Market survey for the development of Solar District Heating (SDH) in Poland

Subject:	Market survey for the development of Solar District Heating (SDH) in Poland
Description:	Market survey of District Heating systems in Poland
Date:	23.02.2018
Authors:	Institute for Renewable Energy
Document download:	www.solar-district-heating.eu/en/knowledge-database/

Summary description of the instrument

Region: Poland

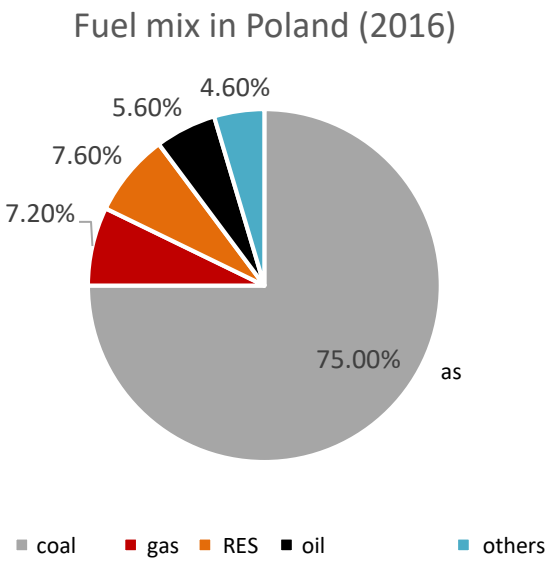
Partners involved: Institute for Renewable Energy

Short description of the measure: Market survey of District Heating systems in Poland combined with Renewable Energy Sources

Initial situation

Polish DH system is mainly based on coal (75 %)[1], while less exploited fuels are natural gas, oil and RE with only 7,6%. Running heating plants, in general, are working inefficiently and a great deal of them should be changed to more modern ones due to non-compliance with environmental regulations and high level of emissions. An alternative plants with rather small powers (1-20 MW) is installation of systems based on renewable energy sources.

To facilitate the upcoming transition, the National Fund for Environmental Protection and Water Management (NFOŚiGW) is working on establishing an incentive program for SDH development in Poland.



[1] Based on the report – Thermal energy in numbers 2016 Energy Regulatory Office (from 31st of December 2016)

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

Market survey for the development of Solar District Heating (SDH) in Poland

Objectives

The main objective of the transition to RES is to comply with environmental regulations such the achievement of the Effective Heating System until 2020 and the annual growth of 1 % of the contribution to DH from RES in the years 2021-2030. As was mentioned before, the present heating systems are in general ineffective and are needed to be modernized.

To prepare the companies for such transition, the “Solar District Systems Combined with Renewable Energy Sources and Heat Storages” conference was organized.

What is more, to gather the opinion on RE and its implementation in the area of heating, the Institute arranged a survey. The aim of the survey was to define the profile, technical possibilities and expectations of the beneficiaries of the incentive program.

Measures and actions

On the 17th of January 2018, the Institute for Renewable Energy organized a conference “Solar District Systems Combined with Renewable Energy Sources and Heat Storages”. It’s aim was to start working on the implementation of the NFOŚiGW’s program concerning SDH and exchange of the experiences with RES. Among the guests where representatives of the companies, producers of RE devices, institutes and universities. What is more, the invitees from Sweden and Denmark shared their experience in the area of SDH implementation in their countries.

During the conference, the Institute arranged a survey amongst the Polish DH companies. The brief comment on the results of the questionnaire are included in the Results part of the Report.

Barriers and opportunities

Taking the advantage of presence of the entities on the conference, the survey was taken. In such manner, the Institute could omit the time consuming process of gathering information from various sources such as bureaus, or DH entities.

Of course, the basic information may be found on the internet, whereas the data collected in the survey is homogeneous and easier to interpret.

