

Europe Data Center Generator Market Landscape 2024-2029

Market Report | 2024-10-28 | 113 pages | Arizton Advisory & Intelligence

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Report description:

The Europe data center generator market by investment is expected to grow at a CAGR of 8.33% from 2023 to 2029.

KEY HIGHLIGHTS

- Data centers in the Europe data center generator market are increasingly turning to Hydrotreated Vegetable Oil (HVO) as a cleaner alternative to diesel for backup power. Notable examples include Green Mountain's 14 MW facility in the UK and AWS's Dublin and Sweden data centers, which began transitioning to HVO in 2023. This shift aligns with the industry's drive toward net-zero emissions.
- New policies like the UK's Low Carbon Hydrogen Standard, introduced in 2023, are prompting data centers to adopt greener technologies. These regulations are influencing operational strategies, with more operators exploring hydrogen and renewable-based solutions to meet evolving emissions standards across Europe.
- The EU Green Deal and local emission regulations are pushing data centers to invest in low-carbon backup generators. For example, Luxembourg's data center, acquired by Arcus Infrastructure Partners in December 2023, was designed with HVO-powered generators to comply with energy efficiency standards, aligning with the EU's 2050 climate neutrality goals.

SEGMENTATION INSIGHTS

- Diesel remains the most common generator type for backup in the Europe data center generator market, with continued widespread use in 2023. For example, Equinix's BX1 Bordeaux facility employs multiple diesel generators.
- Fuel cells are currently being tested and implemented in various data centers as part of a shift towards more sustainable energy solutions. For instance, in 2023, NorthC installed Europe's first green hydrogen-powered emergency backup system at its Groningen facility, while Microsoft is actively testing hydrogen fuel cells in its Dublin data centers, aiming to replace traditional generators.

Segmentation by System Capacity

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- 0-1.5 MW

- 1.5-3 MW

- >=3 MW

Segmentation by System

- DRUPS Systems

- Diesel, Gas & Bi-fuel Generators

- HVO Fuel

- Fuel Cells

Segmentation by Tier Standard

- Tier I & II

- Tier III

- Tier IV

REGIONAL ANALYSIS

- Western Europe has been at the forefront of the transition toward sustainable data center operations in the Europe data center generator market. Countries like the United Kingdom, Germany, and France are leading the charge by introducing stricter environmental regulations, incentivizing the use of renewable fuels such as Hydrotreated Vegetable Oil (HVO), and pushing for carbon neutrality. Notable advancements include the integration of HVO-powered generators in large-scale facilities, such as AWS's Dublin and Sweden data centers and Green Mountain's new 14 MW facility in Romford, UK. The growing adoption of biofuels is driven by policies such as the EU Green Deal and national regulations like Germany's 2024 energy transition plan, which incentivize the replacement of diesel generators with hydrogen and battery storage systems.

- While the Nordics have a highly reliable electricity grid, primarily powered by renewables, this poses a challenge for the traditional data center generator market. The reliance on hydropower and wind energy significantly reduces the need for diesel or gas generators. Many data centers are opting for renewable energy-based backup systems or exploring advanced energy storage solutions like battery backups. The push for microgrid systems, which utilize renewables and can operate independently from the main grid, is also gaining traction.

- Central and Eastern Europe, particularly Russia and Poland, are highly sensitive to geopolitical risks, which have heightened the need for energy security. The region has experienced disruptions in energy supply due to political tensions and conflicts, making reliable backup power systems critical for data center operations. This has resulted in a surge in demand for diesel and natural gas-powered generators to ensure continuous uptime during grid failures and supports the Europe data center generator market growth.

Segmentation by Geography

- Western Europe

- o□The U.K.

- o□Germany

- o□France

- o□Netherlands

- o□Ireland

- o□Switzerland

- o□Italy

- o□Spain

- o□Belgium

- o□Other Western European Countries

- Nordics

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- o□Sweden
- o□Denmark
- o□Norway
- o□Finland & Iceland
- Central & Eastern Europe
- o□Russia
- o□Poland
- o□Other Central & Eastern Europe

VENDOR LANDSCAPE

-□Major operators are collaborating with energy firms to integrate biofuels into their backup power systems. In January 2023, Digital Realty partnered with Repsol in Spain to use biofuel for backup generators. This is part of a larger industry effort to reduce environmental impact and move away from traditional diesel, supported by initiatives like Kohler's HVO-powered factory in France.

-□Data centers are increasingly adopting automation and remote monitoring technologies to enhance operational efficiency and sustainability. Equinix, for instance, integrated Machine Learning (ML) into its data centers in 2023 to monitor power systems and generators. AI and robotic systems are expected to continue transforming data center operations, reducing manual oversight.

-□With rising digitalization and energy demands, European data centers are experiencing more power outages. For example, Microsoft's data center in the Netherlands faced an outage in October 2023 during a switch from grid power to backup generators.

Key Vendor Profiles

- ABB
- Caterpillar
- Cummins
- Generac Power Systems
- HITEC Power Protection
- KOHLER
- Rolls-Royce
- Yanmar (HIMOinsa)

Other Prominent Vendors

- Atlas Copco
- Ausonia
- Enrogen
- FG Wilson
- Perkins Engines
- PRAMAC
- HITZINGER Electric Power
- INMESOL
- Vital Power

Sustainable Generator Providers

- Genesal Energy
- Mitsubishi Heavy Industries
- Mainspring
- INNIO

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- []Aggreko
- []Aksa Power Generation
- []CB

KEY QUESTIONS ANSWERED:

- 1.[]How big is the Europe data center generator market?
- 2.[]What is the growth rate of the Europe data center generator market?
- 3.[]How much MW of power capacity is expected to reach the Europe data center generator market by 2029?

