

Geothermal energy pilot project: sustainable vegetable production using renewable geothermal heating



Family business Grob Gemüse uses heat from two boreholes to warm its greenhouses. The replacement of natural gas heating with geothermal energy helps significantly reduce CO2 emissions generated by energy-intensive vegetable production. This technological showcase project can be operated more economically thanks to subsidies from the climate protection project.

To ensure that a variety of produce is still available in the winter months, greenhouses must be heated during the colder seasons. Only with a consistent greenhouse climate can vegetable producers secure their yields and deliver their products to various retailers. In light of the high energy consumption and associated CO2 emissions, family business Grob Gemüse Ltd. came up with the idea of supplying their own energy, but the possibility of converting to geothermal heating first needed some examination. This is because underground exploration is still in its infancy in Switzerland, which is why the project required a lot of planning, research and extensive pumping tests. Drilling boreholes to a depth of 1,200 metres was costly, time-consuming and technically demanding. In addition, there was the challenge of treating the deep water to produce environmentally compatible waste water. While the decision was made to heat using natural gas as a temporary measure for cost reasons, it nevertheless brought with it climate-damaging disadvantages.

Conversion to renewable energy made possible by funding contribution

Thanks to this climate protection project from Foundation myclimate, both the pilot project and Grob Gemüse Ltd.'s desire for sustainable production could be realised. The subsidy created an incentive for the project's completion and commissioning and gave it pioneer status as the first geothermal project of this size to be successfully realised in Swiss industry.

Project type:

Energy Efficiency

Project location:

Switzerland, Canton of Thurgau, Schlattingen

Project status:

In operation, credits available

Annual CO₂ reduction:

2,015 t CO₂

Situation without project

Greenhouses heated using natural gas

Project standard

BAFU/BFE

Partner



Impressions



Beef tomatoes in one of the greenhouses at Grob Gemüse Ltd.- Photo: Claudia Heller

Contact

Do you have any questions? Please do not hesitate to contact us:

Foundation myclimate, 044 500 43 50, E-Mail

This project contributes to 2 SDGs (as of end 2021):

Find out how myclimate reports these SDGs in our FAQ.



Some 12,000 MWh of renewable heat will be generated annually.



Around 2,015 t CO₂ will be saved annually.



External view of one of the greenhouses at Grob Gemüse Ltd.- Photo: Claudia Heller



Cherry tomatoes in one of the greenhouses at Grob Gemüse. Photo: Claudia Heller



Cucumbers in one of the greenhouses at Grob Gemüse Ltd.- Photo: Claudia Heller