

NETHERLANDS

Restructuring and
developing physical
potential and promoting
innovation

Location

Honselersdijk

Programming period

2007 - 2013

Axis / Priority

Axis 1 – Improving the competitiveness of the agricultural and forestry sector

Funding (EUR)

Total budget 14 m
EAFRD 2 m

Project duration

2011 – 2013

Project promoter

Green Well Westland b.v.

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Additional information

www.youtube.com/watch?v=L4P8Yxsd62E

The multi-million EUR project titled 'Green Well Westland' helped harness geothermal energy to produce heat and power by drilling wells into reservoirs of hot water that are found deep underneath the earth's surface.

Summary

Geothermal reservoirs exist under parts of the Netherlands where agricultural firms grow fruit, vegetables and flowers in large greenhouse complexes. These businesses tend to have high energy consumption rates and so their competitiveness can be improved by sourcing cheaper, reliable, renewable power, like that from geothermal energy.



The project started with five greenhouse companies. Each of the five original companies invested in a share of the renewable energy plant as part of their long-term business plans. Further support was provided by the Westland municipality in order to assist the cluster members achieve their goals. Survey work proved essential to clarify the potential of the renewable energy source and once this was confirmed drilling began for the first well in October 2011.

A second well needed to be opened as well because the technology involved uses a system that pumps hot water up from the geothermal reservoir through one set of pipes into a heat exchanger on the surface. The second well returns the cooled water back to the aquifer, as part of an equilibrium control for the subterranean substrate.

Results

The project's main benefits relate to huge savings in the use of natural gas heating from fossil fuels. It thereby helps to reduce CO2 emissions, and by as much as 10 million cubic metres per annum.

After the geothermal plant became operational the cluster discovered they could produce more heat than expected. Due to this fact another five more greenhouse companies are now using Green Well's heat.

Green Well's considerable climate benefits were acknowledged by the Dutch authorities through an 'Inspiration Award'. This prize was attributed not only for the project's ability to provide green energy, but also to the cluster's success in building a demonstration plant that can encourage more geothermal energy generation to heat the region's businesses, homes, and community facilities.

The cluster members now have plans to work with other geothermal groups to develop a logo for Europe's geothermal projects. This will be used as an advertising tool for showing customers that their products use sustainable heating sources.

Lessons & Recommendations

- ❑ In order to start with a geothermal project it is very important to make a good geological survey to see if there are the right subterranean conditions, because not all places are suitable. It is necessary to find suitable layers of sand and stone that contain water for the location to be a geothermal heat source.