

→ BOC India Limited

 **BOC**  
A Member of The Linde Group

# Annual Report 2010

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# Treasures of the Atmosphere

The atmosphere that surrounds our world is a treasure house of gases. The world of BOC India too, is encircled by atmospheric gases. BOC India Limited is a member of The Linde Group, a pioneer in gas separation technology. Linde is a global leader in the industrial gases market. Our success is built on a heritage of innovation that dates back over 130 years when the company's founder, Carl Von Linde, pioneered a process for separating air into its component parts. This inventive spirit lives on today. Working closely together, our Gases and Project Engineering divisions at BOC India Limited continue to develop forward-looking products and technologies that support industries and make a difference to our lives.



## Vision for Growth

The Linde Group's vision is to be the leading global gases and engineering company, admired for our people, who provide innovative solutions that make a difference to the world. BOC India Limited aspires to the same goal. Backed by The Linde Group as its parent, BOC India Limited has made and continues to make significant investments to support its growth strategy.

BOC India Limited is currently engaged in the construction of medium to large air separation units (ASUs) as part of our strategy to maintain our leadership in the gases market in India. We have recently commissioned a 221 tonnes per day merchant ASU in Selaqui near Dehradun, North India, and a 70 tonnes per day VPSA plant for Owens Corning in Talaja. Besides taking over three

captive ASUs of Tata Steel at Jamshedpur with a combined capacity of 1,050 tonnes per day, BOC India is constructing a 2,550 tonnes per day ASU for Tata Steel at Jamshedpur. This plant when commissioned will be the largest air separation plant of The Linde Group in South and East Asia. The other upcoming plants include 2X 853 tonnes per day ASU for the Rourkela Steel Plant of Steel Authority of India, a 418 tonnes per day ASU for Jindal Stainless in Kalinganagar and a 330 tonnes per day merchant ASU in Talaja. With the commissioning of these plants, BOC India will create power zones across India, growing our geographical footprint in line with our aspiration to be the leading gases company in India.



TATA Steel site, Jamshedpur



SAIL Rourkela Steel Plant site



Jindal Stainless site, Kalinganagar

# Safety First



Mock fire drill at a Solar customer site

Safety is one of The Linde Group's foundational principles which constitute our licence to operate as a business. At BOC India, SHEQ (safety, health, environment and quality) is a prerequisite to any business that we undertake and underpins all our decisions, actions and behaviours. We have a well-established SHEQ management system and SHEQ rules and

procedures which are clearly defined and constantly communicated and reinforced to ensure their compliance by employees and contractors alike. The latest initiative is the implementation of the Linde Golden Rules of Safety across all its plants and offices to both employees and contractors, to ensure no one gets hurt working with or for us.

# Customer Focus

Our strong technology base, backed by global best practices of The Linde Group, enables us to create value-added solutions tailored to the business requirements of our customers. Safety, quality, and reliability are built into the products and services that we offer to our customers. This has supported our goal to build strong relationships with our existing

customers, and win new ones. The fact that many of our customers are leaders in their respective industries speaks of our strong partnership with them. Delivering quality products - safely and on time - is what helps BOC India maintain its position as the leading industrial gases company in India.

# People Excellence

High performance thrive on diversity. BOC India Limited actively seeks, encourages and embraces contribution and participation from diverse individuals and teams regardless of their backgrounds, towards the organisational goal - to achieve sustainable and profitable growth safely. We support a culture of collaboration and inclusiveness. There is one culture that runs throughout The Linde Group that binds nearly 50,000 of its employees together.

The organisation fosters a working environment where ethical conduct is highly valued and enforced. The Linde Code of Ethics applies to all employees. BOC India Limited supports the Code by putting in place strong governance measures and transparency practices that create a working environment that is safe, promotes respect and builds enthusiasm and pride among employees.



Sanjiv Lamba addressing BOC India Team



Jamshedpur Tonnage Operations Team at the Country Excellence Awards program



# Applications Solutions for Industry

The Linde Group possesses many leading technologies. We are constantly introducing new gas applications technologies and innovative products to stay on top of industry developments and to consistently improve our service capabilities.

BOC India Limited has a dedicated applications business development team responsible for introducing to our customers, Linde's patented applications

technologies for gases which have proved to enhance the efficiency of our customers' processes and improve the quality of their products. Customers from diverse industries have benefited from our gases applications solutions, including those in the ferrous and non-ferrous metallurgy, glass, ceramics, petrochemicals, pharmaceuticals, infrastructure, automotive, shipbuilding and fabrication sectors.



## Glass

Convective Glass Melting is the most advanced technology for the glass industry. It has proved to speed up the melting process and reduce electric boost. Linde's commitment to help our customers optimise glass production processes goes beyond melting. It extends to the design and installation of special burners which run on hydrogen to polish glass pieces that results in higher glass brightness and a flawless surface.

