

# Asia-Pacific HVO for Data Center Backup Market: Focus on Data Center Type, Feedstock Type, and Country - Analysis and Forecast, 2025-2034

<https://marketpublishers.com/r/A1E61A4DE65BEN.html>

Date: July 2025

Pages: 70

Price: US\$ 3,250.00 (Single User License)

ID: A1E61A4DE65BEN

## Abstracts

This report can be delivered in 2 working days.

### Introduction to Asia-Pacific HVO for Data Center Backup Market

The Asia-Pacific HVO for data center backup market was valued at \$112.1 thousand in 2024 and is projected to grow at a CAGR of 10.17%, reaching \$359.5 thousand by 2034. The market for hydrotreated vegetable oil (HVO) as a data-center backup fuel is expanding quickly in Asia as operators look for drop-in, low-carbon diesel substitutes. HVO reduces lifecycle CO<sub>2</sub> emissions by up to 90% while providing dependable backup power in the face of increasing uptime needs brought on by digital transformation. Fuel stability, storage life, and genset performance are being improved by advances in HVO production and its smooth integration with on-site solar, battery storage, and microgrid systems. With the help of national biofuel laws, tax breaks, and decarbonisation requirements, international providers like Neste, TotalEnergies, Repsol, and Shell are expanding their operations in Singapore, Japan, Australia, and India. APAC data centre operators are increasingly turning to HVO for an affordable, scalable, and emissions-aligned backup solution as regulatory pressure increases and corporate sustainability standards tighten, driving the region's transition to a greener digital infrastructure.

### Market Introduction

The market for hydrotreated vegetable oil (HVO) as a backup fuel for data centre power systems is growing in importance as the Asia-Pacific (APAC) region strives towards decarbonised digital infrastructure. With nearly identical performance characteristics and up to 90% reductions in lifecycle greenhouse gas emissions, HVO has emerged as

a drop-in renewable alternative to traditional diesel generators as data centre operators struggle with increasingly strict emissions targets and the growing risks of grid instability. Quick developments in feedstock processing, together with their smooth incorporation into hybrid energy systems (such as smart microgrids, on-site solar, and battery storage), are improving fuel stability, prolonging storage life, and lowering maintenance schedules.

Neste, TotalEnergies, Repsol, and Shell are expanding specialised HVO production capacity in key APAC hubs like Singapore, Japan, Australia, and India. Mandates for the mixing of biofuels, tax breaks for renewable fuels, and preferential financing programs that boost project economics serve as the foundation for their investments. Meanwhile, in order to validate resilience advantages and carbon-credit prospects, hyperscale and enterprise data-center owners are progressively integrating HVO into pilot and commercial backup systems.

The APAC HVO for data-center backup market is expected to grow rapidly because to the combination of corporate sustainability pledges, regulatory requirements, and changing energy-security concerns. In addition to meeting urgent continuity needs, this change supports longer-term goals of building a more resilient and environmentally friendly digital economy throughout the Asia-Pacific area.

## Market Segmentation

### Segmentation 1: by Data Center Type

Colocation and Retail

Hyperscale Data Center

Others

### Segmentation 2: by Data Center Type

Edible Vegetable Oils

Crude Palm Oil

Used Cooking Oil

Tall Oil

Animal Fats

Others

Non-Edible Vegetable Oil

Sludge Palm Oil Mill Effluent

Others

### Segmentation 3: by Region

Asia-Pacific

### APAC HVO for Data Center Backup Market Trends, Drivers and Challenges

#### Trends

**Shift to Low-Carbon Backup Solutions:** Major data center operators in APAC are trialing and adopting hydrotreated vegetable oil (HVO) as a cleaner alternative to conventional diesel generators, aligning with corporate net-zero targets.

**Integration with Hybrid Power Architectures:** HVO systems are increasingly being paired with battery energy storage and on-site renewables to optimize overall backup capacity and reduce genset runtime.

**Strategic Partnerships & Pilot Projects:** Technology providers, fuel suppliers, and hyperscale data center operators are collaborating on pilot deployments—particularly in Singapore, Japan, and Australia—to validate performance, emissions, and cost metrics.

**Government & Regulatory Encouragement:** Several APAC governments (e.g., Japan's Green Growth Strategy, India's National Biofuel Policy) are offering

incentives or streamlined approvals for biofuel-powered backup generation.

## Drivers

**Emissions Reduction Mandates:** Tightening regional targets for greenhouse gas and particulate emissions are pushing data centers to seek compliant backup fuels.

**Corporate Sustainability Commitments:** With major global cloud providers pledging 24/7 carbon-free operations by 2030, HVO offers an immediate drop-in route to cleaner backup power.

**Grid Reliability Concerns:** Frequent grid outages or voltage fluctuations in developing APAC markets (e.g., Southeast Asia, India) drive demand for robust, long-duration backup solutions that maintain business continuity.

**Lifecycle Cost Advantages:** Although HVO carries a slight price premium over diesel, lower maintenance requirements (due to its cleaner combustion profile) and potential carbon credits can offset total cost of ownership.

## Challenges

**Feedstock Supply Constraints:** Scaling HVO production sustainably—without impacting food crops or land use—remains a bottleneck. Feedstock competition with other industries can drive up prices.

**Fuel Infrastructure Upgrades:** Existing diesel storage and handling systems may require modifications (e.g., material compatibility checks, filtration enhancements) before HVO can be used safely at scale.

**Price Volatility & Premium:** HVO currently trades at a 10–30% premium over ultra-low-sulfur diesel, making budget approvals more complex for cost-focused operators.

**Regulatory & Certification Hurdles:** Lack of unified APAC standards for biofuel blending and generator certification can slow roll-out across multiple countries.

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 regionally. Moreover, the study provides the reader with a detailed understanding of the APAC HVO for data center backup market based on application and product.

**Growth/Marketing Strategy:** The APAC 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 has been synergistic activities to strengthen their position in the APACHVO for data center backup market.

**Competitive Strategy:** Key players in the APAC 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 APACHVO 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.

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