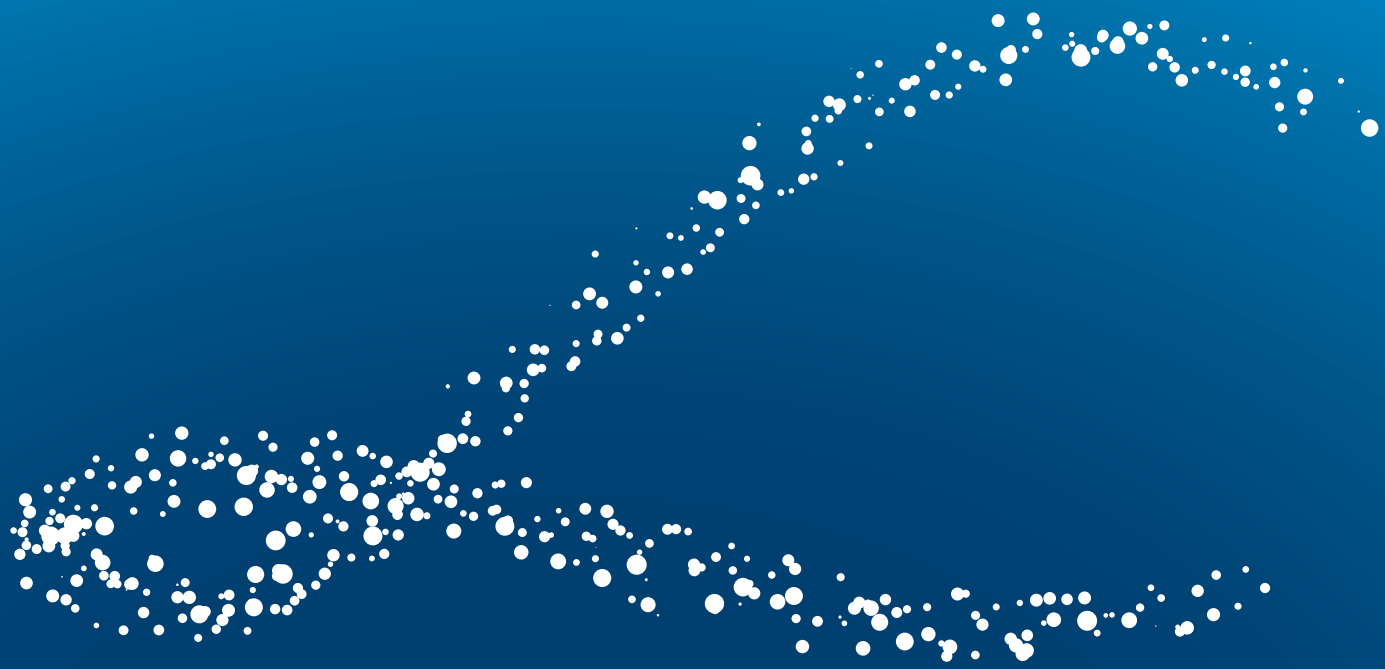
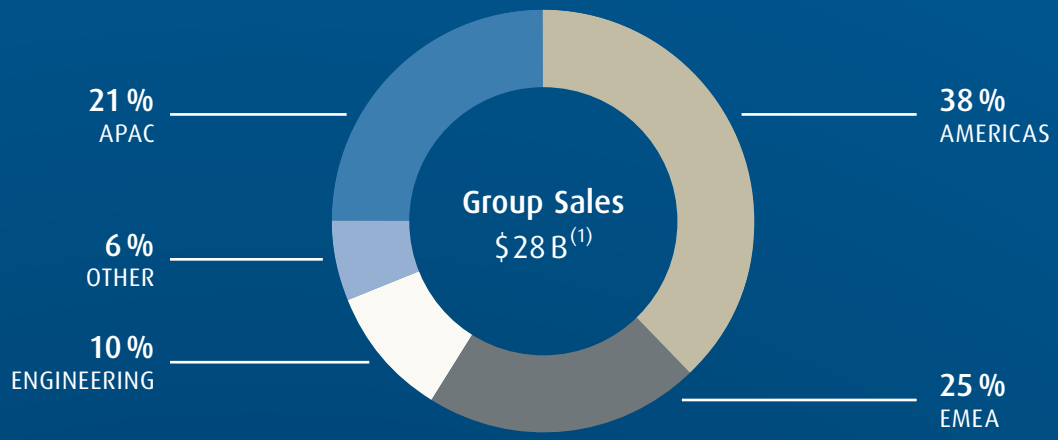
Making our world more productive

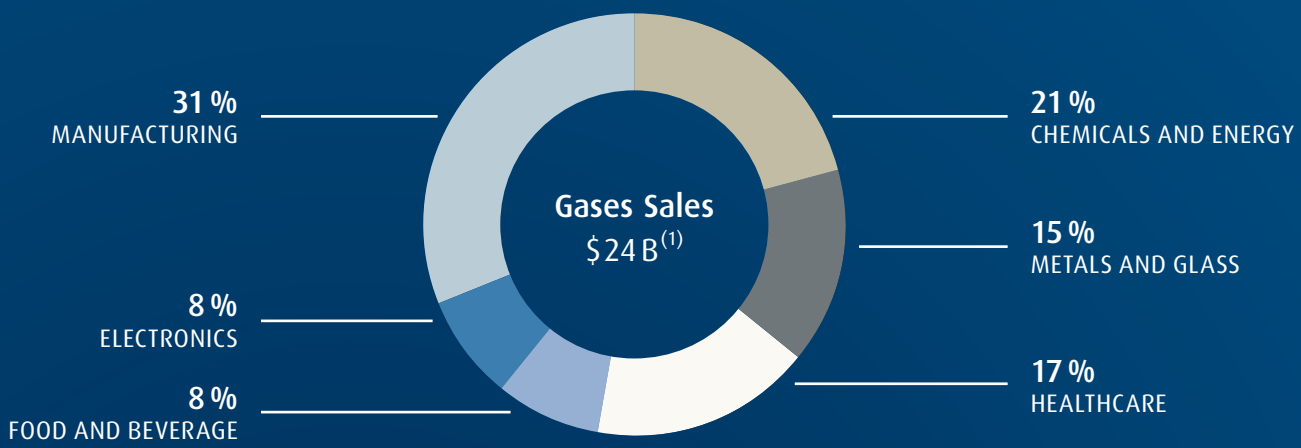


One Linde

Annual Report 2018

A **Well Diversified** and **Resilient Portfolio**





(1) Unaudited pro forma sales. Gases sales exclude Engineering and Other.

Our **Mission**

Making our world **more productive**

We are making our world more productive by providing products, technologies and services that help our customers to improve their economic and environmental performance in a connected world. And even more by operating as One Linde.

Letter to Shareholders

Dear shareholders,

It is my pleasure to present the newly formed Linde plc, the leading industrial gases and engineering company. Last October we merged Praxair, Inc. and Linde AG, two world-class companies with nearly 140 years of shared history and successful achievements. Today we now operate as One Linde which represents the collective strengths that unite 80,000 employees globally to leverage our extensive footprint and capabilities to fully capture the value of this merger. In fact, integration efforts are well underway as we tap into the energy and excitement to share and adopt best practices.

The company is a true leader with a market capitalization of approximately USD 90 billion (EUR 78 billion), 2018 pro forma sales of USD 28 billion (EUR 24 billion) and serving 2 million customers in more than 100 countries worldwide. The combination of unrivaled scale with a resilient and balanced portfolio enable consistent, high quality financial results. Furthermore, access to world-class engineering and technologies provide a distinct competitive advantage to win new business and capitalize on opportunities across a broad range of markets. These capabilities are supported by a sound capital structure that allows us to pursue quality growth, maintain a strong credit rating and consistently distribute surplus cash to shareholders through increasing dividends and share repurchases. Ultimately, these efforts are driven by our innovative and diverse employee population dedicated to the success of Linde.

Building a High-Performance Culture

Our focus is on building a high-performance culture. To that end, we have aligned around a common vision, mission and values. The vision is, in part, "To be the best performing global industrial gases and engineering company". Best performing means best-in-class results for all key aspects of the business that matter most to our stakeholders. This obviously entails financial performance but also includes safety, diversity and inclusion, accountability, integrity and community – important values which define what we stand for as a company.

Our mission statement is "Making our world more productive." This includes resource efficiency – making more with less – and being a responsible steward of our environment in the communities we live and work in around the world. It also means developing innovative technologies and sustainable solutions which allow our customers to reduce their environmental impact. Our application technologies enabled twice as many greenhouse gas emissions to be avoided than were directly emitted from our operations. Hydrogen fueling capacity enabled 900 million zero-emission vehicle miles per year. Both companies have a long history of being recognized as leaders in the World Dow Jones Sustainability Index and that is a proud track record we will strive to continue.

Strategy

Our strategy going forward is quite simple: We want to leverage the individual strengths of both companies across our larger global footprint, build network density in core industrial geographies, execute our robust backlog, and capture the full value of the merger – cost, capex and growth synergies.

We have strong backlogs for both Sale-of-Gas (SOG) projects (USD 3.5 billion) and third-party plant sales (USD 5.5 billion). Asia represents half of our SOG backlog driven by electronics and chemical investments; while the US makes up another 40 % with significant wins in chemical and refining in the Gulf Coast. All of the SOG business is underpinned by high quality long-term contracts ensuring a solid foundation for future growth.

Operational excellence is an important cornerstone for Linde to safely and reliably deliver cost efficient products and services to our customers. Linde will also embody a productivity-oriented culture with an emphasis on continuous improvement. A strong blend of systematic processes coupled with expanding digital capabilities will yield improvements in core operations while providing greater connectivity and innovative offerings to our customers.

Next, with respect to our growth profile, our base business typically grows in line with global industrial production. We augment that base volume growth with new project start-ups and price in excess of pass-through inflation. The new element to our growth algorithm is merger synergies. Though we have begun to see some successes already, it is too early to quantify the value of our growth synergies. However, what I am certain about is the excitement generated internally as we begin to appreciate each other's capabilities and look to utilize them in new markets and regions.

Finally, one of our most important priorities is disciplined capital allocation. The first step is to establish an appropriate and strong credit rating for the new company, followed by maintaining our track record of growing a competitive dividend each and every year. After that, we want to invest the bulk of our cash flow in all the attractive projects and acquisitions that meet our strategy and investment criteria. Finally, we will deploy any excess cash to our share repurchase program.

Looking Forward

Never before in our industry has one company possessed the breadth and depth of technical capabilities, engineering prowess, industry know-how and robust balance sheet. We are uniquely positioned to capitalize on all potential growth opportunities including the demand for clean energy, healthcare needs of an aging population, emerging market development and digital transformation. It is difficult for me or anyone else to predict the next economic downturn, but I have confidence in our business model and strong fundamentals. We have a track record of strong cash flow generation throughout the economic cycle. In periods of expansion, we invest in conjunction with our customers laying the foundation for future earnings growth. When economic growth slows and capex investment for new projects subsides, we continue to generate strong operating cash flow and even higher free cash flow which can then be returned to shareholders in the form of dividend growth and share buybacks. This makes Linde a company for all seasons.

I look forward to our journey ahead.



Sincerely,



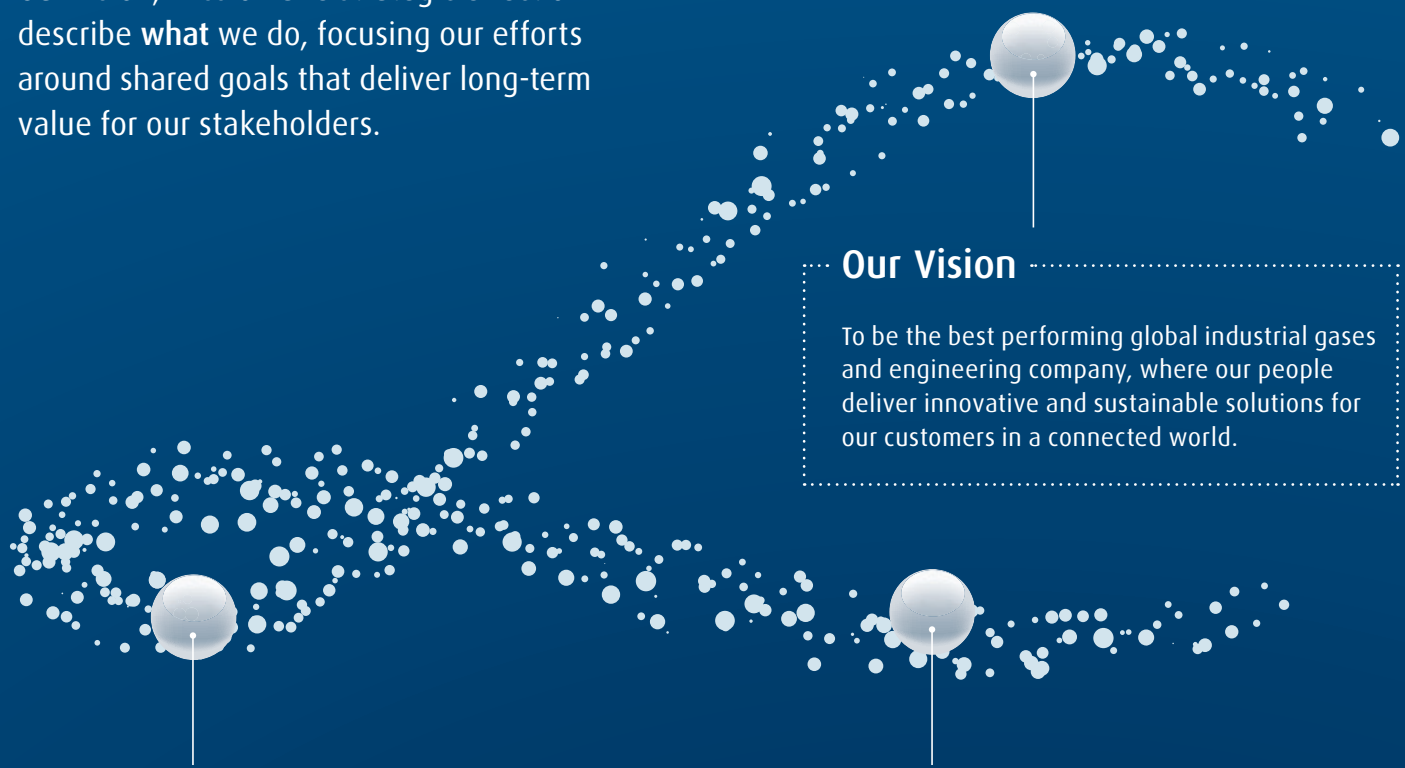
Steve Angel

Chief Executive Officer

One Linde

Our One Linde philosophy encompasses **what we do and how we do it.**

Our vision, mission and strategic direction describe **what** we do, focusing our efforts around shared goals that deliver long-term value for our stakeholders.



Our Vision

To be the best performing global industrial gases and engineering company, where our people deliver innovative and sustainable solutions for our customers in a connected world.

Our Strategic Direction

We will work as One Linde to build on our individual and collective strengths across a larger global footprint. We will increase network density in core industrial gas geographies and will execute our robust backlog. We are fully committed to capturing the full value of the merger.

Our Mission

We live our mission of making our world more productive every day. Through our high-quality solutions, technologies and services we are making our customers more successful and helping to sustain and protect our planet.

Our Core **Values**

Safety
We put safety first. We believe all incidents are preventable, and our goal is no harm to people, communities or the environment. We continuously work to improve our safety culture and performance worldwide.

Integrity
We always strive to achieve our goals ethically, and with the highest integrity. We expect transparent and respectful interactions between management, employees and our business partners, consistent with our Code of Business Integrity.

Community
We are committed to improving the communities where we live and work. Our charitable contributions, along with employee volunteerism, support initiatives that make important and sustainable contributions to our world.

Inclusion
We embrace diversity and inclusion in order to attract, develop and retain the best talent and build high-performing teams. By hearing all voices and benefiting from diverse opinions, thoughts and perspectives, we achieve our full promise and potential.

Accountability
We hold ourselves accountable for our performance, individually and collectively. We focus both on what we accomplish and how we accomplish it, and we are committed to delivering on individual and company goals.

Linde
Leadership



From left to right:
Eduardo Menezes Executive Vice President EMEA
Matt White Executive Vice President and Chief Financial Officer
Christian Bruch Executive Vice President and CEO Linde Engineering
Steve Angel Chief Executive Officer and Member of the Board of Directors
Anne Roby Executive Vice President
Sanjiv Lamba Executive Vice President APAC
Bernd Eulitz Executive Vice President Americas

Board of **Directors**



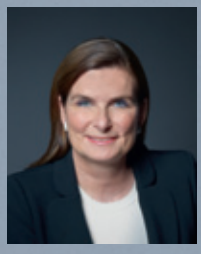
Wolfgang Reitzle

Chairman /
Executive Committee,
Chairman



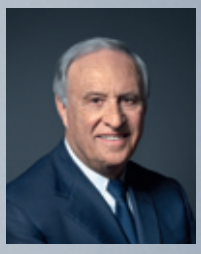
Steve Angel

Executive Committee,
Member



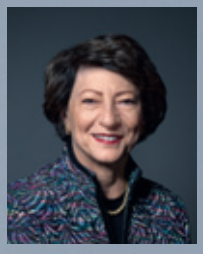
Ann-Kristin Achleitner

Compensation
Committee, Member /
Nomination and
Governance Committee,
Member



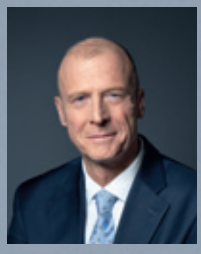
Clemens Börsig

Audit Committee,
Chairman /
Nomination and
Governance Committee,
Member



Nance Dicciani

Audit Committee,
Member /
Compensation Committee,
Member



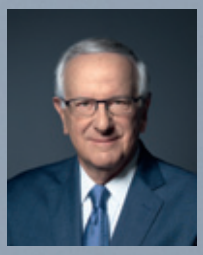
Thomas Enders

Executive Committee,
Member /
Audit Committee,
Member



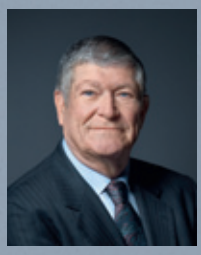
Franz Fehrenbach

Compensation Committee,
Member /
Nomination and
Governance Committee,
Member



Edward Galante

Compensation Committee,
Chairman /
Audit Committee, Member



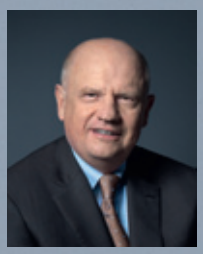
Larry McVay

Audit Committee,
Member /
Nomination and
Governance Committee,
Member



Victoria Ossadnik

Audit Committee,
Member /
Compensation Committee,
Member



Martin Richenhagen

Compensation Committee,
Member /
Nomination and
Governance Committee,
Member



Robert Wood

Nomination and
Governance Committee,
Chairman /
Executive Committee,
Member

For more information about Linde corporate governance,
please visit our website at **www.linde.com/about-linde/corporate-governance**

Linde applications enabled

2x more GHG emissions to be avoided

than were emitted in all of the company's operations

Best-in-class Safety Performance

7x better than U.S. Occupational Health and Safety Administration industrial average for lost workday case rate

100,000

children and students benefited from our efforts in Community Engagement

Installed hydrogen fueling capacity enables

900 million zero-emission miles per year

100 million lbs

waste avoided in our **ZERO WASTE PROGRAM**

An industry leader in

diversity & inclusion

MEMBER OF
Dow Jones Sustainability Indices
In Collaboration with RobecoSAM

Forbes 2018 GLOBAL WORLD'S BEST EMPLOYERS 2000

2019 Bloomberg Gender-Equality Index

FTSE4Good

Note: All information is based upon pro forma consolidated results compiled from the legacy companies Praxair, Inc. and Linde AG's 2018 performance, as reflected in this 10-K.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2018

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission file number 001-38730

LINDE PLC

(Exact name of registrant as specified in its charter)

Ireland	**98-1448883**
State or other jurisdiction of incorporation or organization	**(I.R.S. Employer Identification No.)**
The Priestley Centre, 10 Priestley Road, Surrey Research Park, Guildford, Surrey GU2 7XY United Kingdom	**+44 1483 242200**
(Address of principal executive offices)	**Registrant's Telephone Number, Including Area Code**

Securities registered pursuant to Section 12(b) of the Act:

Title of each class:	**Name of each exchange on which registered:**
Ordinary shares (€0.001 nominal value per share)	**New York Stock Exchange**

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☑ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☑

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☑

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," " smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☑ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☑

The aggregate market value of the voting and non-voting common stock held by non-affiliates as of June 30, 2018, was approximately $45 billion (based on the closing sale price of the stock of the registrant's predecessor Praxair, Inc. on that date as reported on the New York Stock Exchange).

At February 28, 2019, 544,910,125 ordinary shares of €0.001 nominal value per share of the Registrant were outstanding.

Documents incorporated by reference:

Portions of the Proxy Statement of Linde plc for its 2019 Annual General Meeting of Shareholders, are incorporated in Part III of this report.

LINDE PLC

ANNUAL REPORT ON FORM 10-K
For the fiscal year ended December 31, 2018

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FORWARD-LOOKING STATEMENTS

This document contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are identified by terms and phrases such as: anticipate, believe, intend, estimate, expect, continue, should, could, may, plan, project, predict, will, potential, forecast, and similar expressions. They are based on management's reasonable expectations and assumptions as of the date the statements are made but involve risks and uncertainties. These risks and uncertainties include, without limitation: the ability to successfully integrate the Praxair and Linde AG businesses; regulatory or other requirements imposed as a result of the business combination of Praxair and Linde AG that could reduce anticipated benefits of the transaction; the risk that Linde plc may be unable to achieve expected synergies or that it may take longer or be more costly than expected to achieve those synergies; the performance of stock markets generally; developments in worldwide and national economies and other international events and circumstances, including trade conflicts and tariffs; changes in foreign currencies and in interest rates; the cost and availability of electric power, natural gas and other raw materials; the ability to achieve price increases to offset cost increases; catastrophic events including natural disasters, epidemics and acts of war and terrorism; the ability to attract, hire, and retain qualified personnel; the impact of changes in financial accounting standards; the impact of changes in pension plan liabilities; the impact of tax, environmental, healthcare and other legislation and government regulation in jurisdictions in which the company operates, including the impact of the U.S. Tax Cuts and Jobs Act of 2017; the cost and outcomes of investigations, litigation and regulatory proceedings; the impact of potential unusual or non-recurring items; continued timely development and market acceptance of new products and applications; the impact of competitive products and pricing; future financial and operating performance of major customers and industries served; the impact of information technology system failures, network disruptions and breaches in data security; and the effectiveness and speed of integrating new acquisitions into the business. These risks and uncertainties may cause actual future results or circumstances to differ materially from accounting principles generally accepted in the United States of America, International Financial Reporting Standards or adjusted projections, estimates or other forward-looking statements.

Linde plc assumes no obligation to update or provide revisions to any forward-looking statement in response to changing circumstances. The above listed risks and uncertainties are further described in Item 1A (Risk Factors) in this report, which should be reviewed carefully. Please consider Linde plc's forward-looking statements in light of those risks.

PART I

ITEM 1. BUSINESS

General

Linde plc is a public limited company formed under the laws of Ireland with its principal offices in the United Kingdom. Linde plc was formed in 2017 in accordance with the requirements of the business combination agreement, dated June 1, 2017, as amended, between Linde plc, Praxair, Inc. ("Praxair") and Linde Aktiengesellschaft ("Linde AG"). Effective October 31, 2018, the business combination was completed and Linde plc is comprised of the businesses of Praxair and Linde AG (hereinafter the combined group will be referred to as "the company" or "Linde").

The business combination brought together two leading companies in the global industrial gases industry, leveraging the proven strengths of each. Linde believes the merger will combine Linde AG's long-held expertise in technology with Praxair's efficient operating model, thus creating a global leader. The company is expected to enjoy strong positions in key geographies and end markets and will create a more diverse and balanced global portfolio.

Linde is the largest industrial gas company worldwide. It continues to be a major technological innovator in the industrial gases industry. Its primary products in its industrial gases business are atmospheric gases (oxygen, nitrogen, argon, and rare gases) and process gases (carbon dioxide, helium, hydrogen, electronic gases, specialty gases, and acetylene). The company also designs, engineers, and builds equipment that produces industrial gases primarily for internal use and offers its customers a wide range of gas production and processing services such as olefin plants, natural gas plants, air separation plants, hydrogen and synthesis gas plants and other types of plants. The surface technologies segment supplies wear-resistant and high-temperature corrosion-resistant metallic and ceramic coatings and powders.

Linde serves a diverse group of industries including healthcare, petroleum refining, manufacturing, food, beverage carbonation, fiber-optics, steel making, aerospace, chemicals and water treatment.

In 2018, the company, Praxair and Linde AG entered into various agreements with regulatory authorities to satisfy antitrust requirements to secure approval to consummate the business combination. These agreements required the sale of the majority of Praxair's European industrial gases business (completed on December 3, 2018), the majority of Linde AG's Americas industrial gases business (completed on March 1, 2019), as well as certain divestitures of other Praxair and Linde AG businesses in Asia that are expected to be sold in 2019. As of December 31, 2018 and until the completion of the majority of such divestitures, Linde AG and Praxair were obligated to operate their businesses globally as separate and independent companies, and not coordinate any of their commercial operations. The U.S. Federal Trade Commission's (the "FTC") hold separate order ("HSO") restrictions were lifted March 1, 2019, concurrent with the sale of the required merger-related divestitures in the United States. See Notes 4 and 23 to the consolidated financial statements for additional information relating to divestitures.

Praxair was determined to be the accounting acquirer in the business combination. Accordingly, the historical financial statements of Praxair for the periods prior to the business combination are considered to be the historical financial statements of the company. The results of Linde AG are included in Linde's consolidated results from the date of the completion of the business combination forward. Also, during 2018 the company reported its continuing operations in six reporting segments under which it managed its operations, assessed performance, and reported earnings: North America, South America, Asia, Europe, Surface Technologies and Linde AG. Linde AG became the sixth reportable segment effective with the merger on October 31, 2018.

Linde's sales were $14,900 million, $11,437 million, and $10,534 million for 2018, 2017, and 2016, respectively. Refer to Item 7, Management's Discussion and Analysis, for a discussion of consolidated sales and Note 20 to the consolidated financial statements for additional information related to Linde's reportable segments.

Industrial Gases Products and Manufacturing Processes

Atmospheric gases are the highest volume products produced by Linde. Using air as its raw material, Linde produces oxygen, nitrogen and argon through several air separation processes of which cryogenic air separation is the most prevalent. Rare gases, such as krypton, neon and xenon, are also produced through cryogenic air separation. As a pioneer in the industrial gases industry, Linde is a leader in developing a wide range of proprietary and patented applications and supply systems technology. Linde also led the development and commercialization of non-cryogenic air separation technologies for the production of industrial gases. These technologies open important new markets and optimize production capacity for the company by lowering the cost of supplying industrial gases. These technologies include proprietary vacuum pressure swing

adsorption ("VPSA") and membrane separation to produce gaseous oxygen and nitrogen, respectively.

Process gases, including carbon dioxide, hydrogen, carbon monoxide, helium, specialty gases and acetylene are produced by methods other than air separation. Most carbon dioxide is purchased from by-product sources, including chemical plants, refineries and industrial processes or is recovered from carbon dioxide wells. Carbon dioxide is processed in Linde's plants to produce commercial and food-grade carbon dioxide. Hydrogen and carbon monoxide can be produced by either steam methane reforming or auto-thermal reforming of natural gas or other feed streams such as naphtha. Hydrogen is also produced by purifying by-product sources obtained from the chemical and petrochemical industries. Most of the helium sold by Linde is sourced from certain helium-rich natural gas streams in the United States, with additional supplies being acquired from outside the United States. Acetylene is primarily sourced as a chemical by-product, but may also be produced from calcium carbide and water.

Industrial Gases Distribution

There are three basic distribution methods for industrial gases: (i) on-site or tonnage; (ii) merchant or bulk liquid; and (iii) packaged or cylinder gases. These distribution methods are often integrated, with products from all three supply modes coming from the same plant. The method of supply is generally determined by the lowest cost means of meeting the customer's needs, depending upon factors such as volume requirements, purity, pattern of usage, and the form in which the product is used (as a gas or as a cryogenic liquid).

