

FORM IV

Disclaimer

Under Section 29(2) of the Competition Act, 2002, the Competition Commission of India, if it is of the prima facie opinion that the combination has, or is likely to have, an appreciable adverse effect on competition, shall direct the parties to the said combination to publish details of the combination for bringing it to the knowledge or information of the public and persons affected or likely to be affected by such combination. In accordance with the provisions of Section 29(2) of the Act, the Hon'ble Commission requires Linde Aktiengesellschaft and Praxair, Inc. to publish details of the proposed combination.

The contents given herein do not represent in any manner the views of the Commission and do not prejudice the view that the Commission may take of the proposed combination. The Commission is not responsible for any incorrect or misleading information contained herein.

Details of combination under subsection (2) of Section 29 of the Competition Act, 2002

- I. The Competition Commission of India ("Commission") is investigating the combination between *Linde Aktiengesellschaft* having its principal place of business at Klosterhofstrasse 1, 80331, Munich, Germany and *Praxair, Inc.*, having its principal place of business at 10, Riverview Drive, Danbury, Connecticut, USA, 06810-5113.

- II. The details of the combination in form of the summary, as provided by the parties to the combination under column 1 of Form II are as under:

Introduction / Parties to the Combination

Linde

1. Linde Aktiengesellschaft ("**Linde**") is an international gases and engineering company headquartered in Munich, Germany, and has operations in more than 100 countries worldwide. Linde is primarily active in industrial gases, medical gases, specialty gases, helium and the related engineering and services sectors. Globally, it is composed of three divisions: the main Gases and Engineering divisions, and a smaller Logistics Services division, Gist.
2. In India, Linde is active only in the Gases and Engineering Divisions, through its subsidiaries, Linde India Limited and Linde Engineering India Private Limited. Linde also has a joint venture company, Bellary Oxygen Company Private Limited, which operates an air separation unit ("**ASU**") at Bellary, Karnataka.
3. Linde has a total industrial gas production capacity in all segments of more than 15,000 tons per day. It operates more than 20 production facilities and filling stations across the country, primarily in the western, southern and eastern regions of India. Linde also supplies a range of related services including the construction and installation of plants, equipment, pipelines and associated engineering services catering to the needs of a variety of industries in India.

Praxair

4. Praxair, Inc. ("**Praxair**") is an international industrial gases company headquartered in Danbury, Connecticut, USA, and has operations in more than 50 countries worldwide. Praxair is primarily active in industrial gases, medical gases, specialty gases, helium and the related services, as well as surface-coating technologies.

5. In India, Praxair is active in both, the gases and surface-coating technologies businesses. Praxair is present in India through its wholly owned subsidiary, Praxair India.
6. Praxair has a total industrial gas production capacity in all segments of more than 15,000 tons per day. It has more than 35 production facilities and filling stations across the country, primarily in the western, eastern and southern regions of India. Praxair also has a surface technologies business unit in the south of India that deals in surface coatings for various industries.

Proposed Transaction

7. The present combination relates to the proposed transaction pursuant to a Business Combination Arrangement entered (“**BCA**”) entered into on 1 June 2017, between Linde and Praxair (Praxair together with Linde, the “**Parties**”). The proposed transaction concerns the combination of the two multinational industrial gases companies Linde and Praxair under a newly incorporated holding company, Linde PLC (“**New HoldCo**”), which will be owned by the Parties’ current shareholders after completion of the transaction (“**Proposed Transaction**”).

Purpose of the Proposed Transaction

8. The Proposed Transaction will:
 - (a) leverage unique strengths of each company: Linde’s long-standing leadership in engineering and technology expertise with Praxair’s operational excellence;
 - (b) bring together strong, complementary positions in key geographies and end markets, and create a more diverse and balanced end market portfolio;
 - (c) enable the development and delivery of innovative products and cost efficient solutions for customers along with enhanced supply reliability;

- (d) create considerable value driven by approximately €1.1 billion in annual cost and efficiency synergies; and
- (e) create combined pro-forma revenues of approximately €27 billion and a combined current market value in excess of €66 billion as of 31 May 2017.

Relevant Market

Relevant Product and Geographic Market

9. Linde's and Praxair's activities in India overlap in the following broad product areas for the production and/or supply of:

- (a) Industrial gases;
- (b) Medical gases;
- (c) Specialty gases; and
- (d) Helium.

