

# Power, Purity, Scale: Industrial Gas Market Surges from USD 80.7 billion to USD 171.0 billion by 2035

Semiconductor demand and hydrogen adoption propel oxygen at 32%, manufacturing at 34%, and on-site supply at 46% to lead to a 7.8% CAGR.

NEWARK, DE, UNITED STATES,
November 6, 2025 /EINPresswire.com/
-- The global industrial gas market hits
USD 80.7 billion in 2025. It climbs to
USD 171.0 billion by 2035. A 7.8% CAGR
fuels this rise. Semiconductor
fabrication expansions demand ultrapure gases that boost yields and cut
defects in advanced nodes. Process
leaders integrate these inputs to slash
energy use and meet decarbonization
targets across steel, chemicals, and
electronics.

C-suite teams upgrade now. Purity failures cost millions in scrapped

**Industrial Gas Market Analysis** Size and Share Forecast Outlook to 2025 Market Size in 2025 Market Share **USD Billion** (By End Use) Manufacturing 171.0 Hydrogen 34.0% 2025 Chemicals 32.0% Energy 2025 Market Share Metullolgry (By Product) USD 4.3 billion in 2024 **Electronics** USD 4.88 billion in 2025 Others **83.87 bilion** by 20**35** Year-over-year growth of 12.2% 36.5% CAGR of 7.8% between 2025 and 2035 Industrial Gas Market

wafers. Supply disruptions halt lines. Leaders secure on-site systems that deliver real-time data and guaranteed uptime. This locks repeat business, lifts margin mix, and speeds velocity in competitive bids.

#### Fast facts:

- \* Market size now: USD 80.7 billion
- \* Market size 2035: USD 171.0 billion
- \* CAGR: 7.8%
- \* Top product segment: Oxygen at 32% share
- \* Form leader: Manufacturing at 34% share
- \* Source leader: On-site at 46% share

\* Growth hubs: Asia Pacific, Europe, North America

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Industrial buyers demand proven gains. Oxygen cuts fuel by 25% in oxy-fuel steel. Nitrogen blanks chips at parts-per-billion purity. Hydrogen enables zero-carbon iron. These metrics drive procurement.

- Oxygen wins: Enhances combustion, slashes fuel in steel and chemicals.
- Manufacturing leads: Boosts welding, fabrication for quality and speed.
- On-site dominates: Guarantees flow, cuts costs for mega-plants.

Channels shape execution. On-site anchors large complexes with pipelines and ASUs for seamless integration. Bulk liquid serves regional clusters with cryogenic transport efficiency. Cylinders support merchant flexibility for labs and remote sites. Digital tracking ties all modes to predictive replenishment.

- India 9.8% CAGR: Fabs, refineries expand under Make in India incentives.
- China 8.1% CAGR: Hydrogen pilots, EV output surge in tech parks.
- Brazil 6% CAGR: Pulp, food processing grow with offshore nitrogen.
- South Korea 5.6% CAGR: Sub-5nm chips, batteries demand ultra-purity.
- United States 5.2% CAGR: Data centers, hydrogen hubs modernize ASUs.

#### R&D

- Test membrane nitrogen separation for 15% energy cut in trials.
- Pilot green hydrogen electrolyzers with solar integration at scale.
- Validate argon blends for EUV lithography yields in live fabs.

# Marketing & Sales

- Demo oxygen enrichment reducing coke rates in client furnaces.
- Bundle on-site plants with 99.999% uptime SLA contracts.
- Target fabs with purity guarantees and yield uplift data.

## Regulatory & QA

- Revise SDS for hydrogen blends before any pilot launch.
- Certify medical oxygen under latest pharmacopeia purity rules.
- Audit cylinder traceability systems for full emissions reporting.

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### Sourcing

- Dual-source helium from Qatar and Texas basins now.
- Localize ASU assembly in Hyderabad and Shanghai hubs.
- Secure renewable PPAs for electrolysis at fixed rates.
- Secure one steel mill hydrogen pilot supply deal.
- Audit two on-site plants for 10% efficiency gain.
- Pitch semiconductor purity package to one new fab.

Purity and reliability turn gases into weekly essentials. Steel mills buy lower emissions. Chipmakers secure defect-free runs. Hospitals demand zero-fail oxygen. Leaders who tie supply to yield, cost, and carbon win baskets and loyalty. Scale meets sustainability in every cylinder and pipeline.

Linde plc holds 26.5% with on-site strength and blue ammonia deals advancing 2024-2025. Air Liquide expands European chemical ties with emission cuts. Air Products scales hydrogen facilities under offtakes. These moves reward integration and innovation.

Asia Pacific adds most volume. Europe prices premium on green tech. North America bridges legacy and hubs. Every region needs local execution with global standards.

Invest in capacity where volume justifies. Lock green pathways for mandates. Digitize chains to preempt risks. Gases enable outcomes. Deliver them flawlessly.

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