

# Green Hydrogen from Wind Energy Market 2024 – Recent Trends, Product Development and Forecast 2032

*Green hydrogen, produced by splitting water using renewable energy sources like wind power*

VANCOUVER, BRITISH COLUMBIA,  
CANADA, July 1, 2024

/EINPresswire.com/ -- The [Green Hydrogen from Wind Energy Market](#) is experiencing significant growth potential as countries worldwide strive to achieve net-zero emissions. This press release explores the current market landscape, key trends, drivers, and restraints impacting its growth, along with strategic developments and future opportunities.



## Market Overview

Green hydrogen, produced by splitting water using renewable energy sources like wind power, offers a clean and sustainable alternative to traditional fossil fuel-based hydrogen. The global green hydrogen from wind energy market is expected to reach a value of \$xx by 2022, growing at a Compound Annual Growth Rate (CAGR) of % during the forecast period [2022]–[2032]. This growth is attributed to rising environmental concerns, increasing government support for renewable energy projects, and technological advancements in wind turbine and electrolyzer efficiency.

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## Key Trends Shaping the Market

Integration of Wind and Hydrogen Production: Companies are increasingly integrating wind farms with electrolyzers to create on-site green hydrogen production facilities. This trend

optimizes energy use and reduces reliance on traditional grids.

**Focus on Cost Reduction:** Technological advancements and economies of scale are bringing down the cost of wind turbines, electrolyzers, and hydrogen storage solutions, making green hydrogen more competitive with traditional options.

**Expansion into New Applications:** Green hydrogen is finding applications beyond transportation in power generation, industrial processes, and energy storage, further propelling market growth.

### Drivers Fueling Market Growth

**Stringent Environmental Regulations:** Governments are implementing stricter regulations to curb greenhouse gas emissions, driving the adoption of clean energy solutions like green hydrogen.

**Investment in Renewable Energy Infrastructure:** Growing investments in wind energy infrastructure create a readily available source of clean energy for green hydrogen production.

**Growing Demand for Clean Transportation:** The increasing demand for electric vehicles and hydrogen fuel cell technology is fostering the use of green hydrogen as a clean fuel source.

### Restraints Hindering Market Expansion

**High Production Costs:** Green hydrogen production currently remains more expensive than traditional methods. Technological advancements and economies of scale are crucial for overcoming this hurdle.

**Limited Infrastructure:** The infrastructure for hydrogen storage, transportation, and distribution is still in its nascent stages, creating logistical challenges.

**Lack of Policy Frameworks:** Supportive government policies and incentives are necessary to encourage wider adoption of green hydrogen technologies.

### Growth Opportunities for Market Players

**Developing Cost-Effective Technologies:** Companies that can develop and implement cost-effective solutions for wind turbine and electrolyzer technology will gain a competitive edge.

**Expanding into New Applications:** Exploring new applications for green hydrogen, such as synthetic fuels and industrial feedstock, will broaden market reach.

**Collaboration for Infrastructure Development:** Partnerships between public and private entities are crucial for developing robust hydrogen storage, transportation, and distribution

infrastructure.

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SWOT Analysis

Strengths:

Clean and sustainable energy source

Versatile applications across various sectors

Weaknesses:

High production costs

Limited infrastructure

Opportunities:

Growing demand for clean energy solutions

Government support and incentives

Technological advancements

Threats:

Fluctuations in wind energy generation

Competition from traditional hydrogen production methods

Latest Strategic Developments

On 26 July 2021, Siemens Gamesa Renewable Energy and SSE Renewables announced to signing of a Memorandum of Understanding (MoU) to investigate the potential for producing and delivering green hydrogen through electrolysis utilizing power from two onshore wind farms in Scotland and Ireland. The partnership aims to cover the entire value chain for green hydrogen, including building, supply chain management, customer offtake and storage, end-user needs, dependability, operation, and maintenance. In addition, the two businesses plan to collaborate with green hydrogen users from a variety of sectors, such as transportation, large distilleries, and gas network providers.

On 22 May 2023, NEOM Green Hydrogen Company announced an investment worth around USD 8.4 Billion having signed financial agreements with 23 banks and investment companies along with local, regional, and international banks, in one of the largest green hydrogen plants. The facility is currently being built in Saudi Arabia's NEOM zone, in Oxagon. The Engineering, Procurement, and Construction (EPC) contract for the full facility has also been completed by Neom Green Hydrogen Company (NGHC) with air products as the authorized contractor and system integrator.

## Major Companies and Competitive Landscape

The global green hydrogen from wind energy market is consolidated with a few small and medium-sized market players accounting for the majority of revenue. Major players are deploying various strategies, entering into mergers and acquisitions, strategic agreements and contracts, developing, testing, and introducing more effective in the market. Some major players included in the market report are:

Siemens Gamesa Renewable Energy, S.A.U.

Orsted A/S

Vestas

Nel ASA

McPhy Energy S.A.

ITM Power PLC

Green Hydrogen Systems

NEOM

Air Products and Chemicals, Inc.

The AES Corporation

## Segments Covered in Report

For the purpose of this report, Emergen Research has segmented the global green hydrogen from wind energy market on the basis of production process, application, and region:

Production Process Outlook (Revenue & Volume, USD; 2019–2032)

Proton Exchange Membrane (PEM) Electrolysis

Alkaline Electrolysis

Application Outlook (Revenue & Volume, USD; 2019–2032)

Power Generation

Transportation

Others

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Country scope:

U.S., Canada, Mexico, Germany, U.K., France, Spain, BENELUX, Rest of Europe, China, India, Japan, South Korea, Rest of APAC, Brazil, Rest of LATAM, Saudi Arabia, UAE, Israel, and Rest of MEA

Eric Lee

Emergen Research

+91 90210 91709

sales@emergenresearch.com

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