On-site. Customers that require the largest volumes of product (typically oxygen, nitrogen and hydrogen) and that have a relatively constant demand pattern are supplied by cryogenic and process gas on-site plants. Linde constructs plants on or adjacent to these customers' sites and supplies the product directly to customers by pipeline. On-site product supply contracts generally are total requirement contracts with terms typically ranging from 10-20 years and containing minimum purchase requirements and price escalation provisions. Many of the cryogenic on-site plants also produce liquid products for the merchant market. Therefore, plants are typically not dedicated to a single customer. Advanced air separation processes allow on-site delivery to customers with smaller volume requirements. Customers using these systems usually enter into requirement contracts with terms typically ranging from 10-20 years.

Merchant. The merchant business is generally associated with distributable liquid oxygen, nitrogen, argon, carbon dioxide, hydrogen and helium. The deliveries generally are made from Linde's plants by tanker trucks to storage containers at the customer's site which are owned and maintained by Linde and leased to the customer. Due to distribution cost, merchant oxygen and nitrogen generally have a relatively small distribution radius from the plants at which they are produced. Merchant argon, hydrogen and helium can be shipped much longer distances. The customer agreements used in the merchant business are usually three-to seven-year requirement contracts.

Packaged Gases. Customers requiring small volumes are supplied products in metal containers called cylinders, under medium to high pressure. Packaged gases include atmospheric gases, carbon dioxide, hydrogen, helium, acetylene and related products. Linde also produces and distributes in cylinders a wide range of specialty gases and mixtures. Cylinders may be delivered to the customer's site or picked up by the customer at a packaging facility or retail store. Packaged gases are generally sold under one to three-year supply contracts and through purchase orders.

A substantial amount of the cylinder gases sold in the United States is distributed by independent distributors that buy merchant gases in liquid form and repackage the products in their facilities. Packaged gas distributors, including Linde, also distribute hardgoods and welding equipment purchased from independent manufacturers. Over time, Linde has acquired a number of independent industrial gases and welding products distributors at various locations in the United States and continues to sell merchant gases to other independent distributors. Between its own distribution business, joint ventures and sales to independent distributors, Linde is represented in 48 states, the District of Columbia and Puerto Rico.

Engineering

Linde's Engineering Division has a global presence, with its focus on market segments such as olefin, natural gas, air separation, hydrogen and synthesis gas plants. The company utilizes its own extensive process engineering know-how in the planning, project development and construction of turnkey industrial plants and associated services. Linde plants are used in a wide variety of fields: in the petrochemical and chemical industries, in refineries and fertilizer plants, to recover air gases, to produce hydrogen and synthesis gases, to treat natural gas and to produce noble gases. The Engineering Division either supplies plant components and services directly to the customer or to the industrial gas business of Linde, which operates the plants on behalf of the customer under a long-term gases supply contract.

Surface Technologies

Surface Technologies is a leading worldwide supplier of coating services and thermal spray consumables to customers in the aircraft, energy, printing, primary metals, petrochemical, textile, and other industries. Its coatings are used to provide wear resistance, corrosion protection, thermal insulation, and many other surface-enhancing functions which serve to extend component life, enable optimal performance, and reduce operating costs. It also manufactures a complete line of electric arc, plasma and wire spray, and high-velocity oxy-fuel ("HVOF") equipment.

Inventories – Linde carries inventories of merchant and cylinder gases, hardgoods and coatings materials to supply products to its customers on a reasonable delivery schedule. On-site plants and pipeline complexes have limited inventory. Inventory obsolescence is not material to Linde's business.

Customers – Linde is not dependent upon a single customer or a few customers.

International – Linde is a global enterprise with approximately 60% of its 2018 sales outside of the United States. The company also has majority or wholly owned subsidiaries that operate in approximately 45 European, Middle Eastern and African countries (including Germany, France, Sweden, the Republic of South Africa, and the United Kingdom); approximately 20 Asian and South Pacific countries (including China, Taiwan, India and Australia); and approximately 20 Americas countries (including Canada, Mexico and Brazil).

The company also has equity method investments operating in Europe, Asia, Africa, the Middle East, and North America (with the largest located in Germany, China, India, Malaysia, and the United States).

Linde's international business is subject to risks customarily encountered in foreign operations, including fluctuations in foreign currency exchange rates, import and export controls, and other economic, political and regulatory policies of local governments. Also, see Item 1A. "Risk Factors" and Item 7A. "Quantitative and Qualitative Disclosures About Market Risk."

Seasonality – Linde's business is generally not subject to seasonal fluctuations to any significant extent.

Research and Development – Linde's research and development is directed toward developing new and improved methods for the production and distribution of industrial gases and the development of new markets and applications for these gases. This results in the development of new advanced air separation and hydrogen process technologies and the frequent introduction of new industrial gas applications. Research and development for industrial gases is principally conducted at Pullach, Germany; Tonawanda, New York and Burr Ridge, Illinois.

Linde conducts research and development for its surface technologies to improve the quality and durability of coatings and the use of specialty powders for new applications and industries. Surface Technologies research is conducted at Indianapolis, Indiana.

Patents and Trademarks – Linde owns or licenses a large number of patents that relate to a wide variety of products and processes. Linde's patents expire at various times over the next 20 years. While these patents and licenses are considered important to its individual businesses, Linde does not consider its business as a whole to be materially dependent upon any one particular patent, or patent license, or family of patents. Linde also owns a large number of trademarks, of which the "Linde" trademark is the most significant.

Raw Materials and Energy Costs – Energy is the single largest cost item in the production and distribution of industrial gases. Most of Linde's energy requirements are in the form of electricity, natural gas and diesel fuel for distribution. The company mitigates electricity, natural gas, and hydrocarbon price fluctuations contractually through pricing formulas, surcharges, and cost pass–through and tolling arrangements.

The supply of energy has not been a significant issue in the geographic areas where the company conducts business. However, energy availability and price is unpredictable and may pose unforeseen future risks.

For carbon dioxide, carbon monoxide, helium, hydrogen, specialty gases and surface technologies, raw materials are largely purchased from outside sources. Linde has contracts or commitments for, or readily available sources of, most of these raw materials; however, their long-term availability and prices are subject to market conditions.

Competition – Linde participates in highly competitive markets in the industrial gases, engineering and healthcare businesses, which are characterized by a mixture of local, regional and global players, all of which exert competitive pressure on the parties. In locations where Linde has pipeline networks, which enable the company to provide reliable and economic supply of products to larger customers, Linde derives a competitive advantage.

Competitors in the industrial and medical gases industry include global and regional companies such as L'Air Liquide S.A., Air Products and Chemicals, Inc., Messer Group GmbH, Mitsubishi Chemical Holdings Corporation (through Taiyo Nippon

Sanso Corporation) as well as an extensive number of small to medium size independent industrial gas companies which compete locally as producers or distributors. In addition, a significant portion of the international gases market relates to customer-owned plants.

Employees and Labor Relations – As of December 31, 2018, Linde had 80,820 employees worldwide. Linde has collective bargaining agreements with unions at numerous locations throughout the world, which expire at various dates. Linde considers relations with its employees to be good.

Environment – Information required by this item is incorporated herein by reference to the section captioned "Management's Discussion and Analysis – Environmental Matters" in Item 7 of this 10-K.

Available Information – The company makes its periodic and current reports available, free of charge, on or through its website, www.linde.com, as soon as practicable after such material is electronically filed with, or furnished to, the Securities and Exchange Commission ("SEC"). Investors may also access from the company website other investor information such as press releases and presentations. Information on the company's website is not incorporated by reference herein. In addition, the public may read and copy any materials filed with the SEC free of charge at the SEC's website, www.sec.gov, that contains reports, proxy information statements and other information regarding issuers that file electronically.

Executive Officers – The following Executive Officers have been elected by the Board of Directors and serve at the pleasure of the Board. It is expected that the Board will elect officers annually following each annual meeting of shareholders.

Stephen F. Angel, 63, is Chief Executive Officer of Linde. Prior to that, Mr. Angel was Chairman, President and CEO of Praxair, Inc. since 2007. Angel joined Praxair in 2001 as an executive vice president and was named president and chief operating officer in February 2006. Prior to joining Praxair, Angel spent 22 years in a variety of management positions with General Electric. Angel serves on the board of directors of PPG Industries and the U.S.-China Business Council and is a member of The Business Council. Angel received a bachelor of science degree in civil engineering from North Carolina State University and an MBA from Loyola College in Baltimore.

Dr. Christian Bruch, age 49, became an executive officer and a member of the Management Committee of Linde in connection with the business combination in October 2018. He is also the Head of Engineering for Linde and is a member of the Executive Board of Linde AG. Dr. Bruch joined The Linde Group's Gases Division in 2004 as a Business Development Manager for Airgases. In 2006 he became the Head of Tonnage Business Development for air separation projects in Europe, the Middle East and Africa. In 2009 he transferred to the Engineering Division, where he was responsible for the product line Air Separation Plants. In 2013 he was appointed a member of the Board of Directors at the Engineering Division, a position he held until becoming a member of the Executive Board of Linde AG at the beginning of 2015 responsible for the Linde Engineering Division and the Corporate & Support Function Technology & Innovation. Prior to joining The Linde Group, Dr. Bruch worked for the Swiss Institute of Technology in Zürich and for the RWE Group in Essen, Germany.

Bernd Eulitz age 53, became an executive officer and a member of the Management Committee of Linde in connection with the business combination in October 2018. He is also the Head of the Americas. Prior to this, he was appointed a Member of the Executive Board of Linde AG in January 2015, responsible for the Gases Division of Europe, Middle East and Africa. He also led the global functions Centre of Excellence and Procurement. Mr. Eulitz joined Linde AG in 2004 as head of the Sales Region East in Germany. In 2008 he was appointed CEO of PanGas AG in Switzerland and 2011 he moved to Singapore to head the Business Unit South & East Asia covering eleven countries from India to South Korea. Prior to joining Linde AG, Mr. Eulitz worked for Air Liquide and A.T. Kearney in various roles.

Kelcey E. Hoyt, age 50, became the Chief Accounting Officer of Linde in connection with the business combination in October 2018. Prior to this, she served as Vice President and Controller of Praxair, Inc. effective August 1, 2016. Prior to becoming Controller, she served as Praxair's Director of Investor Relations since 2010. She joined Praxair in 2002 and served as Director of Corporate Accounting and SEC Reporting through 2008, and later served as Controller for various divisions within Praxair's North American Industrial Gas business. Previously, she had five years of experience in audit at KPMG, LLP. She is a certified public accountant.

Sanjiv Lamba age 54, became an executive officer and a member of the Management Committee of Linde in connection with the business combination in October 2018. He is the Head of APAC. Mr. Lamba was appointed a Member of the Executive Board of Linde AG in 2011, responsible for the Asia, Pacific segment of the Gases Division, for Global Gases Businesses Helium & Rare Gases, Electronics as well as Asia Joint Venture Management. Mr. Lamba started his career 1989 with BOC India in Finance where he progressed to become Director of Finance. He was appointed Managing Director for BOC's

India's business in 2001. Throughout his 29 years with BOC/Linde, he has worked in a number of geographies including Germany, the UK, Singapore and India where he has held numerous roles across the organization.

Eduardo F. Menezes, age 55, became an executive officer a member of the Management Committee of Linde in connection with the business combination in October 2018. He is also the Head of EMEA. Mr. Menezes previously served as Executive Vice President of Praxair, Inc. since 2012, responsible for Praxair Europe, Praxair Mexico, Praxair South America and Praxair Asia. From 2010 to March 2011, he was a Vice President of Praxair with responsibility for the North American Industrial Gases business and was named senior vice president in 2011. From 2007 to 2010, he was President of Praxair Europe. He served as Managing Director of Praxair's business in Mexico from 2004 to 2007, as Vice President and General Manager for Praxair Distribution, Inc. from 2003 to 2004 and as Vice President, U.S. West Region, for North American Industrial Gases, from 2000 to 2003.

Anne K. Roby, age 54, became an executive officer and a member of the Management Committee of Linde in connection with the business combination in October 2018. She is the Head of Global Functions. Prior to this, Dr. Roby served as Senior Vice President of Praxair, Inc. since January 1, 2014, responsible for Global Supply Systems, R&D, Global Market Development, Global Operations Excellence, Global Strategic Sales, Global Procurement, Sustainability and Safety, Health and Environment. From 2011 to 2013, she served as President of Praxair Asia, responsible for Praxair's industrial gases business in China, India, South Korea and Thailand as well as the electronics market globally. In 2010, Dr. Roby became President of Praxair Electronics, after having served as Vice President, Global Sales, for Praxair from 2009 to 2010. Prior to this, she was Vice President of the Praxair U.S. South Region from 2006 to 2009. Dr. Roby joined Praxair in 1991 as a development associate in the Company's R&D organization and was promoted to other positions of increasing responsibility.

Matt J. White, age 46, became an executive officer and a member of the Management Committee of Linde in connection with the business combination in October 2018. He is the Chief Financial Officer for Linde. He previously served as the Senior Vice President and Chief Financial Officer of Praxair, Inc. since January 1, 2014. Prior to this, Mr. White was President of Praxair Canada from 2011-2014. He joined Praxair in 2004 as finance director for the company's largest business unit, North American Industrial Gases. In 2008, he became Vice President and Controller of Praxair, Inc., then was named Vice President and Treasurer in 2010. Before joining Praxair, White was vice president, finance, at Fisher Scientific and before that he held various financial positions, including group controller, at GenTek, a manufacturing and performance chemicals company.

ITEM 1A. RISK FACTORS

Due to the size and geographic reach of the company's operations, a wide range of factors, many of which are outside of the company's control, could materially affect the company's future operations and financial performance. Management believes the following risks may significantly impact the company:

The company may fail to realize the anticipated strategic and financial benefits sought from the business combination.

The company may not realize all of the anticipated benefits of the business combination between Praxair, Inc. and Linde AG, which was completed on October 31, 2018. The success of the business combination will depend on, among other things, the company's ability to combine Praxair, Inc.'s and Linde AG's businesses in a manner that facilitates growth and realizes the anticipated annual synergies and cost reductions without adversely affecting current revenues and investments in future growth. The actual integration will continue to involve complex operational, technological and personnel-related challenges. Difficulties in the integration of the businesses, which may result in significant costs and delays, include:

- managing a significantly larger combined group;
- aligning and executing the strategy of the company;
- integrating and unifying the offerings and services available to customers and coordinating distribution and marketing efforts in geographically separate organizations;
- coordinating corporate and administrative infrastructures and aligning insurance coverage;
- coordinating accounting, reporting, information technology, communications, administration and other systems;
- addressing possible differences in corporate cultures and management philosophies;
- the company being subject to Irish laws and regulations and legal action in Ireland;
- coordinating the compliance program and uniform financial reporting, information technology and other standards, controls, procedures and policies;
- the implementation, ultimate impact and outcome of post-completion reorganization transactions, such as the squeeze-out with respect to remaining minority Linde AG shareholders, which may be delayed;
- unforeseen and unexpected liabilities related to the business combination or the combined businesses;
- managing tax costs or inefficiencies associated with integrating operations;
- identifying and eliminating redundant and underperforming functions and assets; and
- effecting actions that may be required in connection with obtaining regulatory approvals.

These and other factors could result in increased costs and diversion of management's time and energy, as well as decreases in the amount of expected revenue and earnings. The integration process and other disruptions resulting from the business combination may also adversely affect the company's relationships with employees, suppliers, customers, distributors, licensors and others with whom Praxair, Inc. and Linde AG have business or other dealings, and difficulties in integrating the businesses could harm the reputation of the company.

If the company is not able to successfully integrate the businesses of Praxair, Inc. and Linde AG in an efficient, cost-effective and timely manner, the anticipated benefits and cost savings of the business combination may not be realized fully, or at all, or may take longer to realize than expected.

Weakening economic conditions in markets in which Linde does business may adversely impact its financial results and/or cash flows.

Linde serves a diverse group of industries across more than 100 countries, which generally leads to financial stability through various business cycles. However, a broad decline in general economic or business conditions in the industries served by its customers could adversely affect the demand for Linde's products and impair the ability of its customers to satisfy their obligations to Linde, resulting in uncollected receivables and/or unanticipated contract terminations or project delays. For example, global political and economic uncertainty could reduce investment activities of Linde's customers, which could adversely affect Linde's engineering project business.

In addition, many of Linde's customers are in businesses that are cyclical in nature, such as the chemicals, electronics, metals and energy industries. Downturns in these industries may adversely impact Linde during these cycles. Additionally, such conditions could impact the utilization of Linde's manufacturing capacity which may require it to recognize impairment

losses on tangible assets such as property, plant and equipment, as well as intangible assets such as goodwill, customer relationships or intellectual property.

Increases in the cost of energy and raw materials and/or disruption in the supply of these materials could result in lost sales or reduced profitability.

Energy is the single largest cost item in the production and distribution of industrial gases. Most of Linde's energy requirements are in the form of electricity, natural gas and diesel fuel for distribution. Linde attempts to minimize the financial impact of variability in these costs through the management of customer contracts and reducing demand through operational productivity and energy efficiency. Large customer contracts typically have escalation and pass-through clauses to recover energy and feedstock costs. Such attempts may not successfully mitigate cost variability, which could negatively impact Linde's financial condition or results of operations. The supply of energy has not been a significant issue in the geographic areas where Linde conducts business. However, regional energy conditions are unpredictable and may pose future risk.

For carbon dioxide, carbon monoxide, helium, hydrogen, specialty gases and surface technologies, raw materials are largely purchased from outside sources. Where feasible, Linde sources several of these raw materials, including carbon dioxide, hydrogen and calcium carbide, as chemical or industrial byproducts. In addition, Linde has contracts or commitments for, or readily available sources of, most of these raw materials; however, their long-term availability and prices are subject to market conditions. A disruption in supply of such raw materials could impact Linde's ability to meet contractual supply commitments.

Linde's international operations are subject to the risks of doing business abroad and international events and circumstances may adversely impact its business, financial condition or results of operations.

Linde has substantial international operations which are subject to risks including devaluations in currency exchange rates, transportation delays and interruptions, political and economic instability and disruptions, restrictions on the transfer of funds, trade conflicts and the imposition of duties and tariffs, import and export controls, changes in governmental policies, labor unrest, possible nationalization and/or expropriation of assets, domestic and international tax laws and compliance with governmental regulations. These events could have an adverse effect on the international operations of Linde in the future by reducing the demand for its products, decreasing the prices at which it can sell its products, reducing the revenue from international operations or otherwise having an adverse effect on its business. For example, Linde has a meaningful presence in the U.K. and the U.K.'s ongoing exit process from the EU has continued to cause, and may in the future cause, political and economic uncertainty, which could have an adverse impact on the markets which Linde supplies.

Currency exchange rate fluctuations and other related risks may adversely affect Linde's results.

Because a significant portion of Linde's revenue is denominated in currencies other than its reporting currency, the U.S. dollar, changes in exchange rates will produce fluctuations in revenue, costs and earnings and may also affect the book value of assets and liabilities and related equity. Although the company from time to time utilizes foreign exchange forward contracts to hedge these exposures, its efforts to minimize currency exposure through such hedging transactions may not be successful depending on market and business conditions. As a result, fluctuations in foreign currency exchange rates could adversely affect Linde's financial condition, results of operations or cash flows.

Macroeconomic factors may impact Linde's ability to obtain financing or increase the cost of obtaining financing which may adversely impact Linde's financial results and/or cash flows.

Volatility and disruption in the U.S., European and global credit and equity markets, from time to time, could make it more difficult for Linde to obtain financing for its operations and/or could increase the cost of obtaining financing. In addition, Linde's borrowing costs can be affected by short- and long-term debt ratings assigned by independent rating agencies which are based, in significant part, on its performance as measured by certain criteria such as interest coverage and leverage ratios. A decrease in these debt ratings could increase the cost of borrowing or make it more difficult to obtain financing.

An impairment of goodwill or intangible assets could negatively impact the company's financial results.

As of December 31, 2018, the net carrying value of goodwill and other indefinite-lived intangible assets was $27 billion and $2 billion, respectively, primarily as a result of the business combination and the related acquisition method of accounting applied to Linde AG. In accordance with generally accepted accounting principles, the company periodically assesses these assets to determine if they are impaired. Significant negative industry or economic trends, disruptions to business, unexpected significant changes or planned changes in use of the assets, divestitures and sustained market capitalization declines may result in recognition of impairments to goodwill or other indefinite-lived assets. Any charges relating to such impairments could have a material adverse impact on Linde's results of operations in the periods recognized.

Catastrophic events could disrupt the operations of Linde and/or its customers and suppliers and may have a significant adverse impact on the results of operations.

The occurrence of catastrophic events or natural disasters such as extreme weather, including hurricanes and floods; health epidemics; and acts of war or terrorism, could disrupt or delay Linde's ability to produce and distribute its products to customers and could potentially expose Linde to third-party liability claims. In addition, such events could impact Linde's customers and suppliers resulting in temporary or long-term outages and/or the limitation of supply of energy and other raw materials used in normal business operations. Linde evaluates the direct and indirect business risks, consults with vendors, insurance providers and industry experts, makes investments in suitably resilient design and technology, and conducts regular reviews of the business risks with management. Despite these steps, however, these situations are outside Linde's control and may have a significant adverse impact on its financial results.

The inability to attract and retain qualified personnel may adversely impact Linde's business.

If Linde fails to attract, hire and retain qualified personnel, it may not be able to develop, market or sell its products or successfully manage its business. Linde is dependent upon a highly skilled, experienced and efficient workforce to be successful. Much of Linde's competitive advantage is based on the expertise and experience of key personnel regarding marketing, technology, manufacturing and distribution infrastructure, systems and products. The inability to attract and hire qualified individuals or the loss of key employees in very skilled areas could have a negative effect on Linde's financial results.

If Linde fails to keep pace with technological advances in the industry or if new technology initiatives do not become commercially accepted, customers may not continue to buy Linde's products and results of operations could be adversely affected.

Linde's research and development is directed toward developing new and improved methods for the production and distribution of industrial gases as well as for the design and construction of plants and toward developing new markets and applications for the use of industrial gases. This results in the introduction of new industrial gas applications and the development of new advanced air separation process technologies. As a result of these efforts, Linde develops new and proprietary technologies and employs necessary measures to protect such technologies within the global geographies in which Linde operates. These technologies help Linde to create a competitive advantage and to provide a platform to grow its business. If Linde's research and development activities do not keep pace with competitors or if Linde does not create new technologies that benefit customers, future results of operations could be adversely affected.

Risks related to pension benefit plans may adversely impact Linde's results of operations and cash flows.

Pension benefits represent significant financial obligations that will be ultimately settled in the future with employees who meet eligibility requirements. Because of the uncertainties involved in estimating the timing and amount of future payments and asset returns, significant estimates are required to calculate pension expense and liabilities related to Linde's plans. Linde utilizes the services of independent actuaries, whose models are used to facilitate these calculations. Several key assumptions are used in the actuarial models to calculate pension expense and liability amounts recorded in the consolidated financial statements. In particular, significant changes in actual investment returns on pension assets, discount rates, or legislative or regulatory changes could impact future results of operations and required pension contributions.

Operational risks may adversely impact Linde's business or results of operations.

Linde's operating results are dependent on the continued operation of its production facilities and its ability to meet customer contract requirements and other needs. Insufficient or excess capacity threatens Linde's ability to generate competitive profit margins and may expose Linde to liabilities related to contract commitments. Operating results are also dependent on Linde's ability to complete new construction projects on time, on budget and in accordance with performance requirements. Failure to do so may expose Linde's business to loss of revenue, potential litigation and loss of business reputation.

Also inherent in the management of Linde's production facilities and delivery systems, including storage, vehicle transportation and pipelines, are operational risks that require continuous training, oversight and control. Material operating failures at production, storage facilities or pipelines, including fire, toxic release and explosions, or the occurrence of vehicle transportation accidents could result in loss of life, damage to the environment, loss of production and/or extensive property damage, all of which may negatively impact Linde's financial results.

Linde may be subject to information technology system failures, network disruptions and breaches in data security.

Linde relies on information technology systems and networks for business and operational activities, and also stores and processes sensitive business and proprietary information in these systems and networks. These systems are susceptible to outages due to fire, flood, power loss, telecommunications failures, viruses, break-ins and similar events, or breaches of security.

Linde has taken steps to address these risks and concerns by implementing advanced security technologies, internal controls, network and data center resiliency and recovery process. Despite these steps, however, operational failures and breaches of security from increasingly sophisticated cyber threats could lead to the loss or disclosure of confidential information, result in business interruption or malfunction or regulatory actions and have a material adverse impact on Linde's operations, reputation and financial results.

The inability to effectively integrate acquisitions or collaborate with joint venture partners could adversely impact Linde's financial position and results of operations.

In addition to the business combination, Linde has evaluated and expects to continue to evaluate, a wide array of potential strategic acquisitions and joint ventures. Many of these transactions, if consummated, could be material to its financial condition and results of operations. In addition, the process of integrating an acquired company, business or group of assets may create unforeseen operating difficulties and expenditures. Although historically Linde has been successful with its acquisition strategy and execution, the areas where Linde may face risks include:

- the need to implement or remediate controls, procedures and policies appropriate for a larger public company at companies that prior to the acquisition lacked these controls, procedures and policies;
- diversion of management time and focus from operating existing business to acquisition integration challenges;
- cultural challenges associated with integrating employees from the acquired company into the existing organization;
- the need to integrate each company's accounting, management information, human resources and other administrative systems to permit effective management;
- difficulty with the assimilation of acquired operations and products;
- failure to achieve targeted synergies and cost reductions; and
- inability to retain key employees and business relationships of acquired companies.

Foreign acquisitions and joint ventures involve unique risks in addition to those mentioned herein, including those related to integration of operations across different cultures and languages, currency risks and the particular economic, political and regulatory risks associated with specific countries.

Also, the anticipated benefit of potential future acquisitions may not materialize. Future acquisitions or dispositions could result in the incurrence of debt, contingent liabilities or amortization expenses, or impairments of goodwill, any of which could adversely impact Linde's financial results.

Linde is subject to a variety of international laws and government regulations and changes in, or failure to comply with, these laws or regulations could have an adverse impact on the company's business, financial position and results of operations.

Linde is subject to regulations in the following areas, among others:

- environmental protection, including climate change and energy efficiency laws and policies;
- domestic and international tax laws and currency controls;
- safety;
- securities laws applicable in the United States, the European Union, Germany, Ireland, and other jurisdictions;
- trade and import/export restrictions, as well as economic sanctions laws;
- antitrust matters;
- data protection;
- global anti-bribery laws, including the U.S. Foreign Corrupt Practices Act; and
- healthcare regulations.

Changes in these or other regulatory areas, such as evolving environmental legislation in China, may impact Linde's profitability and may give rise to new or increased compliance risks: it may become more complex and costly to ensure compliance, and the level of sanctions in the event of non-compliance may rise. Such changes may also restrict Linde's ability to compete effectively in the marketplace. Noncompliance with such laws and regulations could result in penalties or sanctions, cancellation of marketing rights or restrictions on participation in, or even exclusion from, public tender proceedings, all of which could have a material adverse impact on Linde's financial results and/or reputation.

Doing business globally requires Linde to comply with anti-corruption, trade, compliance and economic sanctions and similar laws, and to implement policies and procedures designed to ensure that its employees and other intermediaries comply with the applicable restrictions. These restrictions include prohibitions on the sale or supply of certain products, services and any other economic resources to embargoed or sanctioned countries, governments, persons and entities. Compliance with these restrictions requires, among other things, screening of business partners. Despite its commitment to legal compliance and corporate ethics, the company cannot ensure that its policies and procedures will always protect it from intentional, reckless or negligent acts committed by employees or agents under the applicable laws. If Linde fails to comply with laws governing the conduct of international operations, Linde may be subject to criminal and civil penalties and other remedial measures, which could materially adversely affect its reputation, business and results of operations.

The outcome of litigation or governmental investigations may adversely impact the company's business or results of operations.

Linde's subsidiaries are party to various lawsuits and governmental investigations arising in the ordinary course of business. Adverse outcomes in some or all of the claims pending may result in significant monetary damages or injunctive relief that could adversely affect Linde's ability to conduct business. Linde and its subsidiaries may in the future become subject to further claims and litigation, which is impossible to predict. The litigation and other claims Linde faces are subject to inherent uncertainties. Legal or regulatory judgments or agreed settlements might give rise to expenses which are not covered, or are not fully covered, by insurance benefits and may also lead to negative publicity and reputational damage. An unfavorable outcome or determination could cause a material adverse impact on the company's results of operations.

Potential product defects or inadequate customer care may adversely impact Linde's business or results of operations.

Risks associated with products and services may result in potential liability claims, the loss of customers or damage to Linde's reputation. Principal possible causes of risks associated with products and services are product defects or an inadequate level of customer care when Linde is providing services.

Linde is exposed to legal risks relating to product liability in the countries where it operates, including countries such as the United States, where legal risks (in particular through class actions) have historically been more significant than in other countries. The outcome of any pending or future products and services proceedings or investigations cannot be predicted and legal or regulatory judgments or agreed settlements may give rise to significant losses, costs and expenses.