10. The Parties have distinguished product and geographic markets in the above categories on the basis of the following broad principles:

- (a) **Industrial gases**: a distinction has been drawn by gas type (i.e., treating each gas as a separate product market) and by mode of supply (i.e., distinguishing between tonnage (gaseous form in large volumes delivered by pipeline), bulk (in liquefied form, transported in tankers) and cylinder (gaseous form, small packaging) supply.

Tonnage - Tonnage sales are made under long term contracts (10-20 years) and relate to the delivery of large quantities (usually in excess of 30 tonnes per day) of industrial gases. Gases supplied through the tonnage mode are supplied in gaseous form through a pipeline from a dedicated tonnage plant located on or near the customer's site.

In this segment, the Parties' operations overlap in oxygen, nitrogen, argon, and hydrogen. According to the Parties, the geographic markets

for tonnage gases are national since a tonnage plant can be set up anywhere across India, as per the customers' requirements.

Bulk - In the bulk supply mode, gases are transported in liquid form through tankers. In this segment, the Parties' operations overlap in oxygen, nitrogen, argon, and carbon dioxide. The distance across which it is economically feasible to transport these gases varies (to a degree) depending on the type of gas. Considering that most of oxygen and nitrogen is shipped from the plant to customers located within the same region, according to the Parties, the geographic markets for bulk gases (with the exception of argon) are regional.

In relation to argon, the geographic market is considered national as it is possible for the Parties to supply argon across the country since it is a higher value product as compared to oxygen and nitrogen

Cylinder - Cylinder distribution is used for the supply of gases (in gaseous form) in smaller quantities than bulk. In this segment, the Parties' operations overlap in oxygen, nitrogen, argon, acetylene, hydrogen, and carbon dioxide. Apart from argon and hydrogen, the typical shipping distance for cylinder gases is 100-150 kilometres. Additionally, most gas companies have cylinder filling sites as well as their customers located in the same region. Therefore, according to the Parties, the geographic markets for cylinder supplies are regional.

- (b) **Medical Gases:** The Parties also supply oxygen and nitrous oxide for medical applications (e.g. anaesthesia, therapy or diagnosis) in hospitals, clinics and other healthcare facilities. Similar to the approach followed for industrial gases, medical gases are also distinguished by gas type.

Medical gases are not supplied through the tonnage mode. In the bulk segment, the Parties' operations overlap in the supply of medical oxygen, and according to the Parties, the geographic market for bulk medical oxygen is regional.

In the cylinder segment, the Parties' operations overlap in medical oxygen and medical nitrous oxide, and according to the Parties, the geographic market for cylinder medical gases is regional.

(c) **Specialty gases**: have been treated as a separate product category given their distinct characteristics and differences in demand and supply conditions from industrial and medical gases. In India, the Parties' supply gases in the following groups: (i) noble gases and noble gas mixtures (comprising of krypton, neon, and xenon); (ii) refrigerants; (iii) packaged chemicals (comprising of gases like hydrogen chloride, ethylene oxide, ammonia, silane, etc.); (iv) calibration gases or gas mixtures (comprising of various gases and mixtures which may consist of as many as thirty compounds); and (v) high purity gases. Specialty gases are supplied only in cylinders and not through the tonnage or bulk modes. According to the Parties, the geographic markets for specialty gases are national, given their high value and the consequent feasibility of transporting across vast distances without significantly adding to price. A vast majority of these gases are imported into India.

(d) **Helium**: is a separate product category given its distinct chemical properties and supply conditions. Helium is imported and packaged into retail containers via trans-fill centers servicing customers in India. In India, helium is supplied in both the liquid and cylinder form. According to the Parties, the geographic market for the supply of helium to customers in India is national, as the product can travel over long distances and can be supplied to customers across India from a single trans-fill centre.

Information with reference to sub-section (4) of Section 20 of the Competition Act, 2002 (from the Parties' perspective)