Table of Contents:

- 1.[]ABOUT ARIZTON []
- 2.[]ABOUT OUR DATA CENTER CAPABILITIES []
- 3.[]WHAT'S INCLUDED []
- 4.[]SEGMENTS INCLUDED []
- 5.[]RESEARCH METHODOLOGY []
- 6.[]MARKET AT GLANCE []
- 7.[]PREMIUM INSIGHTS []
- 8.[]INVESTMENT OPPORTUNITIES []
- 8.1.[]INVESTMENT: MARKET SIZE & FORECAST []
- 8.2.[]POWER CAPACITY: MARKET SIZE & FORECAST []
- 9.[]MARKET DYNAMICS[]
- 9.1.[]MARKET GROWTH ENABLERS[]
- 9.2.[]MARKET OPPORTUNITIES & TRENDS []
- 9.3.[]MARKET RESTRAINTS []
- 9.4.[]SITE SELECTION CRITERIA []
- 10.[]MARKET SEGMENTATION[]
- 10.1.[]KEY HIGHLIGHTS []
- 10.2.[]SYSTEM CAPACITY[]
- 10.3.[]SYSTEM[]
- 10.4.[]PRICING TRENDS FOR HVO AND FUEL CELLS[]
- 10.5.[]TIER STANDARDS[]
- 11.[]GEOGRAPHY SEGMENTATION[]
- 11.1.[]WESTERN EUROPE[]
- 11.2.[]MARKET SNAPSHOT & KEY HIGHLIGHTS []
- 11.3.[]DATA CENTER GENERATOR MARKET BY INVESTMENT []
- 11.4.[]DATA CENTER GENERATOR MARKET BY POWER CAPACITY []
- 12.[]UK[]
- 12.1.[]MARKET BY INVESTMENT []
- 12.2.[]MARKET BY POWER CAPACITY []
- 13.[]GERMANY[]
- 13.1.[]MARKET BY INVESTMENT []
- 13.2.[]MARKET BY POWER CAPACITY []
- 14.[]FRANCE[]
- 14.1.[]MARKET BY INVESTMENT []
- 14.2.[]MARKET BY POWER CAPACITY []
- 15.[]NETHERLANDS[]

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- 15.1. □ MARKET BY INVESTMENT □
- 15.2. □ MARKET BY POWER CAPACITY □
- 16. □ IRELAND □
- 16.1. □ MARKET BY INVESTMENT □
- 16.2. □ MARKET BY POWER CAPACITY □
- 17. □ SWITZERLAND □
- 17.1. □ MARKET BY INVESTMENT □
- 17.2. □ MARKET BY POWER CAPACITY □
- 18. □ ITALY □
- 18.1. □ MARKET BY INVESTMENT □
- 18.2. □ MARKET BY POWER CAPACITY □
- 19. □ SPAIN □
- 19.1. □ MARKET BY INVESTMENT □
- 19.2. □ MARKET BY POWER CAPACITY □
- 20. □ BELGIUM □
- 20.1. □ MARKET BY INVESTMENT □
- 20.2. □ MARKET BY POWER CAPACITY □
- 21. □ OTHER WESTERN EUROPEAN COUNTRIES □
- 21.1. □ MARKET BY INVESTMENT □
- 21.2. □ MARKET BY POWER CAPACITY □
- 22. □ NORDICS □
- 22.1. □ MARKET SNAPSHOT & KEY HIGHLIGHTS □
- 22.2. □ DATA CENTER GENERATOR MARKET BY INVESTMENT □
- 22.3. □ DATA CENTER GENERATOR MARKET BY POWER CAPACITY □
- 23. □ DENMARK □
- 23.1. □ MARKET BY INVESTMENT □
- 23.2. □ MARKET BY POWER CAPACITY □
- 24. □ SWEDEN □
- 24.1. □ MARKET BY INVESTMENT □
- 24.2. □ MARKET BY POWER CAPACITY □
- 25. □ NORWAY □
- 25.1. □ MARKET BY INVESTMENT □
- 25.2. □ MARKET BY POWER CAPACITY □
- 26. □ FINLAND & ICELAND □
- 26.1. □ MARKET BY INVESTMENT □
- 26.2. □ MARKET BY POWER CAPACITY □
- 27. □ CENTRAL & EASTERN EUROPE □
- 27.1. □ MARKET SNAPSHOT & KEY HIGHLIGHTS □
- 27.2. □ DATA CENTER GENERATOR MARKET BY INVESTMENT □
- 27.3. □ DATA CENTER GENERATOR MARKET BY POWER CAPACITY □
- 28. □ RUSSIA □
- 28.1. □ MARKET BY INVESTMENT □
- 28.2. □ MARKET BY POWER CAPACITY □
- 29. □ POLAND □
- 29.1. □ MARKET BY INVESTMENT □
- 29.2. □ MARKET BY POWER CAPACITY □
- 30. □ OTHER CENTRAL & EASTERN EUROPEAN COUNTRIES □

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30.1.	MARKET BY INVESTMENT	
30.2.	MARKET BY POWER CAPACITY	
31.	MARKET PARTICIPANTS	
32.	QUANTITATIVE SUMMARY	
33.	APPENDIX	
33.1.	ABBREVIATIONS	
33.2.	DEFINITIONS	
33.3.	SEGMENTAL COVERAGE	

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