Green Ammonia Market Exploring the Efficiency and Innovation: ACME Group, BASF SE, Ballard power system

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Green Ammonia Industry Report

OREGON, PORTLAND, UNITED STATES, August 9, 2023 /EINPresswire.com/ -- The power generation segment held the largest share of nearly two-fifths of the global green ammonia market in 2021 and is expected to maintain a prominent growth during the forecast period. However, the others segment is expected to exhibit the highest CAGR of 81.2% in 2031. The report also studies the transportation and industrial feedstock segments.

Green ammonia refers to ammonia produced using renewable energy sources, such as solar, wind, or hydroelectric power, instead of fossil fuels. The production of ammonia conventionally relies on a process called the Haber-Bosch process, which converts nitrogen and hydrogen gases into ammonia under high pressure and temperature, with hydrogen typically sourced from natural gas. This process is energy-intensive and generates a significant amount of carbon dioxide emissions.

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https://www.alliedmarketresearch.com/green-ammonia-market/purchase-options

The market in Asia-Pacific is likely to show the fastest CAGR of 81.1% during the forecast period. However, Europe was the largest market in 2021, accounting for nearly two-fifths of the global green ammonia market and is likely to maintain its dominance during the forecasted timeframe. The other regions studied in the report include North America and LAMEA.

In the context of sustainable and environmentally friendly practices, the concept of green ammonia has gained attention. Green ammonia production involves utilizing renewable energy

to generate the hydrogen required for the ammonia synthesis process, effectively reducing or eliminating carbon emissions associated with the production.

The alkaline water electrolysis segment held the largest share in 2021, accounting for more than three-fifths of the global green ammonia market and would dominate the market in terms of revenue through 2031. However, the solid oxide electrolysis segment is estimated to witness the fastest CAGR of 81.3% during the forecast period. The report also offers an analysis of the proton exchange membrane segment.

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Renewable Energy Generation: Renewable energy sources like solar, wind, and hydropower are used to produce electricity.

Water Electrolysis: The generated electricity is then used to perform water electrolysis, splitting water molecules into hydrogen and oxygen gases. This hydrogen is used as the feedstock for ammonia production.

Ammonia Synthesis: The hydrogen gas is combined with nitrogen gas (often sourced from the air) using the Haber-Bosch process to produce ammonia (NH3).

Rise in public concern and government regulations related to carbon emissions and the protection of environmental health drive the growth of the global green ammonia market. Region-wise, the market in Europe is likely to dominate in terms of revenue and Asia-Pacific is expected to achieve the fastest CAGR during the forecast period. By technology, the alkaline water electrolysis segment would dominate the market in terms of revenue through 2031.

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□□□□□□□ □□□□□□ □□□□□□□□□: Green ammonia production eliminates or significantly reduces carbon emissions, as it avoids the use of fossil fuels in both the hydrogen production and ammonia synthesis steps.

□□□□□□ □□□□□□□: Ammonia can be used as a carrier of hydrogen, which is difficult to store and transport in its pure form. Ammonia can be more easily stored and transported, making it a potential energy carrier and storage solution.

□□□□□□□□□ □□□□□□ □□□□□□□□□□□□: Green ammonia production provides a way to integrate renewable energy sources into industrial processes, contributing to the decarbonization of various sectors, including agriculture, chemical production, and transportation.

□□□□□□□□□□□□□ □□□□□: Green ammonia could potentially become a valuable export commodity, allowing regions rich in renewable energy resources to supply ammonia to areas

with high ammonia demand.

According to the report published by Allied Market Research, the global green ammonia market generated $0.02 billion in 2021, and is estimated to reach $6.5 billion by 2031, witnessing a CAGR of 80.1% from 2022 to 2031.

However, there are also challenges associated with green ammonia production, including high initial costs, energy efficiency considerations, and the need for advanced technologies to optimize the ammonia synthesis process. As of my last knowledge update in September 2021, research and development efforts were ongoing to address these challenges and advance the feasibility of large-scale green ammonia production.

Leading players of the global green ammonia market analyzed in the research include Siemens AG, NEL ASA, ThyssenKrupp, ITM Power, CF Industries Holdings, Inc., Ballard Power Systems, AMMPower Corp, FuelPositive Corporation, Haldor Topsoe, Uniper, Hyport Duqm, Enapter, Starfire Energy, Engie, BASF SE, Yara International, Hiringa Energy, and Queensland Nitrates Pty. Ltd.

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