Financing model for large-scale solar thermal plants

Subject:	Financing model for large-scale solar thermal plants
Description:	Development of a financing model based on crowdfunding for large-scale solar thermal plants
Date:	27.05.2017
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Document download:	www.solar-district-heating.eu/

Summary description of the instrument

Region: Styria

Partners involved: Province of Styria, S.O.L.I.D.GmbH, AEE INTEC

Short description of the measure: Development of a financing model based on crowdfunding for large-scale solar thermal plants.

Initial situation

Crowdfunding models are very popular and well-established for financing wind power, PV or business projects in general. There are about 600 district heating systems in Styria. The total capacity installed amounts to about 900 MWth. Taking a closer look at the capacity installed, one realizes that the majority of these systems are rather small and only 160 systems have a boiler capacity of more than 1,0 MWth.

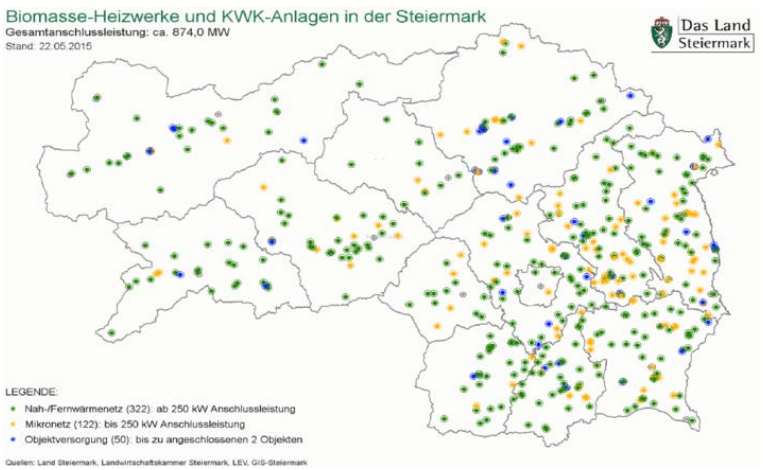

Fig. 1: Biomass and CHP plants in Syria

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 691624

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Most systems are powered by biomass and are owned by farmers' cooperatives. With this type of company structures it is not easy to find funds for financing a new investment like the installation of a solar thermal plant. Therefore, the high upfront investment costs of large-scale solar thermal plants represents a substantial barrier for wider market penetration. Currently, there are not sufficient incentives for investors to invest their capital into this technology, even despite the benefits of lower operational and consumption costs in the long run.

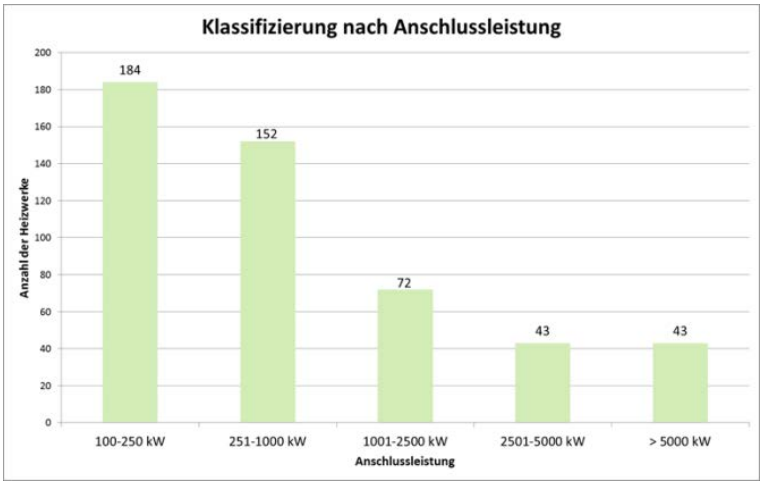

Fig. 2: Classification of heating plants

Objectives

Within the *SDHp2m* project we strive to develop a financing model based on crowdfunding for large-scale solar thermal plants. This requires elaborating and, if possible, implementing all aspects of financial, social and contractual law.

The first pilot projects shall provide owners or operators of district heating plants with incentives to invest into large-scale solar thermal plants. They could potentially also be applied to other segments (e.g. multi-family buildings).

Measures and actions

The first step is to analyse whether the technical and economic requirements for the application of solar thermal energy are fulfilled, based on experiences with large-scale solar thermal plants and biomass heating systems. The second step is to evaluate a participation model as an alternative to common credit financing. If the operator decides to implement the solar thermal plant, the project team will offer support during the financing (crowdfunding and subsidy application) and implementation phase.

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Barriers and opportunities

Potential barriers to implementing this business model are the high upfront costs of solar thermal plants, the requirement for securities and the low returns expected to be achieved. Furthermore, the initial time and financial resources for developing the crowdfunding are to be kept to a minimum.

Crowdfunding allows the people and/or heat users to become shareholders in their own heat generation and to benefit from stable solar heat generation costs. The heating plant operators, on the other hand, will have reduced fuel costs with little to no investment.

Results

The project is still ongoing. However, at this point it can be said that the warmer winters of the past years have substantially reduced the sales of the heat system operators which, in turn, has limited their willingness to invest into new plants. The winter of 2016/2017 was a little harsher and should therefore improve the situation to some extent.

Lessons learned

The project is still ongoing which is why at this point there are no final results.

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