

Zlatograd – Erma River:



Preliminary Design for geothermal pipeline from Gorupso mine well to town of Zlatograd, geothermal heating station and district heating network in the town.

The design is looking at deployment of an urban heating system, which will serve four public buildings. However, in case a greater operational capacity of the geothermal source is approved in future, the system will be able to provide heat to a large number of public and private buildings in town. The approved operational capacity of the geothermal well (bore-hole) located in the existing mine Erma Reka is 10.5 l/sec with a temperature of 90°C. The well can provide heat to buildings with an aggregate heat load of max. 1760 kWt, while the four public buildings to be connected as part of the design will consume 1710 kWt altogether.

Design operations will include construction of pumping and piping system in the gallery where the bore-hole is located, at 300 meters below surface level, and alternative welling of geothermal water from a new bore-hole. A 12 kilometres long geothermal pipeline will convey the water to Zlatograd, where it will be taken up by other design deliverables: a geothermal heat station, urban heat distribution system and substations in the four connected buildings.

By substituting the presently used light carbon fuels with renewable geothermal energy, the design will lead to reduction of harmful greenhouse gas emissions by 798 MT of CO₂ equivalent per annum.