

Nitrogen Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Sales Channel (Direct, Indirect), By End Use (Food & Beverages, Steel & Metal Manufacturing, Chemicals, Electronics, Healthcare, Others), By Region and Competition, 2020-2030F

<https://marketpublishers.com/r/NED086A345BDEN.html>

Date: June 2025

Pages: 185

Price: US\$ 4,500.00 (Single User License)

ID: NED086A345BDEN

Abstracts

Market Overview

The Global Nitrogen Market was valued at USD 38,742.58 million in 2024 and is projected to reach USD 79,809.11 million by 2030, expanding at a CAGR of 4.47%. Nitrogen, valued for its inert properties and wide-ranging industrial applications, plays a crucial role in sectors including agriculture, food & beverages, chemicals, and healthcare. Available in both gaseous and liquid forms, it is essential in creating controlled environments, minimizing oxidation, and supporting various production processes. A major demand driver is the agricultural industry, where nitrogen is vital in the manufacture of fertilizers such as urea and ammonium nitrate. As global food demand increases and agricultural productivity becomes a priority—especially in developing regions—nitrogen consumption continues to rise. However, the market faces headwinds from the volatility of natural gas prices, a key feedstock in nitrogen production, impacting manufacturing costs and pricing strategies.

Key Market Drivers

Growing Demand of Nitrogen in Food & Beverage Industry

The expanding use of nitrogen in the food and beverage industry is a key factor

propelling the global nitrogen market. With increased emphasis on food safety, extended shelf life, and product preservation, nitrogen is being widely adopted in modern food packaging systems. Its inertness allows it to displace oxygen and inhibit spoilage, making it indispensable in modified atmosphere packaging (MAP) applications for products such as dairy, meat, bakery goods, and ready-to-eat meals. The launch of MAP nitrogen gas generators for small-scale food operations in 2025 highlights the growing relevance of nitrogen in cost-effective and scalable packaging solutions. Rising urbanization and the global shift towards convenience foods are amplifying nitrogen usage across packaging lines, as manufacturers seek to maintain freshness while meeting consumer demand for long-lasting, quality products.

Key Market Challenges

Volatility in Raw Material Prices

The nitrogen market is particularly susceptible to fluctuations in the cost of natural gas, the primary feedstock used in the production of ammonia-based nitrogen products. Any volatility in global natural gas prices—driven by geopolitical developments, trade policy shifts, supply disruptions, or seasonal changes—has a direct impact on nitrogen manufacturing costs. Rising global demand for LNG and tightening environmental regulations further exacerbate this challenge. Price instability introduces financial uncertainty for producers, complicating budgeting and investment decisions while impacting competitiveness in regions where feedstock costs are more stable or subsidized.

Key Market Trends

Growing Utilization of Waste Nitrogen

Sustainability initiatives are prompting industries to increasingly capture and reuse waste nitrogen generated during industrial processes. Rather than releasing it into the atmosphere, companies are investing in technologies that purify and repurpose nitrogen for new applications. This trend is reinforced by stricter environmental regulations, including measures outlined in a 2023 UNECE report aimed at reducing nitrogen emissions across European agriculture and food systems. Industrial facilities are now implementing nitrogen recovery systems in flue gas treatment, chemical production, and wastewater processes. The recovered nitrogen is then reused in applications such as inerting, cryogenic cooling, and blanketing—helping reduce dependency on newly produced nitrogen and improving operational efficiency while supporting environmental

compliance.

Key Market Players

POSCO

Air Liquide

Linde PLC

INOX-Air Products Inc.

Massy Gas Products (Guyana) Ltd (MGPGL)

Al Burjussia

Pengerang Gas Solutions Sdn Bhd (PGSSB)

Air Products and Chemicals, Inc.

Ajwaa Gases LLC

Jiangsu Hangyang Runhua Gas co Ltd

Report Scope

In this report, the Global Nitrogen Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Nitrogen Market, By Sales Channel:

Direct

Indirect

Nitrogen Market, By End Use:

Food & Beverages

Steel & Metal Manufacturing

Chemicals

Electronics

Healthcare

Others

Nitrogen Market, By Region:

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Nitrogen Market.

