



## **Implementation of RES through the construction of a geothermal heat pump installation and reconstruction of a heating installation at Nursery №3, Burgas**

Friday, 18 March 2022

**The project "Implementation of RES through the construction of a geothermal heat pump installation and reconstruction of a heating installation at Nursery №3, Burgas"** has the main objective to increase the share of renewable energy - geothermal energy - in the gross final energy consumption and to achieve the decarbonisation of the building of Nursery №3 in Burgas.



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The main objective will be achieved by implementing the following **specific objectives**:

- ▶ To reduce the consumption of conventional energy by building a heating and cooling facility using geothermal energy;
- ▶ To reduce carbon emissions by increasing the production of energy from renewable sources to be used for heating and cooling;
- ▶ To increase the administrative capacity at expert and managerial level in the management of energy security and energy supply in the municipality through the exchange of knowledge and best practices with the Norwegian partner and Burgas Municipality;
- ▶ Raise public awareness on the contribution of the Financial Mechanism of the European Economic Area and the donor countries.

### **Project activities:**

- ◆ Execution of works for the construction of a geothermal heat pump installation and installation of fan convectors in Nursery №3, town of Burgas;
- ◆ To cover the heating and cooling load of the building as well as the domestic hot water supply, two units with the following parameters were selected: **-heating capacity 85,8 kW; -cooling capacity 66 kW;**
- ◆ It will use the constant temperature of the ground as a source of heat/cold through **22** pieces of closed /dry, not water-draining/ **geothermal** boreholes from +5°C to +23°C **with a depth of 100 m to 120 m;**
- ◆ Reconstruction of an existing heating installation and installation of fan convectors for open ceiling and floor wall installation, with the possibility of operation in heating and cooling mode. Heat carrier with hot water with parameters 45/40° C, and cold carrier 12/17° C will be provided by the heat pump units;
- ◆ Exchange of good practices with Norsk Energi - partner from Norway.

**Status:** In progress (16.03.2022-16.09.2023)

### **Expected outputs:**

- √ Organized and conducted training/information seminar in the city of Burgas;
- √ Prepared report for evaluation of newly built installations;
- √ Installed capacity for energy production from geothermal energy will increase by - 171.6 kW;
- √ Estimated production from geothermal energy - 234 414 kWh/r.;
- √ Estimated annual reductions in CO2 emissions - 276.61 tCO2.

**Partner:** Norsk Energi – partner from Norway

**Project budget:** 543 345,45 BGN

**Budget of Burgas Municipality:** 492 317,85 BGN



**Budget of Norsk Energi:** 51 027,60 BGN

**Grant contract** №BGENERGY-1.002-0004-C01/16.03.2022

**Duration:** 18 months

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