

Power grid companies are moving towards the energy internet

Article Overview

Power grid companies are transitioning to the energy internet, creating decentralized, intelligent, and two-way digital networks that integrate renewable energy, storage, and smart technologies.

What the Energy Internet Means

The energy internet transforms traditional, one-way electricity grids into decentralized, bidirectional networks that allow real-time exchange of power and data between distributed energy resources, electric vehicles, and smart buildings . Similar to the internet, it democratizes energy, shifting control from centralized fossil-fuel generators to peer-to-peer, consumer-friendly renewable sources . This approach enhances efficiency, sustainability, and reliability while enabling automated, self-healing grid operations.

Role of Smart Grids

Smart grids are the foundation of the energy internet. They integrate digital technology, sensors, and AI to monitor and manage energy flows in real-time . Unlike traditional grids, smart grids provide two-way communication between utilities and consumers, allowing better demand management, predictive maintenance, and integration of renewable energy . Companies like AES and Adani are leveraging AI and cloud platforms to optimize grid resilience, reduce downtime, and improve renewable energy lifecycle management

Article Content

Apr 07, 2026

Recent advancement of energy internet for emerging energy

Furthermore, the present review focuses on the various issues and challenges of existing energy internet platforms

Sep 16, 2025

Modernizing and expanding the power grid for

Grids are the hidden champions of the energy transition—but without expansion and upgrades, they risk

Mar 27, 2026

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

Nov 03, 2025

Next-gen energy: Reimagining the grid of tomorrow

Discover how Schneider Electric is reshaping the energy grid with AI, decentralization, and smart regulation for a more

Dec 12, 2025

Business classification of Power Grid Enterprises in the development ...

Abstract. Energy Internet is centered on electricity, based on a strong smart grid, and deeply integrates advanced information and

Oct 03, 2025

Modernizing and expanding the power grid for tomorrow's energy

Electric grid modernization is the process of upgrading existing power transmission and distribution networks with advanced

May 31, 2026

A comprehensive review of Energy Internet: basic concept ...

Abstract With the intensifying energy crisis and environmental pollution, the Energy Internet and corresponding patterns of energy

Apr 09, 2026

Smart grids: A comprehensive survey of challenges, industry ...

Through the integration of a bidirectional power and information flow, smart systems, and renewable energy sources,

Jul 11, 2026

Towards next generation Internet of Energy system: Framework and

The integration, security and energy management challenges may deviate the performance of the IoE technology that

Oct 21, 2025

Evolution of smart grids towards the Internet of energy: Concept and ...

To achieve low-carbon sustainable energy development, new technologies such as Internet of Energy (IoE),

Nov 26, 2025

Grid expansion and modernization | Deloitte Insights

These new sources change the flow of electricity on the grid and can introduce intermittency in the power flow as well, further

Jan 09, 2026

Advancing the Energy Internet: Innovations and Solutions for a ...

The Energy Internet represents a transformative paradigm integrating advanced power systems, distributed

Apr 25, 2026

Grid flexibility for a resilient, equitable energy future

The global energy transition hinges on a significant transformation of our power grids. Much like the shift from

Mar 22, 2026

India's Power Grid: Digitalisation at the Heart of the Energy ...

Explore how digitalization is revolutionizing India's power grid management and driving the energy transition towards

Nov 04, 2025

Research on the Transformation and Development Strategies of Power Grid ...

Power grid enterprises must timely transform their development strategies and main business operations, build a new type of energy

Jan 17, 2026

From Smart Grids to an Energy Internet: (A Review Paper

PDF | On Apr 17, 2019, Rozina R. Surani published From Smart Grids to an Energy Internet: (A Review Paper on Key Features of an

Sep 04, 2025

Executive summary - Electricity Grids and Secure Energy Transitions ...

Modern and digital grids are vital to safeguard electricity security during clean energy transitions. As the shares of variable

Mar 25, 2026

Grids - Electricity 2026 - Analysis

A lack of grid capacity is emerging as a critical bottleneck in many regions, driving higher levels of congestion and slowing the

Jul 04, 2026

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

Energy Internet, a futuristic evolution of electricity system, is conceptualized as an energy sharing network. Its

Jul 18, 2026

Smart Grid is the "energy Internet" of the future

Smart Grids are undoubtedly the “energy internet” of the future. The engagement and cooperation of all stakeholders

Sep 11, 2025

The future energy internet for utility energy service and demand-side ...

Abstract The energy internet (EI) integrated with smart grid (SG) has been a growing and emerging technology that

Dec 27, 2025

(PDF) The Emerging Energy Internet: Architecture

The benefits of the energy Internet, along with the challenges of its implementation on a

Jan 25, 2026

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

However, this is tangible only if the energy infrastructure can accommodate renewable energy sources and distributed

Jul 07, 2026

Key technologies and applications of collaboration between digital ...

The digital power grid (DPG) will transform the technology development model oriented towards specific businesses

Nov 27, 2025

The Rise of the Energy Cloud: A New Era for the Power Sector

Think of it as the “Internet of Energy” — a cloud-based platform that enables seamless integration of renewables,

Jul 17, 2026

Energy Internet: Cyber-Physical Deployment of Future Distribution Grids ...

Energy Internet is a concept broadly used by researchers and other practitioners indicating the increased use of

Dec 03, 2025

Towards an Internet-like Power Grid

Towards an Internet-like Power Grid Abstract: The great challenges faced by modern power systems require a fresh

Mar 23, 2026

AI to power the next phase of clean energy transition

According to new research, over 70 percent of energy sector respondents believe that digital technologies,

Jul 14, 2026

How 7 power & energy companies are innovating with cloud and AI in

Whether it is reducing downtime through predictive maintenance or accelerating the deployment of nuclear energy,

Dec 08, 2025

Electric Power & Natural Gas Insights | McKinsey & Company

Geopolitical uncertainty, shifting policies, and increasing demand for power are reshaping the energy landscape. In

Sep 25, 2025

Executive summary – Electricity Grids and Secure Energy Transitions ...

Grids have been delivering power to households, businesses and industry for over 100 years. Clean energy transitions are now

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.iiss.co.za>

Email: sales@iiss.co.za

Phone: +27 63 174 2895

Address: Unit 8, Innovation Park, 15 Rivonia Road, Sandton, Johannesburg, 2196, South Africa

This document is for informational purposes only. Specifications subject to change without notice.

