

Experiences on solar district heating from Denmark for South-Eastern Europe: CoolHeating study tour

05.10.2016 At perfect sunny weather conditions, international guests participated in a study tour on solar thermal and biomass district heating systems in Denmark on 21-23 September. 27 participants from Serbia, Bosnia and Herzegovina, Croatia, Macedonia, Slovenia, Austria, Germany and Denmark saw in best practice examples how heat from the sunlight and biomass can provide sustainable energy for the operation of district heating grids. The study tour was organised in the framework of the CoolHeating project, which is supported by the Horizon 2020 programme of the European Union.



CoolHeating, coordinated by WIP Renewable Energies, Germany, promotes the set-up of small modular renewable heating and cooling grids in South-Eastern Europe up to the investment stage. PlanEnergi from Denmark is specialised in such heating grids and organised the study tour.

High-level representatives such as Ms Gordana Lipšinić, Mayor of the City of Ozalj in Croatia, Ms Olga Karba Mayor of the City of Ljutomer in Slovenia, and Mr Nemanja Pajić, President of the City Assembly of the City of Šabac, Serbia, Ljupco Dimov, Head of Energy Efficiency Department, Municipality of Karposh, Macedonia, participated in the study tour and assessed opportunities on how to transfer such concepts to their cities. The interest of local politicians on renewable district heating and cooling systems as an attractive alternative for local communities is high; however, several barriers need to be overcome. CoolHeating project assists in this process.

The study tour started with a visit of the 44,800 m² solar thermal plant in Gram. Around 1,200 consumers are connected to the district heating system and benefit from the solar thermal plant. 120,000 m³ seasonal thermal storage pit allowed increasing the share of solar heating from 16% to 60% in the entire heat production.

The study tour continued with a visit of the island of Samsø, which is a model for strong public participation and citizen ownership. Two of the main drivers in the energy transformation process of the island, Mr Jan Jantzen and Mr Michael Kristnesen, both representatives of the Energy Academy of Samsø, guided through the installations. They highlighted the importance of one or some motivated citizens that are needed to start and maintain the energy transformation process in a village. In Samsø two different district heating plants were visited. The Nordby-Maarup district heating plant connects 200 households and runs on a 0.9 MW wood chip boiler. In addition, it has rows of solar panels as a supplementary source of heat. The Ballen-Brundby district heating plant connects 296 households and runs on 1.6 MW straw



boiler. The consumers own the plant through a cooperative. It is the only heating plant on the island owned entirely by the consumers.

Finally, the delegates visited the district heating system in Brødstrup connecting almost 1,500 consumers. It was the world's first solar thermal plant in combination with natural gas fired CHP. The solar plant consists of 18,600 m² solar panels, 1.2 MW heat pump, 10 MW electric boiler, 5,500 m² buffer tank and 19,000 m³ seasonal heat storage.

The CoolHeating project expects that the high interest of the delegates will lead to joined forces on the local level to launch renewable district heating projects in the target communities of South-Eastern Europe - a region where generally much more solar irradiation is available than in Denmark.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement 691679