

Nuclear power for electricity generation and seawater desalination in Morocco : An overview

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North African nations, including Morocco, face increasing vulnerabilities due to global warming and rising electricity demand, driven by heavy dependence on imported fossil fuels. This dependency poses threats to both energy security and economic stability.

The adoption of nuclear energy in Morocco could serve as a viable and strategic alternative to address the country's growing energy-related challenges.

The general research objective is to examine the potential role of nuclear energy in addressing Morocco's rising electricity generation needs and the pressing demand for seawater desalination. This research rigorously evaluates the economic viability of nuclear power in Morocco, analyzing factors related to electricity economics. Environmental implications, including carbon emissions reduction and nuclear waste management, are comprehensively assessed. Additionally, safety, security, regulatory frameworks, and stakeholder engagement are examined.

While limited research exists on the subject, there remains a notable gap in understanding the potential opportunities and obstacles associated with the utilization of nuclear energy for both electricity generation and seawater desalination within the context of Morocco.

A comprehensive methodological approach that effectively combines quantitative and qualitative analyses is used to rigorously address the research objective. In terms of data collection, this research will undertake a thorough examination of various critical aspects linked to Morocco's energy landscape. This encompasses a thorough investigation into electricity demand projections, the existing energy mix, and specific environmental factors directly relevant to the study's focus. Simultaneously, the study conducts research into global nuclear energy trends and best practices, providing a robust foundation for its comprehensive analysis. Ultimately, the findings are positioned to significantly enhance well-informed decision-making processes regarding the country's pursuit of a sustainable energy future. The results offer invaluable data and insights that serve as a guiding tool for developing a resilient and adaptable energy infrastructure, specifically tailored to meet Morocco's needs and effectively address its evolving challenges.

Key words: Nuclear power; Electricity demand; Desalination; Morocco; North Africa; Policy decisions.