Sector Snapshot

Smart Grid

Grid Operators and Energy Suppliers

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Smart Grid Definition*

- Digitalized, self-monitoring electricity network with automation, real-time control, and self-healing capabilities
- Bi-directional electricity flow & real-time data exchange between generation, storage, and consumers
- Integrates renewables, demand response, and smart devices for efficiency, reliability, and sustainability

* across all sub-segments

Sector Segmentation

Architecture, Engineering and Construction

Hardware and Components
Transformers, switchgear, cables, smart meters, sensors, energy storage systems, inverters etc.

Software and IT
Energy management systems, data analysis, demand response platforms, virtual power plant software etc.

Grid Operators and Energy Suppliers

Independent Service Providers
Grid maintenance, certification services

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Market Size & Growth*

- **Global Market:** Valued at USD 60 bn in 2024, projected to reach 289 bn in 2034 (CAGR 16.9%)
- **Main Growth Areas:** Renewable energy integration, grid automation & digitalization, electric vehicle infrastructure, energy storage
- **Regional:** North America leads the market, with rapid growth expected in Asia-Pacific due to urbanization and renewable energy adoption

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* across all sub-segments

Underlying Key Drivers*

- **Energy Efficiency & Modernization:** Demand for grid optimization, distributed energy resources (DERs), renewables integration & EV charging
- **Tech Advancements & Growth:** Integration of smart meters, sensors, AI and IoT enables real-time monitoring, and digitalized grid management
- **Investments & Government Support:** Policies, incentives & investments for grid modernization, e.g. U.S. Inflation Reduction Act and EU's Green Deal

*** across all sub-segments**

Recent Key Trends*

- **Technological Advancements:** Growth in AI-driven grid optimization, demand-side management, real-time monitoring & predictive maintenance
- **Decentralization & Grid Resilience:** Shift towards decentralized energy production, microgrids, and resilience measures to prevent outages
- **Cybersecurity & Data Management:** Increased focus on protecting grid infrastructure & managing vast amounts of real-time data

