



**Sadhan Banerjee,**  
**Managing Director,**  
**Air Products India** talks at length about the potential and dynamics of the industrial gases market supporting growth of the chemical business domain. He also talks about the ways in which this market should step up and broaden its horizon to make a mark in the global arena.

**BY SHIVANI MODY**

#### **Global trends in industrial gases market.**

Industrial gases are witnessing growth in various segments of the chemical value chain ie, refining, petrochemicals, fine & specialty chemicals and biopharmaceuticals. Healthcare sector is also seeing rising demand for industrial gases, with the increase in usage in diagnostic and other clinical applications.

Most countries across the world have strict laws for environmental compliance and safety both for employees and product consumers. This leads to an increase in demand for industrial gases globally.

Therefore, the global market is increasingly recognizing that industrial gases play a vital role in supporting chemical companies to enhance productivity, reduce costs and meet environmental and safety targets.

#### **Market potential of industrial gases in India.**

Industrial gases and their uses are constantly being reinvented to make various processes sustainable and economical. The rapid expansion in the chemical industry has resulted in the need for maximizing productivity and environmental compliance including safety.

Industrial gases are used in a wide range of industries and touch the lives of consumers in positive ways every day. The Indian industrial gases market is picking up pace, in sync with its global counterparts and is exploring the dynamics that the nation offers. The market for industrial gases in India is projected to grow exponentially. This growth will rely on the demand from various end user industries like metallurgy and petrochemicals and will also increase usage in the electronics, chemical, fabrication, energy, and food and beverage. With the growing economy

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and increase in energy demand and climate change control initiatives it has given the much-needed push for exploring the use of industrial gases.

### **Trends, demand and opportunity for liquefied gases.**

The diversified and new avenues for using industrial gases is the key here. For example, Liquid Nitrogen is being increasingly used to refrigerate food during transportation and the healthcare industry in various diagnostic processes. These new trends create demand opportunities for liquefied gases in the chemical industry.

### **Potential for ASUs & related equipment market in India.**

There is an unprecedented growth in the demand for industrial gases across sectors due to high GDP ratio and environmental norms. Air separation units (ASUs) are integral to the process of industrial gas production leading to simultaneous growth. The air separation merchant market has been growing significantly over recent years mainly owing to GDP growth and the steel industries that use a large quantity of oxygen for basic steel making processes.

### **Role of automation in industrial gases, air separation, hydrogen separation equipment business.**

Automation plays a critical role in our industry and these plants are highly automated using the latest technology. For example, our Kochi plant that manufactures hydrogen and nitrogen gases, is fully automated and monitored from a central control room. These plants meet the requirements of the customers and are seamlessly integrated into their operation platforms. This helps to improve their reliability and operational efficiency with minimal plant outages.

### **Overview of the company's industrial gases business in India.**

Our core industrial gases business provides atmospheric and process gases and related equipment to manufacturing markets across 30+ industries, including refining and petrochemical, metals, electronics, and food and beverages. We have also recently invested \$400 million to set-up an industrial gases plant within the Integrated

Refinery Expansion Project (IREP) of the BPCL Kochi Refinery. We have also signed a new long-term agreement with BPCL to build, own, and operate a new syngas production facility at the same site which will supply BPCL's new Propylene Derivatives Petrochemical Project. Our joint venture (INOXAP) is investing \$100 million to set up six new industrial gas manufacturing facilities across India.

We also see significant market potential for Coal Gasification in India. India has the fifth largest coal reserves in the world. Gasification is the cleanest way to use coal. This will enable us to support increasing energy demand to sustain growth and will save significant foreign exchange moving forward.

Air Products globally has a strong balance sheet, with robust plans for growth over the next several years. We have made significant progress in India over the last few years and are constantly looking out for opportunities to invest in India.

### **R&D focus of the company.**

Research, development and innovation is at the core of our business and is the driver for growth. We have opened a state-of-the-art engineering centre in Pune which is a significant step forward. This centre provides technology and equipment for air separation, hydrogen generation, and associated technologies for industrial gases applications, and will act as an EPC innovation hub for Air Products operations globally.

Establishing the centre enhances our global competitiveness and supports the development of solutions focused on the local market. Air Products has strategic plans to expand its operations in India. The opening of the Pune Centre is a significant step forward in meeting our business goals.

### **Insights into simulation technology and mobile apps for industrial gases.**

Simulation technology is incorporated in the research and development efforts of our company. It also helps us in developing better solutions to serve our customers in every market.

The company is also developing a growing number of mobile applications that will

help partners and consumers be more productive and efficient in dealing with industrial gases and specialty chemicals — all in a convenient format for most mobile devices.

### **Challenges faced in the industrial gases market**

While the industry in general has excellent growth prospects in all the major sectors, there are certain markets in India that are still evolving. Industries, such as food and medical is in the process of fully adopting and utilizing the full potential of the industrial gases industry. There is also a need to improve the understanding and confidence around the useful applications of public-private partnership (PPP) models. We see great progress and are hopeful that the Indian market will continue to see the massive scalability and further the gainful usage of industrial gases.

### **Having an edge over peers in the India market.**

With one of the highest GDP ratios, we see significant growth potential for the overall industrial gases sector in India. Air Products has been in existence for more than 75 years and its core industrial gases business provides atmospheric and process gases and related equipment to manufacturing markets, including refining and petrochemical, metals etc.

The overview of the company's industrial gas business in India, directly and through our joint venture, along with the launch of state-of-the-art engineering centre in Pune, underscores the company's commitment to India.

Recently, Air Products has successfully acquired the Coal Gasification Technology licensing business from Shell Global Solutions International B.V., a subsidiary of Royal Dutch Shell plc; and has formed a strategic alliance with Shell for residue gasification technology to refinery complexes. Gasification technologies offer a way to take varied lower-value feedstocks and convert them in a lower-emission manner into syngas. This syngas can be provided to customers to make higher-value products through gasification of coal, biomass and refinery residues. This enables us to extend an integrated turn-key environmentally friendly solution.