

Is OSeMOSYS a long-term model for electricity production in Tunisia?

This paper presents a long-term model of Tunisia electricity system, based on OSeMOSYS (Open Source energy MOdelling SYStem), aimed at unveiling potential benefits of increasing RES in electricity production.

What is the energy system in Tunisia?

In BAU, the Tunisian energy system is based on the continuation of already legislated policies, current trends, existing plans and cost improvements in low-carbon technologies, without considering additional climate targets, with fossil fuels remaining the prime forms of energy until 2050 (Table 1). Table 1.

Does Tunisia need a restructured energy supply system?

Comparison of scenarios: Electricity production and discounted cost of electricity. The electricity mix in Tunisia mainly relied on conventional energy sources for over 50 years. Recently, due to fossil fuel prices oscillations and national reserves shortage, the need arose for restructuring the energy supply system.

What limiting Tunisia's energy transition?

At the system level, a number of other elements currently limit Tunisia's progress in the energy transition: subsidised electricity prices that contribute to the national fiscal deficit, energy market structures, hesitant support from institutional actors, and human resources barriers.

How efficient is a solar system in Tunis?

Under these conditions, the simulation for Tunis indicated an average solar field efficiency of 40%, an average biogas consumption of 1564 m<sup>3</sup> /day, a solar share of 27.5%, and an electrical energy generation of 2052 MWh/year, with average power block efficiency of 20.81%. Table 1 summarizes the main data of the conditions of the studied system.

Does Tunisia need a gas-powered power plant?

Despite recent policy developments, Tunisia's energy consumption has been rapidly increasing in the last few decades and is still dominated by fossil fuels, while the plans for expansion of gas-powered electricity plants raise significant concerns.

Tunisia has made significant strides in developing its renewable energy sector. In an attempt to accelerate the penetration of RETs into the energy mix, the government has approved dozens of

Semantic Scholar extracted view of "Optimal design and techno-economic analysis of hybrid renewable energy systems: A case study of Thala city, Tunisia" by Yasmine Ayed et al.

6 ???&#0183; Enel Spa: Solar Microgrid Systems in Tunisia Introduction to Enel Spa and the Tunisian Market Market Dynamics and Challenges Enel Spa: Solar Microgrid Systems in Tunisia Exploring Renewable Energy

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This study explores the techno-economic feasibility of, both off-grid and on-grid, hybrid renewable energy systems for remote rural electrification in Thala City, located in the highest region of Tunisia, using wind and biomass resources.

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Tunisia is currently facing significant challenges in terms of energy supply security and climate change in the path to energy transition. Being one of the countries most exposed to climate change in the Mediterranean ( Waha et al., 2017 ; World Energy Council, 2019 ), Tunisia's energy system is heavily dependent on imported natural gas and oil ...

Hence, the prime objective of this article is to conduct a thoughtful assessment of four prominent renewable energy options for electricity generation and explore the most potential barriers hindering their development in Tunisia.

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Ambitious climate policies would induce deep transformations in Tunisia's energy system, based on four inter-connected pillars: uptake of renewable energy, electrification of end-uses, energy efficiency improvements and the reduced carbon intensity of the fuel mix.



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