* across all sub-segments

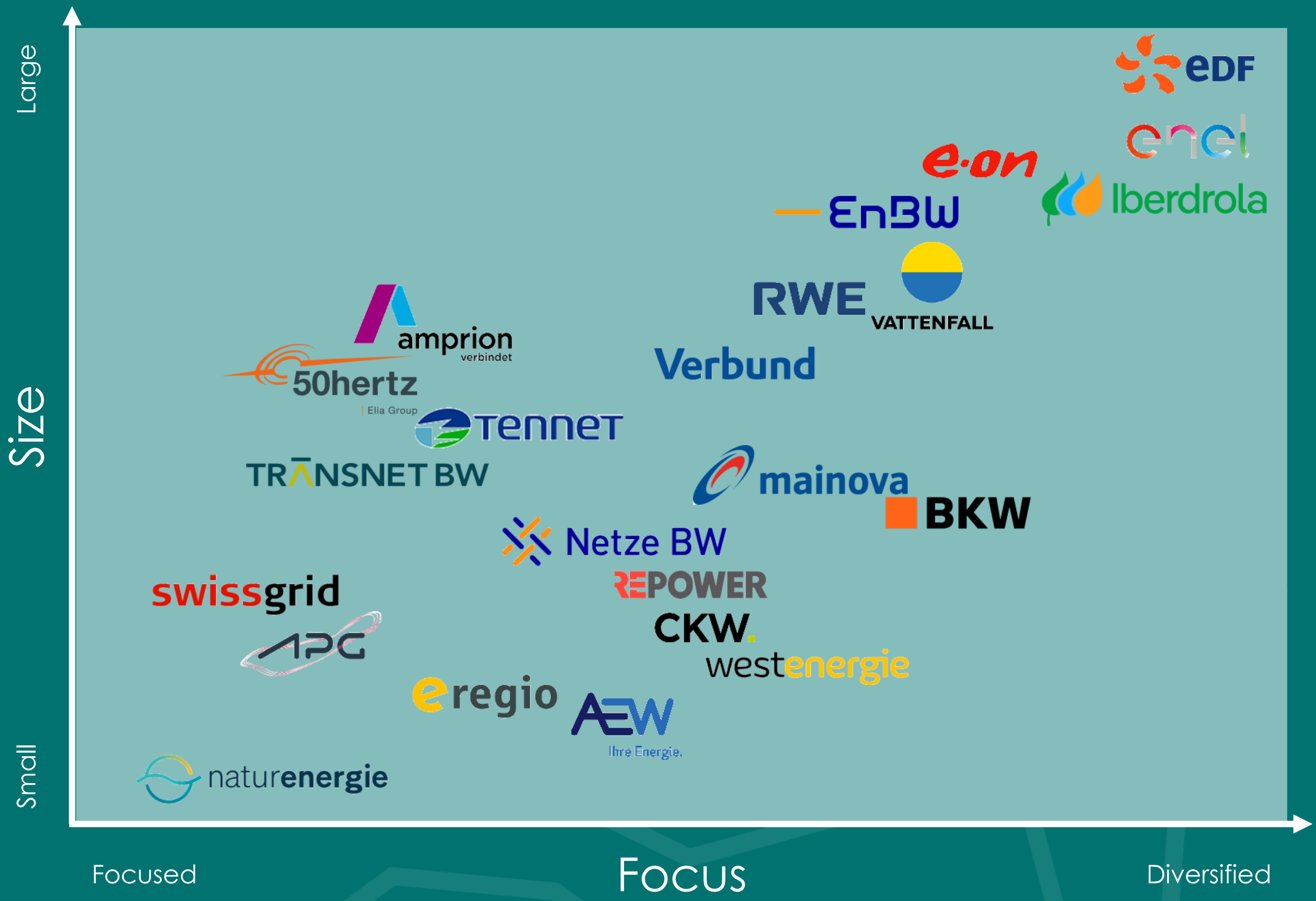
Sector Definition

- **Purpose:** Operate and stabilize the grid while ensuring efficient, real-time electricity supply, demand balancing, and market-based energy trading
- **Key Customers & Applications:** Residential, commercial, and industrial consumers
- **Products/Services:** Grid operations, energy trading, demand response, load balancing, grid monitoring, and resilience solutions

Market Structure

- **Dominated by Large Utilities & TSOs:** Large utilities and transmission system operators manage grid infrastructure and drive integration of renewables
- **Regulated & Fragmented:** Highly regulated market, fragmented by regional policies and grid systems
- **EU-Mandated Unbundling:** Grid operation and energy supply are largely separated by law, though implementation varies (e.g. ownership vs. legal unbundling)

Selected Key Players



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Transaction Market

Historical Activity:

- Increasing transaction activity incl. power plant (portfolio) deals and utility carve-outs, driven by renewable integration and grid modernization
- North America leads; Europe catching up due to regulatory push and decarbonization goals
- Rising M&A in digital grid assets (e.g. smart metering platforms, real-time monitoring solutions, forecasting)

Transaction Market

Key Drivers of Potential Deal Activity:

- Shift to DERs and EVs drives M&A for platforms enabling load management and grid flexibility (e.g. V2G, battery storage, dynamic pricing)
- Capital needs for digital grid and cybersecurity upgrades drive strategic partnerships and asset rotations
- Fragmented regional grid operator landscape spurs consolidation for tech scale-up and standardization

Transaction Market

Outlook & Potential Opportunities:

- Convergence of digital grid ops and e-mobility to spur cross-sector M&A (e.g. EV-grid load balancing platforms)
- Utilities may spin out digital retail units (e.g. prosumer platforms, dynamic pricing tools) for growth funding
- Consolidation of regional DSOs expected as smart grid rollout requires scale and harmonized operations

Selected Deals

ENCAVIS
Sale to
VIESSMANN KKR
01/07/24

steag
Sale to
ASTERION INDUSTRIAL
29/12/23

swissgrid
Sale of 15.65% to
BVK
23/06/23

TRANSNET BW
Sale of 24.95% to
Südwest Konsortium Holding GmbH
31/05/23

TION
Sale to
EQT
24/03/23

GETEC
Sale to
J.P.Morgan ASSET MANAGEMENT
12/04/22

ib vogt
Powering the energy transition
Sale to
CVC | DIF
01/02/22

Sale to
MUFG
02/04/20

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Get in Touch

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