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Press Release ›

EnBW to invest in hydropower and pumped storage in Forbach

Major boost for the energy transition and security of supply

Karlsruhe. The way is clear for the conversion and expansion of the Rudolf Fettweis hydropower plant in the northern Black Forest. EnBW Energie Baden-Württemberg AG has made the investment decision for the Forbach Pumped Storage Power Plant/New Lower Reservoir project. Over the next few years, the existing conventional storage power plant will be modernized and turned into a high-capacity pumped storage power plant. The total cost of this major project is approximately €280 million. Construction will start in fall 2023 at the earliest, with completion expected by the end of 2027.

"EnBW has a clear generation strategy focused on the accelerated expansion of renewables and achieving climate neutrality by 2035. To accomplish this, we require additional dispatchable capacity and storage reservoirs that can quickly deliver electricity on demand and ensure stable grid operation," said Georg Stamatelopoulos, Chief Operating Officer Sustainable Generation Infrastructure. "The new pumped storage power plant in Forbach aligns perfectly with these objectives, making it an ideal and essential complement to the expansion of our renewable generation capacity."

Lengthy approval process

Following an extensive planning approval process led by the regional authorities in Karlsruhe, the complex project has successfully obtained approval. Every aspect of the project underwent close scrutiny, backed by comprehensive documentation and expert reports. After more than five years of intensive work by numerous experts and sectoral authorities, the Karlsruhe regional administration issued the plan approval notice on 1 March 2023. Administration President Sylvia M. Felder said: "I am pleased that the Forbach hydropower site is being retained and transformed into to a dedicated pumped storage power plant. This is a significant contribution to the success of the energy transition. Pumped storage power plants represent a vital means of energy storage and are indispensable for renewable energies."

Robert Stiebler, Mayor of Forbach, said: "We are delighted that this project will be realized at Forbach. Hydropower has a long history here and securing its future in our district is a great signal for us and EnBW as we embrace the energy transition."

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New powerhouse and cavern reservoir

The heart of the new plant will be the powerhouse, integrated into the hillside to accommodate the power plant technology. This includes a pump turbine for the Schwarzenbach power plant, capable of generating approximately 54 megawatts (MW) in turbine mode and 57 MW in pump mode, enabling water transfer from the lower reservoir to the upper reservoir as needed. The new powerhouse will also contain the new power plant technology for the Murg plant, including three Francis turbines with a total output of approximately 23 MW.

During the construction of the new pumped storage power plant, the existing Forbach equalization basin will also be expanded with the addition of a cavern water reservoir in the adjacent hillside. This will serve as the lower reservoir for the future pumped storage power plant, collecting water channeled from the upper reservoir – the Schwarzenbach dam – to drive the power plant's turbines and generate electricity.

Pumped storage power plants: an integral element of the energy transition

The success of the energy transition crucially depends on the ability to store energy and provide dispatchable capacity that can be flexibly activated as needed. Pumped storage stands as the only proven, large-scale energy storage technology readily available today. By generating electricity on demand, pumped storage power plants serve as the ideal complement to renewable energy sources. They even out fluctuations in the supply of energy from wind and solar power, which vary depending on weather conditions and the time of day, and make a key contribution to grid stability and hence to security of supply for consumers and industry throughout the country.

The existing Rudolf Fettweis hydropower plant in Forbach

The Rudolf Fettweis hydropower plant (Rudolf-Fettweis-Werk) in Forbach (northern Black Forest) currently has a total capacity of approximately 71 megawatts. It consists of four individual hydroelectric power plants built between 1914 and 1926. The main elements are the Schwarzenbach dam (Schwarzenbachtalsperre) with a capacity of 14 million cubic meters of water, and the Forbach and Kirschbaumwasen impoundments. Water is channeled via tunnels and pressure pipes 150 meters downhill in the first case and 357 meters in the second to the Rudolf Fettweis hydropower plant, where it is used to generate electricity.

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Further information on the Forbach pumped storage power plant expansion project is available here:

Pumpspeicherkraftwerk Forbach - Projektvorstellung | EnBW

Digital press kit: www.enbw.com/pressemappe-forbach

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About Energie Baden-Württemberg AG (EnBW)

With a workforce of some 27,000 employees, EnBW is one of the largest energy supply companies in Germany and Europe. It supplies electricity, gas and water together with infrastructure and energy-related products and services to around 5.5 million customers. In the company's transformation from a traditional energy provider to a sustainable infrastructure group, the expansion of renewable energy sources and of the distribution and transportation grids for electricity and gas are cornerstones of EnBW's growth strategy and the focus of its investment spending. Between 2023, and 2025, EnBW plans gross investment totaling €14 billion, largely in accelerating the implementation of the energy transition. EnBW aims for renewables to account for over half of its generation portfolio by as early as the end of 2025 and to phase out coal by the end of 2028. These are key milestones on the way to the company being carbon-neutral by 2035.

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