Competitive Assessment – Horizontal overlaps and vertical relationships

A. Industrial and medical gases

(i) Tonnage

- (a) Sufficient substitutes are available for customers: tonnage customers of industrial gases have two options for securing gas supply and may choose between (i) in-house production (“IHP”); or (ii) external supply (“EXS”). Gas companies face significant competitive pressure due to the ability of tonnage customers to opt for IHP and in recent years, IHP has accounted for the vast majority of added tonnage capacity.
- (b) Customers who decide to choose the IHP mode have a range of Indian and global suppliers from whom they can purchase gas plants. Global players include Linde, Air Products, Air Liquide, Taiyo Nippon Sanso India (“TNSI”), Air Water/EIGL, Cryogenic Industries USA and many Chinese suppliers. Many local players (some of which have structural links with global companies) as well as the Chinese suppliers, are progressively expanding their presence in India, and are competing for the same set of customers which are served by the Parties. This has in fact led to various customers switching from one supplier (including the Parties) to the other competitors. In the market for hydrogen, IHP is in fact the preferred mode of supply, with limited EXS contracts.
- (c) Similarly, in the EXS mode customers have a number of alternative suppliers to choose from, again both global and local including Air Liquide, Inox Air Products, JIGPL, TNSI, Air Water/EIGL, SICGILSOL, Goyal Gases, MSPL Gases and Bhagwati Oxygen.
- (d) End customers are concerned primarily with sourcing industrial gas, and both the IHP and EXS modes have this same end use. Therefore, a tonnage customer can easily choose to procure gas through either the IHP or the EXS mode. This threat of customers opting for IHP is therefore, a real and credible alternative and thus poses a strong competitive constraint on EXS suppliers, even if EXS and IHP are not considered part of the same relevant market.
- (e) In tender driven (bidding) markets, such as the tonnage markets, it is the availability of alternative suppliers in future bids, rather than historical

market shares, which better reflect the competitive scenario post-transaction. As outlined above, there are a plethora of alternative suppliers competing in both the IHP and the EXS modes. Consequently, competition for future tonnage contracts will continue to remain high and, market players (including the Parties) have no power to raise price significantly over cost.

- (f) Significant countervailing buyer power: Tonnage customers being large purchasers (usually large companies in the iron and steel, chemical or petrochemical industries), exert significant countervailing buyer power on gas suppliers. The fact that onsite customers are much larger than industrial gas companies, and the fact that they offer several future business opportunities, gives them the ability to exercise considerable leverage on industrial gas companies, imposing competitive pricing on an ongoing basis. The limited incumbency advantage for existing suppliers (reflective of low switching costs), relatively low barriers to entry and the significant value of each tonnage contract ensure that rival suppliers are incentivized to participate in and win the contract.
- (g) Low barriers to entry: Entry into the tonnage markets is relatively easy and is not restricted by the regulatory framework or industry dynamics. Apart from the general approvals required for setting up industrial manufacturing and distribution facilities, there are no special approvals or restrictions on industrial gas companies in India. Economies of scale are not a relevant barrier to entry in the tonnage market. Intellectual property rights generally do not play a significant role and the gases are not patent protected. Therefore, any company with the necessary resources and technical expertise, which is readily available (either locally or globally) can easily compete in tenders in India. Indeed a number of local as well as international gas companies have started bidding for and winning tonnage contracts in India.
- (h) Post-combination, the market shares of the combined entity in the tonnage segment (including in-house production of gases) will be in the range of 0-10% for hydrogen, 20-30% for argon and nitrogen, and 25-35% for oxygen. The current market shares of the Parties, reflect their past, and not current position in the market. The Parties benefitted from

an early mover advantage being the first of the global industrial gas companies to enter the Indian market which led them to win a number of contracts in the 1990s and 2000s; hence, the shares today are reflective of past competition, which continue on account of the long term nature of such contracts. This early mover advantage has however, been steadily declining (particularly in recent years), and thus these shares increasingly overstate the competitive position of the Parties, and understate the competitive position of new entrants, who have begun to garner a share of the market by participating in and winning new tenders.

- (i) In view of the above, the Parties are of the opinion that they do not possess any market power in the tonnage markets.

(ii) Bulk

- (a) Sufficient substitutes available for customers: The combined entity will continue to face competition from a large number of existing competitors (including several recent entrants), and IHP operators (directly and also through numerous resellers which have access to bulk product from IHP operators). The liquid produced by industrial gas companies and IHP players is homogenous and has the same characteristics and end use. Further, the IHP produced liquid is priced aggressively since the IHP players / resellers do not face the same cost constraints as the gas companies and have significant excess capacity available. As a result, various customers have switched between suppliers or multi-source their requirements from various suppliers.

- (b) Significant entry and expansion expected resulting from low barriers to entry and expansion: There have been a number of other recent entries in the market such as Air Water/EIGL, TNSI, SICGILSOL and several other local suppliers. Inox AP has announced the building of six new merchant-only ASUs expected to commence operations by 2018-19, NMDC's new plant in Jabalpur will commence production in 2018, TNSI has a merchant plant near Pune, Air Water/EIGL has set up merchant plants in Ulberia, Vishakhapatnam and Hyderabad, Shriram Oxygen has an existing merchant plant in Gujarat and is setting up another plant,

Assam Air Products has set up a merchant plant in Guwahati, Air Liquide has set up a merchant plant in Pune, which is expected to be commissioned soon, etc. Apart from these, given the relatively low barriers to entry, the Parties will continue to be constrained by the threat of further entry in the bulk market.

