# Energy Internet Concept in Jordan

## Overview

Overall, the research suggests that while there are significant challenges to be addressed, the potential benefits of a smart grid in Jordan are substantial, and the country should continue to...

## Key Takeaways

Jordan is advancing toward an Energy Internet model by integrating renewable energy, smart grids, and energy storage to create a flexible, efficient, and low-carbon electricity system. Overview of the Energy Internet ConceptThe Energy Internet refers to a digitalized, interconnected energy system where electricity generation, storage, and consumption are coordinated through advanced communication and control technologies. It emphasizes renewable energy integration, distributed generation, energy storage, and real-time demand management, enabling a more resilient, efficient, and low-carbon energy network.

Jordan's Energy ContextJordan faces high energy import dependence, rising costs, and structural supply-demand imbalances. Traditional approaches, such as expanding generation capacity or diversifying imports, are no longer sufficient to ensure energy security and affordability. The country has therefore shifted toward flexible energy management, which aligns with the Energy Internet concept by combining technological, regulatory, and institutional innovations.

### Renewable Energy and Smart Grid Integration

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Jordan has made significant progress in renewable energy adoption, particularly solar and wind power, aiming for 50% of electricity from renewables by 2033. The integration of battery energy storage systems (BESS) and grid modernization efforts are central to enabling real-time energy balancing, peak load management, and improved reliability. These measures support the Energy Internet's goal of dynamic, decentralized energy flows.

### Policy and Regulatory Framework

Policies such as net metering, licensing simplification, and tariff reforms are being implemented to encourage distributed generation and private sector participation. Regulatory improvements, combined with infrastructure upgrades, facilitate bidirectional energy flows, allowing households and businesses to both consume and supply electricity efficiently, a key feature of the Energy Internet.

### International Collaboration and Green Transition

Jordan collaborates with international partners like the European Bank for Reconstruction and Development (EBRD) to enhance energy security, expand renewable capacity, and develop green hydrogen projects. These initiatives support the Energy Internet by promoting low-carbon technologies, financial sustainability, and operational resilience across the national grid.

### Benefits and Future Outlook

Implementing an Energy Internet in Jordan can: Reduce reliance on imported fossil fuels and stabilize energy costsEnhance grid reliability and resilience through smart monitoring and storageEnable efficient integration of distributed renewable energy sourcesSupport the development of green hydrogen and other low-carbon technologiesContribute to economic growth and sustainable development goals Jordan's ongoing efforts in smart grid deployment, renewable energy expansion, and regulatory reform position it as a regional leader in adopting Energy Internet principles, creating a more sustainable and flexible energy system for the future.

## Article Content

Sustainable Energy Transition in Jordan: The Interplay of Re

This article provides a comprehensive analysis of Jordan''s energy transition, integrating regulatory, infrastructural, and social aspects to advance the nation''s journey toward achieving the Sustainable

Sustainable Energy Transition in Jordan: Policies, Progress, and ...

Jordan faces challenges like a widening energy supply and demand gap and reliance on fossil fuels. The paper explores how Jordan, with its abundant renewable resources, can utilize it to enhance political

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Options for Developing Jordan''s Energy Sector From Security of

In the long term, a comprehensive restructuring of the energy system is required, based on developing smart grids, enhancing cybersecurity, and exploring opportunities for transitioning toward a green

Towards a Sustainable Energy Future: The Case for Smart Grids in

Overall, the research suggests that while there are significant challenges to be addressed, the potential benefits of a smart grid in Jordan are substantial, and the country should continue to...

Energy Sector in Jordan: Perspectives

Jordan has almost no indigenous energy resources as domestic natural gas covers merely 3% of the Kingdom''s energy needs. The country is dependent on oil imports from

Energy in Jordan

Energy in Jordan describes energy and electricity production, consumption and import in Jordan. Jordan is among the highest in the world in dependency on foreign energy sources, with 92.3% of the

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A comprehensive review of Energy Internet: basic concept, operation

With the intensifying energy crisis and environmental pollution, the Energy Internet and corresponding patterns of energy use have been attracting more and more attention. In this paper, the basic

Energy Internet, the Future Electricity System: Overview, Concept ...

Energy Internet, a futuristic evolution of electricity system, is conceptualized as an energy sharing network. Its features, such as plug-and-play mechanism, real-time bidirectional flow of

What is Energy Internet? Concepts, Technologies, and Future Directions

Concepts, Technologies, and Future Directions Abstract: The climate change crisis, exacerbated by the global dependency of fossil fuels, has brought significant challenges. In the medium to long term,

The status and potential of renewable energy development in Jordan ...

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The government has therefore defined a set of priorities and actions based on greater utilization of domestic resources, including renewable energy. The capacity of renewable energy

What is Energy Internet? Concepts, Technologies, and

To realize renewable-energy-based electrification goals, a new concept-the Energy Internet (EI)-has been proposed, inspired by the most recent advances in information and

Clean Energy Resources in Jordan

Jordan has the potential to become a regional clean energy hub characterised by its political as well as economic stability. There has been significant progress in the implementation of

Energy Internet, the Future Electricity System: Overview, Concept ...

Third, concept of ''Energy Intranet'' is introduced to denote the scaled-down version of Energy Internet, which embodies energy prosumers and local energy markets to form a local energy cluster. Finally,

The Emerging Energy Internet: Architecture, Benefits, Challenges, and ...

Energy Internet is a concept proposed to harness, control, and manage energy resources effectively, with the help of information and communication technology. It improves a reliability of the

Recent advancement of energy internet for emerging energy

This article deals with a thorough investigation of the energy internet towards future emerging technologies for energy distribution and management to

Jordan''s renewable energy sector among world''s most advanced,

AMMAN — Minister of Energy and Mineral Resources Saleh Kharabsheh on Tuesday said that the Kingdom''s renewable energy sector is among the most advanced regionally and

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