The manufacturing and sale of products as well as the construction of plants by Linde may give rise to risks associated with the production, filling, storage, handling and transport of raw materials, goods or waste. Industrial gases are potentially

hazardous substances and medical gases and the related healthcare services must comply with the relevant specifications in order to not adversely affect the health of patients treated with them.

Linde's products and services, if defective or not handled or performed appropriately, may lead to personal injuries, business interruptions, environmental damages or other significant damages, which may result, among other consequences, in liability, losses, monetary penalties or compensation payments, environmental clean-up costs or other costs and expenses, exclusion from certain market sectors deemed important for future development of the business and loss of reputation. All these consequences could have a material adverse effect on Linde's business and results of operations.

U.S. civil liabilities may not be enforceable against Linde.

Linde is organized under the laws of Ireland and substantial portions of its assets will be located outside of the United States. In addition, certain directors and officers of Linde and its subsidiaries reside outside the United States. As a result, it may be difficult for investors to effect service of process within the United States upon Linde or such persons, or to enforce outside the United States judgments obtained against such persons in U.S. courts in any action, including actions predicated upon the civil liability provisions of the U.S. federal securities laws. In addition, it may be difficult for investors to enforce, in original actions brought in courts in jurisdictions located outside the United States, rights predicated upon the U.S. federal securities laws.

A judgment for the payment of money rendered by a court in the United States based on civil liability would not be automatically enforceable in Ireland. There is no treaty between Ireland and the United States providing for the reciprocal enforcement of foreign judgments. The following requirements must be met before the foreign judgment will be deemed to be enforceable in Ireland (i) the judgment must be for a definite sum, (ii) the judgment must be final and conclusive; and (iii) the judgment must be provided by a court of competent jurisdiction.

An Irish court will also exercise its right to refuse judgment if the foreign judgment (i) was obtained by fraud; (ii) violated Irish public policy; (iii) is in breach of natural justice; or (iv) if the judgment is irreconcilable with an earlier foreign judgment.

In addition, there is doubt as to whether an Irish court would accept jurisdiction and impose civil liability on Linde or such persons in an original action predicated solely upon the U.S. federal securities laws brought in a court of competent jurisdiction in Ireland against Linde or such member, officer or expert, respectively.

Changes in tax laws or policy could adversely impact the company's financial position or results of operations.

Linde and its subsidiaries are subject to the tax rules and regulations in the U.S., Germany, Ireland, the U.K. and other countries in which they operate. Those tax rules and regulations are subject to change on a prospective or retroactive basis. Under current economic and political conditions, including the U.K.'s ongoing exit process from the EU, tax rates and policies in any jurisdiction, including the U.S., the U.K. and the EU, are subject to significant change. In particular, since Linde is expected to be treated as U.K. tax resident, any potential changes in the tax rules applying to U.K. tax-resident companies would directly affect Linde.

A change in Linde's tax residency could have a negative effect on the company's future profitability, and may trigger taxes on dividends or exit charges. If Linde ceases to be resident in the United Kingdom and becomes resident in another jurisdiction, it may be subject to United Kingdom exit charges, and/or could become liable for additional tax charges in the other jurisdiction. If Linde were to be treated as resident in more than one jurisdiction, it could be subject to duplicative taxation. Furthermore, although Linde is incorporated in Ireland and is not expected to be treated as a domestic corporation for U.S. federal income tax purposes, it is possible that the IRS could disagree with this result or that changes in U.S. federal income tax law could alter this result. If the IRS successfully asserted such a position or the law were to change, significant adverse tax consequences may result for Linde, the company and Linde's shareholders.

When tax rules change, this may result in a higher tax expense and the need to make higher tax payments. In addition, changes in tax legislation may have a significant impact on Linde's and its subsidiaries' tax receivables and tax liabilities as well as on their deferred tax assets and deferred tax liabilities and uncertainty about the tax environment in some regions may restrict their opportunities to enforce their respective rights under the law. Linde will also operate in countries with complex tax regulations which could be interpreted in different ways. Interpretations of these regulations or changes in the tax system might have an adverse impact on the tax liabilities, profitability and business operations of Linde. Linde and its subsidiaries

are subject to periodic audits by the tax authorities in various jurisdictions or other review actions by the relevant financial or tax authorities. The ultimate tax outcome may differ from the amounts recorded in Linde's or its subsidiaries' financial statements and may materially affect their respective financial results for the period when such determination is made.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Linde has received no written SEC staff comments regarding any of its Exchange Act reports which remain unresolved.

ITEM 2. PROPERTIES

Linde plc's principal executive offices are located in owned office space in Guildford, United Kingdom. Linde also owns principal administrative office space in Danbury, Connecticut and Tonawanda, New York, United States; Pullach and Dresden, Germany; and Schiedam, Netherlands. Other principal administrative offices are leased in Munich, Germany; Rio de Janeiro, Brazil; Hangzhou and Shanghai, China; Lidingö, Sweden; Basingstoke, United Kingdom; Bridgewater, New Jersey, Houston, Texas and Tulsa, Oklahoma, United States; North Ryde, Australia; Samara, Russia; Vadodara, India; and Singapore.

Due to the nature of Linde's industrial gas products, it is generally uneconomical to transport them distances greater than a few hundred miles from the production facility. As a result, Linde operates a significant number of production facilities spread globally throughout a number of geographic regions.

The following is a description of production facilities for Linde by segment. No significant portion of these assets was leased at December 31, 2018. Generally, these facilities are fully utilized and are sufficient to meet the Company's manufacturing needs.

North America

The North America segment operates production facilities in the U.S., Canada and Mexico, approximately 260 of which are cryogenic air separation plants, hydrogen plants and carbon dioxide plants. There are five major pipeline complexes in North America located in northern Indiana, Houston, along the Gulf Coast of Texas, Detroit and Louisiana. Also located throughout North America are noncryogenic air separation plants, packaged gas facilities, specialty gas plants, helium plants and other smaller plant facilities.

Europe

On December 3, 2018 Praxair completed the sale of the majority of its European industrial gas business as required for the merger (see Note 4 to the consolidated financial statements). Until the divestiture, the Europe segment had production facilities primarily in Italy, Spain, Germany, the Benelux region, the United Kingdom, Scandinavia and Russia which include approximately 70 cryogenic air separation plants and carbon dioxide plants. There were three major pipeline complexes in Europe located in Northern Spain and the Rhine and Saar regions of Germany. These pipeline complexes were primarily supplied by cryogenic air separation plants. Also located throughout Europe were noncryogenic air separation plants, packaged gas facilities and other smaller plant facilities.

South America

The South America segment operates more than 60 cryogenic air separation plants and carbon dioxide plants, primarily located in Brazil. Many of these plants support a major pipeline complex in Southern Brazil. Also located throughout South America are packaged gas facilities and other smaller plant facilities.

Asia

The Asia segment has production facilities located primarily in China, Korea, India and Thailand, approximately 70 of which are cryogenic air separation plants and carbon dioxide plants. Also located throughout Asia are noncryogenic air separation plants, hydrogen, packaged gas and other production facilities.

Surface Technologies

The Surface Technologies segment provides coating services and manufactures coating equipment at approximately 45 sites. The majority of these sites are located in the United States and Europe, with smaller operations in Asia and Brazil.

Linde AG

Linde AG conducts its operations in approximately 100 countries worldwide. Its gases facilities in Europe Middle East and Africa include approximately 230 plants, of which approximately 150 are cryogenic air separation plants, approximately 50 are hydrogen plants and approximately 30 are carbon dioxide plants. Its current facilities in the Americas include approximately 120 plants, of which approximately 60 are cryogenic air separation plants, approximately 30 are hydrogen plants and approximately 30 are carbon dioxide plants. Its facilities in the Asia/Pacific include approximately 170 plants, of which approximately 110 are cryogenic air separation plants, approximately 40 are hydrogen plants and approximately 20 are

carbon dioxide plants. Smaller compact plants for air gases are not included in these figures. Additional plants are operated in cooperation with joint-venture partners.

On March 1, 2019 Linde AG completed the sale of a majority of its North American industrial gases business and certain of its South American business activities as required by the merger (see Note 4 to the consolidated financial statements).

The Linde Engineering Division designs and constructs turnkey process plants for third-party customers as well as for the Linde Gases Division in many locations worldwide, such as olefin plants, natural gas plants, air separation plants, hydrogen and synthesis gas plants. Plant components are produced in owned factories in Pullach and Tacherting, Germany; Hesinque, France; Tulsa, Oklahoma, United States; and Dalian, China.

ITEM 3. LEGAL PROCEEDINGS

Information required by this item is incorporated herein by reference to the section captioned "Notes to Consolidated Financial Statements – 19. Commitments and Contingencies" in Item 8 of this 10-K.

ITEM 4. MINE SAFETY DISCLOSURES

Not Applicable

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Linde plc shares trade on the New York Stock Exchange ("NYSE") and the Frankfurt Stock Exchange ("FSE") under the ticker symbol "LIN". At December 31, 2018 there were 10,439 shareholders of record.

Purchases of Equity Securities – Certain information regarding purchases made by or on behalf of the company or any affiliated purchaser (as defined in Rule 10b-18(a)(3) under the Securities Exchange Act of 1934, as amended) of its ordinary shares during the three months ended December 31, 2018 is provided below:

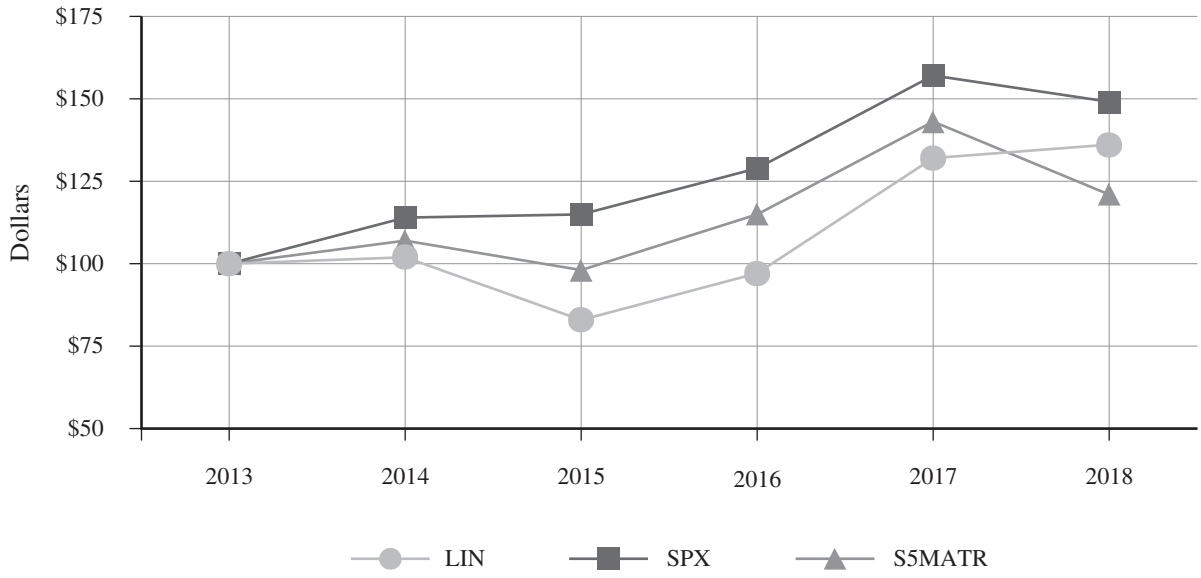
Period	Total Number of Shares Purchased *(Thousands)*	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Program (1) *(Thousands)*	Approximate Dollar Value of Shares that May Yet be Purchased Under the Program (2) *(Millions)*
October 2018	—	$ —	—	$ —
November 2018	—	$ —	—	$ —
December 2018	4,069	$ 154.48	4,069	$ 371
Fourth Quarter 2018	4,069	$ 154.48	4,069	$ 371

(1) On December 10, 2018 the company's board of directors approved the repurchase of $1.0 billion of its ordinary shares ("2018 program") which could take place from time to time on the open market (which could include the use of 10b5-1 trading plans), subject to market and business conditions. The 2018 program has a maximum repurchase amount of 5% of outstanding shares and a stated expiration date of April 30, 2019.

(2) As of December 31, 2018, the company had purchased $629 million of its ordinary shares pursuant to the 2018 program, leaving an additional $371 million remaining authorized under the 2018 program.

On January 22, 2019 the company's board of directors approved the repurchase of $6.0 billion of its ordinary shares ("2019 program") which could take place from time to time on the open market (which could include the use of 10b5-1 trading plans), subject to market and business conditions. The 2019 program has a maximum repurchase amount of 15% of outstanding shares and a stated expiration date of February 1, 2021.

Peer Performance Table – The graph below compares the most recent five-year cumulative returns of the common stock of Praxair, the company's predecessor, through October 31, 2018 and Linde's ordinary shares from October 31, 2018 through December 31, 2018 with those of the Standard & Poor's 500 Index ("SPX") and the S5 Materials Index ("S5MATR") which covers 30 companies, including Linde. The figures assume an initial investment of $100 on December 31, 2013 and that all dividends have been reinvested.



	2013	2014	2015	2016	2017	2018
LIN	$100	$102	$83	$97	$132	$136
SPX	$100	$114	$115	$129	$157	$149
S5MATR	$100	$107	$98	$115	$143	$121

ITEM 6. **SELECTED FINANCIAL DATA**

FIVE-YEAR FINANCIAL SUMMARY

(Dollar amounts in millions, except per share data)

The year ended December 31, 2018 reflects the results of Praxair for the entire year and the results of Linde AG for the period beginning after October 31, 2018 (the merger date), including the impacts of purchase accounting (See Notes 1, 3 and 4 to the consolidated financial statements). The historical periods prior to 2018 reflect the results of Praxair.

Year Ended December 31,	2018(a)	2017(a)	2016(a)	2015(a)	2014(a)
From the Consolidated Statements of Income					
Sales	$ 14,900	$ 11,437	$ 10,534	$ 10,776	$ 12,273
Cost of sales, exclusive of depreciation and amortization	9,084	6,461	5,855	5,918	6,933
Selling, general and administrative	1,629	1,207	1,145	1,152	1,308
Depreciation and amortization	1,830	1,184	1,122	1,106	1,170
Research and development	113	93	92	93	96
Transaction costs and other charges	309	52	96	165	131
Net gain on sale of business	3,294	—	—	—	—
Other income (expenses) – net	18	4	23	28	9
Operating profit	5,247	2,444	2,247	2,370	2,644
Interest expense – net	202	161	190	161	213
Net pension and OPEB cost (benefit), excluding service cost	(4)	(4)	9	49	36
Income from continuing operations before income taxes and equity investments	5,049	2,287	2,048	2,160	2,395
Income taxes on continuing operations	817	1,026	551	612	691
Income from continuing operations before equity investments	4,232	1,261	1,497	1,548	1,704
Income from equity investments	56	47	41	43	42
Income from continuing operations (including noncontrolling interests)	4,288	1,308	1,538	1,591	1,746
Noncontrolling interests from continuing operations	(15)	(61)	(38)	(44)	(52)
Income from continuing operations	$ 4,273	$ 1,247	$ 1,500	$ 1,547	$ 1,694
Per Share Data – Linde plc Shareholders					
Basic earnings per share from continuing operations	$ 12.93	$ 4.36	$ 5.25	$ 5.39	$ 5.79
Diluted earnings per share from continuing operations	$ 12.79	$ 4.32	$ 5.21	$ 5.35	$ 5.73
Cash dividends per share	$ 3.30	$ 3.15	$ 3.00	$ 2.86	$ 2.60
Weighted Average Shares Outstanding (000's) (b)					
Basic shares outstanding	330,401	286,261	285,677	287,005	292,494
Diluted shares outstanding	334,127	289,114	287,757	289,055	295,608
Other Information and Ratios					
Total assets	$ 93,386	$ 20,436	$ 19,332	$ 18,319	$ 19,769
Total debt	$ 15,296	$ 9,000	$ 9,515	$ 9,231	$ 9,225
Net debt (c)	$ 10,830	$ 8,383	$ 8,991	$ 9,084	$ 9,099
Cash flow from operations	$ 3,654	$ 3,041	$ 2,789	$ 2,695	$ 2,923
Net cash provided by (used for) investing activities	$ 5,363	$ (1,314)	$ (1,770)	$ (1,303)	$ (1,803)
Net cash used for financing activities	$ (4,998)	$ (1,656)	$ (659)	$ (1,310)	$ (1,063)
EBITDA (c)	$ 7,133	$ 3,675	$ 3,410	$ 3,519	$ 3,856
Adjusted EBITDA (c)	$ 4,516	$ 3,727	$ 3,506	$ 3,684	$ 3,987
Capital expenditures	$ 1,883	$ 1,311	$ 1,465	$ 1,541	$ 1,689
Shares outstanding (000's)	547,242	286,777	284,901	284,879	289,262
Number of employees	80,820	26,461	26,498	26,657	27,780

(a) Amounts for 2018 include: (i) charges of $309 million ($306 million after-tax, or $0.92 per diluted share) for transaction costs and other charges primarily related to the merger, (ii) pension settlement charges of $14 million ($11 million after-tax, or $0.03 per diluted share) related to lump sum benefit payments made from pension plans, (iii) income tax benefit, net of $17 million ($0.05 per diluted share) due to U.S. Tax Cuts and Jobs Act and other tax

charges, (iv) a net gain on sale of businesses of $3,294 million ($2,923 million after-tax, or $8.75 per diluted share), (v) bond redemption costs of $26 million ($20 million after-tax, or $0.06 per diluted share), and (vi) the purchase accounting impacts of the merger of $714 million ($451 million after-tax and non-controlling interests, or $1.35 per diluted share).

Amounts for 2017 include: (i) charges of $52 million ($48 million after-tax, or $0.17 per diluted share) for transaction costs related to the merger, (ii) a pension settlement charge of $2 million ($1 million after-tax) related to lump sum benefit payments made from an international pension plan, and (iii) income tax charges, net of $394 million ($1.36 per diluted share) due to U.S. Tax Cuts and Jobs Act.

Amounts for 2016 include: (i) a $16 million charge to interest expense ($10 million after–tax, or $0.04 per diluted share) related to the redemption of the $325 million 5.20% notes due 2017, (ii) a pre–tax pension settlement charge of $4 million ($3 million after–tax, or $0.01 per diluted share) related to lump sum benefit payments made from the U.S. supplemental pension plan, and (iii) pre–tax charges of $96 million ($63 million after–tax and non–controlling interests, or $0.22 per diluted share) primarily related to cost reduction actions.

Amounts for 2015 include: (i) a pre-tax charge of $165 million ($125 million after-tax, or $0.43 per diluted share) related to the cost reduction program and other charges; and (ii) a pre-tax charge of $7 million ($5 million after-tax, or $0.02 per diluted share) related to a pension settlement.

Amounts for 2014 include: (i) a pre-tax charge of $131 million ($131 million after-tax, or $0.45 per diluted share) related to the Venezuela currency devaluation, (ii) a pre-tax charge of $7 million ($5 million after-tax, or $0.02 per diluted share) related to pension settlements; and (iii) a pre-tax charge of $36 million ($22 million after-tax, or $0.07 per diluted share) related to a bond redemption.

See Notes 1, 3, 4, 5, 7, 13 and 18 to the consolidated financial statements.

(b) As a result of the merger, share amounts for the year ended December 31, 2018 reflect the weighted averaging effect of Praxair shares outstanding prior to October 31, 2018 and Linde shares outstanding from October 31, 2018 through December 31, 2018.

(c) Non-GAAP measures. See the “Non-GAAP Financial Measures” section in Item 7 for definitions and reconciliation to reported amounts. Net debt, as presented in the table above, is calculated as total debt less cash and cash equivalents.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion of the company's financial condition and results of operations should be read together with its consolidated financial statements and notes to the consolidated financial statements included in Item 8 of this Form 10-K.

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MERGER OF PRAXAIR, INC. AND LINDE AG

On October 31, 2018 Praxair and Linde AG combined their respective businesses through an all-stock transaction, and became subsidiaries of Linde (collectively referred to as the "business combination" or "merger"). Prior to the business combination, the company did not conduct any business activities other than those required for its formation and matters contemplated by the business combination agreement. Praxair was determined to be the accounting acquirer for the merger. Accordingly, the historical financial statements of Praxair for the periods prior to the merger are considered to be the historical financial statements of Linde. The results of Linde AG are included in Linde's consolidated results from the merger date forward. The Linde shares trade on the New York Stock Exchange and the Frankfurt Stock Exchange under the ticker symbol "LIN". See Notes 1 and 3 to the consolidated financial statements for additional information.

In connection with the business combination, the company, Praxair and Linde AG, entered into various agreements with regulatory authorities to satisfy anti-trust requirements to secure approval to consummate the business combination. These agreements required the sale of the majority of Praxair's European businesses (completed on December 3, 2018), the majority of Linde AG's America's business (completed on March 1, 2019), as well as certain divestitures of other Praxair and Linde AG businesses in Asia that are expected to be sold in 2019 (collectively, the "merger-related divestitures"). In the consolidated financial statements, Praxair's merger-related divestitures are included in the results of operations until sold and Linde AG's merger-related divestitures are accounted for as discontinued operations. See Notes 4 and 23 to the consolidated financial statements for additional information relating to merger-related divestitures.

Additionally, to obtain merger approval in the United States Linde, Praxair and Linde AG entered into an agreement with the U.S. Federal Trade Commission dated October 1, 2018 ("hold separate order" or "HSO"). Under the HSO, the company, Praxair and Linde AG agreed to continue to operate Linde AG and Praxair as independent, ongoing, economically viable, competitive businesses held separate, distinct, and apart from each other's operations; and not coordinate any aspect of their operations until certain divestitures in the United States were completed. Accordingly, Linde has accounted for Linde AG as a separate segment for 2018 reporting purposes effective with the merger date. Prior to the merger date, the company's Linde AG segment did not exist. Since the FTC hold separate order restrictions were lifted effective March 1, 2019, the company subsequently implemented a new operating segment structure as follows: Americas; EMEA (Europe/ Middle East/Africa); APAC (Asia/Pacific), Engineering and Other. This new management structure will be used for 2019 reporting and comparative prior period information will be presented on a consistent basis.

BUSINESS OVERVIEW

With the merger, Linde is the leading industrial gas company worldwide. The company's primary products in its industrial gases business are atmospheric gases (oxygen, nitrogen, argon, rare gases) and process gases (carbon dioxide, helium, hydrogen, electronic gases, specialty gases, acetylene). The company also designs, engineers, and builds equipment that produces industrial gases primarily for internal use; and offers its customers a wide range of gas production and processing services such as olefin plants, natural gas plants, air separation plants, hydrogen and synthesis gas plants and other types of plants. The company's surface technologies segment supplies wear-resistant and high-temperature corrosion-resistant metallic and ceramic coatings and powders.

Linde's industrial gas operations are managed on a geographical basis and in 2018, 76% of sales were generated by Praxair's four geographic segments (North America, Europe, South America, and Asia), and since the merger date, the Linde AG segment generated 19% of consolidated sales. The surface technologies segment generated the remaining 5% of sales.

Linde serves a diverse group of industries including healthcare, petroleum refining, manufacturing, food, beverage carbonation, fiber-optics, steel making, aerospace, chemicals and water treatment. The diversity of end-markets supports financial stability for Linde in varied business cycles.

Linde generates most of its revenues and earnings in the following geographies where the company has its strongest market positions and where distribution and production operations allow the company to deliver the highest level of service to its customers at the lowest cost.

North and South America ("Americas")	**Europe, Middle East and Africa ("EMEA")**	**Asia and Pacific ("APAC")**
United States	Germany	China
Canada	United Kingdom	India
Mexico	Scandinavia	South Korea
Brazil	Republic of South Africa*	Australia/New Zealand*
		Taiwan

*Added with the Linde AG merger

The company manufactures and distributes its products through networks of thousands of production plants, pipeline complexes, distribution centers and delivery vehicles. Major pipeline complexes are primarily located in the United States. These networks are a competitive advantage, providing the foundation of reliable product supply to the company's customer base. The majority of Linde's business is conducted through long-term contracts which provide stability in cash flow and the ability to pass through changes in energy and feedstock costs to customers. The company has growth opportunities in all major geographies and in diverse end-markets such as energy, electronics, chemicals, metals, healthcare, food and beverage, and aerospace.

EXECUTIVE SUMMARY – FINANCIAL RESULTS & OUTLOOK

2018 Year in review

On October 31, 2018 Praxair and Linde AG combined their respective businesses through an all-stock merger transaction, and became subsidiaries of Linde plc. The year ended December 31, 2018 reflects the results of Praxair for the entire year and the results of Linde AG for the period beginning after October 31, 2018.

- Sales of $14,900 million were 30% above 2017 sales of $11,437 million, primarily driven by the merger with Linde AG that contributed 24% to sales, net of divestitures. Underlying sales increased 6% driven by volume growth primarily in North America and Asia, including new project start-ups, and higher price.
- Reported operating profit of $5,247 million was 115% above 2017. Adjusted operating profit of $2,976 million was 19% above adjusted operating profit in 2017. Adjusted operating profit growth was driven by higher volumes and price across the geographic segments and the impact of the merger.*
- Income from continuing operations of $4,273 million and diluted earnings per share from continuing operations of $12.79 increased from $1,247 million and $4.32, respectively in 2017. Adjusted income from continuing operations of $2,121 million and adjusted diluted earnings per share from continuing operations of $6.35 were 26% and 9%, respectively above 2017 adjusted amounts.*
- Cash flow from operations was $3,654 million, or 25% of sales. Capital expenditures were $1,883 million; dividends paid were $1,166 million; and debt repayments, net were $2,908 million.
- Cash on hand at December 31, 2018 was $4,466 million versus $617 million at December 31, 2017. This increase is primarily a result of the stock only merger with Linde AG and proceeds from the sale of Praxair's European industrial gases business. The cash is available for Corporate uses, including among others the planned squeeze-out of the 8% Linde AG noncontrolling interests and stock buybacks.

* A reconciliation of the Adjusted amounts can be found in the "Non-GAAP Financial Measures" section in this MD&A. See Notes 1, 3, 4, 5, 7, 13 and 18 to the consolidated financial statements.

2019 Outlook

The company's business is to build, own, and operate industrial gas plants in order to supply atmospheric and process gases to customers. As such, Linde believes that its sale of gas project backlog is one indicator of future sales growth. At December 31, 2018, Linde's backlog of large projects under construction was $3.5 billion. This represents the total estimated capital cost of large plants under construction. APAC and Americas represent 49 percent and 42 percent of the backlog, respectively, with the remaining backlog in EMEA. These plants will primarily supply customers in the energy, chemical, and electronics end-markets.

The above guidance should be read in conjunction with the section entitled "Forward-Looking Statements."

Linde provides quarterly updates on operating results, material trends that may affect financial performance, and financial guidance via earnings releases and investor teleconferences. These materials are available on the company's website, https://www.linde.com/en/investors but are not incorporated herein.

CONSOLIDATED RESULTS AND OTHER INFORMATION

The year ended December 31, 2018 reflects the results of Praxair for the entire year and the results of Linde AG for the period beginning after October 31, 2018 (the merger date), including the impacts of purchase accounting (See Notes 1, 3 and 4 to the consolidated financial statements). The historical periods prior to 2018 reflect the results of Praxair, Inc.

