Industrial Gas - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

Industrial Gas Market Analysis

The Industrial Gas Market size is estimated at 1.74 billion tons in 2025, and is expected to reach 2.16 billion tons by 2030, at a CAGR of 4.17% during the forecast period (2025-2030). Healthy demand from steel, semiconductor, and chemical producers underpins this growth, while product innovation around green-hydrogen, high-purity oxygen, and food-grade carbon dioxide keeps value creation ahead of volume expansion. Producers are reinforcing on-site supply models to reduce logistics exposure, and large energy users are signing multi-decade supply contracts that lock in power costs. Regionalization of semiconductor fabrication is shifting high-purity nitrogen and argon flows toward the United States and Europe, even as Asia retains overall volume leadership. At the same time, helium recovery projects, carbon capture ventures, and small-footprint air-separation units are attracting fresh capital from both incumbents and infrastructure investors.

Global Industrial Gas Market Trends and Insights

Rapid Industrialization in Emerging Economies

Robust manufacturing expansion across Asia, especially in China and India, is lifting base-load demand for volume gases such as oxygen and nitrogen. Western India alone houses a large concentration of steel mills, petrochemical clusters, and fertilizer complexes that collectively anchor localized air-separation capacity. Regional authorities are pressing ahead with Make-in-India incentives, encouraging investment in electronics assembly, solar-cell production, and electric-vehicle supply chains that use high-purity nitrogen and argon. Parallel infrastructure projects-from metro rail to greenfield refineries-are extending distributed demand pockets that favor packaged and microbulk deliveries. The U.S. Energy Information Administration projects Asian natural-gas consumption will triple by 2050, with 80% channelled into industry, a proxy for the scale of process-gas requirements.

Green-Hydrogen Push Driving On-Site Electrolysis Contracts

Decarbonization targets are accelerating the adoption of low-carbon hydrogen, prompting chemical, steel, and heavy-transport operators to lock in long-term supply agreements. In partnership with ACWA Power and NEOM, Air Products is developing a USD 8.5 billion renewable-powered electrolysis plant in Saudi Arabia that will supply 650,000 t/y of green ammonia feedstock. Similar contracts across the European Union, Australia, and the United States are under construction, collectively exceeding 1.1 million t/y of planned output. These projects boost demand for associated gases such as nitrogen (for inerting) and oxygen (as a by-product), and they reinforce on-site generation as the preferred delivery model, reducing trucking emissions and power losses.

Helium Supply-Security Platforms Expanding in North America

Tight global helium balances continue to disrupt MRI equipment uptime, semiconductor fabrication, and aerospace inerting. The Cliffside Helium System in Texas, a strategic storage complex, remains under receivership yet sustains a minimum allocation for critical users. Quantum Technology Corp. started Western Canada's first new helium refinery in four decades, adding small but important regional redundancy. Nonetheless, helium prices rose sharply in late 2024, pressuring procurement budgets and encouraging end-users to invest in recovery, purification, and recycling skids. This volatility underpins cautious CAPEX planning for greenfield fabs and acts as a near-term drag on overall consumption growth.

Other drivers and restraints analyzed in the detailed report include:

Oxygen Uptake from Low-Carbon DRI Steel Plants / CO? Capture & Re-Use Projects in EU Breweries & Soda Plants / High Capital Investment and Operational Costs /

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

Oxygen retained a commanding 32% share of the industrial gases market size in 2024 and continues to outpace overall volume growth as steelmakers migrate to DRI furnaces and hospitals expand high-flow ventilator capacity. During 2024, Linde and Air Liquide commissioned more than 20 vacuum pressure swing adsorption units dedicated to medical oxygen, reflecting post-pandemic baseline demand. In parallel, research at Nagoya University demonstrated an adsorptive-dissolution membrane capable of separating oxygen from argon at lower energy intensity, pointing toward future cost savings in ultra-high-purity applications.

Nitrogen is driven by semiconductor inerting, laser-cutting, and modified-atmosphere packaging for premium food lines. The segment benefits from a balanced mix of delivery modes: packaged cylinders for metal-fabrication shops, merchant liquid for electronics clean rooms, and on-site generators at cold-storage hubs. Carbon dioxide volume slipped in 2024 because of feedstock disruptions at ethanol plants; however, in-house capture at breweries cushioned beverage producers against outright shortages.

The Industrial Gases Market Report is Segmented by Product Type (Nitrogen, Oxygen, Carbon Dioxide, and More), Mode of Supply (Packaged/Cylinder, Merchant Bulk Liquid, and More), End-User Industry (Chemical Processing and Refining, Electronics and Semiconductor, and More), and Geography (Asia-Pacific, North America, Europe, South America, and Middle East and Africa). The Market Forecasts are Provided in Terms of Volume (tons).

Geography Analysis

Asia accounted for a dominant 43% share of the industrial gases market size in 2024, driven by strong petrochemical, ferrous metallurgy, and electronics clusters. China's integrated steel capacity and India's robust infrastructure spending jointly supported more than 600 t/d of new ASU capacity additions last year. Regional governments are promoting carbon capture pilots and green-hydrogen export corridors, aligning industrial gas flows with net-zero roadmaps. The competitive terrain features joint ventures between global majors and domestic firms that localize production while retaining world-scale engineering standards.

North America, characterized by mature pipelines supplying Gulf Coast refineries and adaptable merchant-liquid networks serving the Midwest and Northeast, demonstrates significant volume in the market. Purchases of hydrogen by U.S. refiners rose 29% between 2012 and 2022, illustrating a gradual shift from captive reformers to outsourced supply. Ongoing inflation-reduction incentives for clean-energy projects are catalyzing low-carbon ammonia, sustainable aviation fuel, and CO? sequestration ventures, each requiring dedicated industrial gas inputs. Canada is emerging as a niche helium hub, adding redundancy to a market long dominated by the U.S. Bureau of Land Management's storage system.

Europe remains a value-added epicenter, focusing on green-hydrogen corridors and food-grade carbon capture. Air Liquide, Linde, and others are synchronizing renewable power purchase agreements with proton-exchange membrane electrolyzers to support maritime shipping and long-haul trucking decarbonization. Stricter F-gas regulation and methane thresholds are nudging refrigeration OEMs toward natural refrigerants, further diversifying gas portfolios in the region.

List of Companies Covered in this Report:

Air Liquide / Air Products and Chemicals Inc. / Air Water Inc. / Asia Technical Gas Co Pte Ltd. / BASF SE / Bhuruka Gases Ltd. / Ellenbarrie Industrial Gases Limited / Gasco / Goyal MG gases pvt.ltd / Gruppo SIAD / Gulf Cryo / Iwatani Corporation / Linde plc / Messer SE & Co. KGaA / Nippon Sanso Holdings Corporation / Oxair / PT Samator Indo Gas Tbk / Resonac Holdings Corporation / Sapio Group / SOL Group / Southern Industrial Gas Sdn Bhd / Yingde Gas?Shanghai /

Additional Benefits:

The market estimate (ME) sheet in Excel format /
3 months of analyst support /

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