- (c) Low switching costs, and easy access to storage and vaporisation facilities ensure easy substitutability between suppliers: The Parties' customers have low switching costs and are able to easily switch suppliers (or multi-source) due to the homogenous nature of the products (evidenced by several cases of customers switching suppliers). While some customers depend on gas companies for storage and vaporisation facilities, many customers choose to purchase / rent storage and vaporisation equipment, and there is no switching cost for such customers as they can use the same equipment to source liquid product from any supplier. As a result, there is substantial price competition between suppliers not only in respect to new contracts but also with regard to renewals and share of supply, as customers often request additional quotations from third-party suppliers. Therefore, any attempt to increase prices by the combined entity would immediately result in customers switching to alternate sources of supply.
- (d) Post-combination, the market shares of the combined entity in the bulk segment (including the sale of gas by captive plants) will be in the range of 0-10% for carbon dioxide (all India); 10-20% for oxygen (east region); 20-30% for oxygen (south region) and nitrogen (east and west region); 25-35% for oxygen (west region); 35-45% for nitrogen (south region); and 50-60% for argon (all India).

(iii) Cylinder

- (a) Low barriers to entry: There are a multitude of suppliers competing with the Parties in the cylinder markets with over 1000 other competing cylinder filling stations and cylinder resellers across India. To enter the cylinder markets, the cost of entry includes a filling plant (fed through gas plants or liquid storage tank with compression system) and necessary

distribution infrastructure. These cylinder filling plants typically have small gas generating plants or source liquid products from gas companies / IHP operators or a combination of both. Entry into the cylinder markets is easy as there are several avenues available for sourcing liquid gases. A filling station costs as low as INR 30 lakhs. It follows that the Parties will continue to be constrained by the threat of expansion by existing competitors as well as the threat of new entry.

- (b) Low switching costs ensure easy substitutability between suppliers and lead to countervailing buyer power: From a customer's perspective, there is significant countervailing buying power as the switching costs are nearly absent. First, the products are homogenous. Second, cylinder gases are primarily supplied based on purchase orders; supply contracts have a short term (up to 1 year) and are non-exclusive, as customers often multi-source. Therefore, customers have the freedom to switch suppliers at any moment without incurring material costs. Consequently, any attempt by the Parties to raise prices could lead to loss of customers. Additionally, the same set of customers are supplied by the Parties and their competitors, which leads to instances of switching and multi-sourcing in the cylinder market. The Parties will therefore, have no market power in the cylinder market.
- (c) Post-combination, the market shares of the combined entity in the cylinder segment (including the sale of gas by captive plants) will be in the range of 0-10% for carbon dioxide (all India), hydrogen (east and south region), nitrogen (all four regions), oxygen (all four regions), argon (north region), nitrous oxide (west region), and acetylene (west region); 10-20% for acetylene (south region), Argon (East region), and nitrous oxide (east and south region); and 20-30% for Argon (South and West region).

B. Specialty Gases

- (a) Low market shares and availability of substitutes: The combined market shares of the Parties remain well below levels where the Commission has found competition concerns in the past. The combined entity will continue to face strong competition from a number of existing players,

including Inox AP, Boruka, Air Liquide, ATCO, Ajay Products, Global Gases, TNSI, Vadilal Gases, Modi Gases and UPG, and a large number of additional resellers who import specialty gases and distribute them within India.

- (b) Low switching costs: Since most of the market is served through purchase orders, and customers have insignificant investments in supply logistics, the costs of switching for these customers are low. For the small part of the market served through short term (1-3 year) non-exclusive contracts, it is common for customers to multi-source and easily switch between suppliers.
- (c) Low barriers to entry and expansion: the majority of specialty gases supplied in India are imported and the operations in India are mostly limited to reselling them to end customers. Local suppliers can easily source specialty gases from international suppliers. All major competitors operate in a similar manner. Specialty gas suppliers can therefore easily increase/switch focus of their imports in response to an increase in price and the combined entity is likely to be significantly constrained by existing players and potential entrants. In many cases, the customers also directly import specialty gases from the manufacturing sources. There are no capacity constraints and new sources are constantly being added. In fact, many of the ex-employees of the Parties (and other gas companies) have also started their own specialty gases business. Barriers to entry and/or expansion are therefore low, both with respect to the required capital investment and the level of know-how/experience.
- (d) Post-combination, the market shares of the combined entity for specialty gases will be in the range of 0-10% for pure gases and refrigerants; 10-20% for calibration and other mixtures; 20-30% for packaged chemicals; and 25-35% for noble gases and mixtures.

