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PRODUCTION OF RENEWABLE ENERGY FROM OTHER LOCALLY AVAILABLE (NON-BIOLOGICAL) RENEWABLE POWERS

CORRESPONDING MODULE 3

Introduction

Geothermal energy has great potential in Slovakia, as confirmed by the analysis of the Ministry of the Environment, according to which there are up to 25 prospective geothermal areas with water temperatures of up to 150 degrees Celsius in its territory at a depth of up to five thousand meters.

In addition to being used for the production of electricity and heat, geothermal energy is widely applied in agriculture - as a source of heat for growing vegetables, fruits and flowers.

*The Oremus farm started growing tomatoes heated by geothermal energy among the first in Slovakia
(source: MPSR)*

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Tasty Slovak tomatoes

It is no coincidence that Žitný Ostrov is the home of the popular „Veselé paradajky“ tomatoes. It is the largest European river island and the largest reservoir of drinking water in Central Europe. It is not only the most fertile agricultural area of Slovakia, but also has many geothermal springs.

In Slovakia, tomato growers are pioneers in the use of energy from the earth. It can be said that the cultivation of this crop is experiencing a renaissance in Slovakia, which is also evidenced by the counters of Slovak and Czech stores, where you can find a varied offer of varieties from several farms.

Geothermal energy makes it possible to heat greenhouses more cheaply than with traditional fuels. And in addition, their cultivation is much more ecological.

GreenCoop is an association of „Veselé paradajky“ growers from Žitný Ostrov. The association groups of farmers whose philosophy is to grow tasty and healthy tomatoes with the smallest possible ecological footprint. The Association of Growers of Happy Tomatoes produces 15,000 tons of carbon dioxide less per year.

GreenCoop has its base in the region of Žitný ostrov and annually grows 10,000 tons of tomatoes, which is roughly half of Slovakia's annual production.

The founders of the company started in 2006, when they brought know-how from the Netherlands and are



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passing it on. Proven technology is already being applied in Hungary.



In addition to using geothermal energy, GreenCoop uses plant bioprotection. They use mites against pests and thus protect the plants without any chemicals. And they use bumblebees to pollinate the plants. The biggest challenge of recent years has been coping with the increasingly fierce summer heat. To fight the heat, they used a

technology where they leave more leaves on the plants during the summer, so they can cool themselves better. They also tint the glass of greenhouses to let in less sunlight. And in summer, they also leave fewer bunches of tomatoes on the plants. The fruits put less strain on the plant, and it has more energy to fight the heat.

Thanks to hot water from underground, four innovative farmers can save significant amounts of energy. Those who stand on the springs save up to 150,000 euros on heating one hectare of greenhouses compared to a natural gas competitor. And even with the lower gas prices until recently. Now the savings can be much higher.





Advantages and challenges

- Slovakia has a promising premise for the use of thermal energy.
- Is located with here more than a hundred geothermal springs with a water temperature of 16 to 126 degrees Celsius.
- Directly _ energetic water with a low temperature, i.e. up to 100 degrees, is particularly suitable for use
- The energy potential can thus represent more than five thousand megawatts.
- According to news ministries of life environment with in ours conditions , it will save about 42,600 tons of brown coal or 16 million cubic meters of natural gas per year when producing 25 megawatts of thermal energy from geothermal sources for 200 days of heating.

Main data

GreenCoop cooperative

Annual production of 10,000 tons of tomatoes

They own several greenhouses across the

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Project Number:

2021-1-FR01-KA220-VET-00034605

Further

Information

1. [https://
www.greencoop.co](https://www.greencoop.co)
2. <https://>



entire Rye Island in Zlatna na Ostrov, Kolárovo, Hurbanovo, Dunajská Streda and Horná They will drown

The owners are four of South Slovakia growers + former Minister of Construction László Gyurovsky . Juraj Kukucs is in charge of the store in the GreenCoop cooperative. Gergely Szigeti routine operations and personnel matters. His brother Bálint Szigeti also helps with the group's legal affairs. Roman Juhász is an expert on growing tomatoes in groups. The main strategist of the team is Zsolt Bindics. He plans new investments in the group and negotiates bank loans for its development. For faster development, the four of them added one financial co-investor to the cooperative a long time ago. A fifth of its business is owned by the former construction minister László Gyurovszky.

They do not even use regular direct payments per area in their farming. With a smaller area of their economy, it is not even worthwhile for them to ask for them. The administration would cost them more than the profit from the support.

They only use investment European funds from the state for the construction of new greenhouses, and they also draw special subsidies for wider sales associations of farmers. Under their GreenCoop cooperative, they also concentrate several smaller domestic vegetable growers, and thus have the right to special support in the amount of four percent of the turnover.

- e.dennikn.sk/2571092/po-paradajkach-si-uz-lahko-nakupime-aj-chutne-domace-papriky-zitnoostrovski-sklenikari-pridavaju-novu-plodinu/
3. <https://www.trend.sk/biznis/zeleninari-greencoop-pridaju-dalsi-megasklenik>
4. <https://www.nadaciapontis.sk/novinky/greencoop-druzstvo-mame-za-sebou-skutocne-dobry-rok-aj-vdaka-ocenenu-via-bona/>
5. <https://www.minzp.sk/klima/obnovitelne-zdroje-energie/geotermalna-energia/>



ANNEX - STRUCTURE OF MODULE CONTENT TO PREPARE SLIDES

Module Name : The name of the partner: Country:
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The name of the module	
Target group involved	
Current information about the topic	
Principles of the specific module	
Basic terms / measures of the module / topic	
Training materials (tasks , case studies , exercises)	
Short description of the materials	
Link of the online resources (film or video resources)	
Specific images (to support the purpose of the resources)	
Duration	
Materials	
No of Learners / Representatives	
Individual or group work	
Step by step guide	