

# **United States Green Ammonia Market Assessment, By Application [Fertilizer, Fuel (Marine, Power Generation and Others) Chemical Feedstock, Hydrogen Transportation and Others], By End-use Industry [Agriculture, Transportation, Industrial (Chemical and Energy) and Others], By Region, Opportunities, and Forecast, 2016-2030F**

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## **Abstracts**

United States Green Ammonia Market size was recorded at 37.44 tons in 2022, which is expected to grow to 1847.4 tons in 2030 with a CAGR of 62.8% during the forecast period between 2023 and 2030. Various factors support the green ammonia market in the United States to promote its growth. The country is well-positioned to use its abundant renewable resources, including substantial solar, wind, and biomass reserves, to produce green ammonia. The nation is moving forward with ambitious goals for renewable integration and emissions reduction thanks to stringent energy transition policies at the state and federal levels promoting the production and usage of green ammonia. The demand for sustainable fertilizer is growing concurrently with the modernization of the agricultural industry, which fits perfectly with green ammonia's potential to provide environmentally friendly substitutes.

Additionally, implementing carbon pricing policies in some regions encourages an economic environment where green ammonia gains a competitive edge because of its lower carbon footprint. Green ammonia has uses outside of agriculture, serving as a flexible and profitable feedstock in various industrial and chemical processes. Moreover, the growing investment to develop the hydrogen economy in the US further drives the demand for green ammonia as it is used to transport and store hydrogen.

## Growing Demand for Sustainable Agriculture

Fertilizers with ammonia as a vital ingredient are extensively used in agriculture. Green ammonia, produced with renewable energy, offers a way to lessen the carbon footprint connected to the creation and use of fertilizers. The need for environmentally friendly fertilizers based on ammonia may increase as sustainability gains importance in agriculture in the United States.

For instance, in 2022, the American agricultural sector achieved its most successful export year, recording international sales of U.S. farm and food products totalling USD 196 billion. The trade data for 2022, disclosed by the Commerce Department, reveals an 11% surge in U.S. agricultural exports, amounting to an increase of USD 19.5 billion compared to the previous record in 2021. This rise in demand for farm products and the sector's requirement to ease its environmental impact drive the need for green ammonia in the United States.

## Rising Hydrogen Economy

The market for green ammonia is supported by the growing interest in a hydrogen economy where hydrogen is used as a source of clean energy. Green ammonia is a key component of the larger hydrogen ecosystem because of its capability to transport and store hydrogen.

For instance, the United States government's 'Hydrogen Shot' initiative seeks to reduce green hydrogen costs to USD 1/kg within ten years (2020 to 2030). This ambitious goal could pave the way for a significant expansion in adopting clean hydrogen, with the potential for a substantial five-fold surge in its utilization. However, regardless of whether additional measures are implemented, such an escalation in clean hydrogen usage would necessitate a considerable upswing in domestic power generation capacity. These initiatives for hydrogen production will also drive the green ammonia market due to its ability to store and transport hydrogen.

## Impact of COVID-19

The COVID-19 pandemic had a variety of effects on the market for green ammonia. Market disruptions were brought on by issues with the supply chain, a decline in investment activity, and project delays brought on by lockdowns and restrictions. The unpredictability and the economic slowdown slowed the pace of new projects and investments in the green ammonia industry. The pandemic hurt the demand for green

ammonia and renewable energy projects, which are necessary for producing green ammonia, as few regions in the United States witnessed a decline in energy demand caused by decreased economic activity.

### Impact of Russia-Ukraine War

The importance of the Black Sea region for energy transit routes increased interest in alternative and sustainable energy sources like green ammonia when energy supplies or transit corridors were disrupted. Additionally, the conflict-affected Natural gas prices and supply routes are crucial for conventional ammonia production. This has increased interest and investments in green ammonia in the United States to reduce reliance on fossil fuels. Geopolitical uncertainties, however, may have an impact on investor and market sentiments. The green ammonia market might experience changes in investments and project developments as companies and investors assess the possible risks and opportunities brought on by the conflict.

### Key Players Landscape and Outlook

Prominent industry participants strategically prioritize collaboration to strengthen the resilience of the green ammonia value chain and foster the mutual sharing of technological expertise and resources for group advancement.

For instance, according to LSB Industries, Inc., it had entered an agreement with Thyssenkrupp Uhde USA, LLC and Bloom Energy in May 2022 to develop a project that will produce about 30,000 metric tons of green ammonia annually at LSB's facility in Pryor, Oklahoma.

The green ammonia market has a bright and multifaceted future in the United States. The use of green ammonia as a low-carbon energy carrier, feedstock, and emission-reduction tool is anticipated to grow significantly as global efforts to combat climate change ramp up. While industries seek cleaner alternatives, the agricultural sector's transition to environmentally friendly practices will probably foster strong demand for green ammonia-based fertilizers, catalyzing its adoption as a flexible feedstock. As markets worldwide look for sustainable solutions, opportunities for international trade may exist, positioning the United States as a supplier of green ammonia. Government incentives, policies, and investments will significantly shape the market trajectory.

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\*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.

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