

Run-of-river power plant Kembs

The Koechlin brothers were engineers from Alsace who were involved in all kinds of technology. After studying at the Zurich Polytechnic (now ETH), Maurice joined Gustave Eiffel's office and designed the tower named after his boss in Paris. René Koechlin follows the same training path as his brother and also arrives in Paris. After an internship at Sulzer, he joins the company Société des Travaux Publics et Constructions. In 1888, the 22-year-old René was allowed to travel to Uzbekistan to explore the area between Samarkand and the Caspian Sea for a railroad line. A year later, he inspected a route between Jaffa and Jerusalem for his company. From 1890, René Koechlin works for the construction company Locher & Cie. Together with his boss Eduard Locher, he helps plan the Simplon Tunnel and the Eglisau-Glattfelden power station. In the process, he came up with the idea of using the water of the Rhine for a power plant to generate electricity for his homeland, Alsace.

Around 1899, René Koechlin became technical director of the Compagnie Nouvelle d'Électricité, where he was involved in the planning and construction of tramways in several French cities. Later, he helped plan part of the Paris subway system for the Omnium lyonnais company. From 1901, René put all his energy into the construction of a river power plant near Kembs in Alsace.



The advertising postmark of the Kembs post office from 1994 shows the run-of-river power plant with the lock section on the side. At the bottom right is the fluorescent mark for automated letter distribution. The coat of arms shows a horseshoe; what the letters G and K stand for remained unexplained despite inquiries to the municipality and the local history society.

Koechlin is now founding the Forces Motrices du Haut-Rhin. We can imagine that such a project - on a Rhine side canal - was preceded by numerous negotiations with the involved riparian states: the backwater of the water reaches Basel (Switzerland), the Rhine navigation (Germany) is influenced and from 1914 on, Germany and France face each other as enemies in the First World War; there is an interruption. In 1919, Versailles rules that France has the sole right to develop the Rhine. The project can be started again. The Central Commission for Navigation on the Rhine approves the project. Switzerland receives energy purchase rights for lost downstream use. The power plant - now owned by Energie Electricque du Rhin - goes into operation in 1932. It is the time of the world economic crisis, the generated energy cannot be

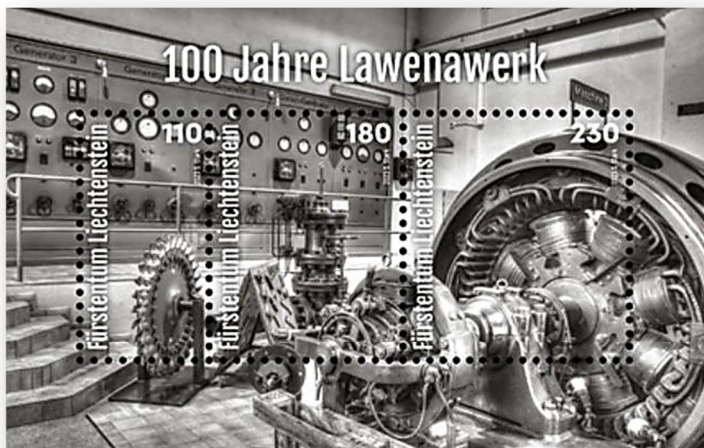


sold, although there is a high-voltage line to Paris. During the Second World War, the power station is damaged, then repaired; in 1946, it becomes the property of EDF (Electricité de France).

To "store the unused but still produced electricity" at the Kembs run-of-river power plant, there would be a pumped storage plant at Lac Noir in the Vosges Mountains at an altitude of 950 meters, which could pump water into the higher Lac Blanc (1052m) using the cheap night electricity produced at Kembs. The water could be released during peak power demand to generate necessary peak power by means of turbines. In 1934, when this pumped storage plant was commissioned, an accident occurred because the pressure line broke; nine workers were killed. In 2002, after another accident, the plant was shut down, the powerhouse was demolished in 2014, and the plant was to be restarted in 2020 using the latest technology with a



Austria 1962: Examples of hydropower plants.



Liechtenstein 2023: Liechtenstein began using the water of the Lawena Valley to generate electricity as early as 1927. The Lawena power plant uses the difference in altitude from the Lawena valley to the powerhouse (shown on the stamp in Triesen with about 878 meters of altitude). It is the second most powerful hydroelectric power plant in Liechtenstein. All hydroelectric power plants together produce about 18% of the electrical energy needed in Liechtenstein. This is still worth a stamp block to the Liechtenstein people today.

variable-speed pump turbine. However, due to lack of profitability, the project has not yet been implemented. Austria and Liechtenstein, on the other hand, relied on environmentally friendly hydropower early on and continue to do so today with similar ideas and technologies.

The run-of-river power plant in Kembs produces a total of 855 giga-watt hours (GWh) with six turbines, of which one fifth is due to Switzerland. It is remarkable that the company EDF gives preference to the generation of electricity by nuclear power plants, although the generation of electricity by existing pumped storage plants should be more environmentally friendly.

Weiterführende Literatur:

- [Glasurit.com/Historie](https://glasurit.com/Historie)
- [Wikipedia](https://de.wikipedia.org)