## Pharmaceutical

Gases play a key role in many production processes involving active pharmaceutical ingredients (APIs). They are also essential in research & development, and quality control. With our extensive know-how and experience serving pharmaceutical companies, we have earned a reputation as a true industry partner providing complete solutions for our customers. Cryogenic cooling, for example, is an environment friendly alternative to mechanical cooling systems based on halogenated hydrocarbons, and can improve many pharmaceutical processes such as grinding, milling, mixing, freezing, and lyophilisation. Our solutions make it possible for companies to not only comply with stringent regulations relating to the release of volatile organic compounds to the atmosphere, but also help in recovering valuable products.

## Steel

The steel industry is dedicated to reducing fuel consumption, optimising capital investments, and improving control of exhaust gas emissions. Linde has extensive experience and presence across almost all geographies in supporting the steel industry with state-of-the-art technologies. At every part of the production chain, we provide solutions that effectively enhance the processes in the steel mill.

We offer complete solutions for electric arc furnaces in collaboration with our leading technology partners to supply burners and injection equipment. REBOX® technology for reheating furnaces improves production capacity, reduce fuel consumption and contain emissions of hazardous flue gases to the environment. Another important benefit of the REBOX® oxyfuel solution is the reduction of scale formation and a more uniform heating.

## Oil and Refinery

The ever increasing demand for high quality fuels worldwide has pushed refineries to increase the production of middle distillates while finding ways to reduce the fraction of lower value residues. At the same time, they face the challenges of improving overall process efficiency and ensuring compliance to stringent local regulations. BOC India Limited has the necessary expertise, experience and equipment to help customers overcome these challenges. Our solutions include steam reformers that are used to supply hydrogen from onsite plants owned and operated by BOC India Limited. This is a reliable and economical solution, freeing our customers to concentrate on their core businesses.



## Manufacturing Industry

The metal fabrication sector is constantly on the lookout for innovative technologies to meet the exacting demands of consumers. Linde has a wealth of experience in optimising welding, cutting, brazing, coating and heating processes. It has skilled sales and technical teams to assist our customers in customising the appropriate applications solutions best suited to their needs.

Gas shielded arc welding process, metal active gas (MAG), metal inert gas (MIG), and tungsten inert gas (TIG) are used widely. Our product lines such as Argoshield and CORGON™ offer shielding gas mixtures for all arc-welding applications. Shielding gases influence the arc - both electrically and thermally. They control wetting properties, penetration, seam geometry and weld bead characteristics and react with the filler metal and the spool. In addition, Linde offers gas mixtures with helium and hydrogen added for high-end quality requirement and specific metallurgies.

Oxy-acetylene cutting results in the highest flame propagation rate and is widely used in profile cutting application. Sharp cut edges, smooth cut surfaces and easily removable scales are guaranteed regardless of the type of cut.

Linde has developed applications using laser and assist gases to help companies in the manufacturing industry ensure high speed and precise cutting.

## Healthcare

In emergency care, our medical gases provide immediate life support and enable other life-saving procedures. In clinical care, our medical gases are used throughout the hospital, supporting patients in their journey from diagnosis to treatment. BOC India Limited supplies healthcare equipment and gases including medical oxygen and nitrous oxide to help our medical professionals to provide better patient care and patient-focused services that save lives while being cost effective.