The following table provides selected data for 2018, 2017, and 2016:

(Dollar amounts in millions, except per share data) Year Ended December 31,	2018	2017 (d)	2016 (d)	Variance 2018 vs. 2017	Variance 2017 vs. 2016
Reported Amounts					
Sales	$ 14,900	$ 11,437	$ 10,534	30 %	9 %
Cost of sales, exclusive of depreciation and amortization	$ 9,084	$ 6,461	$ 5,855	41 %	10 %
Gross margin (a)	$ 5,816	$ 4,976	$ 4,679	17 %	6 %
As a percent of sales	39.0%	43.5%	44.4%		
Selling, general and administrative	$ 1,629	$ 1,207	$ 1,145	35 %	5 %
As a percent of sales	10.9%	10.6%	10.9%		
Depreciation and amortization	$ 1,830	$ 1,184	$ 1,122	55 %	6 %
Transaction costs and other charges (b)	$ 309	$ 52	$ 96		
Net gain on sale of businesses (b)	$ 3,294	$ —	$ —		
Other income (expense) – net	$ 18	$ 4	$ 23		
Operating Profit	$ 5,247	$ 2,444	$ 2,247	115 %	9 %
Operating margin	35.2%	21.4%	21.3%		
Interest expense – net	$ 202	$ 161	$ 190	25 %	(15)%
Net pension and OPEB cost (benefit), excluding service cost	$ (4)	$ (4)	$ 9	— %	(144)%
Effective tax rate	16.2%	44.9%	26.9%		
Income from equity investments	$ 56	$ 47	$ 41	19 %	15 %
Noncontrolling interests from continuing operations	$ (15)	$ (61)	$ (38)	(75)%	61 %
Income from continuing operations	$ 4,273	$ 1,247	$ 1,500	243 %	(17)%
Diluted earnings per share from continuing operations	$ 12.79	$ 4.32	$ 5.21	196 %	(17)%
Diluted shares outstanding (c)	334,127	289,114	287,757	16 %	— %
Number of employees	80,820	26,461	26,498		
Adjusted Amounts (e)					
Operating profit	$ 2,976	$ 2,496	$ 2,343	19 %	7 %
Operating margin	20.0%	21.8%	22.2%		
Interest expense – net	$ 197	$ 161	$ 174	22 %	(7)%
Net pension and OPEB cost (benefit), excluding service cost	$ (18)	$ (6)	$ 5	200 %	(220)%
Effective tax rate	23.8%	27.2%	27.1%		
Noncontrolling interests from continuing operations	$ (73)	$ (61)	$ (43)	20 %	42 %
Income from continuing operations	$ 2,121	$ 1,690	$ 1,576	26 %	7 %
Diluted earnings per share from continuing operations	$ 6.35	$ 5.85	$ 5.48	9 %	7 %
Other Financial Data (e)					
EBITDA	$ 7,133	$ 3,675	$ 3,410	94 %	8 %
EBITDA Margin	47.9%	32.1%	32.4%	49 %	(1)%
Adjusted EBITDA	$ 4,516	$ 3,727	$ 3,506	21 %	6 %
Adjusted EBITDA Margin	30.3%	32.6%	33.3%	(7)%	(2)%

(a) Gross margin excludes depreciation and amortization expense.

(b) See Notes 5 and 4 to the consolidated financial statements.

(c) As a result of the merger, share amounts for the year ended December 31, 2018 reflect the weighted averaging effect of Praxair shares outstanding prior to October 31, 2018 and Linde shares outstanding from October 31, 2018 through December 31, 2018.

(d) Prior period information has been reclassified to conform with current year presentation as a result of the adoption of new accounting guidance on the presentation of net period pension and postretirement benefit costs. See Note 2 to the consolidated financial statements.

(e) Adjusted amounts and other financial data are non-GAAP performance measures. A reconciliation of reported amounts to adjusted amounts can be found in the "Non-GAAP Financial Measures" section of this MD&A. See Notes 3, 4, 5, 13 and 18 to the consolidated financial statements.

Results of Operations

The following table provides a summary of changes in consolidated sales and adjusted operating profit:

	2018 vs. 2017		2017 vs. 2016	
	% Change		% Change	
	Sales	Operating Profit	Sales	Operating Profit
Factors Contributing to Changes				
Volume	4 %	5 %	5 %	8 %
Price/Mix	2 %	9 %	1 %	5 %
Cost pass-through	1 %	— %	2 %	— %
Currency	(1)%	— %	1 %	1 %
Acquisitions/Divestitures				
Europe divestiture	*(1)%*	*(1)%*	*— %*	*— %*
Net gain on sale of businesses	*— %*	*132 %*	*— %*	*— %*
Linde AG – excluding purchase accounting	*25 %*	*10 %*	*— %*	*— %*
Purchase accounting impacts – Linde AG	*— %*	*(29)%*	*— %*	*— %*
Other	— %	(11)%	— %	(5)%
Reported	30 %	115 %	9 %	9 %
Transaction costs and other charges	— %	7 %	— %	(2)%
Net gain on sale of businesses	— %	(132)%	— %	— %
Purchase accounting impacts – Linde AG	— %	29 %	— %	— %
Adjusted	30 %	19 %	9 %	7 %

The following tables provide consolidated sales by end-market and distribution method:

	% of Sales*			% Change*	
	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Sales by End-Markets					
Manufacturing	22%	22%	23%	7 %	4%
Metals	17%	17%	17%	7 %	7%
Energy	11%	12%	12%	6 %	5%
Chemicals	11%	10%	10%	14 %	9%
Electronics	9%	9%	8%	8 %	13%
Healthcare	8%	8%	8%	6 %	4%
Food & Beverage	9%	9%	9%	7 %	5%
Aerospace	4%	3%	3%	14 %	11%
Other	9%	10%	10%	(1)%	3%
	100%	100%	100%		

* Percentage of sales information excludes Linde AG. Percentage change information excludes impact of currency, natural gas/precious metals cost pass-through and acquisitions/divestitures, including the impact of the Linde AG merger. See Linde AG segment discussion.

	% of Sales*		
	2018	2017	2016
Sales by Distribution Method			
On-Site	28%	30%	29%
Merchant	31%	34%	35%
Packaged Gas	30%	27%	28%
Other	11%	9%	8%
	100%	100%	100%

* See Note 21 to the consolidated financial statements.

2018 Compared With 2017

Sales increased 30% to $14,900 million in 2018 compared to $11,437 million in 2017 primarily reflecting the merger with Linde AG which contributed 24% to sales, net of divestitures. Underlying sales increased 6% driven by higher volumes and pricing. Volume growth of 4% was driven by higher volumes in North America and Asia, including new project start-ups. Higher overall pricing across all geographic segments contributed 2% to sales. Currency translation impact decreased sales by 1%. Higher cost pass-through, primarily natural gas, increased sales by 1% with minimal impact on operating profit. The divestiture of Praxair's European businesses in December of 2018 decreased sales by 1%.

Gross margin increased $840 million, or 17%, versus 2017 primarily due to the merger. Gross margin as a percentage of sales declined to 39.0% in 2018 from 43.5% in 2017 and was negatively impacted by a $368 million charge for the fair value step-up of inventories acquired in the merger. Excluding this charge, gross margin in 2018 was 41.5%.

Selling, general and administrative ("SG&A") expenses increased $422 million, or 35%, in 2018 to $1,629 million primarily due to the merger. SG&A was 10.9% of sales in 2018 versus 10.6% in 2017, primarily due to the merger.

Depreciation and amortization expense increased $646 million, or 55%, versus 2017. The increase is primarily due to the merger, including $346 million of purchase accounting impacts related to the fair value of fixed assets and intangible assets acquired in the merger.

Transaction costs and other charges were $309 million and $52 million in 2018 and 2017, respectively and are primarily related to the merger. See Note 5 to the consolidated financial statements.

Net gain on the sale of businesses was $3,294 million and related primarily to the divestiture of Praxair's European industrial gases business in connection with the merger. See Note 4 to the consolidated financial statements.

Other income (expenses) – net in 2018 was a $18 million benefit versus a $4 million benefit in 2017 (see Note 9 to the consolidated financial statements for a summary of major components). In North America, 2018 included a $30 million asset impairment charge which was more than offset by $43 million of gains on asset disposals. In Asia, 2018 included a $22 million asset impairment charge, offset by a litigation settlement gain.

Reported operating profit of $5,247 million in 2018 was $2,803 million, or 115% higher than reported operating profit of $2,444 million in 2017. 2018 includes a net gain on sale of businesses of $3,294 million, partially offset by transaction costs and other charges of $309 million, and purchase accounting impacts of $714 million related to the Linde AG merger (see Notes 4, 5 and 3, respectively, to the consolidated financial statements). 2017 included transaction costs of $52 million (see Note 5 to the consolidated financial statements). Excluding the impact of these items, adjusted operating profit of $2,976 million in 2018 was $480 million, or 19%, higher than adjusted operating profit of $2,496 million in 2017 driven primarily by the merger. Higher volumes and price in the geographic segments and surface technologies also contributed to operating profit growth. A discussion of operating profit by segment is included in the segment discussion that follows.

Reported interest expense – net in 2018 increased $41 million, or 25%, versus 2017. 2018 included charges of $26 million relating to the early redemption of notes and a decrease of $21 million related to purchase accounting impacts related to the fair value of debt acquired in the merger (see Notes 13 and 3 to the consolidated financial statements, respectively). Excluding these impacts, adjusted interest expense of $197 million increased $36 million, or 22%, largely attributable to interest on the debt acquired in the merger and lower capitalized interest. See Note 9 to the consolidated financial statements for further information relating to interest expense.

The reported effective tax rate ("ETR") for 2018 was 16.2% versus 44.9% in 2017. The decrease in the ETR for the 2018 period versus the U.S. statutory rate of 21% was primarily due to the impact of the sale of Praxair's European industrial gases business. The increase in the ETR for the 2017 period versus the U.S. statutory rate of 35% was primarily due to the net $394 million charge related to the Tax Act. Excluding these and other smaller impacts as set forth in the "Non-GAAP financial measures" section of this MD&A, on an adjusted basis the ETR for the 2018 and 2017 periods was 23.8% and 27.2%, respectively. The decrease was driven primarily by the impact of the Tax Act enacted in the fourth quarter of 2017 which lowered the U.S. statutory tax rate from 35% in 2017 to 21% in 2018 (see Note 7 to the consolidated financial statements).

Linde's equity investments are primarily located in the United States, China, and the Middle East. Equity income increased $9 million in 2018 versus 2017 and included charges of $9 million for purchase accounting impacts related to the fair value step up of equity investments acquired in the merger. Excluding this impact, equity income increased $18 million, primarily driven by income from equity investments acquired in the merger.

At December 31, 2018, reported noncontrolling interests from continuing operations consisted primarily of noncontrolling shareholders' investments in Asia (primarily in China) and surface technologies. Reported noncontrolling interests from continuing operations decreased $46 million to $15 million in 2018 from $61 million in 2017. 2018 includes the impact of the merger and related purchase accounting impacts. Excluding these impacts, adjusted noncontrolling interests from continuing operations of $73 million increased $12 million, or 20%, primarily due to noncontrolling interests acquired in the merger.

Reported income from continuing operations for 2018 was $4,273 million, $3,026 million, or 243%, higher than reported income from continuing operations of $1,247 million in 2017. Adjusted income from continuing operations of $2,121 million in 2018 was $431 million, or 26%, higher than adjusted income from continuing operations of $1,690 million in 2017 primarily due to higher adjusted operating profit and a lower effective tax rate.

Reported diluted earnings per share from continuing operations ("EPS") of $12.79 in 2018 increased $8.47 per diluted share, or 196% from $4.32 in 2017. Adjusted diluted EPS of $6.35 in 2018 increased $0.50 per diluted share, or 9%, from adjusted diluted EPS of $5.85 in 2017. The increase in adjusted diluted EPS was primarily due to the merger and higher adjusted income from continuing operations, partially offset by an increase in diluted shares resulting from equity acquired in the merger.

Other comprehensive losses for the year ended December 31, 2018 of $299 million resulted primarily from (i) a $221 million unfavorable impact in the funded status of Linde's retirement obligations and (ii) adverse currency translation adjustments of $76 million, net of a benefit of $318 million related to the release of currency translation adjustments on Praxair's European business (See Note 4 to the consolidated financial statements). The decrease in the funded status of retirement obligations was primarily the result of higher current year actuarial losses, as the impact of higher U.S. discount rates was largely offset by a lower actual return on assets. Unfavorable translation adjustments reflect the impact of translating local currency foreign subsidiary financial statements into U.S. dollars, and are largely driven by the strengthening of the U.S. dollar against major currencies including the Euro, Brazilian real and Canadian dollar.

Unfavorable currency translation adjustments included $343 million in South America and $149 million in Asia, partially offset by favorable currency translation adjustments of $231 million related to Linde AG (primarily Europe and Asia) representing translation impacts for the period from merger date through December 31, 2018. Remaining other comprehensive losses of $2 million relate to the amortization of deferred losses on the company's derivatives and unrealized losses on available for sale securities. Refer to the Currency section of the MD&A and Notes 9 and 18 to the consolidated financial statements.

The number of employees at December 31, 2018 was 80,820, an increase of 54,359 employees from December 31, 2017 primarily driven by an increase of approximately 56,000 related to the merger partially offset by a decrease of approximately 2,500 from the divestiture of Praxair's European industrial gases business.

Other Financial Data

Earnings before interest taxes depreciation and amortization ("EBITDA") increased $3,458 million to $7,133 million in 2018 from $3,675 million in 2017. EBITDA in 2018 includes a gain on sale of businesses and purchase accounting impacts, and both periods include transaction and other costs. Excluding the impacts of these items, adjusted EBITDA increased $789 million to $4,516 million in 2018 from $3,727 million in 2017 driven by the consolidation of Linde AG starting October 31, 2018, and higher adjusted income from continuing operations plus depreciation and amortization versus the prior year.

See the "Non-GAAP Financial Measures" section for definitions and reconciliation of these non-GAAP measures to reported amounts.

2017 Compared With 2016

Sales increased 9% to $11,437 million in 2017 compared to $10,534 million in 2016. Excluding favorable currency translation of 1% and higher cost pass-through, primarily natural gas, which increased sales by 2%, sales growth was 6%. Volume growth of 5% was driven by higher volumes in North America, Europe and Asia, including new project start-ups, and growth in all end-markets. Higher price increased sales by 1%.

Gross margin increased $297 million, or 6%, versus 2016 primarily due to higher sales. Gross margin as a percentage of sales declined to 43.5% in 2017 from 44.4% in 2016 largely driven by the contractual pass-through of higher natural gas costs to customers.

Selling, general and administrative expenses increased $62 million or 5% in 2017 to $1,207 million, and decreased to 10.6% of sales versus 10.9% of sales for 2016. Currency impacts increased SG&A by $14 million. Excluding currency impacts, SG&A increased $48 million driven by higher incentive compensation, acquisitions and cost inflation partially offset by cost reduction actions.

Depreciation and amortization expense increased $62 million versus 2016. Currency impacts increased depreciation and amortization expense by $15 million. Excluding currency impacts, depreciation and amortization expense increased $47 million, or 4%, primarily due to large project start ups and acquisitions.

During the year ended December 31, 2017, Linde recorded transaction costs and other charges of $52 million primarily related to the merger. During the year ended December 31, 2016, Linde recorded charges of $96 million related primarily to a cost reduction program. (Refer to Note 5 to the consolidated financial statements.)

Other income (expenses) – net in 2017 was a $4 million benefit versus a $23 million benefit in 2016 (see Note 9 to the consolidated financial statements for a summary of major components). Other income in 2016 is largely related to net gains on asset sales.

Reported operating profit of $2,444 million in 2017 was $197 million, or 9% higher than reported operating profit of $2,247 million in 2016. 2017 included transaction costs of $52 million. 2016 included charges of $96 million related to cost reduction actions. Refer to Note 5 of the consolidated financial statements for a further discussion of these items. Excluding the impact of these items, adjusted operating profit of $2,496 million in 2017 was $153 million, or 7% higher than adjusted operating profit of $2,343 million in 2016 driven by higher volumes and price. A discussion of operating profit by segment is included in the segment discussion that follows.

Reported interest expense – net in 2017 decreased $29 million, or 15%, versus 2016. 2016 included charges of $16 million relating to the early redemption of notes (see Note 13 to the consolidated financial statements). Excluding this

charge, adjusted interest expense decreased $13 million, or 7%, largely attributable to overall lower net debt. See Note 9 to the consolidated financial statements for further information relating to interest expense.

The reported effective tax rate for 2017 was 44.9% versus 26.9% in 2016. The ETR for the 2017 period included a net $394 million tax charge related to the Tax Act and a $5 million tax benefit related to transaction costs and a pension settlement (see Note 5 and Note 7 to the consolidated financial statements). The ETR for the 2016 period includes a $35 million tax benefit related to a pension settlement, bond redemption and cost reduction program and other charges (see Note 13 and Note 18 to the consolidated financial statements). Excluding these impacts, on an adjusted basis the ETR for the 2017 and 2016 periods was relatively flat at 27.2% and 27.1%, respectively.

Linde's equity investments are primarily located in the United States, China, Italy, and the Middle East. Equity income increased $6 million in 2017.

At December 31, 2017, reported noncontrolling interests consisted primarily of noncontrolling shareholders' investments in Asia (primarily in China), Europe (primarily in Italy), and surface technologies. Reported noncontrolling interests increased $23 million to $61 million in 2017 from $38 million in 2016. Reported noncontrolling interests for the year ended December 31, 2016 included a reduction of $5 million related to a cost reduction program. The remaining increase was driven by PG Technologies, LLC ("PGT"), a surface technologies joint venture with GE Aviation formed in the fourth quarter of 2016 (see Note 16 to the consolidated financial statements).

Reported income from continuing operations in 2017 was $1,247 million, or $253 million lower than $1,500 million in 2016. Adjusted income from continuing operations of $1,690 million in 2017 was $114 million, or 7% higher than $1,576 million in 2016. Adjusted income from continuing operations increased primarily due to higher adjusted operating profit and lower adjusted interest expense – net.

Reported diluted earnings per share from continuing operations of $4.32 in 2017 decreased $0.89 per diluted share, or 17% from $5.21 in 2016. The decrease included a $1.36 net income tax charge related to the Tax Act and a $0.17 charge related to transaction costs and other charges (see Note 7 and Note 5 to the consolidated financial statements). Adjusted diluted EPS from continuing operations of $5.85 in 2017 increased $0.37 per diluted share, or 7%, from adjusted diluted EPS from continuing operations of $5.48 in 2016. The increase in adjusted diluted EPS was primarily due to higher adjusted income from continuing operations.

Other comprehensive income for the year ended December 31, 2017 of $536 million includes favorable currency translation adjustments of $525 million and an $11 million favorable impact in the funded status of retirement obligations. The favorable translation adjustments reflect the impact of translating local currency foreign subsidiary financial statements into U.S. dollars, and are largely driven by the weakening of the U.S. dollar against the Canadian dollar, Euro, and Korean won. Favorable currency translation adjustments included $232 million in Asia, $153 million in North America and $106 million in Europe partially offset by unfavorable currency translation adjustments of $35 million in South America. The increase in the funded status of retirement obligations was primarily the result of lower current year actuarial losses, as the impact of lower U.S. discount rates was largely offset by a higher actual return on assets. Refer to the Currency section of the MD&A and Notes 9 and 18 to the consolidated financial statements.

The number of employees at December 31, 2017 was 26,461, a decrease of 37 employees from December 31, 2016. This decrease primarily reflects the impact of cost reduction programs implemented during the previous year.

Other Financial Data

EBITDA increased $265 million to $3,675 million in 2017 from $3,410 million in 2016. Adjusted EBITDA increased $221 million to $3,727 million in 2017 from $3,506 million in 2016 driven by higher adjusted income from continuing operations plus depreciation and amortization versus the prior year.

See the "Non-GAAP Financial Measures" section for definitions and reconciliation of these non-GAAP measures to reported amounts.

Related Party Transactions

The company's related parties are primarily unconsolidated equity affiliates. The company did not engage in any material transactions involving related parties that included terms or other aspects that differ from those which would be negotiated with independent parties.

Environmental Matters

Linde's principal operations relate to the production and distribution of atmospheric and other industrial gases, which historically have not had a significant impact on the environment. However, worldwide costs relating to environmental protection may continue to grow due to increasingly stringent laws and regulations, and Linde's ongoing commitment to rigorous internal standards. In addition, Linde may face physical risks from climate change and extreme weather.

Climate Change

Linde operates in jurisdictions that have, or are developing, laws and/or regulations to reduce or mitigate the perceived adverse effects of greenhouse gas ("GHG") emissions and faces a highly uncertain regulatory environment in this area. For example, the U.S. Environmental Protection Agency ("EPA") has promulgated rules requiring reporting of GHG emissions, and Linde and many of its suppliers and customers are subject to these rules. EPA has also promulgated regulations to restrict GHG emissions, including final rules regulating GHG emissions from light-duty vehicles and certain large manufacturing facilities, many of which are Linde suppliers or customers. In addition to these developments in the United States, GHGs are regulated in the European Union under the Emissions Trading System, which has wide implications for the company's customers and may impact certain operations of Linde in Europe. There are also requirements for mandatory reporting in Canada, which apply to certain Linde operations and will be used in developing cap-and-trade regulations on GHG emissions. These regulations are expected to impact certain Linde facilities in Canada. Climate change and energy efficiency laws and policies are also being widely introduced in jurisdictions throughout South America, Mexico and parts of Asia. China has announced plans to launch a national carbon emissions trading system, though it does not appear the regulations will have a direct impact on GHG emissions from Linde facilities. Among other impacts, such regulations are expected to raise the costs of energy, which is a significant cost for Linde. Nevertheless, Linde's long-term customer contracts routinely provide rights to recover increased electricity, natural gas, and other costs that are incurred by the company as a result of Climate Change regulation.

Linde anticipates continued growth in its hydrogen business, as hydrogen is essential to refineries that use it to remove sulfur from transportation fuels in order to meet ambient air quality standards in the United States and fuel standards in other regions. Hydrogen production plants and a large number of other manufacturing and electricity-generating plants have been identified in California and the European Union as a source of carbon dioxide emissions and these plants are subject to cap-and-trade regulations in those jurisdictions. Linde believes it will be able to mitigate the costs of these regulations through the terms of its product supply contracts. However, legislation that limits GHG emissions may impact growth by increasing capital, compliance, operating and maintenance costs and/or decreasing demand.

To manage business risks from current and potential GHG emission regulation as well as physical consequences of climate change, Linde actively monitors current developments, evaluates the direct and indirect business risks, and takes appropriate actions. Among others, actions include: increasing relevant resources and training; maintaining contingency plans; obtaining advice and counsel from expert vendors, insurance providers and industry experts; incorporating GHG provisions in commercial agreements; and conducting regular reviews of the business risks with management. Although there are considerable uncertainties, Linde believes that the business risk from potential regulations can be effectively managed through its commercial contracts. Additionally, Linde does not anticipate any material effects regarding its plant operations or business arising from potential physical risks of climate change.

Linde continuously seeks opportunities to optimize its own energy use and GHG footprint through rigorous energy efficiency, investment in renewable energy, and purchasing hydrogen as a chemical byproduct where feasible. Linde maintains related performance improvement targets and reports progress against these targets regularly to business management and annually to Linde's Board of Directors.

At the same time, Linde may benefit from business opportunities arising from governmental regulation of GHG and other emissions; uncertain costs of energy and certain natural resources; the development of renewable energy alternatives; and new technologies that help extract natural gas, improve air quality, increase energy efficiency and mitigate the impacts of climate change. Linde continues to develop new applications that can lower emissions, including GHG emissions, in Linde's

processes and help customers lower energy consumption and increase product throughput. Stricter regulation of water quality in emerging economies such as China provide a growing market for a number of gases, e.g., oxygen for wastewater treatment. Increased concern about drought in areas such as California may create a market for carbon dioxide for desalination. Renewable fuel standards in the European Union and U.S. create a market for second-generation biofuels which use industrial gases such as oxygen, carbon dioxide, and hydrogen.

Costs Relating to the Protection of the Environment

Environmental protection costs in 2018 were not significant. Linde anticipates that future annual environmental protection expenditures will be similar to 2018, subject to any significant changes in existing laws and regulations. Based on historical results and current estimates, management does not believe that environmental expenditures will have a material adverse effect on the consolidated financial position, the consolidated results of operations or cash flows in any given year.

Legal Proceedings

See Note 19 to the consolidated financial statements for information concerning legal proceedings.

Retirement Benefits

Pensions

The net periodic benefit cost for the U.S. and International pension plans was $24 million in 2018, $58 million in 2017 and $51 million in 2016. The net periodic pension cost for 2018 includes a benefit of $44 million related to gains on settlements triggered as part of the Praxair European business divestiture and recognized on the Net gain on sale of businesses line. This also includes settlement charges related to lump sum payments (e.g., triggered by change in control or normal retirements) of $14 million in 2018. Settlement charges for 2017 and 2016 were $2 million and $4 million, respectively.

The funded status (pension benefit obligation ("PBO") less the fair value of plan assets) for the U.S. plans was a deficit of $556 million as of December 31, 2018 versus a deficit of $560 million at December 31, 2017. Actuarial gains on favorable liability experience that arose during the current year related primarily to higher discount rates and were largely offset by a lower return on assets. The funded status (pension benefit obligation ("PBO") less the fair value of plan assets) for international plans was a deficit of $1,241 million as of December 31, 2018 versus a deficit of $158 million at December 31, 2017. The deficit is primarily due to the Linde AG merger. Linde' AG's major international pension arrangements are in the United Kingdom and Germany.

Global pension contributions were $87 million in 2018, $19 million in 2017 and $11 million in 2016. At a minimum, Linde contributes to its pension plans to comply with local regulatory requirements (e.g., ERISA in the United States). Discretionary contributions in excess of the local minimum requirements are made based on many factors, including long-term projections of the plans' funded status, the economic environment, potential risk of overfunding, pension insurance costs and alternative uses of cash. Changes to these factors can impact the timing of discretionary contributions from year to year. Estimated required contributions for 2019 are currently expected to be in the range of $95 million to $160 million.

Linde assumes expected returns on plan assets for 2019 of 7.50% and 5.00% for the U.S. and international plans, respectively, which are consistent with the long-term expected return on its investment portfolio.

Excluding the impact of any settlements, 2019 consolidated pension expense is expected to be $6 million.

Postretirement Benefits Other Than Pensions ("OPEB")

The net periodic benefit cost for OPEB plans was a $4 million cost in 2018, a $13 million benefit in 2017 and a $5 million cost in 2016. 2017 includes a curtailment gain on a South American OPEB plan of $18 million.

In 2019, consolidated net periodic benefit costs for the OPEB plans is expected to be approximately $5 million.

Refer to the Critical Accounting Policies section and Note 18 to the consolidated financial statements for a more detailed discussion of the company's retirement benefits, including a description of the various retirement plans and the assumptions used in the calculation of net periodic benefit cost and funded status.

Insurance

Linde purchases insurance to limit a variety of property and casualty risks, including those related to property, business interruption, third-party liability and workers' compensation. Currently, the company self-retains up to $5 million per occurrence for workers' compensation, general and vehicle liability in the United States and retains up to $5 million per

occurrence at its various properties worldwide. To mitigate its aggregate loss potential above these retentions, the company purchases insurance coverage from highly rated insurance companies. The company does not currently operate or participate in any captive insurance companies or other non-traditional risk transfer alternatives.

At December 31, 2018 and 2017, the company had recorded a total of $60 million and $35 million, respectively, representing an estimate of the retained liability for the ultimate cost of claims incurred and unpaid as of the balance sheet dates. The estimated liability is established using statistical analysis and is based upon historical experience, actuarial assumptions and professional judgment. These estimates are subject to the effects of trends in loss severity and frequency and are subject to a significant degree of inherent variability. If actual claims differ from the company's estimates, they will be adjusted at that time and financial results could be impacted.

Linde recognizes estimated insurance proceeds relating to damages at the time of loss only to the extent of incurred losses. Any insurance recoveries for business interruption and for property damages in excess of the net book value of the property are recognized only when realized or pending payments confirmed by its insurance companies.

SEGMENT DISCUSSION

Through October 31, 2018 the company's operations were organized into five reportable segments, four of which have been determined on a geographic basis of segmentation: North America, Europe, South America and Asia. The company's surface technologies business represents the fifth reportable segment. These segments are comprised of Praxair businesses for all years presented. As discussed above in the section *"Business Overview – Merger of Praxair, Inc. and Linde AG"* Linde AG became a separate sixth reportable segment effective with the merger on October 31, 2018 and, accordingly, Linde AG's operations were included in the consolidated financial statements effective from the merger date (see Notes 1 and 3 to the consolidated financial statements for additional information).

The following summary of sales and operating profit by segment provides a basis for the discussion that follows (for additional information concerning Linde's segments, see Note 20 to the consolidated financial statements). Linde evaluates the performance of its reportable segments based on operating profit, excluding the items not indicative of ongoing business trends.

