

## Power Production from a Moderate Temperature Geothermal Resources in Syria\*

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### Abstract

The main objective of this research is to estimate the potential electrical power that can be extracted from closed and out-of-service oil wells situated in the north-eastern part of Syria. The research shows that using Organic Rankine Cycle (ORC) with Isobutane ( $i - C_4H_{10}$ ) as working fluid can produce **(0.8 MW)** net power output under certain conditions. The geothermal cycle used brine solution to absorb the ground heat with a temperature of **(140°C = 413K)**

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Keywords: Renewable Energies, Geothermal Energy, Organic Rankine Cycle, Oil Wells, Organic working fluid, Isobutane, Brine solution, Exergy.

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\* For the paper in Arabic see pages (53-62)

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