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Geothermal Resources in Gujarat as Energy Substitute

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Abstract

Large area in Gujarat and Saurashtra adjacent to Cambay Graben contain groundwater at elevated temperature. The main hot springs in Gujarat are Unai (55°), Dholera (42-45°C), Tulsi Shyam (50-60°C), Tuwa (63°C) and Bagerdara (43.5°) along with number of other hot springs with temperature range of 36-42°C. Some boreholes drilled for oil exploration in Cambay basin have reported water and steam. The hot water of >80°C from Tuwa, Tulsi Shyam, Dholera and Unai geothermal resources at Gujarat can be used in refrigeration, paper industry, cement block curing, drying of fish and vegetables. Abinary cycle power plant is possible at Tulsi Shyam and Unai by utilising temperature of >130°C. The hot water of 60°C is useful in aquaculture and green house. These hot springs are located in western India, which is an industrial hub with good tourist potential. The low temperature water can attract tourists, in spa, hot water bath centers and water sports.

Keywords: Geothermal resources, binary cycle, air conditioning, Gujarat.