(Dollar amounts in millions)				Variance	
Year Ended December 31,	**2018**	**2017**	**2016**	**2018 vs. 2017**	**2017 vs. 2016**
Sales					
North America	$ 6,420	$ 6,023	$ 5,592	7 %	8 %
Europe	1,592	1,558	1,392	2 %	12 %
South America	1,369	1,501	1,399	(9)%	7 %
Asia	1,964	1,738	1,555	13 %	12 %
Surface Technologies	682	617	596	11 %	4 %
Linde AG	2,873	—	—		
	$ 14,900	$ 11,437	$ 10,534	30 %	9 %
Operating Profit					
North America	$ 1,648	$ 1,517	$ 1,431	9 %	6 %
Europe	316	301	274	5 %	10 %
South America	215	239	263	(10)%	(9)%
Asia	427	333	276	28 %	21 %
Surface Technologies	118	106	99	11 %	7 %
Linde AG	252	—	—		
Segment operating profit	2,976	2,496	2,343	19 %	7 %
Transaction costs and other charges	(309)	(52)	(96)		
Net gain on sale of businesses	3,294	—	—		
Purchase accounting impacts – Linde AG	(714)	—	—		
Consolidated operating profit	$ 5,247	$ 2,444	$ 2,247		

North America

(Dollar amounts in millions) Year Ended December 31,	2018	2017	2016	Variance 2018 vs. 2017	Variance 2017 vs. 2016
Sales	$ 6,420	$ 6,023	$ 5,592	7%	8%
Cost of sales, exclusive of depreciation and amortization	3,395	3,167	2,871		
Gross margin	3,025	2,856	2,721		
Operating expenses	717	708	676		
Depreciation and amortization	660	631	614		
Operating profit	$ 1,648	$ 1,517	$ 1,431	9%	6%
Operating margin	25.7%	25.2%	25.6%		

	2018 vs. 2017 % Change		2017 vs. 2016 % Change	
	Sales	Operating Profit	Sales	Operating Profit
Factors Contributing to Changes				
Volume	4%	6 %	4%	8 %
Price/Mix	2%	8 %	2%	5 %
Cost pass-through	1%	— %	2%	— %
Currency	—%	— %	—%	— %
Acquisitions/Divestitures	—%	— %	—%	— %
Other	—%	(5)%	—%	(7)%
	7%	9 %	8%	6 %

The following tables provide sales by end-market and distribution method:

	% of Sales			% Change*	
	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Sales by End-Markets					
Manufacturing	29%	29%	29%	8 %	4%
Metals	11%	12%	12%	5 %	7%
Energy	17%	18%	17%	(1)%	7%
Chemicals	11%	9%	9%	25 %	5%
Electronics	5%	5%	5%	3 %	17%
Healthcare	7%	7%	7%	7 %	5%
Food & Beverage	10%	10%	10%	8 %	5%
Aerospace	2%	2%	2%	21 %	14%
Other	8%	8%	9%	(2)%	1%
	100%	100%	100%		

* Excludes impact of currency, natural gas/precious metals cost pass-through and acquisitions/divestitures.

	% of Sales		
	2018	2017	2016
Sales by Distribution Method			
On-Site	30%	30%	28%
Merchant	37%	37%	38%
Packaged Gas	31%	31%	31%
Other	2%	2%	3%
	100%	100%	100%

The North America segment includes Linde's industrial gases operations in the United States, Canada and Mexico.

Sales for 2018 increased $397 million, or 7%, versus 2017. Higher cost pass-through, primarily higher natural gas prices passed through to hydrogen customers, increased sales by 1% with minimal impact on operating profit. Excluding cost pass–through, sales increased 6% primarily due to higher volumes to most end-markets and higher pricing.

Operating profit in 2018 increased $131 million, or 9% from 2017 driven by higher volumes and pricing. Operating profit for 2018 also included a $30 million asset impairment charge which was more than offset by $43 million of gains on asset disposals.

Sales for 2017 increased $431 million, or 8%, versus 2016. Higher cost pass-through, primarily higher natural gas prices passed through to hydrogen customers, increased sales by 2% with minimal impact on operating profit. Excluding cost pass–through, sales increased 6% primarily due to higher volumes to all end-markets and higher pricing.

Operating profit in 2017 increased $86 million, or 6% from 2016 driven by higher volumes and pricing which were partially offset by hurricane impacts and higher costs, primarily energy and purchased products.

Europe

(Dollar amounts in millions) Year Ended December 31,	2018	2017	2016	Variance 2018 vs. 2017	Variance 2017 vs. 2016
Sales	$ 1,592	$ 1,558	$ 1,392	2%	12%
Cost of sales, exclusive of depreciation and amortization	940	889	774		
Gross margin	652	669	618		
Operating expenses	190	199	189		
Depreciation and amortization	146	169	155		
Operating profit	$ 316	$ 301	$ 274	5%	10%
Operating margin	19.8%	19.3%	19.7%		

	2018 vs. 2017		2017 vs. 2016	
	% Change		% Change	
	Sales	Operating Profit	Sales	Operating Profit
Factors Contributing to Changes				
Volume	1 %	1 %	5%	8 %
Price/Mix	2 %	9 %	1%	3 %
Cost pass-through	2 %	— %	1%	— %
Currency	4 %	5 %	2%	2 %
Acquisitions/Divestitures	(7)%	(7)%	3%	2 %
Other	— %	(3)%	—%	(5)%
	2 %	5 %	12%	10 %

The following tables provide sales by end-market and distribution method:

	% of Sales			% Change*	
	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Sales by End-Markets					
Manufacturing	20%	20%	21%	5 %	4%
Metals	17%	16%	16%	8 %	9%
Energy	4%	5%	5%	(4)%	1%
Chemicals	12%	12%	14%	6 %	7%
Electronics	7%	7%	7%	2 %	7%
Healthcare	12%	12%	11%	6 %	4%
Food & Beverage	15%	14%	12%	11 %	8%
Aerospace	1%	1%	1%	(12)%	3%
Other	12%	13%	13%	(1)%	8%
	100%	100%	100%		

* Excludes impact of currency, natural gas/precious metals cost pass-through and acquisitions/divestitures.

	% of Sales		
	2018	2017	2016
Sales by Distribution Method			
On-Site	18%	18%	19%
Merchant	34%	35%	35%
Packaged Gas	43%	42%	42%
Other	5%	5%	4%
	100%	100%	100%

Linde's European industrial gases business operated in Spain, Ireland, Italy, France, Germany, Russia, the United Kingdom, Scandinavia and the Benelux region. In connection with the merger, Praxair was required to sell the majority of its European industrial gases business. The sale was completed on December 3, 2018 and the European business results are included in the consolidated financial statements through the date of sale. See Note 4 to the consolidated financial statements.

Sales in 2018 increased $34 million, or 2% from 2017. The divestiture of the European businesses decreased sales by 7%. Excluding the divestiture impact, sales increased 9% from 2017. Higher cost pass-through increased sales by 2% with minimal impact on operating profit. Favorable currency translation increased sales by 4%. Higher volumes and higher price increased sales by 1% and 2%, respectively.

Operating profit in 2018 of $316 million increased $15 million, or 5% from 2017. The divestiture of the European businesses decreased operating profit by 7%. Currency translation impact increased operating profit by 5%. Excluding the divestiture and currency impacts, operating profit increased 7% driven by higher price and higher volumes, partially offset by cost inflation.

Sales in 2017 increased $166 million, or 12% from 2016. Higher cost pass-through increased sales by 1% with minimal impact on operating profit. Favorable currency translation increased sales by 2%. Higher overall volumes, including new project start-ups, and higher price increased sales by 5% and 1%, respectively. The acquisition of a carbon dioxide business in the prior year largely serving the food and beverage end-market increased sales by 3%.

Operating profit in 2017 of $301 million increased $27 million, or 10% from 2016 driven by higher volumes and higher price. Favorable currency translation and the acquisition of the carbon dioxide business in the prior year each contributed 2% to operating profit growth.

South America

(Dollar amounts in millions) Year Ended December 31,	2018	2017	2016	Variance 2018 vs. 2017	Variance 2017 vs. 2016
Sales	$ 1,369	$ 1,501	$ 1,399	(9)%	7 %
Cost of sales, exclusive of depreciation and amortization	819	905	822		
Gross margin	550	596	577		
Operating expenses	187	198	181		
Depreciation and amortization	148	159	133		
Operating profit	$ 215	$ 239	$ 263	(10)%	(9)%
Operating margin	15.7%	15.9%	18.8%		

	2018 vs. 2017 % Change		2017 vs. 2016 % Change	
	Sales	Operating Profit	Sales	Operating Profit
Factors Contributing to Changes				
Volume	1 %	(5)%	—%	(2)%
Price/Mix	2 %	12%	1%	3 %
Cost pass-through	— %	— %	—%	— %
Currency	(12)%	(18)%	6%	4 %
Acquisitions/Divestitures	— %	— %	—%	— %
Other	— %	1 %	—%	(14)%
	(9)%	(10)%	7%	(9)%

The following tables provide sales by end-market and distribution method:

	% of Sales			% Change*	
	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Sales by End-Markets					
Manufacturing	15%	17%	18%	(5)%	(2)%
Metals	32%	31%	31%	4 %	1 %
Energy	2%	2%	2%	1 %	23 %
Chemicals	10%	10%	9%	7 %	8 %
Electronics	—%	—%	—%	— %	— %
Healthcare	19%	19%	19%	2 %	3 %
Food & Beverage	14%	13%	13%	3 %	2 %
Aerospace	—%	—%	—%	— %	— %
Other	8%	8%	8%	11 %	(7)%
	100%	100%	100%		

* Excludes impact of currency, natural gas/precious metals cost pass-through and acquisitions/divestitures.

	% of Sales		
	2018	2017	2016
Sales by Distribution Method			
On-Site	33%	33%	31%
Merchant	38%	38%	40%
Packaged Gas	27%	27%	27%
Other	2%	2%	2%
	100%	100%	100%

The South America segment includes Linde's industrial gases operations in Brazil, Argentina, Bolivia, Chile, Colombia, Paraguay, Peru, and Uruguay.

Sales in 2018 decreased $132 million, or 9%, versus 2017. Unfavorable currency impacts decreased sales by 12% driven by the weakening of the Brazilian real and Argentine peso against the U.S. dollar. Excluding currency, sales increased 3% driven by higher price and volumes.

Operating profit decreased $24 million or 10% versus 2017. Excluding unfavorable currency impacts, operating profit increased 8% driven by higher price and lower costs partially offset by unfavorable sales mix.

Effective July 1, 2018 Argentina was deemed a highly inflationary economy (see Note 5 to the consolidated financial statements).

Sales in 2017 increased $102 million, or 7%, versus 2016. Favorable currency translation impacts increased sales by 6% primarily due to the strengthening of the Brazilian Real against the U.S. dollar. Excluding currency, sales increased 1% driven by higher price. Volumes were flat as new project contribution was offset by negative underlying base volumes in Brazil due to weak industrial production. Growth in on-site volumes due to new plant start-ups accounted for the increase in on-site sales as a percentage of total segment sales.

Operating profit decreased $24 million or 9% versus 2016. Excluding currency translation, operating profit decreased 13% driven by unfavorable product sales mix and cost inflation which were partially offset by higher price.

Asia

(Dollar amounts in millions) Year Ended December 31,	2018	2017	2016	Variance 2018 vs. 2017	Variance 2017 vs. 2016
Sales	$ 1,964	$ 1,738	$ 1,555	13%	12%
Cost of sales, exclusive of depreciation and amortization	1,215	1,098	998		
Gross margin	749	640	557		
Operating expenses	118	122	102		
Depreciation and amortization	204	185	179		
Operating profit	$ 427	$ 333	$ 276	28%	21%
Operating margin	21.7%	19.2%	17.7%		

	2018 vs. 2017 % Change		2017 vs. 2016 % Change	
	Sales	Operating Profit	Sales	Operating Profit
Factors Contributing to Changes				
Volume	9%	14 %	11 %	19 %
Price/Mix	2%	14 %	1 %	8 %
Cost pass-through	1%	— %	1 %	— %
Currency	1%	1 %	1 %	1 %
Acquisitions / Divestitures	—%	— %	(2)%	— %
Other	—%	(1)%	— %	(7)%
	13%	28 %	12 %	21 %

The following tables provide sales by end-market and distribution method:

	% of Sales			% Change*	
	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Sales by End-Markets					
Manufacturing	9%	9%	9%	16 %	13 %
Metals	26%	27%	28%	12 %	15 %
Energy	5%	3%	3%	104 %	14 %
Chemicals	14%	15%	14%	3 %	20 %
Electronics	34%	33%	33%	13 %	12 %
Healthcare	1%	1%	1%	10 %	(1)%
Food & Beverage	2%	2%	2%	(6)%	(1)%
Aerospace	—%	—%	—%	— %	— %
Other	9%	10%	10%	(6)%	10 %
	100%	100%	100%		

* Excludes impact of currency, natural gas/precious metals cost pass-through and acquisitions/divestitures.

	% of Sales		
	2018	2017	2016
Sales by Distribution Method			
On-Site	50%	50%	50%
Merchant	32%	30%	29%
Packaged Gas	11%	13%	14%
Other	7%	7%	7%
	100%	100%	100%

The Asia segment includes Linde's industrial gases operations in China, India, Korea and Thailand, with smaller operations in Taiwan and the Middle East.

Sales in 2018 increased $226 million, or 13% versus 2017. Cost pass-through, primarily energy, and currency impacts each increased sales by 1%. Volume growth of 9% was primarily attributable to base volume growth in China, Korea and India and new project start-ups in China. Higher price increased sales by 2% driven by China. Sales growth was the strongest in the metals, energy and electronics end-markets.

Operating profit for 2018 increased $94 million, or 28%, as compared to the prior year driven by higher volumes and price. Operating profit for 2018 included a $22 million asset impairment charge, offset by a litigation settlement gain.

Sales in 2017 increased $183 million, or 12% versus 2016. Favorable currency translation and cost pass-through each increased sales by 1%. Divestitures decreased sales by 2% due to the sale of an ownership interest in a majority-owned joint venture in India in 2016. Excluding these impacts, sales increased 12% driven by base volume growth in China, Korea and India, new project start-ups in China and Korea and higher price.

Operating profit for 2017 increased $57 million, or 21%, as compared to the prior year driven by higher volumes and price, partially offset by cost inflation.

Surface Technologies

(Dollar amounts in millions) Year Ended December 31,	2018	2017	2016	Variance 2018 vs. 2017	Variance 2017 vs. 2016
Sales	$ 682	$ 617	$ 596	11%	4%
Cost of sales, exclusive of depreciation and amortization	448	402	391		
Gross margin	234	215	205		
Operating expenses	72	69	66		
Depreciation and amortization	44	40	40		
Operating profit	$ 118	$ 106	$ 99	11%	7%
Operating margin	17.3%	17.2%	16.6%		

	2018 vs. 2017		2017 vs. 2016	
	% Change		% Change	
	Sales	Operating Profit	Sales	Operating Profit
Factors Contributing to Changes				
Volume/Price	8%	19 %	2%	4%
Cost pass-through	1%	— %	—%	—%
Currency	2%	2 %	—%	—%
Acquisitions/Divestitures	—%	— %	2%	1%
Other	—%	(10)%	—%	2%
	11%	11 %	4%	7%

The following table provides sales by end-market:

	% of Sales			% Change*	
	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Sales by End-Markets					
Manufacturing	12%	11%	11%	22 %	2 %
Metals	8%	9%	9%	(4)%	— %
Energy	18%	19%	23%	4 %	(12)%
Chemicals	2%	2%	2%	(4)%	(7)%
Electronics	1%	1%	1%	33 %	32 %
Healthcare	—%	—%	—%	— %	— %
Food & Beverage	3%	3%	4%	(3)%	(4)%
Aerospace	45%	44%	40%	12 %	11 %
Other	11%	11%	10%	5 %	2 %
	100%	100%	100%		

* Excludes impact of currency, natural gas/precious metals cost pass-through and acquisitions/divestitures.

Surface Technologies provides high-performance coatings and thermal-spray powders and equipment in the Americas, Europe, and Asia.

Sales increased $65 million, or 11% versus 2017 primarily due to higher volumes to the aerospace and manufacturing end-markets and higher price. Currency translation increased sales by 2%.

Operating profit increased $12 million, or 11% versus 2017. Currency translation increased operating profit by 2%. Excluding currency impacts, operating profit increased 9% driven by increased volumes and price partially offset by project ramp up costs.

Sales increased $21 million, or 4% versus 2016 primarily due to higher volumes to the aerospace end-market and acquisitions driven by a majority-owned joint venture with GE aviation.

Operating profit increased $7 million, or 7% versus 2016 due to higher volumes and acquisitions.

Linde AG

(Dollar amounts in millions) **Year Ended December 31,**	**2018**
Sales	$ 2,873
Cost of sales, exclusive of depreciation and amortization	1,899
Gross margin	974
Operating expenses	440
Depreciation and amortization	282
Operating profit	$ 252
Operating margin	8.8%

The following tables provide sales by end-market and distribution method:

	% of Sales **2018**
Sales by End-Markets	
Manufacturing	19%
Metals	9%
Chemicals & Energy	13%
Electronics	7%
Healthcare	23%
Food & Beverage	6%
Engineering	18%
Other	5%
	100%

* Excludes impact of currency, natural gas/precious metals cost pass-through and acquisitions/divestitures.

	% of Sales **2018**
Sales by Distribution Method	
On-Site	17%
Merchant	18%
Packaged Gas	44%
Other	21%
	100%

Linde AG became a sixth reportable segment effective with the merger on October 31, 2018. Sales of $2,873 million and operating profit of $252 million represent results for the two month period from merger date through December 31, 2018.

Currency

The results of Linde's non-U.S. operations are translated to the company's reporting currency, the U.S. dollar, from the functional currencies used in the countries in which the company operates. For most foreign operations, Linde uses the local currency as its functional currency. There is inherent variability and unpredictability in the relationship of these functional currencies to the U.S. dollar and such currency movements may materially impact Linde's results of operations in any given period.

To help understand the reported results, the following is a summary of the significant currencies underlying Linde's consolidated results and the exchange rates used to translate the financial statements (rates of exchange expressed in units of local currency per U.S. dollar):

	Percent of 2018 Consolidated	Statements of Income			Balance Sheets	
		Average Year Ended December 31,			December 31,	
Currency	Sales	2018	2017	2016	2018	2017
Euro	16%	0.85	0.89	0.90	0.87	0.83
Brazilian real	7%	3.63	3.19	3.47	3.87	3.31
Chinese yuan	7%	6.60	6.76	6.64	6.88	6.51
Canadian dollar	6%	1.30	1.30	1.32	1.36	1.26
Mexican peso	4%	19.20	18.86	18.65	19.65	19.66
Korean won	3%	1,100	1,131	1,160	1,111	1,067
British pound	3%	0.75	0.78	0.74	0.78	0.74
Indian rupee	3%	68	65	67	70	64
Australia dollars	1%	1.34	—	—	1.42	—
Taiwan dollars	1%	30.13	30.43	32.25	30.55	29.73
Norwegian krone	<1%	8.13	8.26	8.39	8.64	8.20
Argentina peso (a)	<1%	26.19	16.51	14.74	37.70	18.65

(a) Effective July 1, 2018 Argentina was deemed a highly inflationary economy (see Note 5 to the consolidated financial statements).

LIQUIDITY, CAPITAL RESOURCES AND OTHER FINANCIAL DATA

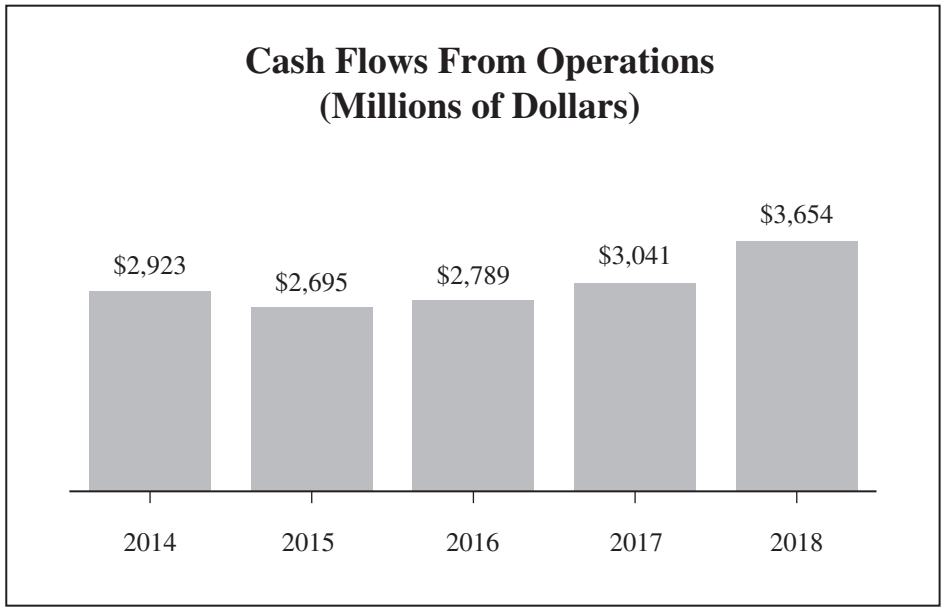
(Millions of dollars) Year Ended December 31,	2018	2017	2016
Net Cash Provided by (Used for)			
Operating Activities			
Income from continuing operations (including noncontrolling interests)	$ 4,288	$ 1,308	$ 1,538
Non-cash charges (credits):			
Add: Transaction costs and other charges, net of payments (a)	40	26	83
Add: Amortization of merger-related inventory step-up	368	—	—
Less: Net gain on sale of businesses (b)	(2,923)	—	—
Add: Tax Act income tax charge, net	(61)	394	—
Add: Depreciation and amortization	1,830	1,184	1,122
Add (Less): Deferred income taxes, excluding Tax Act	(187)	136	(13)
Add (Less): non-cash charges and other	237	102	(4)
Income from continuing operations adjusted for non-cash charges and other	3,592	3,150	2,726
Less: Pension contributions	(87)	(19)	(11)
Add (Less): Working capital	202	(158)	52
Add (Less): Other	(53)	68	22
Net cash provided by operating activities	$ 3,654	$ 3,041	$ 2,789
Investing Activities			
Capital expenditures	$ (1,883)	$ (1,311)	$ (1,465)
Acquisitions, net of cash acquired	(25)	(33)	(363)
Divestitures and asset sales, net of cash divested	5,908	30	58
Cash acquired in merger transaction	1,363	—	—
Net cash provided by (used for) investing activities	$ 5,363	$ (1,314)	$ (1,770)
Financing Activities			
Debt increases (decreases) – net	$ (2,908)	$ (771)	$ 357
Issuances (purchases) of ordinary shares – net	(522)	108	(89)
Cash dividends – Linde plc shareholders	(1,166)	(901)	(856)
Noncontrolling interest transactions and other	(402)	(92)	(71)
Net cash (used) for financing	$ (4,998)	$ (1,656)	$ (659)
Effect of exchange rate changes on cash	$ (60)	$ 22	$ 17
Cash and cash equivalents, end-of-period	$ 4,466	$ 617	$ 524

(a) See Note 5 to the consolidated financial statements.

(b) See Note 4 to the consolidated financial statements.

Cash increased $3,849 million in 2018 versus 2017. The primary sources of cash in 2018 were cash flows from operations of $3,654 million, proceeds from divestitures and asset sales of $5,908 million and cash acquired in the merger of $1,363 million. The primary uses of cash included capital expenditures of $1,883 million, cash dividends to shareholders of $1,166 million, net debt repayments of $2,908 million and net purchases of ordinary shares of $522 million.

Cash Flows From Operations



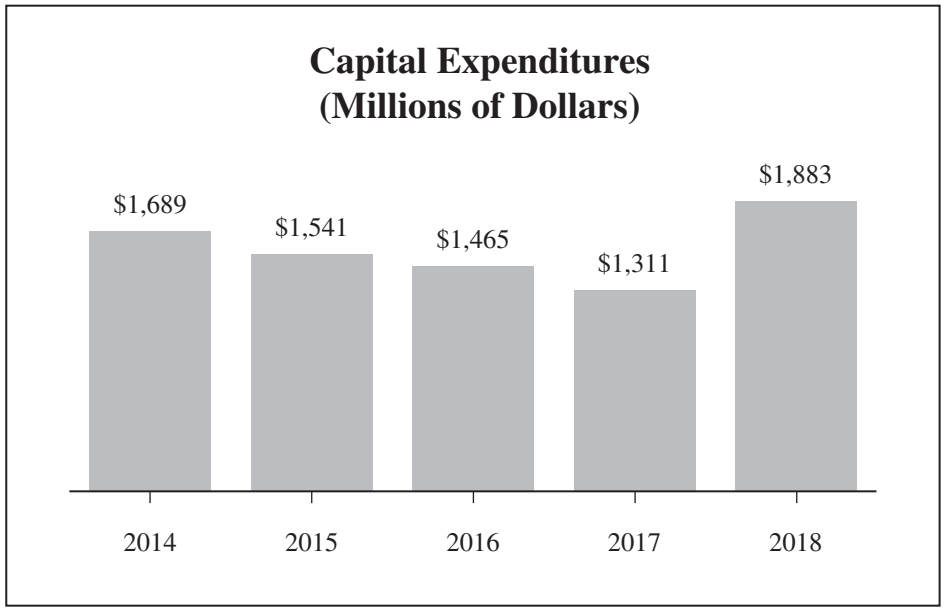
2018 compared with 2017

Cash flows from operations was $3,654 million, or 25% of sales, an increase of $613 million from $3,041 million, or 27% of sales in 2017. The increase was primarily attributable to the merger, higher net income adjusted for non-cash charges and favorable working capital requirements, partially offset by unfavorable changes in other long–term assets and liabilities and higher pension contributions.

2017 compared with 2016

Cash flows from operations was $3,041 million, or 27% of sales, an increase of $252 million from $2,789 million, or 26% of sales in 2016. The increase was primarily attributable to higher net income adjusted for non-cash charges, a $103 million increase in dividends received from equity companies, primarily in China, and favorable changes in other long–term assets and liabilities which were partially offset by higher working capital requirements and pension contributions.

Investing



2018 compared with 2017

Net cash used provided by investing activities of $5,363 million increased $6,677 million from 2017 primarily driven by proceeds from the divestiture of Praxair's European business and cash acquired in the merger, partially offset by higher capital expenditures.

Capital expenditures in 2018 were $1,883 million, an increase of $572 million from 2017, driven primarily by the merger with Linde AG. Capital expenditures during 2018 related primarily to investments in new plant and production equipment for growth and density. Approximately 50% of the capital expenditures were in North America with the rest in Asia, Europe, South America and Linde AG.

Acquisition expenditures in 2018 were $25 million, a decrease of $8 million from 2017. Additionally, $1,363 million of cash was acquired in the merger (see Note 3 to the consolidated financial statements).

Divestitures and asset sales in 2018 totaled $5,908 million primarily driven by proceeds from merger-related divestitures including $5,562 million from the sale of Praxair's European business and $214 million related to the sale of Praxair's Italian joint venture (see Note 4 to the consolidated financial statements).

2017 compared with 2016

Net cash used for investing activities of $1,314 million decreased $456 million versus 2016 due to lower acquisitions and capital expenditures, partially offset by lower proceeds from divestiture and asset sales.

Capital expenditures in 2017 were $1,311 million, a decrease of $154 million from 2016. Capital expenditures during 2017 related primarily to investments in new plant and production equipment for growth and density. Approximately 60% of the capital expenditures were in North America with the rest in Asia, Europe and South America.

Acquisition expenditures in 2017 were $33 million, a decrease of $330 million from 2016. Acquisitions in the prior year were primarily comprised of the acquisition of a European carbon dioxide business and packaged gases businesses in North America and Europe (see Note 3 to the consolidated financial statements).

Divestitures and asset sales in 2017 totaled $30 million of proceeds from asset sales. 2016 divestitures and asset sales were $58 million which included proceeds from asset sales and the sale of an ownership interest in a majority-owned joint venture in India.

Financing

Linde's financing strategy is to secure long-term committed funding by issuing public notes and debentures and commercial paper backed by a long-term bank credit agreement. Linde's international operations are funded through a combination of local borrowing and inter-company funding to minimize the total cost of funds and to manage and centralize currency exchange exposures. As deemed necessary, Linde manages its exposure to interest-rate changes through the use of financial derivatives (see Note 14 to the consolidated financial statements and Item 7A. Quantitative and Qualitative Disclosures About Market Risk).

Cash used by financing activities was $4,998 million in 2018 compared to $1,656 million in 2017. The primary financing uses of cash were for net debt repayments, cash dividends and net purchases of Linde ordinary shares. Cash dividends of $1,166 million increased $265 million from 2017 driven primarily by higher shares outstanding after the merger and a 5% increase in dividends per share from $3.15 to $3.30. Net purchases of ordinary shares were $522 million in 2018 versus net issuances of ordinary shares of $108 million in 2017 driven by increased share repurchases. Noncontrolling interest transactions and other payments was $402 million in 2018 versus $92 million in 2017. Amounts paid in 2018 include $315 million for the purchase of the noncontrolling interest in Praxair's Italian joint venture in a merger-related transaction (see Note 4 to the consolidated financial statements) and $25 million in interest related to the early redemption of bonds (see Note 13 to the consolidated financial statements); while 2017 include dividends paid to NCI joint venture partners and repayment of project advances. The cash used for debt repayments-net of $2,908 million increased $2,137 million from $771 million during 2017 while cash increased $3,849 million. Net debt (debt minus cash) increased $2,447 million primarily due to debt acquired in the merger partially offset by the repayments of debt and increased cash.

