

# ECONOMIC AND ENVIRONMENTAL IMPACT OF GEOTHERMAL PRODUCTION ELECTRICITY IN SÃO MIGUEL ISLAND, AÇORES

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## Abstract

Localized on the Central Mountain of the Atlantic, on the junction of three tectonic platforms, São Miguel Island, in Açores, has an enormous geothermal potential which has been tapped during the three last decades, to produce electricity through modern geothermal power plants.

The industrial exploration of high enthalpy geothermal fluids to produce electricity has been part of the regional governmental renewable energy programs during the last three decades.

The primary objective of these different programs is to reduce the use of oil products used in the production of electricity and the consequently minimize the expense associated with the importation of fossil energy as well as its environmental impact.

Renewable electricity production is extremely important in small spaces, such as on this tourism oriented island, with its limited endogenous economic resources and high levels of energy dependency and its significant distance from the European and American continents.

These endeavors and economic considerations represent the main support for its sustainable development.

In this paper we will quantify the monetary savings that can accrue due to reduced oil importation for the production of electricity, together with environmental benefits that result from the utilization of geothermal electricity production.

**Key words:** geothermic, electricity, island, impact, economic, environmental

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