

## Shared Energy Internet



### Overview

Applications of shared economy in smart grids: Shared energy storage. This paper is focused on the state of the art of shared energy storage and transact.

### Key Takeaways

Shared Energy Internet refers to digitally enabled, community-based energy systems that allow renewable energy to be shared, stored, and optimized across multiple users and locations. Concept Overview

The Shared Energy Internet combines renewable energy generation, storage, and digital management to enable multiple participants—such as households, businesses, or municipalities—to share electricity efficiently. It leverages internet-based platforms, smart meters, and AI-driven optimization to coordinate energy flows, maximize self-consumption, and reduce costs while supporting sustainability goals .

#### Community-Based Energy Sharing

In Germany, this concept is formalized under EnergySharing, which allows renewable electricity to be shared not only within a single building but also across multiple locations via the public grid. Legal frameworks like §42c EnWG and the EU RED III directive provide the regulatory basis for such models . Key features include:

- Shared consumption: Multiple users can access electricity from a single renewable source, such as solar or wind, even if they are in different buildings.
- Smart allocation: Smart meters track energy production and consumption in 15-minute intervals, enabling precise virtual distribution.

- Community participation: Citizens, businesses, and municipalities can form energy communities, increasing acceptance and local engagement.

#### Shared Energy Solutions for Municipalities

Companies like Shared Energy support municipalities in implementing these systems by providing:

- Technological frameworks: AI and digital tools for planning and optimizing energy networks.
- Operational support: Agents manage permits, certifications, and project execution.
- Efficiency gains: Projects can be realized up to 30% faster, with local energy production and consumption strengthening regional economies .

#### Internet-Enabled Energy Storage

The Shared Energy Internet also integrates energy storage systems managed via digital platforms. Internet companies and grid operators can invest in storage plants and optimize their operation to maximize revenue and grid efficiency. This approach allows:

- Dynamic energy allocation: Storage can balance supply and demand in real time.
- Profit optimization: Both grid operators and storage investors benefit economically.
- Scalability: Models can expand from small community projects to large-scale grid integration .

#### Benefits

- Sustainability: Promotes renewable energy use and reduces reliance on fossil fuels.
- Cost efficiency: Shared infrastructure and optimized energy flows lower overall costs.
- Local empowerment: Communities gain control over energy production and consumption.
- Grid stability: Distributed storage and smart management enhance reliability. The Shared Energy Internet represents a synergy of renewable energy, digital technology, and community engagement, enabling a more sustainable, efficient, and participatory energy system.

## Article Content

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If a new term is needed, it should be Comprehensive Energy Network, not Energy Internet.

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Recent advancement of energy internet for emerging energy

Key features of the energy internet such as energy sources, communication technologies, data computation, energy

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Driven by Internet communication technology, the emergence of new business modes in the energy industry is based

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The ancients believed in an enchanted universe – a universe suffused with meaning and

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