C. Helium

(a) Helium value chain

- a. Sources of helium: Helium is extracted, refined and liquefied at a limited number of sites worldwide which are located in the United States, Australia, Algeria, Qatar, Poland and Russia. Helium is a

by-product of the production of natural gas and the production of liquid natural gas (“LNG”). Helium producers are consequently natural gas/LNG producers, such as Ras Gas (Qatar), Sonatrach (Algeria) and ExxonMobil (US). Industrial gas companies gain access to helium through long term sourcing agreements either (i) directly with a helium producer (i.e. direct sourcing contract) or (ii) back-to-back arrangements with companies that have entered into a direct sourcing contract (i.e., secondary sourcing contract). Following completion of the Proposed Transaction, the merged entity will have a global share of approximately 35-45% in terms of volumes under direct and secondary sourcing contracts.

- b. Distinct market levels for helium on a global level: Globally, the helium supply market can be delineated into wholesale and retail. At the wholesale level, helium is transported by wholesalers from the respective production sites either to their own trans-fill centres or to the trans-fill centres of other retailers in the areas of consumption. At the retail level, the supply to end-customers is made from the trans-fill centres either by helium wholesalers who are vertically integrated into the retail level or by independent retailers who buy helium on the wholesale market.
- c. Import-based market in India: In India, however, there is no wholesale supply of helium as there is no local production and all gas companies import helium for retail sales to customers in India. The Parties (and other vertically integrated helium suppliers) import their helium requirements for India primarily from sources located in Qatar, through their respective group companies’ sourcing arrangements. Other gas companies import helium (again, primarily from Qatar) into India either via their own arrangements with helium producers or from helium wholesalers. The sources in Qatar are operated by natural gas producer Ras Gas, which produces helium as a by-product of its natural gas production. Following the completion of the Proposed Transaction, with respect to sourcing from Qatar, the merged

entity will have a share of approximately 35-45% in terms of volumes under direct and secondary sourcing contracts.

- (b) Easy substitutability between suppliers: Helium is a largely homogenous product and customers are able to switch suppliers without incurring significant switching costs. Further, in the retail helium market, all existing suppliers have available capacity that facilitates easy switching. There are significant competitors in this market including TNSI, Air Liquide, Inox AP and SICGIL SOL.
- (c) Low barriers to entry in the retail market: the costs of investments in terms of equipment (including establishing a trans-fill centre) are low (roughly INR 2-3 crores). Further, access to helium sources through direct arrangements with producers or through helium wholesalers is relatively easy.
- (d) Post-combination, the market share of the combined entity for retail helium supply in India will be in the range of 30-40%.

In providing the market shares for the sections above, apart from their own internal estimates based on market intelligence, the Parties have relied on data available in a report prepared by Tech Sci Research titled *India Industrial, Specialty & Shielding Gases Market By Application, Mode of Distribution & Region, Forecast & Opportunities, 2012-2026*.

Expected Timeframe for Completion of Various Stages of the Combination

The Parties expect to close the transaction at the latest by 24 October 2018.

Inviting Comments on the Proposed Transaction

- III. **In order to determine whether the combination has or is likely to have an appreciable adverse effect on competition in the relevant market in India, the Commission invites comments/ objections/ suggestions in writing, from any person(s) adversely affected or likely to be affected by the**

combination, to submit in writing, as provided under sub-section (3) of section 29 of the Act within fifteen working days from the date of this publication, to be addressed to:

The Secretary,
Competition Commission of India
The Hindustan Times House
7th Floor, 18-20, Kasturba Gandhi Marg
New Delhi – 110001.
Email: secy@cci.gov.in

IV. The comments/objections/suggestions shall state:

- a. name, address and contact details (including email ids, telephone numbers, title/designation) of the person(s) writing to the Commission, and
- b. with supporting documents, how such a person(s) is adversely affected or is likely to be affected by the combination, keeping in view the relevant provisions of the Act/ factors provided under sub-section (4) of Section 20 of the Act.

The Commission is not likely to consider unsubstantiated objections.