



Fact sheet on the use of thermal energy from lakes rivers

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Topics: Biodiversity | Ecosystems | Society | Climate Change & Energy

The use of lake and river water to generate heat and cold is constantly increasing. The potential is enormous. Nevertheless, negative impacts on aquatic ecosystems must be avoided. A fact sheet from Eawag lists the key points in this regard.

The population of Geneva has just voted in favour of the expansion of the heating network by almost 80%. The use of Lake Geneva as a heat reservoir is central to this. There are also expansion projects on Lake Lucerne, Lake Biel, Lake Zurich and Lake Constance, or larger plants are already in operation. The thermal use of surface waters is gaining in importance, not least in the context of the new federal energy strategy. It includes heat extraction for heating purposes, but also disposal for cooling purposes. This raises the question of the ecological impacts on the lakes and rivers used. Within the framework of an applied project, Eawag has developed a basis for this. A new fact sheet summarises the key points that need to be taken into account.



Use of thermal energy from lakes and rivers

Thermal use of surface waters (lake extraction for heating and disposal for cooling purposes) is becoming increasingly important – not least as part of Switzerland's new federal energy strategy. But what are the ecological impacts of the use of thermal energy from lakes and rivers?

To help address this question, Eawag has carried out an applied research project.

The research addresses the extraction of thermal energy from lakes and rivers for heating and cooling purposes. It focuses on the ecological impacts of the use of thermal energy from lakes and rivers. The project is part of the Swiss Federal Energy Research Strategy (SFERS) and is funded by the Swiss Confederation and the cantons of Geneva, Vaud, Valais, and Ticino.

Long-term strategy: ecological risks for water quality and aquatic vegetation monitoring

By 2050, the demand for heating and cooling is expected to increase significantly. In Switzerland, this is primarily due to the increasing number of buildings with high energy requirements. The extraction of thermal energy from lakes and rivers for heating and cooling purposes is becoming increasingly important. However, this use of thermal energy from lakes and rivers can have ecological impacts. The project aims to assess these impacts and develop strategies to minimize them.

Previous Eawag publications address requirements for the extraction of thermal energy from lakes and rivers. A detailed overview of the ecological impacts of the use of thermal energy from lakes and rivers is provided in this fact sheet.

The fact sheet provides an overview of the ecological impacts of the use of thermal energy from lakes and rivers. It also includes recommendations for the extraction of thermal energy from lakes and rivers.

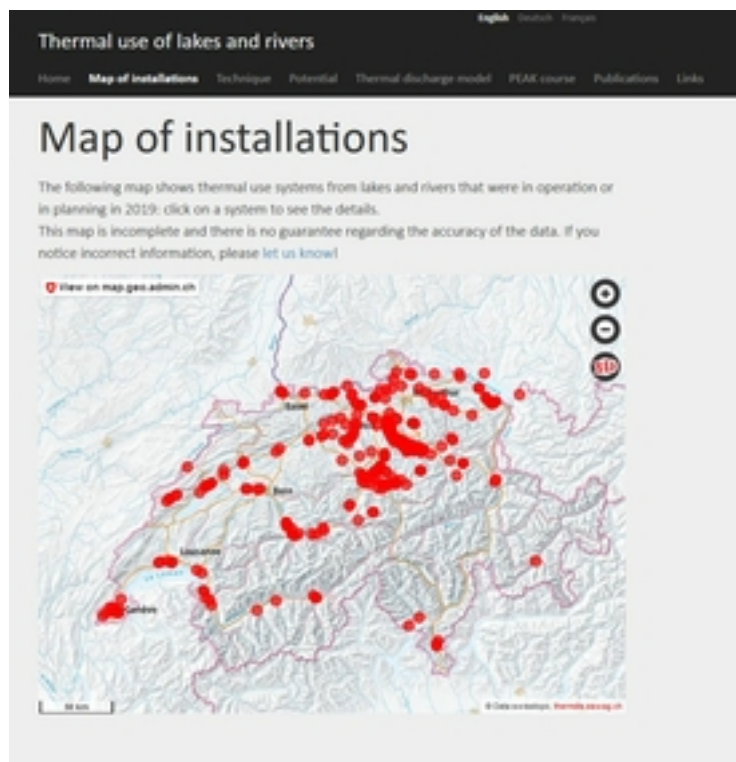
The fact sheet is available in German and French. It can be downloaded from the Eawag website.

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[Use of thermal energy from lakes and rivers](#) [435 KB]



[Video about thermal use of lake Geneva](#) (SRF, Schweiz aktuell, 19th January 2022, in german).



[Website project Thermdis](#)

The Thermdis project was supported by the Federal Office for the Environment (FOEN).

Cover picture: Lakes store large amounts of heat. (Photo: Eawag)

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