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HVO for Data Center Backup Market - A Global and Regional Analysis: Focus on HVO Manufacturers, Suppliers, Generators Manufacturers, and Data Center Operators - Analysis and Forecast, 2025-2034

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Abstracts

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Introduction of HVO for Data Center Backup Market

The HVO (Hydrotreated Vegetable Oil) for data centers backup market encompasses a range of sustainable energy solutions, including advanced biofuels and energy-efficient power management technologies, all essential for ensuring reliable backup power for data centers. This market is driven by the increasing demand for eco-friendly and reliable energy sources to support the growing global reliance on data centers for cloud computing, storage, and processing. Innovations in HVO technologies, such as improved biofuel production methods and better energy storage solutions, are addressing the need for cleaner and more efficient backup power systems. The HVO market for data center backup is highly competitive, with leading players like Neste, Rapsol, TotalEnergies, Phillips 66, and ENI S.p.A. making significant strides. The rising focus on sustainability, cost-efficiency, and uninterrupted power for data centers is shaping industry trends, pushing companies to invest in advanced and innovative fuel solutions. This dynamic market continues to evolve, aiming to meet the growing energy demands of data centers while promoting a shift towards greener and more reliable energy sources.

Market Introduction

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The HVO (Hydrotreated Vegetable Oil) for data centers backup market includes various sustainable energy solutions, such as biofuels, energy storage devices, and power management systems, all vital for providing reliable backup power to data centers. This market has been growing as the demand for eco-friendly and efficient energy sources increases to support the expanding data needs of cloud computing, big data analytics, and online services. Innovations in HVO technologies, including improved biofuel production processes and advanced energy storage solutions, are gaining traction to ensure uninterrupted power supply for critical data operations. Key players like Neste, Rapsol, TotalEnergies, Phillips 66, and ENI S.p.A. lead the market, consistently advancing their offerings to stay competitive. Furthermore, the rising emphasis on sustainability and cost-effectiveness is shaping industry trends, encouraging investments in clean energy solutions and more energy-efficient systems. The HVO for data centers backup market is rapidly evolving to meet the increasing energy demands of data centers while promoting a transition to greener and more reliable energy sources.

Industrial Impact

The HVO (Hydrotreated Vegetable Oil) for data centers backup market has a notable industrial impact, stimulating economic activity and job creation in the energy and technology sectors. Major players such as Neste, Rapsol, TotalEnergies, Phillips 66, and ENI S.p.A. heavily invest in research, development, and production, supporting a broad network of suppliers, contractors, and service providers. The demand for advanced biofuels and energy solutions drives innovation in energy storage, biofuel production technologies, and power management systems, benefiting industries such as renewable energy, refining, and sustainability technologies.

The HVO for data centers backup market also supports the growth of related sectors, including the IT and cloud services industries, where reliable backup power is crucial for maintaining continuous operations. Innovations in HVO technology contribute to improvements in energy efficiency and carbon reduction, influencing global energy trends and driving the development of cleaner power solutions. The rising focus on sustainability is encouraging investments in renewable fuels and energy-efficient systems, helping reduce the environmental footprint of data centers.

Moreover, the market’s emphasis on reliable, eco-friendly backup power solutions fosters collaborations with technology providers, research institutions, and sustainability-driven organizations, further advancing the transition to greener energy sources.

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Overall, the HVO for data centers backup market plays a vital role in technological innovation, economic growth, and the push for a more sustainable digital infrastructure.

Market Segmentation:

Segmentation 1: by Data Center Type

- Colocation and Retail
- Hyperscale Data Center
- Others

Colocation and Retail to Dominate the HVO for Data Center Backup Market (by Application)

The HVO for data center backup market, by application, is predominantly driven by colocation and retail data centers. The colocation and retail segment was valued at $11,518.1 thousand in 2024 and is projected to reach $36,351.7 thousand by 2034. This segment is experiencing substantial growth due to the increasing need for reliable and sustainable power solutions to ensure uninterrupted operations in data centers. The rising demand for data storage, cloud computing, and high-performance computing across industries is driving this growth. Moreover, advancements in HVO technologies, energy storage solutions, and power management systems are enhancing the efficiency and sustainability of backup power solutions, making them ideal for colocation and retail data centers. These factors contribute to the segment’s significant expansion in the coming years.

Segmentation 2: by Data Center Type

- Edible Vegetable Oils
- Crude Palm Oil
- Used Cooking Oil
- Tall Oil

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Animal Fats

Others

Non-Edible Vegetable Oil

Sludge Palm Oil Mill Effluent

Others

Segmentation 3: by Technology Type

Standalone Hydrotreating Technology

Co-Processing Technology

Segmentation 4: by Region

North America

Europe

Asia-Pacific

Rest-of-the-World

Recent Developments in the HVO for Data Center Backup Market

On January 9, 2025, Neste announced its partnership with the Italian fuel distributor Firmin to introduce Neste MY Renewable Diesel (HVO100) to the Italian market, aiming to help reduce greenhouse gas emissions in the transport sector. Available from January 2025, this collaboration expands Neste’s reach in Europe, offering Italian companies a sustainable alternative to fossil diesel. Neste MY Renewable Diesel, made from 100% renewable materials, can reduce greenhouse gas emissions by up to 90%, without the need for new vehicle fleets or modifications, providing an efficient solution for decarbonizing industries,

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including those relying on backup power solutions like data centers.