Available Customizations

Global Nitrogen Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

Contents

1. PRODUCT OVERVIEW

- 1.1. Market Definition
- 1.2. Scope of the Market
 - 1.2.1. Markets Covered
 - 1.2.2. Years Considered for Study
 - 1.2.3. Key Market Segmentations

2. RESEARCH METHODOLOGY

- 2.1. Objective of the Study
- 2.2. Baseline Methodology
- 2.3. Key Industry Partners
- 2.4. Major Association and Secondary Sources
- 2.5. Forecasting Methodology
- 2.6. Data Triangulation & Validation
- 2.7. Assumptions and Limitations

3. EXECUTIVE SUMMARY

- 3.1. Overview of the Market
- 3.2. Overview of Key Market Segmentations
- 3.3. Overview of Key Market Players
- 3.4. Overview of Key Regions/Countries
- 3.5. Overview of Market Drivers, Challenges, and Trends

4. IMPACT OF COVID-19 ON GLOBAL NITROGEN MARKET

5. GLOBAL NITROGEN MARKET OUTLOOK

- 5.1. Market Size & Forecast
 - 5.1.1. By Value
- 5.2. Market Share & Forecast
 - 5.2.1. By Sales Channel (Direct, Indirect)
 - 5.2.2. By End Use (Food & Beverages, Steel & Metal Manufacturing, Chemicals, Electronics, Healthcare, Others)
 - 5.2.3. By Region

- 5.2.4. By Company (2024)
- 5.3. Market Map

6. NORTH AMERICA NITROGEN MARKET OUTLOOK

- 6.1. Market Size & Forecast
 - 6.1.1. By Value
- 6.2. Market Share & Forecast
 - 6.2.1. By Sales Channel
 - 6.2.2. By End Use
 - 6.2.3. By Country
- 6.3. North America: Country Analysis
 - 6.3.1. United States Nitrogen Market Outlook
 - 6.3.1.1. Market Size & Forecast
 - 6.3.1.1.1. By Value
 - 6.3.1.2. Market Share & Forecast
 - 6.3.1.2.1. By Sales Channel
 - 6.3.1.2.2. By End Use
 - 6.3.2. Mexico Nitrogen Market Outlook
 - 6.3.2.1. Market Size & Forecast
 - 6.3.2.1.1. By Value
 - 6.3.2.2. Market Share & Forecast
 - 6.3.2.2.1. By Sales Channel
 - 6.3.2.2.2. By End Use
 - 6.3.3. Canada Nitrogen Market Outlook
 - 6.3.3.1. Market Size & Forecast
 - 6.3.3.1.1. By Value
 - 6.3.3.2. Market Share & Forecast
 - 6.3.3.2.1. By Sales Channel
 - 6.3.3.2.2. By End Use

7. EUROPE NITROGEN MARKET OUTLOOK

- 7.1. Market Size & Forecast
 - 7.1.1. By Value
- 7.2. Market Share & Forecast
 - 7.2.1. By Sales Channel
 - 7.2.2. By End Use
 - 7.2.3. By Country