The company believes that it has sufficient operating flexibility, cash reserves, and funding sources to maintain adequate amounts of liquidity to meet its business needs around the world. In March 2019, Linde's credit ratings as reported by Standard & Poor's and Moody's were A-1 and P-1 for short-term debt, respectively, and A and A2 for long-term debt, respectively.

Note 13 to the consolidated financial statements includes information with respect to the company's debt repayments in 2018, current debt position, debt covenants and the available credit facilities; and Note 14 includes information relating to derivative financial instruments. Linde's credit facilities are with major financial institutions and are non-cancelable until maturity. Therefore, the company believes the risk of the financial institutions being unable to make required loans under the credit facilities, if requested, to be low. Linde's major bank credit and long-term debt agreements contain standard covenants. The company was in compliance with these covenants at December 31, 2018 and expects to remain in compliance for the foreseeable future.

Linde's total net debt outstanding at December 31, 2018 was $10,830 million, $2,447 million higher than $8,383 million at December 31, 2017. The December 31, 2018 net debt balance includes $14,258 million in public securities, $1,038 million representing primarily worldwide bank borrowings net of $4,466 million of cash. Linde's global effective borrowing rate was approximately 1.96% for 2018.

In March 2018, Linde repaid $500 million of 1.20% notes that became due and in November 2018, Linde repaid $475 million of 1.25% notes that became due.

Additionally, in December 2018, Linde repaid $600 million of 4.50% notes due 2019 and €600 million of 1.50% notes due 2020 resulting in a $26 million interest charge ($20 million after-tax, or $0.06 per diluted share) (see Note 13 to the consolidated financial statements).

Also in December 2018, Linde repaid €750 million of 3.125% notes that became due.

In February 2019, Linde repaid $500 million of 1.90% notes that became due.

In June 2018, the company's $500 million 364-day revolving credit facility with a syndicate of banks expired and was not renewed.

On December 10, 2018 the company announced a $1.0 billion share repurchase program, of which $629 million had been repurchased through December 31, 2018. This program was completed in February of 2019. On January 22, 2019, the company's board of directors approved the additional repurchase of $6.0 billion of its ordinary shares with a stated expiration date of February 1, 2021. For additional information related to the share repurchase programs, see Part II Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

CONTRACTUAL OBLIGATIONS

The following table sets forth Linde's material contract obligations and other commercial commitments as of December 31, 2018:

(Millions of dollars)	Due or expiring by December 31,						
	2019	2020	2021	2022	2023	Thereafter	Total
Long-term debt obligations:							
Debt and capitalized lease maturities (Note 13)	$ 1,523	$ 1,642	$ 1,864	$ 2,336	$ 1,788	$ 4,658	$ 13,811
Contractual interest	315	283	232	169	141	621	1,761
Operating leases (Note 6)	305	236	186	145	102	326	1,300
Retirement obligations	245	29	30	31	31	180	546
Unconditional purchase obligations	842	767	721	675	583	3,267	6,855
Construction commitments	2,100	902	249	4	—	—	3,255
Total Contractual Obligations	$ 5,330	$ 3,859	$ 3,282	$ 3,360	$ 2,645	$ 9,052	$ 27,528

Contractual interest on long-term debt of $1,761 million represents interest the company is contracted to pay on outstanding long-term debt, current portion of long-term debt and capital lease obligations, calculated on a basis consistent with planned debt maturities, excluding the interest impact of interest rate swaps. At December 31, 2018, Linde had fixed-rate debt of $12,565 million and floating-rate debt of $2,731 million. The rate assumed for floating-rate debt was the rate in effect at December 31, 2018.

Retirement obligations of $546 million include estimates of pension plan contributions and expected future benefit payments for unfunded pension and OPEB plans. Pension plan contributions are forecasted for 2019 only. For purposes of the table, $125 million of estimated required contributions have been included for 2019. Expected future unfunded pension and OPEB benefit payments are forecasted only through 2028. Contribution and unfunded benefit payment estimates are based upon current valuation assumptions. Estimates of pension contributions after 2019 and unfunded benefit payments after 2028 are not included in the table because the timing of their resolution cannot be estimated. Retirement obligations are more fully described in Note 18 to the consolidated financial statements.

Unconditional purchase obligations of $6,855 million represent contractual commitments under various long and short-term take-or-pay arrangements with suppliers and are not included on Linde's balance sheet. These obligations are primarily minimum-purchase commitments for helium, electricity, natural gas and feedstock used to produce atmospheric and process gases. A significant portion of these obligations is passed on to customers through similar take-or-pay or other contractual arrangements. Purchase obligations that are not passed along to customers through such contractual arrangements are subject to market conditions, but do not represent a material risk to Linde. Approximately $2,224 million of the purchase obligations relates to power and is intended to secure the uninterrupted supply of electricity and feedstock to Linde's plants to reliably satisfy customer product supply obligations, and extend through 2030. Certain of the power contracts contain various cancellation provisions requiring supplier agreement, and many are subject to annual escalations based on local inflation factors.

Construction commitments of $3,255 million represent outstanding commitments to complete authorized construction projects as of December 31, 2018. A significant portion of Linde's capital spending is related to the construction of new production facilities to satisfy customer commitments which may take a year or more to complete.

Liabilities for uncertain tax positions totaling $367 million, including interest and penalties, and tax liabilities for deemed repatriation of earnings of $291 million are not included in the table because the timing of their resolution cannot be estimated. See Note 7 to the consolidated financial statements for disclosures surrounding uncertain income tax positions.

OFF-BALANCE SHEET ARRANGEMENTS

As discussed in Note 19 to the consolidated financial statements, at December 31, 2018, Linde had undrawn outstanding letters of credit, bank guarantees and surety bonds entered into in connection with normal business operations and they are not reasonably likely to have a material impact on Linde's consolidated financial condition, results of operations, or liquidity.

CRITICAL ACCOUNTING POLICIES

The policies discussed below are considered by management to be critical to understanding Linde's financial statements and accompanying notes prepared in accordance with accounting principles generally accepted in the United States ("U.S. GAAP"). Their application places significant importance on management's judgment as a result of the need to make estimates of matters that are inherently uncertain. Linde's financial position, results of operations and cash flows could

be materially affected if actual results differ from estimates made. These policies are determined by management and have been reviewed by Linde's Audit Committee.

Purchase Accounting

As discussed below, Linde AG's assets and liabilities were measured at fair value as of the date of the merger on a preliminary basis. Estimates of fair value represent management's best estimate of assumptions about future events and uncertainties. In determining the fair value, Linde utilized various forms of the income, cost and market approaches depending on the asset or liability being fair valued. The estimation of fair value includes significant judgments related to future cash flows (sales, costs, customer attrition rates, and contributory asset charges), discount rates, competitive trends, market comparables and others. Inputs were generally obtained from historical data supplemented by current and anticipated market conditions and growth rates. The estimates and assumptions used to determine the preliminary estimated fair value assigned to each class of assets and liabilities, as well as asset lives, have a material impact to the company's consolidated financial statements, and are based upon assumptions believed to be reasonable but that are inherently uncertain.

Due to the timing of the business combination, the magnitude of and multi-national nature of the net assets acquired, and the hold separate order (See Note 1 to the consolidated financial statements) which deferred integration of the two merged companies, at December 31, 2018 the valuation process to determine the fair values is not complete and further adjustments are expected in 2019. The company has estimated the preliminary fair value of net assets acquired based on information currently available and will continue to adjust those estimates as additional information becomes available. The areas where the fair value assessments are not finalized and, therefore, subject to adjustment during the measurement period relate primarily to identifiable intangible assets, property, plant and equipment, net assets held for sale, equity investments, income taxes, noncontrolling interests, contingencies and goodwill. As the company finalizes the fair value of net assets acquired and liabilities assumed, additional purchase price allocation adjustments will be recorded during the measurement period, but no later than one year from the date of the acquisition. The company will reflect measurement period adjustments in the period in which the adjustments are determined. Any adjustments to the fair value of assets and liabilities acquired will be offset to goodwill and any income statement impacts will be recorded at that time.

See Note 3 to the consolidated financial statements for additional information.

Depreciation and Amortization

Depreciable Lives of Property, Plant and Equipment

Linde's net property, plant and equipment at December 31, 2018 was $29,717 million, representing 32% of the company's consolidated total assets and including $19,491 million of Linde AG assets acquired at fair value in the merger. Depreciation expense for the year ended December 31, 2018 was $1,615 million, or 13% of total operating costs. This includes $225 million of purchase accounting impacts. Management judgment is required in the determination of the estimated depreciable lives that are used to calculate the annual depreciation expense and accumulated depreciation.

Property, plant and equipment are recorded at cost and depreciated over the assets' estimated useful lives on a straight-line basis for financial reporting purposes. The estimated useful life represents the projected period of time that the asset will be productively employed by the company and is determined by management based on many factors, including historical experience with similar assets, technological life cycles, geographic locations and contractual supply relationships with on-site customers. Circumstances and events relating to these assets, such as on-site contract modifications, are monitored to ensure that changes in asset lives or impairments (see "Asset Impairments") are identified and prospective depreciation expense or impairment expense is adjusted accordingly. Linde's largest asset values relate to cryogenic air-separation production plants with depreciable lives of principally 15 years.

Based upon the assets as of December 31, 2018, if depreciable lives of machinery and equipment, on average, were increased or decreased by one year, annualized depreciation expense, including Linde AG for a full year on a pro forma basis, would be decreased by approximately $528 million or increased by approximately $390 million, respectively.

See Notes 3, 9 and 10 to the consolidated financial statements for additional information.

Amortization of Other Intangible Assets

Linde's net other intangible assets at December 31, 2018 was $16,223 million, representing 17% of the company's consolidated total assets and including $15,636 million of Linde AG other intangible assets acquired at fair value in the merger ($13,967 million with finite lives and $1,669 million with indefinite lives). Amortization expense related to finite-lived intangible assets for the year ended December 31, 2018 was $215 million, or 2% of total operating costs. This

includes $121 million of purchase accounting impacts. Management judgment is required in the determination of the estimated amortizable lives that are used to calculate the annual amortization expense and accumulated amortization. See Note 12 to the consolidated financial statements.

Based upon the assets as of December 31, 2018, if amortization lives of other intangible assets, on average, were increased or decreased by one year, annualized amortization expense, including Linde AG for a full year on a pro forma basis, would be decreased by approximately $65 million or increased by approximately $49 million, respectively.

See Notes 3, 9, and 12 to the consolidated financial statements for additional information.

Revenue Recognition

Long Term Construction Contracts

The company designs and manufactures equipment for air separation and other varied gas production and processing plants manufactured specifically for end customers. Revenue from sale of equipment is generally recognized over time as Linde has an enforceable right to payment for performance completed to date and performance does not create an asset with alternative use. For contracts recognized over time, revenue is recognized primarily using a cost incurred input method. Costs incurred to date relative to total estimated costs at completion are used to measure progress toward satisfying performance obligations. Costs incurred include material, labor, and overhead costs and represent work contributing and proportionate to the transfer of control to the customer. Contract modifications are typically accounted for as part of the existing contract and are recognized as a cumulative adjustment for the inception-to-date effect of such change. We assess performance as progress towards completion is achieved on specific projects, earnings will be impacted by changes to our forecast of revenues and costs on these projects.

Pension Benefits

Pension benefits represent financial obligations that will be ultimately settled in the future with employees who meet eligibility requirements. Because of the uncertainties involved in estimating the timing and amount of future payments, significant estimates are required to calculate pension expense and liabilities related to the company's plans. The company utilizes the services of independent actuaries, whose models are used to facilitate these calculations.

Several key assumptions are used in actuarial models to calculate pension expense and liability amounts recorded in the financial statements. Management believes the three most significant variables in the models are the expected long-term rate of return on plan assets, the discount rate, and the expected rate of compensation increase. The actuarial models also use assumptions for various other factors, including employee turnover, retirement age, and mortality. Linde management believes the assumptions used in the actuarial calculations are reasonable, reflect the company's experience and expectations for the future and are within accepted practices in each of the respective geographic locations in which it operates. Actual results in any given year will often differ from actuarial assumptions because of economic and other factors. The sensitivities to each of the key assumptions presented below exclude the impact of special items that occurred during the year (e.g., settlement gains from divestitures, settlement charges resulting from change in control provisions, etc.).

The weighted-average expected long-term rates of return on pension plan assets were 7.62% for U.S. plans and 5.13% for international plans for the year ended December 31, 2018 (8.00% and 7.91%, respectively at December 31, 2017). The expected long term rate of return on the U.S. and international plan assets is estimated based on the plans' investment strategy and asset allocation, historical capital market performance and, to a lesser extent, historical plan performance. A 0.50% change in these expected long-term rates of return, with all other variables held constant, would change Linde's pension expense by approximately $38 million.

The company has consistently used a market-related value of assets rather than the fair value at the measurement date to determine annual pension expense. The market-related value recognizes investment gains or losses over a five-year period. As a result, changes in the fair value of assets from year to year are not immediately reflected in the company's annual pension expense. Instead, annual pension expense in future periods will be impacted as deferred investment gains or losses are recognized in the market-related value of assets over the five-year period. The consolidated market-related value of assets was $8,530 million, or $286 million higher than the fair value of assets of $8,244 million at December 31, 2018. These net deferred investment gains of $286 million will be recognized in the calculation of the market-related value of assets ratably over the next four years and will impact future pension expense. Future actual investment gains or losses will impact the market-related value of assets and, therefore, will impact future annual pension expense in a similar manner.

Discount rates are used to calculate the present value of plan liabilities and pension costs and are determined annually by management. For fiscal year 2016, Praxair changed the approach that it used to determine the service and interest cost components of pension and OPEB expense for significant plans to the spot rate approach. Linde AG also adopted the spot

rate approach for its material U.S. and international pension plans as of the merger date. Under this approach U.S. plans that do not use the spot rate approach continue to determine discount rates by using a cash flow matching model provided by the company's independent actuaries. The model includes a portfolio of corporate bonds graded Aa or better by at least half of the ratings agencies and matches the U.S. plans' projected cash flows to the calculated spot rates. Discount rates for the remaining international plans are based on market yields for high-quality fixed income investments representing the approximate duration of the pension liabilities on the measurement date. Refer to Note 18 to the consolidated financial statements for a summary of the discount rates used to calculate plan liabilities and benefit costs, and to the Retirement Benefits section of the Consolidated Results and Other Information section of this MD&A for a further discussion of 2018 benefit costs. A 0.50% change in discount rates, with all other variables held constant, would decrease/increase Linde's pension expense by approximately $24 million. A 0.50% reduction in discount rates would increase the PBO by approximately $806 million whereas a 0.50% increase in discount rates would have a favorable impact to the PBO of approximately $710 million.

The weighted-average expected rate of compensation increase was 3.25% for U.S. plans and 2.38% for international plans at December 31, 2018 (3.25% and 3.35%, respectively, at December 31, 2017). The estimated annual compensation increase is determined by management every year and is based on historical trends and market indices. A 0.50% change in the expected rate of compensation increase, with all other variables held constant, would change Linde's pension expense by approximately $8 million and would impact the PBO by approximately $60 million.

Asset Impairments

Goodwill and Other Indefinite-Lived Intangibles Assets

At December 31, 2018, the company had goodwill of $26,874 million, of which $24,320 million was recorded in connection with the Linde AG merger, and $1,669 million of other indefinite-lived intangible assets acquired in the merger. Goodwill represents the aggregate of the excess consideration paid for acquired businesses over the fair value of the net assets acquired. Indefinite-lived other intangibles relate to the Linde name.

The company performs a goodwill impairment test annually in the second quarter or more frequently if events or circumstances indicate that an impairment loss may have been incurred, and no impairments were indicated. The company has continuously re-evaluated the likelihood of goodwill impairments in its reporting units subsequent to the second quarter test, and does not believe there is indication of impairment for any of its reporting units. At December 31, 2018, Linde's enterprise value was approximately $96 billion (outstanding shares multiplied by the year-end stock price plus debt, and without any control premium) while its total capital was approximately $68 billion.

The impairment test allows an entity to first assess qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than carrying value. If it is determined that it is more likely than not that the fair value of a reporting unit is less than carrying value then the company will estimate and compare the fair value of its reporting units to their carrying value, including goodwill. Reporting units are determined based on one level below the operating segment level. Fair value is determined through the use of projected future cash flows, multiples of earnings and sales and other factors.

Such analysis requires the use of certain market assumptions and discount factors, which are subjective in nature. As applicable, estimated values can be affected by many factors beyond the company's control such as business and economic trends, government regulation, and technological changes. Management believes that the qualitative factors used to perform its annual goodwill impairment assessment are appropriate and reasonable. Although the 2018 qualitative assessment indicated that it is more likely than not that the fair value of each reporting unit substantially exceeded its carrying value, changes in circumstances or conditions affecting this analysis could have a significant impact on the fair value determination, which could then result in a material impairment charge to the company's results of operations.

Other indefinite-lived intangible assets are evaluated for impairment on an annual basis or more frequently if events and circumstances indicate that an impairment loss may have been incurred, and no impairments were indicated.

See Notes 3, 11 and 12 to the consolidated financial statements.

Long-Lived Assets

Long-lived assets, including Property, plant and equipment and finite-lived other intangible assets, are tested for impairment whenever events or changes in circumstances indicate that the carrying amount of an individual asset or asset group may not be recoverable. For purposes of this test, asset groups are determined based upon the lowest level for which

there are independent and identifiable cash flows. Based upon Linde's business model, for property, plant and equipment an asset group may be a single plant and related assets used to support on-site, merchant and packaged gas customers. Alternatively, the asset group may be a pipeline complex which includes multiple interdependent plants and related assets connected by pipelines within a geographic area used to support the same distribution methods.

Income Taxes

At December 31, 2018, Linde had deferred tax assets of $2,039 million (net of valuation allowances of $237 million), and deferred tax liabilities of $8,961 million. At December 31, 2018, uncertain tax positions totaled $319 million (see Notes 2 and 7 to the consolidated financial statements). Income tax expense was $817 million for the year ended December 31, 2018, or about 16.2% of pre-tax income (see Note 7 to the consolidated financial statements for additional information related to taxes).

In the preparation of consolidated financial statements, Linde estimates income taxes based on diverse legislative and regulatory structures that exist in various jurisdictions where the company conducts business. Deferred income tax assets and liabilities represent tax benefits or obligations that arise from temporary differences due to differing treatment of certain items for accounting and income tax purposes. Linde evaluates deferred tax assets each period to ensure that estimated future taxable income will be sufficient in character (e.g. capital gain versus ordinary income treatment), amount and timing to result in their recovery. A valuation allowance is established when management determines that it is more likely than not that a deferred tax asset will not be realized to reduce the assets to their realizable value. Considerable judgments are required in establishing deferred tax valuation allowances and in assessing exposures related to tax matters. As events and circumstances change, related reserves and valuation allowances are adjusted to income at that time. Linde's tax returns are subject to audit and local taxing authorities could challenge the company's tax positions. The company's practice is to review tax filing positions by jurisdiction and to record provisions for uncertain income tax positions, including interest and penalties when applicable. Linde believes it records and/or discloses such potential tax liabilities as appropriate and has reasonably estimated its income tax liabilities and recoverable tax assets. If new information becomes available, adjustments are charged or credited against income at that time. Management does not anticipate that such adjustments would have a material adverse effect on the company's consolidated financial position or liquidity; however, it is possible that the final outcomes could have a material impact on the company's reported results of operations.

In 2018, Linde completed its accounting and updated its provisional estimate related to the deemed repatriation of foreign earnings under the 2017 Tax Act in accordance with Staff Accounting Bulletin Number 118 resulting in a net reduction to income tax expense of $61 million (see Note 7 to the consolidated financial statements). A provision is made for taxes on undistributed earnings of foreign subsidiaries and related companies to the extent that such earnings are not deemed to be permanently reinvested.

Contingencies

The company accrues liabilities for non-income tax contingencies when management believes that a loss is probable and the amounts can be reasonably estimated, while contingent gains are recognized only when realized. If new information becomes available or losses are sustained in excess of recorded amounts, adjustments are charged against income at that time. Management does not anticipate that in the aggregate such losses would have a material adverse effect on the company's consolidated financial position or liquidity; however, it is possible that the final outcomes could have a material impact on the company's reported results of operations.

Linde is subject to various claims, legal proceedings and government investigations that arise from time to time in the ordinary course of business. These actions are based upon alleged environmental, tax, antitrust and personal injury claims, among others (see Note 19 to the consolidated financial statements). Such contingencies are significant and the accounting requires considerable management judgments in analyzing each matter to assess the likely outcome and the need for establishing appropriate liabilities and providing adequate disclosures. Linde believes it records and/or discloses such contingencies as appropriate and has reasonably estimated its liabilities.

NEW ACCOUNTING STANDARDS

See Note 2 to the consolidated financial statements for information concerning new accounting standards and the impact of the implementation of these standards on the company's financial statements.

FAIR VALUE MEASUREMENTS

Linde does not expect changes in the aggregate fair value of its financial assets and liabilities to have a material impact on the consolidated financial statements. See Note 15 to the consolidated financial statements.

NON-GAAP FINANCIAL MEASURES

The following non-GAAP measures are intended to supplement investors' understanding of the company's financial information by providing measures which investors, financial analysts and management use to help evaluate the company's financial leverage and operating performance. Special items which the company does not believe to be indicative of on-going business performance are excluded from these calculations so that investors can better evaluate and analyze historical and future business trends on a consistent basis. Definitions of these non-GAAP measures may not be comparable to similar definitions used by other companies and are not a substitute for similar GAAP measures.

The non-GAAP measures in the following reconciliations are presented in the Selected Financial Data (Item 6) or this MD&A.

Adjusted Amounts

Certain amounts for 2018, 2017, 2016, 2015 and 2014 have been included for reference purposes and to facilitate the calculations contained herein.

(Dollar amounts in millions, except per share data)

Year Ended December 31,	**2018**	**2017**	**2016**	**2015**	**2014**
Adjusted Operating Profit and Margin					
Reported operating profit	$ 5,247	$ 2,444	$ 2,247	$ 2,370	$ 2,644
Less: Net gain on sale of businesses	(3,294)			—	—
Add: Transaction costs and other charges	309	52	—	—	—
Add: Purchase accounting impacts – Linde AG	714	—	—	—	—
Add: Venezuela currency devaluation	—	—	—	—	131
Add: Cost reduction program	—	—	96	165	—
Total adjustments	(2,271)	52	96	165	131
Adjusted operating profit	$ 2,976	$ 2,496	$ 2,343	$ 2,535	$ 2,775
Reported percent change	115 %	9 %	(5)%	(10)%	(2)%
Adjusted percent change	19 %	7 %	(8)%	(9)%	2%
Reported sales	$ 14,900	$ 11,437	$ 10,534	$ 10,776	$ 12,273
Reported operating margin	35.2 %	21.4 %	21.3 %	22.0 %	21.5 %
Adjusted operating margin	20.0 %	21.8 %	22.2 %	23.5 %	22.6 %
Adjusted Net pension and OPEB cost (benefit), excluding service cost					
Reported net pension and OPEB cost (benefit), excluding service cost	$ (4)	$ (4)	$ 9	49	36
Less: Pension settlement charge	(14)	(2)	(4)	(7)	(7)
Adjusted net pension and OPEB cost (benefit), excluding service cost	$ (18)	$ (6)	$ 5	$ 42	$ 29
Adjusted Interest Expense – Net					
Reported interest expense	202	161	190	161	213
Less: Bond redemption	(26)	—	(16)	—	(36)
Add: Purchase accounting impacts – Linde AG	21	—	—	—	—
Adjusted interest expense – net	$ 197	$ 161	$ 174	$ 161	$ 177

(Dollar amounts in millions, except per share data)

Year Ended December 31,	2018	2017	2016	2015	2014
Adjusted Income Taxes and Effective Tax Rate					
Reported income taxes	$ 817	$ 1,026	$ 551	$ 612	$ 691
Add: Bond redemption	6	—	6	—	14
Add: Pension settlement charge	3	1	1	2	2
Add: Cost reduction program	—	—	28	39	—
Less: Tax Act	61	(394)	—	—	—
Add: Transaction costs and other charges	3	4	—	—	—
Less: Net gain on sale of businesses	(371)	—	—	—	—
Add: Other tax charge	(44)	—	—	—	—
Add: Purchase accounting impacts – Linde AG	191	—	—	—	—
Total adjustments	(151)	(389)	35	41	16
Adjusted income taxes	$ 666	$ 637	$ 586	$ 653	$ 707
Reported income before income taxes and equity investments	$ 5,049	$ 2,287	$ 2,048	$ 2,160	$ 2,395
Add: Bond redemption	26	—	16	—	36
Add: Pension settlement charge	14	2	4	7	7
Add: Venezuela currency devaluation	—	—	—	—	131
Add: Cost reduction program	—	—	96	165	—
Add: Transaction costs and other charges	309	52	—	—	—
Less: Net gain on sale of businesses	(3,294)	—	—	—	—
Add: Purchase accounting impacts – Linde AG	693	—	—	—	—
Total adjustments	(2,252)	54	116	172	174
Adjusted income before income taxes and equity investments	$ 2,797	$ 2,341	$ 2,164	$ 2,332	$ 2,569
Reported effective tax rate	16.2 %	44.9 %	26.9 %	28.3 %	28.9 %
Adjusted effective tax rate	23.8 %	27.2 %	27.1 %	28.0 %	27.5 %
Adjusted Noncontrolling Interests from Continuing Operations					
Reported noncontrolling interests from continuing operations	$ (15)	$ (61)	$ (38)	$ (44)	$ (52)
Add: Purchase accounting impacts – Linde AG	(59)	—	—	—	—
Less: Cost reduction program	1	—	(5)	(1)	—
Total adjustments	(58)	—	(5)	(1)	—
Adjusted noncontrolling interests from continuing operations	$ (73)	$ (61)	$ (43)	$ (45)	$ (52)
Adjusted Income from Continuing Operations					
Reported income from continuing operations	$ 4,273	$ 1,247	$ 1,500	$ 1,547	$ 1,694
Add: Bond redemption	20	—	10	—	22
Add: Pension settlement charge	11	1	3	5	5
Add: Venezuela currency devaluation	—	—	—	—	131
Add: Cost reduction program	1	—	63	125	—
Less: Net gain on sale of businesses	(2,923)	—	—	—	—
Add: Other tax charges	44	—	—	—	—
Add: Tax Act	(61)	394	—	—	—
Add: Transaction costs and other charges	305	48	—	—	—
Add: Purchase accounting impacts – Linde AG	451	—	—	—	—
Total adjustments	(2,152)	443	76	130	158
Adjusted income from continuing operations	$ 2,121	$ 1,690	$ 1,576	$ 1,677	$ 1,852
Reported percent change	243 %	(17)%	(3)%	(9)%	(3)%
Adjusted percent change	26 %	7 %	(6)%	(9)%	5 %

(Dollar amounts in millions, except per share data)

Year Ended December 31,	2018	2017	2016	2015	2014
Adjusted Diluted Earnings Per Share from Continuing Operations					
Reported diluted earnings per share from continuing operations	$ 12.79	$ 4.32	$ 5.21	$ 5.35	$ 5.73
Add: Bond redemption	0.06	—	0.04	—	0.07
Add: Pension settlement charge	0.03	—	0.01	0.02	0.02
Add: Venezuela currency devaluation	—	—	—	—	0.45
Add: Cost reduction program	—	—	0.22	0.43	—
Add: Tax Act	(0.18)	1.36	—	—	—
Add: Transaction costs and other charges	0.92	0.17	—	—	—
Add: Net gain on sale of businesses	(8.75)	—	—	—	—
Less: Other tax charges	0.13	—	—	—	—
Less: Purchase accounting impacts – Linde AG	1.35	—	—	—	—
Total adjustments	(6.44)	1.53	0.27	0.45	0.54
Adjusted diluted earnings per share from continuing operations	$ 6.35	$ 5.85	$ 5.48	$ 5.80	$ 6.27
Reported percent change	196 %	(17)%	(3)%	(7)%	(2)%
Adjusted percent change	9 %	7 %	(6)%	(7)%	6 %

EBITDA, Adjusted EBITDA, EBITDA Margin, and Adjusted EBITDA Margin

These measures are used by investors, financial analysts and management to assess a company's profitability.

