and resilient electricity infrastructure.

To avoid grid overloads and to ensure the security of supply so-called redispatch measures are carried out to manage electricity flows. This means a targeted and controlled intervention in the operation of thermal and hydraulic power plants.

“In 2023 such measures had to be implemented on 130 days already until the end of July, 25 of which in July alone,” says Gerhard Christiner, CTO at APG. This is a fact that gives you food for thought and also costs a lot of money. “The redispatch measures which are indispensable for ensuring the security of electricity supply generated costs of around 19.7 million euros in July alone. We are talking about costs that at the end of the day have to be borne by the electricity customers. An efficient grid with sufficient capacities would considerably reduce the need of redispatch measures and thus cut the associated costs. Therefore the immediate expansion of the grid infrastructure has top priority,” explains Thomas Karall, CFO at APG.

Modern and high-capacity electricity infrastructure is the most important instrument for a supply-secure energy transition

The reason for the large number of interventions is that the grid has not enough capacities for the amount of electricity that has to be transported. “Fortunately the expansion of renewables, in particular PV facilities, is progressing faster than expected. However, we are now approaching the point where the feed-in surpasses the capacities of the existing electricity infrastructure. What is particularly frustrating is that regional surplus production is fed-in the transmission grid in an uncontrolled way, which not only accounts for inaccurate forecasts but also requires cost-intensive interventions since the surplus energy has to be taken out of the system via balancing energy markets. Now is the time to press ahead with the expansion of renewables and, simultaneously, with the expansion of grid capacities. We need Austria-wide and regionally coordinated overall system planning to ensure a successful, secure, sustainable and independent transformation of the energy system. The clock is ticking – it is high time to follow up words with action “, emphasizes Christiner.

The implementation of the energy transition without jeopardizing the security of supply is the order of the day. This requires overall system planning and adequate capacities in the areas of grids, storage, production and reserves, as well as digital platform technologies to exploit the flexibilities of all players in the system. All of this must be done immediately. “Accelerating and simplifying approval procedures are key levers in this regard. Only then can APG’s investment scheme in the domestic electricity infrastructure contribute to achieving the energy transition, which means the supply-secure transformation of the energy system, and facilitating the increasing electrification of all sectors”, Karall emphasizes the necessity of the rapid implementation of all projects.



The current investments of APG in the expansion and modernization of the domestic electricity infrastructure total around 490 million euros in 2023 alone and will amount to around 3.5 billion over the next ten years.

Own power consumption of private PV systems causes lack of transparency in the overall system

In July (calendar weeks 27-30), Austria recorded a withdrawal of 3,978 GWh (gigawatt hours) from the public grid. This is a reduction in electricity consumption of around 10.7 percent compared to the average for the years 2017 to 2021 (4,453 GWh). However, this is not a reduction in the electricity demand as such, as many households and businesses already cover part of their own electricity consumption with a photovoltaic system, especially in the summer months.

At the same time, there is uncontrolled feeding back of regional electricity surpluses from the distribution grids into the APG grid (on sunny days this now amounts to several hundred megawatts). To prevent overloads of the system, these quantities of electricity must be taken out of the system in a very cost-intensive way via the balancing energy market. In addition, these developments are making it increasingly difficult to forecast electricity consumption from the public grid. The previous electricity consumption peak around noon is increasingly waning and the usual consumption characteristics are changing as a result.

"The difficult thing is that the rapidly increasing number of private photovoltaic systems is leading to an ever greater insecurity regarding the demand from the public electricity grid. At noon, a lot of private electricity is generated, while in the evening, more electricity is drawn from the public grid. This changes electricity prices and will be a challenge for the operation of the system in the medium and long term. To facilitate better planning and more transparency for the electricity customers, there needs to be end-to-end digitalization of all actors in the electricity system," explains Gerhard Christiner, CTO at APG.

97% coverage by renewables

In July (calendar weeks 27-30), 97 percent of electricity consumption was covered by renewable energies (on the balance sheet). In July a total of 3,867 GWh of renewable electricity was produced in Austria. Hydropower accounted for the lion's share, with 3,052 GWh of electricity, or about 79 percent of renewables. Only in week 30 was it possible to cover 100% of Austria's electricity demand with renewables (on the balance sheet).

Due to the lower production power of renewable energies in the first weeks of July, which was caused by the dry weather conditions throughout the country, Austria had to import more electricity. The last week of July allowed for increased exports due to the rise in run-of-river production, but Austria still remained a net importing country.

High regional feed-in from hydropower in Tyrol and Upper Austria

The trans-regional electricity grid of APG also enables the exchange of energy within the country. Electricity surpluses in individual provinces can thus be distributed throughout Austria to compensate deficits.

Due to the good production from hydropower in July the provinces of Tyrol and Upper Austria were able to generate a high energy surplus which they made available throughout Austria via the APG grid. Tyrol was able to feed 309 GWh into the trans-regional grid and Upper Austria contributed



227 GWh. With 386 GWh Vienna had to withdraw the most electricity from the grid along with Lower Austria (173 GWh).

APG continually keeps track of the development of the domestic electricity industry and regularly publishes diagrams at <https://www.apg.at/infografiken> regarding the topics: energy exchange, energy consumption in Austria, energy consumption in Europe, import/export, electricity prices, etc.

About Austrian Power Grid (APG)

*As independent transmission system operator Austrian Power Grid (APG) is in charge of ensuring the **security of electricity supply** in Austria. With our high-performance and digital electricity infrastructure and the use of **state-of-the-art technologies** we integrate renewable energies, we are the platform for the electricity market, and we provide access to reasonably priced electricity for Austria's consumers and thus create the basis for Austria as supply-secure industrial and business location and place to live. The APG grid totals a length of about 3,400 km and is operated, maintained and continuously adapted to the increasing challenges of the **electrification** of businesses, industry and society by a team of approximately 733 specialists. Also in 2022 Austria had a security of supply of 99.99 percent and thus ranks among the top countries worldwide. Our investments of 490 million euros in 2023 (2022: 370 million euros) are a **motor for the Austrian economy** and a crucial factor in reaching Austria's climate and energy targets. Until 2032 APG will invest a total of approximately 3.5 billion euros in grid expansion and renovation projects, which amounts to approximately 19 percent of the total of 18 billion euros which the energy industry will invest in the grid infrastructure over the next ten years.*

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