

# Factsheet for Geothermal Solutions in Industry

Geothermal plays a crucial role in the transition to clean energy. Geothermal energy provides **24/7 uninterrupted energy**, making it a **reliable and efficient** solution for a wide range of industrial applications. While geothermal energy provides various applications such as power generation and lithium extraction, this fact sheet focuses on heating to cooling for industrial application. Geothermal heating is able to **provide temperatures up to 200° C**, with the goal to reach higher temperatures with innovative technologies.<sup>1</sup> This matches many fields of industry such as agriculture, pulp and paper, certain chemicals and cement to name a few.

Industries of various sizes, from **small to heavy industries** require heating and cooling processes for their production or to keep machinery at adequate temperature. Furthermore, geothermal heating and cooling can be used for space heating as well in the industrial sector, creating comfortable working environment based on a reliable and cost-efficient solution.

For instance, the **Volvo manufacturing plant** in Köping, Sweden uses a geothermal heat pump to cool the buildings in summer. Additionally, the geothermal installation allows to store warmth in the boreholes that can be reutilized for heating in winter. In operation since 2014, the system counts 215 boreholes today with an average depth of 270 meters.

Additionally, geothermal heating can be used in the agricultural sector, notably in greenhouses. Numerous of those installations are already in place, such as at the **Frutur Greenhouses** in Styria, Austria. Thermal water with a temperature of 125°C is pumped from beneath the earth, contributing to the heating of the 26 hectares of greenhouses. The well depth is 3.5km, after cooling down, the water is reinjected underground. This translates into CO<sub>2</sub> savings of 28,000 t CO<sub>2</sub> per year. Thus, regional vegetables can be grown all year round. Up to 9,000 tons of tomatoes, peppers, cucumbers, melanzani and radishes are grown in the geothermal greenhouses in a year.

Another geothermal project providing renewable heat to industry is located at the **Kabel Premium Pulp and Paper factory** in Hagen, Germany. Currently in planning, geothermal process heat should contribute to paper drying, a process requiring temperatures between 100 and 200 C. Once in place, the geothermal plant is expected to have a capacity of about 20 MWth and to reduce CO<sub>2</sub> emissions by 30.000 t per year.

Further examples can be found in EGE's [booklet](#) on Geothermal application in industry and agrifood.

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<sup>1</sup> Quaise (2025).