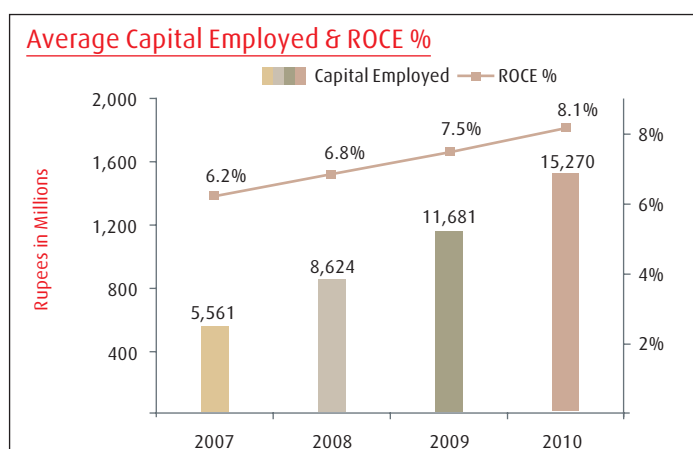
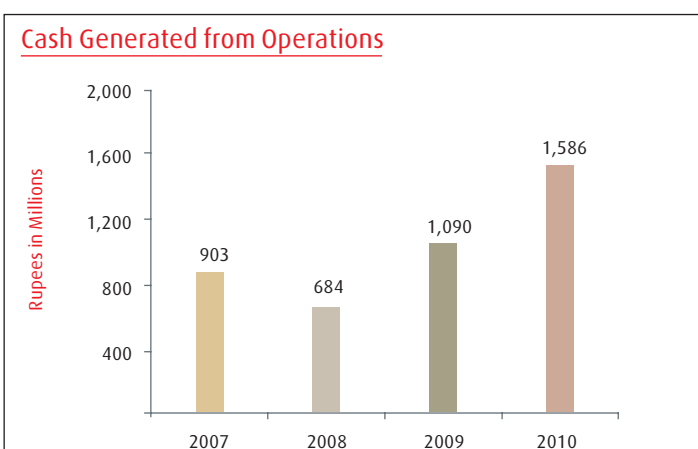
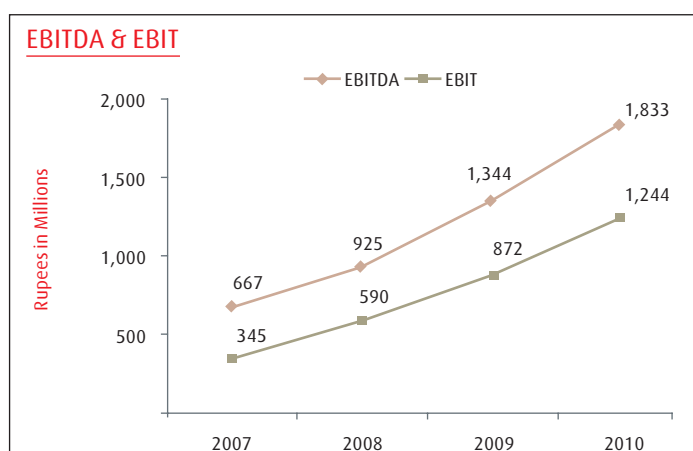
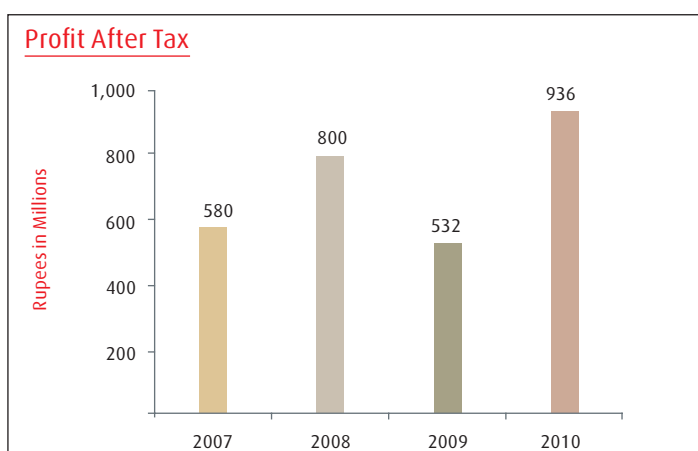
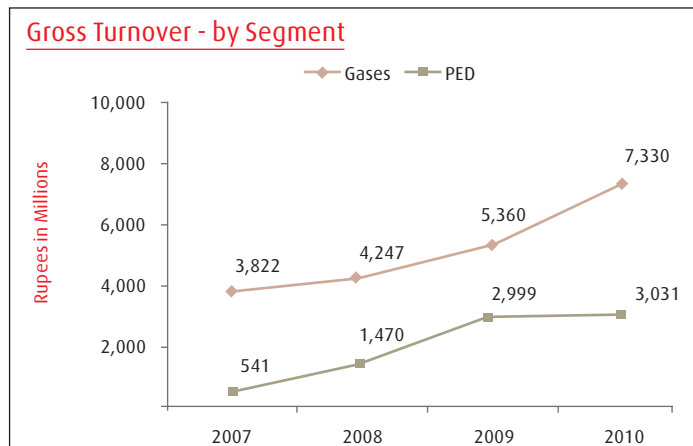
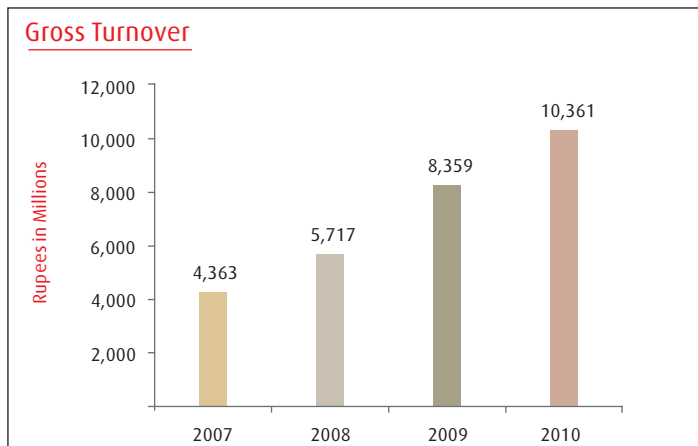
## Solar Photovoltaic

Ultra pure electronic special gases are used in to manufacturing of solar cells. This helps us to reduce our dependence on the fossil fuels and make a difference to our world. These include ultra high pure nitrogen, silane, ammonia, phosphane, etc. which improve the efficiency of the solar cells.





# Graphical Representation of Financial Performance



Note: All figures of 2007 are annualised

# Board of Directors\*



**S M Datta**

Chairman, Non-executive Independent Director



**S Lamba**

Non-executive Director and Member of the Executive Board of Linde AG.



**J J Irani**

Non-executive Independent Director



**B Patwari**

Non-executive Director and Head of Finance and Control, Asia Pacific of The Linde Group



**J Mehta**

Non-executive Independent Director



**S Menon**

Managing Director

\*as on 25 April 2011