(Dollar amounts in millions)

Year Ended December 31,	2018	2017	2016	2015	2014
Reported income from continuing operations	$ 4,273	$ 1,247	$ 1,500	$ 1,547	$ 1,694
Add: noncontrolling interest from continuing operations	15	61	38	44	52
Add: interest expense – net	202	161	190	161	213
Add: net pension and OPEB cost (benefit), excluding service cost	(4)	(4)	9	49	36
Add: income taxes	817	1,026	551	612	691
Add: depreciation and amortization	1,830	1,184	1,122	1,106	1,170
EBITDA	$ 7,133	$ 3,675	$ 3,410	$ 3,519	$ 3,856
Adjustments:					
Add: Cost reduction program and other charges, net	$ —	$ —	$ 96	$ 165	$ —
Add: Venezuela currency devaluation	—	—	—	—	131
Add: Transaction costs and other charges	309	52	—	—	—
Add: Net gain on sale of businesses	(3,294)	—	—	—	—
Add: Purchase accounting impacts – Linde AG	368	—	—	—	—
Adjusted EBITDA	$ 4,516	$ 3,727	$ 3,506	$ 3,684	$ 3,987
Reported Sales	$14,900	$11,437	$10,534	$10,776	$12,273
EBITDA Margin	47.9%	32.1%	32.4%	32.7%	31.4%
Adjusted EBITDA Margin	30.3%	32.6%	33.3%	34.2%	32.5%

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Linde is exposed to market risks relating to fluctuations in interest rates and currency exchange rates. The objective of financial risk management at Linde is to minimize the negative impact of interest rate and foreign exchange rate fluctuations on the company's earnings, cash flows and equity.

To manage these risks, Linde uses various derivative financial instruments, including interest-rate swaps, treasury rate locks, currency swaps, forward contracts, and commodity contracts. Linde only uses commonly traded and non-leveraged instruments. These contracts are entered into primarily with major banking institutions thereby minimizing the risk of credit loss. Also, see Notes 2 and 14 to the consolidated financial statements for a more complete description of Linde's accounting policies and use of such instruments.

The following discussion presents the sensitivity of the market value, earnings and cash flows of Linde's financial instruments to hypothetical changes in interest and exchange rates assuming these changes occurred at December 31, 2018. The range of changes chosen for these discussions reflects Linde's view of changes which are reasonably possible over a one-year period. Market values represent the present values of projected future cash flows based on interest rate and exchange rate assumptions.

Interest Rate Risk

At December 31, 2018, Linde had debt totaling $15,296 million ($9,000 million at December 31, 2017). For fixed-rate instruments, interest rate changes affect the fair market value but do not impact earnings or cash flows. Conversely, for floating-rate instruments, interest rate changes generally do not affect the fair market value of the instrument but impact future earnings and cash flows, assuming that other factors are held constant. At December 31, 2018, including the impact of derivatives Linde had fixed-rate debt of $12,565 million and floating-rate debt of $2,731 million, representing 82% and 18%, respectively, of total debt. At December 31, 2017, Linde had fixed-rate debt of $8,253 million and floating-rate debt of $747 million, representing 92% and 8%, respectively, of total debt.

Fixed Rate Debt

In order to mitigate interest rate risk, when considered appropriate interest-rate swaps are entered into as hedges of underlying financial instruments to effectively change the characteristics of the interest rate without actually changing the underlying financial instrument. At December 31, 2018, Linde had fixed-to-floating interest rate swaps outstanding that were designated as hedging instruments of the underlying debt issuances – refer to Note 14 to the consolidated financial statements for additional information. This sensitivity analysis assumes that, holding all other variables constant (such as foreign exchange rates, swaps and debt levels), a one-percentage-point increase in interest rates would decrease the unrealized fair market value of the fixed-rate debt portfolio by approximately $594 million ($450 million in 2017). A 100 basis point increase in interest rates would result in an approximate $92 million increase to derivative assets recorded.

Variable Rate Debt

At December 31, 2018, the after-tax earnings and cash flows impact of a one-percentage point increase in interest rates, including the offsetting impact of derivatives, on the variable-rate debt portfolio would be approximately $24 million. At December 31, 2017 the impact of a one-percentage point increase was $6 million, holding all other variables constant.

Foreign Currency Risk

Linde's exchange-rate exposures result primarily from its investments and ongoing operations in South America (primarily Brazil, Argentina, Chile and Colombia), Europe (primarily Germany, Scandinavia, and the United Kingdom), Canada, Mexico, Asia Pacific (primarily Australia, China, India, and Korea) and other business transactions such as the procurement of equipment from foreign sources. Linde frequently utilizes currency contracts to hedge these exposures. At December 31, 2018, Linde had a notional amount outstanding of $9,412 million ($2,693 million at December 31, 2017) related to foreign exchange contracts. The majority of these were to hedge recorded balance sheet exposures, primarily intercompany loans denominated in non-functional currencies. See Note 14 to the consolidated financial statements.

Holding all other variables constant, if there were a 10% adverse change in foreign-currency exchange rates for the portfolio, the fair market value of foreign-currency contracts outstanding at December 31, 2018 and 2017 would decrease by approximately $307 million and $174 million, respectively, which would be largely offset by an offsetting gain on the foreign-currency fluctuation of the underlying exposure being hedged.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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MANAGEMENT'S STATEMENT OF RESPONSIBILITY FOR FINANCIAL STATEMENTS

Linde's consolidated financial statements are prepared by management, which is responsible for their fairness, integrity and objectivity. The accompanying financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America applied on a consistent basis, except for accounting changes as disclosed, and include amounts that are estimates and judgments. All historical financial information in this annual report is consistent with the accompanying financial statements.

Linde maintains accounting systems, including internal accounting controls, monitored by a staff of internal auditors, that are designed to provide reasonable assurance of the reliability of financial records and the protection of assets. The concept of reasonable assurance is based on recognition that the cost of a system should not exceed the related benefits. The effectiveness of those systems depends primarily upon the careful selection of financial and other managers, clear delegation of authority and assignment of accountability, inculcation of high business ethics and conflict-of-interest standards, policies and procedures for coordinating the management of corporate resources, and the leadership and commitment of top management. In compliance with Section 404 of the Sarbanes-Oxley Act of 2002, Linde assessed its internal control over financial reporting and issued a report (see below).

PricewaterhouseCoopers LLP, an independent registered public accounting firm, has completed an audit of Linde's 2018, 2017 and 2016 consolidated financial statements and of its internal control over financial reporting as of December 31, 2018 in accordance with the standards of the Public Company Accounting Oversight Board (United States) as stated in their report.

The Audit Committee of the Board of Directors, which consists solely of non-employee directors, is responsible for overseeing the functioning of the accounting system and related controls and the preparation of annual financial statements. The Audit Committee periodically meets with management, internal auditors and the independent accountants to review and evaluate their accounting, auditing and financial reporting activities and responsibilities, including management's assessment of internal control over financial reporting. The independent registered public accounting firm and internal auditors have full and free access to the Audit Committee and meet with the committee, with and without management present.

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Linde's management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of management, including the company's principal executive officer and principal financial officer, the company conducted an evaluation of the effectiveness of its internal control over financial reporting based on the framework in *Internal Control – Integrated F*ramework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (often referred to as COSO). Based on this evaluation, management concluded that the company's internal control over financial reporting was effective as of December 31, 2018.

Linde's evaluation of internal control over financial reporting as of December 31, 2018 did not include the internal control over financial reporting related to Linde AG because the business was acquired in a merger accounted for as a business combination consummated during 2018. Total assets and sales for Linde AG represent approximately 26.4% and 19.3%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2018.

PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited and issued their opinion on the effectiveness of the company's internal control over financial reporting as of December 31, 2018 as stated in their report.

/s/ STEPHEN F. ANGEL

Stephen F. Angel
Chief Executive Officer

/s/ KELCEY E. HOYT

Kelcey E. Hoyt
Chief Accounting Officer

/s/ MATTHEW J. WHITE

Matthew J. White
Chief Financial Officer

March 18, 2019

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Linde plc

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Linde plc and its subsidiaries (the "Company") as of December 31, 2018 and 2017, and the related consolidated statements of income, comprehensive income, equity and cash flows for each of the three years in the period ended December 31, 2018, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control – Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control – Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

As described in Management's Report on Internal Control Over Financial Reporting, management has excluded Linde Aktiengesellschaft ("Linde AG") from its assessment of internal control over financial reporting as of December 31, 2018 because the business was acquired in a merger accounted for as a business combination consummated during 2018. We have also excluded Linde AG from our audit of internal control over financial reporting. Linde AG is a subsidiary whose total assets and total sales excluded from management's assessment and our audit of internal control over financial reporting represent 26.4% and 19.3%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2018.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP
Stamford, Connecticut
March 18, 2019

We have served as the Company's or its predecessor auditor since 1992.

CONSOLIDATED STATEMENTS OF INCOME
LINDE PLC AND SUBSIDIARIES
(Dollar amounts in millions, except per share data)

Year Ended December 31,	2018	2017	2016
Sales	$ 14,900	$ 11,437	$ 10,534
Cost of sales, exclusive of depreciation and amortization	9,084	6,461	5,855
Selling, general and administrative	1,629	1,207	1,145
Depreciation and amortization	1,830	1,184	1,122
Research and development	113	93	92
Transaction costs and other charges	309	52	96
Net gain on sale of businesses	3,294	—	—
Other income (expenses) – net	18	4	23
Operating Profit	5,247	2,444	2,247
Interest expense – net	202	161	190
Net pension and OPEB cost (benefit), excluding service cost	(4)	(4)	9
Income From Continuing Operations Before Income Taxes and Equity Investments	5,049	2,287	2,048
Income taxes on continuing operations	817	1,026	551
Income From Continuing Operations Before Equity Investments	4,232	1,261	1,497
Income from equity investments	56	47	41
Income From Continuing Operations (Including Noncontrolling Interests)	4,288	1,308	1,538
Income from discontinued operations, net of tax	117	—	—
Net Income (Including Noncontrolling Interests)	4,405	1,308	1,538
Less: noncontrolling interests from continuing operations	(15)	(61)	(38)
Less: noncontrolling interests from discontinued operations	(9)	—	—
Net Income – Linde plc	$ 4,381	$ 1,247	$ 1,500
Net Income – Linde plc			
Income from continuing operations	$ 4,273	$ 1,247	$ 1,500
Income from discontinued operations	$ 108	$ —	$ —
Per Share Data – Linde plc Shareholders			
Basic earnings per share from continuing operations	$ 12.93	$ 4.36	$ 5.25
Basic earnings per share from discontinued operations	0.33	—	—
Basic earnings per share	$ 13.26	$ 4.36	$ 5.25
Diluted earnings per share from continuing operations	$ 12.79	$ 4.32	$ 5.21
Diluted earnings per share from discontinued operations	0.32	—	—
Diluted earnings per share	$ 13.11	$ 4.32	$ 5.21
Weighted Average Shares Outstanding (000's):			
Basic shares outstanding	330,401	286,261	285,677
Diluted shares outstanding	334,127	289,114	287,757

The accompanying Notes are an integral part of these financial statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
LINDE PLC AND SUBSIDIARIES
(Dollar amounts in millions)

Year Ended December 31,	2018	2017	2016
NET INCOME (INCLUDING NONCONTROLLING INTERESTS)	$ 4,405	$ 1,308	$ 1,538
OTHER COMPREHENSIVE INCOME (LOSS)			
Translation adjustments:			
Foreign currency translation adjustments	(401)	433	116
Reclassifications to net income (Note 4)	318	—	—
Income taxes	7	92	(48)
Translation adjustments	(76)	525	68
Funded status - retirement obligations (Note 18):			
Retirement program remeasurements	(260)	(39)	(163)
Reclassifications to net income	94	55	60
Income taxes	(55)	(5)	27
Funded status - retirement obligations	(221)	11	(76)
Derivative instruments (Note 14):			
Current year unrealized gain (loss)	—	—	1
Reclassifications to net income	(1)	—	(1)
Income taxes	—	—	—
Derivative instruments	(1)	—	—
Securities (Note 9):			
Current year unrealized gain (loss)	(1)	—	—
Reclassifications to net income	—	—	—
Income taxes	—	—	—
Securities	(1)	—	—
TOTAL OTHER COMPREHENSIVE INCOME (LOSS)	(299)	536	(8)
COMPREHENSIVE INCOME (INCLUDING NONCONTROLLING INTERESTS)	4,106	1,844	1,530
Less: noncontrolling interests	(83)	(95)	(34)
COMPREHENSIVE INCOME - LINDE PLC	$ 4,023	$ 1,749	$ 1,496

The accompanying Notes are an integral part of these financial statements.

CONSOLIDATED BALANCE SHEETS
LINDE PLC AND SUBSIDIARIES
(Dollar amounts in millions)

December 31,	2018	2017
Assets		
Cash and cash equivalents	$ 4,466	$ 617
Accounts receivable – net	4,297	1,710
Contract assets	283	—
Inventories	1,651	614
Assets held for sale	5,498	—
Prepaid and other current assets	1,077	344
Total Current Assets	17,272	3,285
Property, plant and equipment – net	29,717	11,825
Equity investments	1,838	727
Goodwill	26,874	3,233
Other intangible assets – net	16,223	785
Other long-term assets	1,462	581
Total Assets	$ 93,386	$ 20,436
Liabilities and Equity		
Accounts payable	$ 3,219	$ 922
Short-term debt	1,485	238
Current portion of long-term debt	1,523	979
Contract liabilities	1,546	—
Accrued taxes	657	242
Liabilities of assets held for sale	768	—
Other current liabilities	3,758	926
Total Current Liabilities	12,956	3,307
Long-term debt	12,288	7,783
Other long-term liabilities	3,435	1,588
Deferred credits	7,611	1,236
Total Liabilities	36,290	13,914
Commitments and contingencies (Note 19)		
Redeemable noncontrolling interests	16	11
Linde plc Shareholders' Equity:		
Ordinary shares (2018: €0.001 par value, authorized 1,750,000,000 shares, issued 551,310,272 ordinary shares; 2017: and Common stock $0.01 par value, authorized 800,000,000 shares, issued 383,230,625 shares)	1	4
Additional paid-in capital	40,151	4,084
Retained earnings	16,529	13,224
Accumulated other comprehensive income (loss)	(4,456)	(4,098)
Less: Treasury stock, at cost (2018 – 4,068,642 shares and 2017 – 96,453,634 shares)	(629)	(7,196)
Total Linde plc Shareholders' Equity	51,596	6,018
Noncontrolling interests	5,484	493
Total Equity	57,080	6,511
Total Liabilities and Equity	$ 93,386	$ 20,436

The accompanying Notes are an integral part of these financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS
LINDE PLC AND SUBSIDIARIES
(Millions of dollars)

Year Ended December 31,	2018	2017	2016
Increase (Decrease) in Cash and Cash Equivalents			
Operations			
Net income – Linde plc	$ 4,381	$ 1,247	$ 1,500
Less: income from discontinued operations, net of tax and noncontrolling interests	(108)	—	—
Add: Noncontrolling interests from continuing operations	15	61	38
Income from continuing operations (including noncontrolling interests)	$ 4,288	$ 1,308	$ 1,538
Adjustments to reconcile net income to net cash provided by operating activities:			
Transaction costs and other charges, net of payments	40	26	83
Amortization of merger-related inventory step-up	368	—	—
Tax Act income tax charge, net	(61)	394	—
Depreciation and amortization	1,830	1,184	1,122
Deferred income taxes, excluding Tax Act	(187)	136	(13)
Share-based compensation	62	59	39
Net gain on sale of businesses, net of tax	(2,923)	—	—
Non-cash charges and other	175	43	(43)
Working capital			
Accounts receivable	(124)	(92)	(33)
Inventory	(4)	(22)	(13)
Prepaid and other current assets	43	(66)	6
Payables and accruals	287	22	92
Pension contributions	(87)	(19)	(11)
Long-term assets, liabilities and other	(53)	68	22
Net cash provided by operating activities	3,654	3,041	2,789
Investing			
Capital expenditures	(1,883)	(1,311)	(1,465)
Acquisitions, net of cash acquired	(25)	(33)	(363)
Divestitures and asset sales, net of cash divested	5,908	30	58
Cash acquired in merger transaction	1,363	—	—
Net cash provided by (used for) investing activities	5,363	(1,314)	(1,770)
Financing			
Short-term debt borrowings (repayments) – net	208	(199)	191
Long-term debt borrowings	8	11	936
Long-term debt repayments	(3,124)	(583)	(770)
Issuances of ordinary shares	77	120	139
Purchases of ordinary shares	(599)	(12)	(228)
Cash dividends – Linde plc shareholders	(1,166)	(901)	(856)
Noncontrolling interest transactions and other	(402)	(92)	(71)
Net cash used for financing activities	(4,998)	(1,656)	(659)
Discontinued Operations			
Cash provided by operating activities	$ 48	$ —	$ —
Cash used for investing activities	(23)	—	—
Cash provided by financing activities	2	—	—
Net cash provided by discontinued operations	27	—	—
Effect of exchange rate changes on cash and cash equivalents	(60)	22	17
Change in cash and cash equivalents	3,986	93	377
Cash and cash equivalents, beginning-of-period	617	524	147
Cash and cash equivalents, including discontinued operations	$ 4,603	$ 617	$ 524
Cash and cash equivalents of discontinued operations	(137)	—	—
Cash and cash equivalents, end-of-period	$ 4,466	$ 617	$ 524
Supplemental Data			
Income taxes paid	$ 757	$ 565	$ 585
Interest paid, net of capitalized interest (Note 9)	$ 214	$ 184	$ 189

The accompanying Notes are an integral part of these financial statements.

CONSOLIDATED STATEMENTS OF EQUITY
LINDE PLC AND SUBSIDIARIES
(Dollar amounts in millions, except per share data, shares in thousands)

	Linde plc Shareholders' Equity									
	Ordinary shares		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss) (Note 9)	Treasury Stock		Linde plc Shareholders' Equity	Noncontrolling Interests	Total Equity
Activity	Shares	Amounts				Shares	Amounts			
Balance, December 31, 2015	383,231	$ 4	$ 4,005	$ 12,229	$ (4,596)	98,352	$ (7,253)	$ 4,389	$ 404	$ 4,793
Net Income				1,500				1,500	35	1,535
Other comprehensive income (loss)					(4)			(4)	(11)	(15)
Noncontrolling interests:										
Dividends and other capital reductions								—	(28)	(28)
Additions (Reductions)			50					50	20	70
Redemption value adjustments (Note 16)				6				6		6
Dividends ($3.00 per common share)				(856)				(856)		(856)
Issuances of common stock:										
For the dividend reinvestment and stock purchase plan						(60)	7	7		7
For employee savings and incentive plans			(20)			(2,044)	143	123		123
Other							5	5		5
Purchases of common stock						2,082	(238)	(238)		(238)
Share-based compensation			39					39		39
Balance, December 31, 2016	383,231	$ 4	$ 4,074	$ 12,879	$ (4,600)	98,330	$ (7,336)	$ 5,021	$ 420	$ 5,441
Net Income				1,247				1,247	59	1,306
Other comprehensive income (loss)					502			502	34	536
Noncontrolling interests:										
Dividends and other capital reductions								—	(35)	(35)
Additions (Reductions)			—					—	15	15
Redemption value adjustments (Note 16)				(1)				(1)		(1)
Dividends ($3.15 per common share)				(901)				(901)		(901)

Activity	Linde plc Shareholders' Equity									
	Ordinary shares		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss) (Note 9)	Treasury Stock		Linde plc Shareholders' Equity	Noncontrolling Interests	Total Equity
	Shares	Amounts				Shares	Amounts			
Issuances of common stock:										
For the dividend reinvestment and stock purchase plan						(50)	7	7		7
For employee savings and incentive plans			(49)			(1,835)	134	85		85
Purchases of common stock						9	(1)	(1)		(1)
Share-based compensation			59					59		59
Balance, December 31, 2017	383,231	$ 4	$ 4,084	$ 13,224	$ (4,098)	96,454	$ (7,196)	$ 6,018	$ 493	$ 6,511
Net Income available for Linde plc shareholders				4,381				4,381	21	4,402
Other comprehensive loss					(265)			(265)	59	(206)
Noncontrolling interests:										
Dividends and other capital reductions								—	(49)	(49)
Additions (Reductions) – (Note 16)			(127)					(127)	(186)	(313)
Redemption value adjustments (Note 16)				(3)				(3)		(3)
Dividends ($3.30 per common share)				(1,166)				(1,166)		(1,166)
Issuances of ordinary shares:										
For the dividend reinvestment and stock purchase plan						(31)	5	5		5
For employee savings and incentive plans	255	—	(46)			(1,109)	79	33		33
Purchases of ordinary shares						4,079	(630)	(630)		(630)
Share-based compensation			62					62		62
Tax Act Reclassification (Note 7)				93	(93)			—		—
Impact of merger (Notes 3 and 16)	167,824	(3)	36,178			(95,324)	7,113	43,288	5,146	48,434
Balance, December 31, 2018	551,310	$ 1	$ 40,151	$ 16,529	$ (4,456)	4,069	$ (629)	$ 51,596	$ 5,484	$ 57,080

The accompanying Notes are an integral part of these financial statements

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
LINDE PLC AND SUBSIDIARIES

NOTE 1. FORMATION OF LINDE PLC AND BUSINESS COMBINATION OF PRAXAIR, INC. AND LINDE AG

Formation of Linde plc

Linde plc ("Linde" or "the company"), a public limited company incorporated in Ireland, was formed in accordance with the requirements of the business combination agreement, dated as of June 1, 2017, as amended (the "business combination agreement"). Pursuant to the business combination agreement, among other things, Praxair, Inc., a Delaware corporation ("Praxair"), and Linde Aktiengesellschaft, a stock corporation incorporated under the laws of Germany ("Linde AG"), agreed to combine their respective businesses through an all-stock transaction, and become subsidiaries of the company (collectively referred to as "business combination" or "merger"). On October 31, 2018, Linde plc completed the business combination. Prior to the business combination, the company did not conduct any business activities other than those required for its formation and matters contemplated by the business combination agreement.

Business Combination of Praxair, Inc. and Linde AG

The business combination has been accounted for using the acquisition method of accounting in accordance with the provisions of Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 805, *"Business Combinations"* , with Praxair representing the accounting acquirer. Pursuant to Rule 12g-3(a) under the Exchange Act, as of October 31, 2018, the company became the successor issuer to Praxair. Also, the Linde plc shares are deemed to be registered under Section 12(b) of the Exchange Act, and the company is subject to the informational requirements of the Exchange Act and the rules and regulations promulgated thereunder. The Linde shares trade on the New York Stock Exchange and the Frankfurt Stock Exchange under the ticker symbol "LIN". Prior to the business combination, the Praxair shares were registered pursuant to Section 12(b) of the Exchange Act and listed on the NYSE. In connection with the completion of the business combination, the Praxair shares were suspended from trading on the NYSE as of close of business (New York Time) on October 30, 2018. On November 1, 2018, Praxair filed a Form 25 to delist and deregister its three series of Euro-denominated notes, including its 1.50% Notes due 2020, 1.20% Notes due 2024 and 1.625% Notes due 2025, that were listed on the NYSE. Trading of the Euro-denominated notes on the NYSE was suspended as of close of business (New York Time) on November 9, 2018, and Praxair filed a Form 15 with the SEC terminating the registration under the Exchange Act of its securities and suspending Praxair's reporting obligations under Section 15(d) of the Exchange Act.

In connection with the business combination, the company, Praxair and Linde AG entered into various agreements with regulatory authorities to satisfy anti-trust requirements to secure approval to consummate the business combination. These agreements included the sale of the majority of Praxair's European businesses (subsequently completed on December 3, 2018), the majority of Linde AG's America's business (subsequently completed on March 1, 2019), as well as certain divestitures of other Praxair and Linde AG businesses in Asia that are expected to be sold in 2019 (collectively, the "merger-related divestitures"). See Note 4 for additional information relating to merger-related divestitures.

To obtain merger approval in the United States. Linde, Praxair and Linde AG entered into an agreement with the U.S. Federal Trade Commission dated October 1, 2018 ("hold separate order" or "HSO"). Under the HSO, the company, Praxair and Linde AG agreed to (i) continue to operate Linde AG and Praxair as independent, ongoing, economically viable, competitive businesses held separate, distinct, and apart from each other's operations; (ii) not coordinate any aspect of the operations of Linde AG and Praxair, including the marketing or sale of any products; and (iii) maintain separate financial ledgers, books, and records that report on a periodic basis, consistent with past practices, the assets, liabilities, expenses, revenues, and income of each, until certain divestitures in the United States have been completed. The restrictions under the hold separate order were lifted March 1, 2019, concurrent with the sale of the required merger-related divestitures in the United States.

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation – The consolidated financial statements were prepared in conformity with accounting principles generally accepted in the United States of America (" U.S. GAAP") and include the accounts of all significant subsidiaries where control exists and, in limited situations, variable-interest entities where the company is the primary beneficiary. Intercompany transactions and balances are eliminated in consolidation and any significant related-party transactions have been disclosed.

Equity investments generally consist of 20% to 50% owned operations where the company exercises significant influence, but does not have control. Equity income from equity investments in corporations is reported on an after-tax basis.

Pre-tax income from equity investments that are partnerships or limited-liability corporations ("LLC") is included in other income (expenses) – net with related taxes included in Income taxes. Equity investments are reviewed for impairment whenever events or circumstances reflect that an impairment loss may have incurred. Operations less than 20% owned, where the company does not exercise significant influence, are generally carried at cost.

Changes in ownership interest that result either in consolidation or deconsolidation of an investment are recorded at fair value through earnings, including the retained ownership interest, while changes that do not result in either consolidation or deconsolidation of a subsidiary are treated as equity transactions.

Use of Estimates – The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. While actual results could differ, management believes such estimates to be reasonable.

Operations – Linde is the largest industrial gases company worldwide. The company produces, sells and distributes atmospheric, process and specialty gases, and high-performance surface coatings to a diverse group of industries including aerospace, chemicals, food and beverage, electronics, energy, healthcare, manufacturing, and metals. Linde's Engineering Division offers its customers an extensive range of gas production and processing services including suppling plant components and services directly to customers.

Revenue Recognition – Effective January 1, 2018, Linde adopted the FASB's Accounting Standards Update No. 2014-09 ("ASC 606") relating to Revenue Recognition. Revenue is recognized as control of goods or services are transferred to customers in an amount that reflects the consideration to which an entity expects to be entitled to receive in exchange for the goods or services. Refer to footnote 21 for additional details regarding Linde revenue recognition policies. Prior to adoption of ASC 606 revenue was recognized when a firm sales agreement exists, collectability of a fixed or determinable sales price is reasonably assured, and when title and risks of ownership transfer to the customer for product sales or, in the case of other revenues when obligations are satisfied or services are performed. The adoption of ASC 606 resulted in no differences in revenue recognition compared to previous policies.

Cash Equivalents – Cash equivalents are considered to be highly liquid securities with original maturities of three months or less.

Inventories – Inventories are stated at the lower of cost or net realizable value. Cost is determined using the average-cost method.

Property, Plant and Equipment – Net – Property, plant and equipment are carried at cost, net of accumulated depreciation. The company capitalizes interest as part of the cost of constructing major facilities (see Note 10). Depreciation is calculated on the straight-line method based on the estimated useful lives of the assets, which range from 3 years to 40 years (see Note 10). Linde uses accelerated depreciation methods for tax purposes where appropriate. Maintenance of property, plant and equipment is generally expensed as incurred.

The company performs a test for impairment whenever events or changes in circumstances indicate that the carrying amount of an individual asset or asset group may not be recoverable. Should projected undiscounted future cash flows be less than the carrying amount of the asset or asset group, an impairment charge reducing the carrying amount to fair value is required. Fair value is determined based on the most appropriate valuation technique, including discounted cash flows.

Asset-Retirement Obligations – An asset-retirement obligation is recognized in the period in which sufficient information exists to determine the fair value of the liability with a corresponding increase to the carrying amount of the related property, plant and equipment which is then depreciated over its useful life. The liability is initially measured at discounted fair value and then accretion expense is recorded in each subsequent period. The company's asset-retirement obligations are primarily associated with its on-site long-term supply arrangements where the company has built a facility on land leased from the customer and is obligated to remove the facility at the end of the contract term. The company's asset-retirement obligations are not material to its consolidated financial statements.

Foreign Currency Translation – For most foreign operations, the local currency is the functional currency and translation gains and losses are reported as part of the accumulated other comprehensive income (loss) component of equity as a cumulative translation adjustment (see Note 9).

Financial Instruments – Linde enters into various derivative financial instruments to manage its exposure to fluctuating interest rates, currency exchange rates, commodity pricing and energy costs. Such instruments primarily include interest-rate swap and treasury rate lock agreements; currency-swap agreements; forward contracts; currency options; and commodity-swap agreements. These instruments are not entered into for trading purposes. Linde only uses commonly traded and non-leveraged instruments.

There are three types of derivatives the company enters into: (i) those relating to fair-value exposures, (ii) those relating to cash-flow exposures, and (iii) those relating to foreign currency net investment exposures. Fair-value exposures relate to recognized assets or liabilities, and firm commitments; cash-flow exposures relate to the variability of future cash flows associated with recognized assets or liabilities, or forecasted transactions; and net investment exposures relate to the impact of foreign currency exchange rate changes on the carrying value of net assets denominated in foreign currencies.