7.3. Europe: Country Analysis

7.3.1. France Nitrogen Market Outlook

7.3.1.1. Market Size & Forecast

7.3.1.1.1. By Value

7.3.1.2. Market Share & Forecast

7.3.1.2.1. By Sales Channel

7.3.1.2.2. By End Use

7.3.2. Germany Nitrogen Market Outlook

7.3.2.1. Market Size & Forecast

7.3.2.1.1. By Value

7.3.2.2. Market Share & Forecast

7.3.2.2.1. By Sales Channel

7.3.2.2.2. By End Use

7.3.3. United Kingdom Nitrogen Market Outlook

7.3.3.1. Market Size & Forecast

7.3.3.1.1. By Value

7.3.3.2. Market Share & Forecast

7.3.3.2.1. By Sales Channel

7.3.3.2.2. By End Use

7.3.4. Italy Nitrogen Market Outlook

7.3.4.1. Market Size & Forecast

7.3.4.1.1. By Value

7.3.4.2. Market Share & Forecast

7.3.4.2.1. By Sales Channel

7.3.4.2.2. By End Use

7.3.5. Spain Nitrogen Market Outlook

7.3.5.1. Market Size & Forecast

7.3.5.1.1. By Value

7.3.5.2. Market Share & Forecast

7.3.5.2.1. By Sales Channel

7.3.5.2.2. By End Use

8. ASIA PACIFIC NITROGEN MARKET OUTLOOK

8.1. Market Size & Forecast

8.1.1. By Value

8.2. Market Share & Forecast

8.2.1. By Sales Channel

8.2.2. By End Use

8.2.3. By Country

8.3. Asia Pacific: Country Analysis

8.3.1. China Nitrogen Market Outlook

8.3.1.1. Market Size & Forecast

8.3.1.1.1. By Value

8.3.1.2. Market Share & Forecast

8.3.1.2.1. By Sales Channel

8.3.1.2.2. By End Use

8.3.2. India Nitrogen Market Outlook

8.3.2.1. Market Size & Forecast

8.3.2.1.1. By Value

8.3.2.2. Market Share & Forecast

8.3.2.2.1. By Sales Channel

8.3.2.2.2. By End Use

8.3.3. South Korea Nitrogen Market Outlook

8.3.3.1. Market Size & Forecast

8.3.3.1.1. By Value

8.3.3.2. Market Share & Forecast

8.3.3.2.1. By Sales Channel

8.3.3.2.2. By End Use

8.3.4. Japan Nitrogen Market Outlook

8.3.4.1. Market Size & Forecast

8.3.4.1.1. By Value

8.3.4.2. Market Share & Forecast

8.3.4.2.1. By Sales Channel

8.3.4.2.2. By End Use

8.3.5. Australia Nitrogen Market Outlook

8.3.5.1. Market Size & Forecast

8.3.5.1.1. By Value

8.3.5.2. Market Share & Forecast

8.3.5.2.1. By Sales Channel

8.3.5.2.2. By End Use

9. SOUTH AMERICA NITROGEN MARKET OUTLOOK

9.1. Market Size & Forecast

9.1.1. By Value

9.2. Market Share & Forecast

9.2.1. By Sales Channel

- 9.2.2. By End Use
- 9.2.3. By Country
- 9.3. South America: Country Analysis
 - 9.3.1. Brazil Nitrogen Market Outlook
 - 9.3.1.1. Market Size & Forecast
 - 9.3.1.1.1. By Value
 - 9.3.1.2. Market Share & Forecast
 - 9.3.1.2.1. By Sales Channel
 - 9.3.1.2.2. By End Use
 - 9.3.2. Argentina Nitrogen Market Outlook
 - 9.3.2.1. Market Size & Forecast
 - 9.3.2.1.1. By Value
 - 9.3.2.2. Market Share & Forecast
 - 9.3.2.2.1. By Sales Channel
 - 9.3.2.2.2. By End Use
 - 9.3.3. Colombia Nitrogen Market Outlook
 - 9.3.3.1. Market Size & Forecast
 - 9.3.3.1.1. By Value
 - 9.3.3.2. Market Share & Forecast
 - 9.3.3.2.1. By Sales Channel
 - 9.3.3.2.2. By End Use

10. MIDDLE EAST AND AFRICA NITROGEN MARKET OUTLOOK

- 10.1. Market Size & Forecast
 - 10.1.1. By Value
- 10.2. Market Share & Forecast
 - 10.2.1. By Sales Channel
 - 10.2.2. By End Use
 - 10.2.3. By Country
- 10.3. MEA: Country Analysis
 - 10.3.1. South Africa Nitrogen Market Outlook
 - 10.3.1.1. Market Size & Forecast
 - 10.3.1.1.1. By Value
 - 10.3.1.2. Market Share & Forecast
 - 10.3.1.2.1. By Sales Channel
 - 10.3.1.2.2. By End Use
 - 10.3.2. Saudi Arabia Nitrogen Market Outlook
 - 10.3.2.1. Market Size & Forecast

- 10.3.2.1.1. By Value
- 10.3.2.2. Market Share & Forecast
 - 10.3.2.2.1. By Sales Channel
 - 10.3.2.2.2. By End Use
- 10.3.3. UAE Nitrogen Market Outlook
 - 10.3.3.1. Market Size & Forecast
 - 10.3.3.1.1. By Value
 - 10.3.3.2. Market Share & Forecast
 - 10.3.3.2.1. By Sales Channel
 - 10.3.3.2.2. By End Use

11. MARKET DYNAMICS

- 11.1. Drivers
- 11.2. Challenges

12. MARKET TRENDS & DEVELOPMENTS

- 12.1. Merger & Acquisition (If Any)
- 12.2. Product Launches (If Any)
- 12.3. Recent Developments

13. DISRUPTIONS : CONFLICTS, PANDEMICS AND TRADE BARRIERS

14. GLOBAL NITROGEN MARKET: SWOT ANALYSIS

15. PORTERS FIVE FORCES ANALYSIS

- 15.1. Competition in the Industry
- 15.2. Potential of New Entrants
- 15.3. Power of Suppliers
- 15.4. Power of Customers
- 15.5. Threat of Substitute Products

16. COMPETITIVE LANDSCAPE

- 16.1. POSCO
 - 16.1.1. Business Overview
 - 16.1.2. Company Snapshot

- 16.1.3. Products & Services
- 16.1.4. Financials (As Reported)
- 16.1.5. Recent Developments
- 16.1.6. Key Personnel Details
- 16.1.7. SWOT Analysis
- 16.2. Air Liquide
- 16.3. Linde PLC
- 16.4. INOX-Air Products Inc.
- 16.5. Massy Gas Products (Guyana) Ltd (MGPGL)
- 16.6. Al Burjussia
- 16.7. Pengerang Gas Solutions Sdn Bhd (PGSSB)
- 16.8. Air Products and Chemicals, Inc.
- 16.9. Ajwaa Gases LLC
- 16.10. Jiangsu Hangyang Runhua Gas Co Ltd

17. STRATEGIC RECOMMENDATIONS

18. ABOUT US & DISCLAIMER

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