



VIDEO-LESSON

Title

Prospect of geothermal energy exploitation in Croatia

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Abstract

Over the last few years in Croatia several international companies and local developers have worked on the potential of high enthalpy geothermal fields. They have managed to get several new exploration licenses for power generation from deep geothermal energy. The object interest is fractured carbonate geothermal water aquifers, able to produce temperatures much higher than 100°C. Currently, investors are faced with cutting investment costs for drilling, testing and producing at the depths of more than 2000 m. First privately invested deep well for direct utilization of geothermal energy was drilled several years ago to 1300 m where sandy geothermal water reservoir was found, with water temperatures near 100°C. All phases of exploration, drilling and final production had been carried out in agreement with legal, regional and environmental considerations and despite high initial cost of drilling and construction of deep well, has proven itself as a reliable and favourable, in the long-term, than other locally available energy sources. Such production can also yield unconventional hydrocarbon productions from dissolved gas in regional aquifers, or enhance production in conventionally exhausted hydrocarbon fields, increasing profit and net production. Several projects using abandoned oil exploration and production wells are in the process of legalization and utilization, also for direct heat consumption. Exploitation of shallow geothermal resources via heat pump system has also seen significant rise in last 5 years. Although there is no central monitoring system which could track amount of thermal power installed, there is good indication of how many borehole heat exchangers and water wells have been drilled to exploit shallow heat from the ground. There is also subsidiary system established for ground source heat pumps financed through local municipalities to improve energy efficiency of family homes. It is expected that shallow geothermal resource exploitation will strongly dominate over the deep geothermal in the near future.