On October 16, 2024, Neste announced that its MY Renewable Diesel (HVO100) will power Verne's backup generators at data centers in Helsinki, Pori, and Tampere, Finland. This switch from fossil diesel to HVO significantly reduces greenhouse gas emissions by up to 90%, supporting Verne's commitment to sustainability. Neste's renewable diesel, made from 100% renewable materials, ensures reliable performance even in extreme cold weather, making it an ideal solution for backup power in data centers, while contributing to long-term environmental goals.

On March 7, 2022, Repsol starts construction of Spain's first advanced biofuels plant, which will produce 250,000 tons annually of sustainable fuels such as biodiesel and biojet. This $227.22 million project is a key part of Repsol's effort to reduce CO2 emissions by 900,000 tons per year, aligning with their goal to achieve net-zero emissions by 2050. The plant will produce renewable fuels from residues, providing cleaner energy solutions for various sectors, including backup power for data centers, without the need for engine modifications.

On February 18, 2025, TotalEnergies announced a partnership with Air Liquide to decarbonize its refineries in Northern Europe by producing green hydrogen. The joint venture will generate 45,000 tons of green hydrogen annually using renewable power, primarily from the OranjeWind offshore wind farm. This initiative, which includes projects in Zeeland and Antwerp, will cut CO2 emissions by up to 450,000 tons per year. The green hydrogen produced will support various industries, including data centers relying on HVO for backup power, contributing to the transition to sustainable energy solutions.

How can this report add value to an organization?

Product/Innovation Strategy: The product segment helps the reader understand the different types of products available globally. Moreover, the study provides the reader with a detailed understanding of the HVO for data center backup market by products based on category and preparation.

Growth/Marketing Strategy: The HVO for data center backup market has seen major development by key players operating in the market, such as business expansion, partnership, collaboration, and joint venture. The favored strategy for the companies

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has been synergistic activities to strengthen their position in the HVO for data center backup market.

Competitive Strategy: Key players in the HVO for data center backup market have been analyzed and profiled in the study of HVO for data center backup products. Moreover, a detailed competitive benchmarking of the players operating in the HVO for data center backup market has been done to help the reader understand how players stack against each other, presenting a clear market landscape. Additionally, comprehensive competitive strategies such as partnerships, agreements, and collaborations will aid the reader in understanding the untapped revenue pockets in the market.

Methodology: The research methodology design adopted for this specific study includes a mix of data collected from primary and secondary data sources. Both primary resources (key players, market leaders, and in-house experts) and secondary research (a host of paid and unpaid databases), along with analytical tools, have been employed to build the predictive and forecast models.

Data and validation have been taken into consideration from both primary sources as well as secondary sources.

Key Considerations and Assumptions in Market Engineering and Validation

Detailed secondary research has been done to ensure maximum coverage of manufacturers/suppliers operational in a country.

To a certain extent, exact revenue information has been extracted for each company from secondary sources and databases. Revenues specific to product/service/technology were then estimated based on fact-based proxy indicators as well as primary inputs.

The average selling price (ASP) has been calculated using the weighted average method based on the classification.

The currency conversion rate has been taken from the historical exchange rate of Oanda and/or other relevant websites.

Any economic downturn in the future has not been taken into consideration for the market estimation and forecast.

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The base currency considered for the market analysis is US$. Currencies other than the US$ have been converted to the US$ for all statistical calculations, considering the average conversion rate for that particular year.

The term “product” in this document may refer to “service” or “technology” as and where relevant.

The term “manufacturers/suppliers” may refer to “service providers” or “technology providers” as and where relevant.

Primary Research

The primary sources involve industry experts from the HVO for data center backup industry, including HVO for data center backup product providers. Respondents such as CEOs, vice presidents, marketing directors, and technology and innovation directors have been interviewed to obtain and verify both qualitative and quantitative aspects of this research study.

Secondary Research

This study involves the usage of extensive secondary research, company websites, directories, and annual reports. It also makes use of databases, such as Businessweek and others, to collect effective and useful information for a market-oriented, technical, commercial, and extensive study of the global market. In addition to the data sources, the study has been undertaken with the help of other data sources and websites.

Secondary research was done to obtain critical information about the industry’s value chain, the market’s monetary chain, revenue models, the total pool of key players, and the current and potential use cases and applications.

Key Market Players and Competition Synopsis

Profiled companies have been selected based on thorough secondary research, which includes analyzing company coverage, product portfolio, market penetration, and insights gathered from primary experts.

The HVO (Hydrotreated Vegetable Oil) for data centers backup market is driven by increasing demand for sustainable power solutions. Key players like Neste, Rapsol,

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TotalEnergies, Phillips 66, and ENI S.p.A. are leading the charge. Neste is recognized for its commitment to renewable fuel technologies, producing high-quality HVO for various industries, including data centers. Rapsol and TotalEnergies focus on advancing biofuels, ensuring reliable backup power while meeting sustainability goals. Phillips 66 utilizes its refining expertise to produce premium HVO, providing dependable energy for critical infrastructure. ENI S.p.A., with its focus on biofuel innovation, is helping expand the adoption of HVO in diverse applications. These companies, through continuous R&D and sustainability efforts, are driving the growth of the HVO market, supporting the shift to cleaner, more reliable energy solutions for data centers. As demand for eco-friendly, dependable backup power grows, the contributions of these market leaders ensure the future of HVO as a key player in the energy transition.

Some prominent names established in this market are:

- HVO Manufacturers
  - Neste
  - Rapsol
  - TotalEnergies
  - Phillips 66
  - ENI S.p.A.
- HVO Suppliers
  - Crown Oil
  - Foster Fuels
  - Certas Energy
  - LubiQ HVO Fuels
- HVO Generator Manufacturers
  - Kohler

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