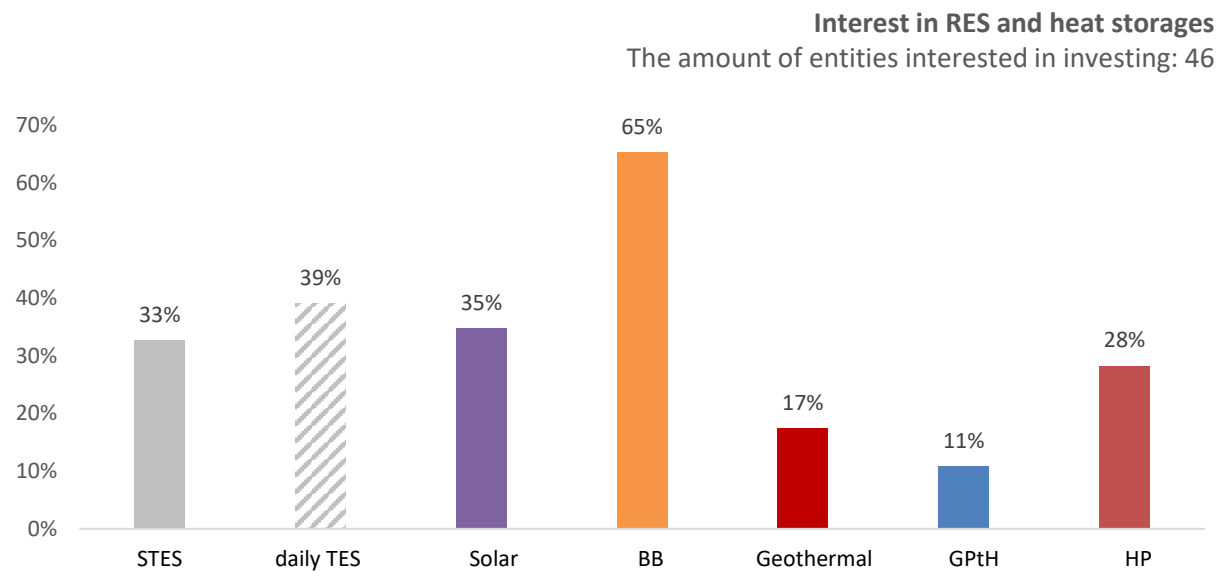
The survey did not cover the entire heating market, but the great range of the powers and the variety of used sources provides a basis for further analysis.

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

What is more, the group considered in the survey, disposes of power stations minor to the national average. It complies with the assumptions of the program of incentives - it is dedicated to minor companies.

Results

In the survey the results from 44 entities operating on 49 DH systems were gathered. The installed potential of gathered DH plants was equal to 7 440 MW, which constitutes 13,7% of the overall potential installed on the Polish market. Those entities sold, in summary, 42 001 TJ of heat, which was 11,4% of the market. The trial includes DH systems with the installed powers ranged from 10,00 to 2 048,55 MW which gives an average of 158,30 MW of installed power per each entity.



The answer to the question regarding the interest in RES and heat storages is shown on the graph below. The source that gathered the main interest among the surveyed companies was the boiler running on the biomass (65%). The reason to such interest lays in the fact that the biomass boilers may be the basis for the production of heat. The further designation of the heat storages and solar panels shows a change in approach to RES and their meaning to DH systems. None of the companies which invested in the RES in the past pointed that those sources function as a peak-load source.

Lessons learned

The information gathered in the survey may be of great value for the future program of the National Fund for Environmental Protection and Water Management. Basing on the results, we can characterize the DH sector

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

in Poland. Knowing its advantages and drawbacks, it is clear how to approach the upcoming changes and prepare the fund. In general, the sector, is interested in investments in RES, mainly due to emissions reduction.

The entities are aware of problems with advanced age of their equipment and the necessity to modernize the systems is a motivation to invest in RES.

A well-prepared program of subsidies may accelerate the development of RES in the sector of DH which is crucial to comply with the regulations imposed by the directives.

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