

INVESTMENT ATTRACTIVE GEOTHERMAL PROJECTS OF UKRAINE

SHURCHKOV A.V., ZABARNY G.N., KHVOROV M.M.

*Institute of Engineering Thermophysics of the Ukrainian National Academy of Sciences, Kyiv, Ukraine
03057, Kyiv, Zhelyabova str., 2a, e-mail: geoterm@ittf.recl.com*

The potential of geothermal energy in Ukraine confirmed by the Ministry of Environment on the basis of geological explorations in terms of daily yield averages 27.3 mln. cub. m/day of thermal waters, weighed mean temperature being 70°C. Unfortunately, practical use of the potential is far from being at a desired level.

In order to drastically improve the situation by attracting to the fuel and energy complex of Ukraine the heat stored in thermal waters, the business plans for 35 geothermal investment projects have been developed.

The following factors have been taken into account in the development process:

1. The stores of energy extraction feasible thermal waters confirmed by drilling and testing of exploratory wells.
2. The availability of thermal heat consumers and the guaranty of payment on the part of consumers.
3. The possibility of reconditioning the existing exploratory wells.
4. The possibility of using equipment manufactured in Ukraine.
5. The interest and support of local authorities in the construction and exploitation of geothermal units.

Table 1. Investment – attractive geothermal projects in Ukraine

Name and short description of project	Necessary investments, thous. USD	Payback period, years
1	2	3
1. Geothermal technological complex in the settlement of Yantarne, Crimea It is planned to build a system of heat and hot water supply to the settlement, as well as facilities for processing agricultural products (cooling and drying units run on geothermal energy). Presently exist one producing well (yield 1500 cub. m/day, temperature 87°C, mineralization 20 g/l) and one injection well. Estimated reserves of thermal water in Yantarne field average 40 thous. cub. m/day	500 Construction of geothermal units with total capacity of 4 MW	4
2. Geothermal heat supply of housing and public facilities in the settlement of Gadyach, Poltava region Already available: a producing well (yield 1000 cub. m/day, water temperature 120°C, mineralization 200 g/l, gas content 3 cub. m gas/1 cub. m water) and an injection well. Estimated reserves of thermal water 30 thous. cub. m/day	1518 Construction of geothermal unit. Thermal capacity 5 MW, electric capacity 1 MW	5

1	2	3
<p><i>3. Geothermal heat supply of a greenhouse integrated complex in the settlement of Monastyrische, Czernigov region</i></p> <p>Already available: two producing wells (yield 2x800 cub. m/day, temperature 95°C, mineralization 40 g/l) and one injection well. Estimated reserves of thermal water 20 thous. cub. m/day</p>	<p>800 Construction of geothermal heat supply system, capacity 2 MW</p>	<p>4</p>
<p><i>4. Geothermal heat supply of the settlement of Beregovo, Zakarpattyia region</i></p> <p>Already available: 4 producing wells (yield 4x1200 cub. m/day, temperature 65°C, mineralization 28 g/l) and 2 re-injection wells. Estimated reserves of thermal water in Beregovo field 11 thous. cub. m/day</p>	<p>3000 Construction of geothermal heat generating units, thermal capacity 9 MW</p>	<p>4.5</p>