When a derivative is executed and hedge accounting is appropriate, it is designated as either a fair-value hedge, cash-flow hedge, or a net investment hedge. Currently, Linde designates all interest-rate and treasury rate locks as hedges for accounting purposes; however, currency contracts are generally not designated as hedges for accounting purposes unless they are related to forecasted transactions. Whether designated as hedges for accounting purposes or not, all derivatives are linked to an appropriate underlying exposure. On an ongoing basis, the company assesses the hedge effectiveness of all derivatives designated as hedges for accounting purposes to determine if they continue to be highly effective in offsetting changes in fair values or cash flows of the underlying hedged items. If it is determined that the hedge is not highly effective, then hedge accounting will be discontinued prospectively.

Changes in the fair value of derivatives designated as fair-value hedges are recognized in earnings as an offset to the change in the fair values of the underlying exposures being hedged. The changes in fair value of derivatives that are designated as cash-flow hedges are deferred in accumulated other comprehensive income (loss) and are reclassified to earnings as the underlying hedged transaction affects earnings. Any ineffectiveness is recognized in earnings immediately. Hedges of net investments in foreign subsidiaries are recognized in the cumulative translation adjustment component of accumulated other comprehensive income (loss) on the consolidated balance sheets to offset translation gains and losses associated with the hedged net investment. Derivatives that are entered into for risk-management purposes and are not designated as hedges (primarily related to anticipated net income and currency derivatives other than for firm commitments) are recorded at their fair market values and recognized in current earnings.

See Note 14 for additional information relating to financial instruments.

Goodwill – Acquisitions are accounted for using the acquisition method which requires allocation of the purchase price to assets acquired and liabilities assumed based on estimated fair values. Any excess of the purchase price over the fair value of the assets and liabilities acquired is recorded as goodwill. Allocations of the purchase price are based on preliminary estimates and assumptions at the date of acquisition and are subject to revision based on final information received, including appraisals and other analyses which support underlying estimates.

The company performs a goodwill impairment test annually in the second quarter or more frequently if events or circumstances indicate that an impairment loss may have been incurred. The applicable guidance allows an entity to first assess qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than carrying value. If it is determined that it is more likely than not that the fair value of a reporting unit is less than carrying value then the company will estimate and compare the fair value of its reporting units to their carrying value, including goodwill. Reporting units are determined based on one level below the operating segment level. As applicable, fair value is determined through the use of projected future cash flows, multiples of earnings and sales and other factors. Such analysis requires the use of certain market assumptions and discount factors, which are subjective in nature.

See Notes 3 and 11 for additional information relating to goodwill.

Other Intangible Assets – Other intangible assets, primarily customer relationships and brands/tradenames, are amortized over the estimated period of benefit. The determination of the estimated period of benefit will be dependent upon the use and underlying characteristics of the intangible asset. Linde evaluates the recoverability of its intangible assets subject to amortization when facts and circumstances indicate that the carrying value of the asset may not be recoverable. If the carrying value is not recoverable, impairment is measured as the amount by which the carrying value exceeds its estimated fair value. Fair value is generally estimated based on either appraised value or other valuation techniques. Indefinite lived intangible assets related to the Linde brand are evaluated for impairment on an annual basis or more frequently if events or circumstances indicate an impairment loss may have occurred.

See Notes 3 and 12 for additional information relating to other intangible assets.

Assets Held for Sale and Discontinued Operations – Assets held for sale, as well as liabilities directly related to these assets, are classified separately in the consolidated balance sheets as held for sale if the requirements of the FASB's Accounting Standards Codification ("ASC") 360, *Property, Plant and Equipment* , are satisfied. The main requirements of ASC 360 are: (i) management having the authority to approve the action has committed to a plan to sell the assets and an active program to locate a buyer has been initiated, (ii) the assets are available for sale in their present condition at a reasonable market price, and (iii) a sale within the next twelve months is probable. Assets classified as held for sale are measured at the lower of carrying amount and fair value less costs to sell. Amortization and depreciation has been

discontinued. The process involved in determining the fair value less costs to sell involves estimates and assumptions that are subject to uncertainty.

Discontinued operations are reported as soon as a business is classified as held for sale, or has already been disposed of, and when the business to be disposed of represents a strategic shift that has (or will have) a major effect on the company's operations and financial results. Businesses acquired with the intent of divesting are also required to be reported as discontinued operations. The profit/loss from discontinued operations is reported separately from the expenses and income from continuing operations in the consolidated statements of income. In the consolidated statement of cash flows, the cash flows from discontinued operations are shown separately from the cash flows from continuing operations. The information provided in the Notes relates to continuing operations. If the information relates exclusively to discontinued operations, this is highlighted accordingly.

See Note 4 for additional information relating to assets held for sale and discontinued operations.

Income Taxes – Deferred income taxes are recorded for the temporary differences between the financial statement and tax bases of assets and liabilities using currently enacted tax rates. Valuation allowances are established against deferred tax assets whenever circumstances indicate that it is more likely than not that such assets will not be realized in future periods.

Under the guidance for accounting for uncertainty in income taxes, the company can recognize the benefit of an income tax position only if it is more likely than not (greater than 50%) that the tax position will be sustained upon tax examination, based solely on the technical merits of the tax position. Otherwise, no benefit can be recognized. The tax benefits recognized are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. Additionally, the company accrues interest and related penalties, if applicable, on all tax exposures for which reserves have been established consistent with jurisdictional tax laws. Interest and penalties are classified as income tax expense in the financial statements.

See Note 7 for additional information relating to income taxes, including the U.S. Tax Cuts and Jobs Act enacted in December 2017.

Retirement Benefits – Most Linde employees participate in a form of defined benefit or contribution retirement plan, and additionally certain employees are eligible to participate in various post-employment health care and life insurance benefit plans. The cost of contribution plans is recognized in the year earned while the cost of other plans is recognized over the employees' expected service period to the company, all in accordance with the applicable accounting standards. The funded status of the plans is recorded as an asset or liability in the consolidated balance sheets. Funding of retirement benefits varies and is in accordance with local laws and practices.

See Note 18 for additional information relating to retirement programs.

Share-based Compensation – The company has historically granted share-based awards which consist of stock options, restricted stock and performance-based stock. Share-based compensation expense is generally recognized on a straight-line basis over the stated vesting period. For stock awards granted to full-retirement-eligible employees, compensation expense is recognized over the period from the grant date to the date retirement eligibility is achieved. For performance-based awards, compensation expense is recognized only if it is probable that the performance condition will be achieved.

See Note 17 for additional disclosures relating to share-based compensation.

Reclassifications – Certain prior years' amounts have been reclassified to conform to the current year's presentation, including reclassifications on the consolidated statements of income and segment operating profit relating to the adoption of accounting guidance on the presentation of net periodic pension and postretirement benefit costs.

As a result of the merger, certain reclassifications of prior period amounts were made to improve comparability and conform with the current presentation. Presentation changes were made to the consolidated balance sheets. In addition, certain reclassifications of prior period data were made in the Notes to the Consolidated Financial Statements to conform with the current period presentation. These reclassifications include: (i) the reclassification of capitalized software from property plant and equipment – net to other intangibles – net (see Note 10), and (ii) the reclassification of VAT receivables and VAT payables from accounts receivable and accounts payable, respectively, to other current assets and other current liabilities, respectively, (see Note 9).

Recently Issued Accounting Standards

Accounting Standards Implemented in 2018

The following standards were effective for Linde in 2018 and their adoption did not have a significant impact on the consolidated financial statements:

- **Revenue Recognition** – In May 2014, the Financial Accounting Standards Board ("FASB") issued updated guidance on the reporting and disclosure of revenue. Effective January 1, 2018, Linde has adopted this guidance using the modified retrospective transition method. No material differences in revenue recognition accounting were identified under the new guidance compared with the company's historic revenue recognition accounting (see Note 21).

- **Classification of Certain Cash Receipts and Cash Payments** – In August 2016, the FASB issued updated guidance on the classification of certain cash receipts and cash payments within the statement of cash flows. The update provides accounting guidance for specific cash flow issues with the objective of reducing diversity in practice. The adoption of this guidance did not have a material impact on the financial statements.

- **Intra-Entity Asset Transfers** – In October 2016, the FASB issued updated guidance for income tax accounting of intra-entity transfers of assets other than inventory. The update requires an entity to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory in the period when the transfer occurs. The adoption of this guidance did not have a material impact on the financial statements.

- **Pension Costs** – In March 2017, the FASB issued updated guidance on the presentation of net periodic pension cost and net periodic postretirement benefit cost. The new guidance requires the service cost component be reported in the same line item or items as other compensation costs arising from services rendered by employees during the period. The other components of net benefit cost are required to be presented in the income statement separately from the service cost component and not included within operating profit. This guidance was adopted in the first quarter 2018. Accordingly, non-service related components of net periodic pension and postretirement benefit costs were reclassified out of "Operating Profit" to "Net pension and OPEB cost (benefit), excluding service cost" using the practical expedient to use the amounts disclosed in the retirement benefits note for the prior comparative periods as the estimation basis for applying the retrospective presentation requirements (see Note 18).

- **Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income** – In February 2018, the FASB issued updated guidance which allows a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the Tax Cuts and Jobs Act. The company adopted this guidance in the fourth quarter of 2018 resulting in a reclassification adjustment of $93 million.

Accounting Standards to be Implemented

- **Leases** – In February 2016, the FASB issued updated guidance on the accounting and financial statement presentation of leases. The new guidance requires lessees to recognize a right-of-use asset and lease liability for all leases, except those that meet certain scope exceptions, and would require expanded quantitative and qualitative disclosures. This guidance will be effective for the company beginning in the first quarter 2019 and requires companies to transition using a modified retrospective approach. Linde has implemented a new application to administer the accounting and disclosure requirements and is finalizing its determination of the impact the standard will have on its consolidated financial statements.

- **Credit Losses on Financial Instruments** – In June 2016, the FASB issued an update on the measurement of credit losses. The guidance introduces a new accounting model for expected credit losses on financial instruments, including trade receivables, based on estimates of current expected credit losses. This guidance will be effective for the company beginning in the first quarter 2020, with early adoption permitted beginning in the first quarter 2019 and requires companies to apply the change in accounting on a prospective basis. The company is currently evaluating the impact this update will have on the consolidated financial statements.

- **Simplifying the Test for Goodwill Impairment** – In January 2017, the FASB issued updated guidance on the measurement of goodwill. The new guidance eliminates the requirement to calculate the implied fair value of goodwill to measure a goodwill impairment charge. The guidance will be effective for the company beginning in the first quarter 2020 with early adoption permitted. The company does not expect this guidance to have a material impact.

- **Derivatives and Hedging** – In August 2017, the FASB issued updated guidance on accounting for hedging activities. The new guidance changes both the designation and measurement for qualifying hedging relationships and the presentation of hedge results. This guidance will be effective for the company

beginning in the first quarter 2019. The company does not expect the standard to have a material impact on the consolidated financial statements.

NOTE 3. BUSINESS COMBINATIONS

Merger of Praxair, Inc. and Linde AG

As described in Note 1, on October 31, 2018 Praxair and Linde AG combined their respective businesses through an all-stock transaction and became subsidiaries of the company.

In connection with the business combination, each share of common stock of Praxair par value $0.01 per share, (excluding any shares held in treasury immediately prior to the effective time of the merger, which were automatically canceled and retired for no consideration) was converted into one ordinary share, par value €0.001 per share, of Linde plc. Additionally, each tendered share of common stock of Linde AG was converted into 1.54 ordinary shares of Linde plc.

As provided in the business combination agreement, at the effective time of the business combination outstanding Praxair stock options and other equity awards were generally converted into stock options and equity awards on a 1:1 basis with respect to Linde shares. Outstanding Linde AG share-based compensation awards were either settled in cash (for the portion vested), or are required to be converted into similar stock options and equity awards with respect to Linde shares (for the portion unvested), after giving effect to the 1.54 exchange ratio. This grant is expected to occur in the first half of 2019. See Notes 16 and 17 for additional information.

Preliminary Allocation of Purchase Price

In accordance with the FASB's ASC 805, *"Business Combinations"*, Praxair was determined to be the accounting acquirer. As such, the company has applied the acquisition method of accounting with respect to the identifiable assets and liabilities of Linde AG, which have been measured at estimated fair value as of the date of the business combination.

In accordance with the business combination agreement, Linde AG shareholders that accepted the exchange offer received Linde shares in exchange for Linde AG shares at an exchange ratio of 1.54 Linde shares for each Linde AG share. Because Praxair is the accounting acquirer, the fair value of the equity issued by Linde plc to Linde AG shareholders in the exchange transaction was determined by reference to the market price of Praxair shares. Accordingly, the purchase consideration below reflects the estimated fair value of the 92% of Linde AG shares tendered and Linde shares issued in exchange for those Linde AG shares, which is based on the final closing price of Praxair shares prior to the effective time of the merger on October 31, 2018 of $164.50 per share.

The purchase price and estimated fair value of Linde AG's net assets acquired as of the merger date on October 31, 2018 is presented as follows:

(in thousands, except value per share data, Linde AG exchange ratio, and purchase price)		
Linde AG common stock tendered as of October 31, 2018 (i)		170,875 Shares
Business combination agreement exchange ratio (ii)		1.54 : 1
Linde plc ordinary shares issued in exchange for Linde AG		263,148
Per share price of Praxair, Inc. common stock (iii)	$	164.50
Purchase price (millions of dollars)	$	43,288

(i) Number of Linde AG shares tendered in the 2017 Exchange Offer.

(ii) Exchange ratio for Linde AG shares as set forth in the business combination agreement.

(iii) Closing price of Praxair shares on the New York Stock Exchange prior to the effective time of the business combination on October 31, 2018.

In accordance with ASC 805, Linde AG's assets and liabilities were measured at estimated fair values at October 31, 2018, primarily using Level 3 inputs except debt which was Level 1. Estimates of fair value represent management's best estimate of assumptions about future events and uncertainties, including significant judgments related to future cash flows (sales, costs, customer attrition rates, and contributory asset charges), discount rates, competitive trends, market comparables, and others. Inputs used were generally obtained from historical data supplemented by current and anticipated market conditions and growth rates.

The following table summarizes the preliminary allocation of purchase price to the identifiable assets acquired and liabilities assumed by Linde, with the excess of the purchase price over the fair value of Linde AG's net assets recorded as goodwill. Due to the timing of the business combination, the magnitude of and multi-national nature of the net assets acquired, and the hold separate order (See Note 1) which deferred integration of the two merged companies, at December 31,

2018 the valuation process to determine the fair values is not complete and further adjustments are expected in 2019. The company has estimated the preliminary fair value of net assets acquired based on information currently available and will continue to adjust those estimates as additional information becomes available, analysis is able to be performed, refinement of market participant assumptions, finalization of tax returns in the pre-merger period and the application of push-down accounting at the subsidiary level. The areas where the fair value assessments are not finalized and, therefore, subject to adjustment during the measurement period relate primarily to identifiable intangible assets, property, plant and equipment, net assets held for sale, equity investments, income taxes, noncontrolling interests, contingencies and goodwill. As the company finalizes the fair value of assets acquired and liabilities assumed, additional purchase price allocation adjustments will be recorded during the measurement period, but no later than one year from the date of the acquisition. The company will reflect measurement period adjustments in the period in which the adjustments are determined.

Therefore, final determination of the fair values will likely result in further adjustments to the values presented in the following table:

Millions of dollars		**Estimated Fair Value**
Assets		
Cash and cash equivalents	$	1,363
Accounts receivable – net		2,859
Inventories		1,452
Assets held for sale		5,180
Prepaid and other current assets		1,251
Property, plant and equipment		19,381
Equity investments		1,395
Goodwill		24,146
Other intangible assets		15,592
Other long-term assets		1,024
Total Assets Acquired	$	73,643
Less: Liabilities Assumed		
Accounts payable	$	3,360
Short-term debt		1,177
Current portion of long-term debt		1,864
Accrued taxes		159
Liabilities of assets held for sale		676
Other current liabilities		3,016
Long-term debt		6,295
Other long-term liabilities		1,908
Deferred credits, including deferred income taxes		6,754
Total Liabilities Assumed	$	25,209
Less: Noncontrolling Interests		5,146
Purchase Price (i)	$	43,288

(i) See above for the calculation of the purchase price.

Summary of Significant Fair Value Methods

The methods used to determine the fair value of significant identifiable assets and liabilities included in the preliminary allocation of purchase price are discussed below.

Inventories

Acquired inventory is comprised of finished goods, work in process and raw materials. The fair value of finished goods was calculated as the estimated selling price, adjusted for costs of the selling effort and a reasonable profit allowance relating

to the selling effort. The fair value of work in process inventory was primarily calculated as the estimated selling price, adjusted for estimated costs to complete the manufacturing, estimated costs of the selling effort, as well as a reasonable profit margin on the remaining manufacturing and selling effort. The fair value of raw materials and supplies was determined based on replacement cost which approximates historical carrying value. The preliminary fair value step-up of inventories is being recognized in "Cost of sales" as the inventory is sold.

Assets held for sale and Liabilities of assets held for sale

As described in Note 1, as a condition of the European Commission ("EC"), the U.S. Department of Justice ("DOJ"), and other governmental regulatory authorities approval of the merger, Linde plc, Praxair and Linde AG were required to divest various businesses in Europe, the Americas and Asia. The fair value of these businesses has been determined based on the estimated net selling prices or sales agreements. Actual amounts may differ from this preliminary determination. See Note 4 for further information on merger-related divestitures.

Property, Plant and Equipment

The fair value of property, plant and equipment was primarily calculated using replacement costs adjusted for the age and condition of the asset, and is summarized below:

Property, plant and equipment ("PP&E")	**(in millions)**
Production plants	$ 10,739
Storage tanks	1,809
Transportation equipment and other	574
Cylinders	2,493
Buildings	1,970
Land and improvements	647
Construction in progress	1,149
Preliminary fair value of PP&E	$ 19,381

The final fair value determination for property, plant and equipment or estimates of remaining useful lives may differ from this preliminary determination.

Identifiable Intangible Assets

The fair value of identifiable intangible assets is summarized below:

	Weighted Average Amortization Period (in years)	**(in millions)**
Identifiable intangible assets		
Customer relationships	27	$ 12,555
Linde Brand	Indefinite	1,648
Brands/Tradenames	27	578
Other intangibles	8	811
Preliminary fair value of identifiable intangible assets	26	$ 15,592

The fair value estimate for all other identifiable intangible assets is based on assumptions that market participants would use in pricing an asset, based on the most advantageous market for the asset (i.e., its highest and best use). The final fair value determination for identifiable intangibles or estimates of remaining useful lives may differ materially from this preliminary determination.

The fair value of the customer relationships intangible asset was valued using a multi-period excess earnings method, a form of the income approach, which incorporates the estimated future cash flows to be generated from Linde AG's existing customer base. Excess earnings are the earnings remaining after deducting the market rates of return on the estimated values of contributory assets, including debt-free net working capital, tangible assets, and other identifiable intangible assets. The excess earnings are thereby calculated for each year of multi-year projection periods and discounted to present value.

Brands/Tradenames includes $1,648 million related to the Linde brand which is considered to have an indefinite life. Other intangibles primarily includes acquired technology. These intangible assets were valued using the relief from royalty method under the income approach; this method estimates the cost savings generated by a company related to the ownership of an asset for which it would otherwise have had to pay royalties or license fees on revenues earned through the use of the asset and discounted to present value.

Pension and Other Postretirement Liabilities

Linde recognized a pretax net liability representing the unfunded portion of Linde AG's defined-benefit pension and other postretirement benefit ("OPEB") plans. Refer to Note 18 for further information on pensions and OPEB arrangements.

Long-Term Debt

The fair value for long-term debt was primarily obtained from third party quotes, as the majority of the Linde AG bond portfolio is publicly traded.

Deferred Income Tax Assets and Liabilities

The deferred income tax assets and liabilities include the expected future federal, state and foreign tax consequences associated with temporary differences between the preliminary fair values of the assets acquired and liabilities assumed and the respective tax bases. Tax rates utilized in calculating deferred income taxes generally represent the enacted statutory tax rates at the effective date of the merger in the jurisdictions in which legal title of the underlying asset or liability resides. The final fair value of deferred income tax assets and liabilities may differ from this preliminary determination.

Refer to Note 7 for further information related to income taxes.

Noncontrolling Interests

Noncontrolling interests include the fair value of noncontrolling interests of Linde AG, including approximately $3.2 billion relating to the 8% of Linde AG shares which were not tendered in the Exchange Offer and are intended to be the subject of a cash-merger squeeze-out. The company's wholly-owned indirect subsidiary, Linde Intermediate Holding AG "Linde Holding"), which directly owns the 92% of Linde AG shares acquired in the Exchange Offer, determined the adequate cash compensation to be paid to the 8% remaining Linde AG minority shareholders in exchange for the transfer of their Linde AG shares for each Linde AG share. The cash-merger squeeze-out was approved by the shareholders of Linde AG at an extraordinary shareholders meeting of Linde AG on December 12, 2018, but remains subject to court approval. Also, as required by German law, a guarantee was obtained from a financial institution guaranteeing the fulfillment of Linde Holding's obligations to pay the minority shareholders of Linde AG all amounts due in connection with the squeeze-out transaction. The remaining noncontrolling interests relate to the fair value of historic noncontrolling interests of Linde AG and its subsidiaries. The final fair value determination for noncontrolling interests may differ from this preliminary determination.

Equity Investments

The fair value of equity investments was determined using a discounted cash flow approach. The final fair value of equity investments may differ from this preliminary determination.

Other Assets Acquired and Liabilities Assumed (excluding Goodwill)

Linde utilized the carrying values, net of allowances, to value accounts and notes receivable and accounts payable as well as other current assets and liabilities as it was determined that carrying values represented the fair value of those items at the merger date.

Goodwill

The excess of the consideration for the merger over the preliminary fair value of net assets acquired was recorded as goodwill. The merger resulted in the recognition of $24,146 million of goodwill, which is not deductible for tax purposes. The goodwill balance is primarily attributed to the assembled workforce, expanded market opportunities and cost and other operating synergies anticipated upon the integration of the operations of Praxair and Linde AG. The push down of goodwill to reporting units is not final and may differ from this preliminary determination.

Results of Linde AG Operations Since Merger

The results of operations of Linde AG have been included in the company's consolidated statements of income since the merger. The following table provides Linde AG "Sales" and "Income (loss) from continuing operations" included in the company's results since the merger.

Millions of dollars	November 1, – December 31, 2018
Linde AG Results of Operations	
Sales	$ 2,873
Income (loss) from continuing operations*	$ (385)

* Includes net charges of $451 million related to the impacts of purchase accounting.

Unaudited Pro Forma Information

Linde's unaudited pro forma results presented below were prepared pursuant to the requirements of ASC 805 and give effect to the merger as if it had been consummated on January 1, 2017. The pro forma results have been prepared for comparative purposes only, and do not necessarily represent what the revenue or results of operations would have been had the merger been completed on January 1, 2017. In addition, these results are not intended to be a projection of future operating results and do not reflect synergies that might be achieved.

The unaudited pro forma results include adjustments for the preliminary purchase accounting impact (including, but not limited to, depreciation and amortization associated with the acquired tangible and intangible assets, amortization of the fair value adjustment to investment in nonconsolidated affiliates, and reduction of interest expense related to the fair value adjustment to long-term debt along with the related tax and non-controlling interest impacts), the alignment of accounting policies, adjustments due to IFRS compliant reporting conversion to U.S. GAAP and the elimination of transactions between Praxair and Linde AG.

The unaudited pro forma results for all periods presented below exclude the results of operations of the Linde AG merger-related divestitures (See Note 4) as these divestitures are reflected as discontinued operations. The Praxair merger-related divestitures (See Note 4) are included in the results from continuing operations, including the results from Praxair's European business through the disposition date of December 3, 2018, in the unaudited pro forma results presented below, for all periods presented, as these divestitures do not qualify for discontinued operations.

The unaudited pro forma results are summarized below:

Millions of dollars	2018	2017
Sales (a)	$ 29,774	$ 28,449
Income from continuing operations	$ 4,739	$ 871

(a) Includes sales from Praxair's merger-related divestitures of $1,625 million and $1,553 million for the years ended December 31, 2018 and 2017, respectively.

Significant nonrecurring amounts reflected in the pro forma results are as follows:

A $3,294 million gain ($2,923 million after tax) was recorded in the fourth quarter 2018 as a result of the divestiture of Praxair's European industrial gases business and is included in the December 31, 2018 pro forma income from continuing operations.

From January 1, 2017 through December 31, 2018, Praxair, Inc. and Linde AG collectively incurred pre-tax costs of $736 million ($680 million after tax) to prepare for and close the merger. These merger costs were reflected within the results of operations in the pro forma results as if they were incurred on January 1, 2017. Any costs incurred related to merger-related divestitures and integration and to prepare for the intended business separations were reflected in the pro forma results in the period in which they were incurred.

The company incurred pre-tax charges of $368 million ($279 million after tax) and $10 million ($8 million after tax) in 2018 related to the fair value step-up of inventories acquired and sold as well as a pension settlement due to the payout to certain participants as a result of change in control provisions within a U.S. nonqualified pension plan, respectively. The 2018 pro forma results were adjusted to exclude these charges. The pro forma results for 2017 were adjusted to include these charges, as well as charges incurred subsequent to December 31, 2018 but less than a year from the date of the merger of $13 million ($10 million after tax) related to the remaining fair value step-up of inventories to be sold and $51 million ($40 million after tax) related to an additional pension settlement within the U.S. nonqualified pension plan will occur in the first quarter of 2019 upon payment. See Note 18 for further information relating to the U.S. nonqualified pension plan settlements.

2018 Non-Merger Related Acquisitions

Non-merger related acquisitions of $25 million during the year ended December 31, 2018 are not material individually or in the aggregate.

2017 Acquisitions

During the year ended December 31, 2017, Linde had acquisitions totaling $33 million, primarily acquisitions of packaged gas businesses and a carbon dioxide joint venture in North America. These transactions resulted in goodwill and other intangible assets of $24 million and $3 million, respectively (see Notes 11 and 12).

2016 Acquisitions

During the year ended December 31, 2016, Linde had acquisitions totaling $363 million, primarily the acquisition of Yara International ASA's European carbon dioxide business ("European CO2 business") and packaged gases businesses in North America and Europe. These transactions resulted in goodwill and other intangible assets of $141 million and $82 million, respectively (see Notes 11 and 12). In addition, Linde purchased a remaining 34% share in a Scandinavian joint venture for $104 million (see Note 16).

On June 1, 2016 Linde completed an acquisition of a European CO2 business, which is a leading supplier of liquid CO2 and dry ice primarily to the European food and beverage industries. The business operates CO2 liquefaction plants and dry ice production facilities across the UK, Ireland, Norway, Denmark, Germany, Netherlands, Belgium, France and Italy. This acquisition was accounted for as a business combination; accordingly, the results of operations were consolidated from June 1, 2016 in the European business segment.

The purchase price for the acquisition was approximately $230 million (€206 million) and resulted in $121 million of intangible assets. The intangible assets primarily consist of $69 million of goodwill and $51 million of customer relationships that will be amortized over their estimated life of 20 years. This business was subsequently sold as part of the merger Divestitures (see Note 4).

NOTE 4. MERGER-RELATED DIVESTITURES, DISCONTINUED OPERATIONS AND NET ASSETS HELD FOR SALE

As described in Note 1, as a condition of the European Commission ("EC"), the U.S. Department of Justice ("DOJ"), and other governmental regulatory authorities approval of the merger, Linde plc, Praxair and Linde AG were required to divest the following businesses:

Praxair Merger-Related Divestitures – Primarily European Industrial Gases Business

As a condition of the EC regulatory approval of the merger transaction, Praxair agreed to sell the majority of its industrial gases business in Europe. The sale was completed on December 3, 2018 in two transactions, as described below:

- The Società Italiana Acetilene e Derivati S.p.A. ("SIAD") Sale and Purchase Agreement dated December 5, 2017 whereby Praxair agreed, *inter alia* , to sell its 34% non-controlling participation in its Italian joint venture SIAD to its joint venture partner Flow Fin in exchange for Flow Fin's 40% non-controlling participation in Praxair's majority-owned Italian joint venture, Rivoira S.p.A., and cash payment of a net purchase price of €90 million ($102 million as of October 31, 2018) by Praxair to Flow Fin. This transaction was completed on October 31, 2018, and;
- The Praxair Europe Sale and Purchase Agreement dated July 5, 2018 pursuant to which Praxair sold the majority of its European businesses to Taiyo Nippon Sanso Corporation for €5,000 million in cash consideration ($5,700 million at December 3, 2018), reduced by estimated normal closing adjustments of €86 million ($96 million). These transactions were completed on December 3, 2018.

In connection with these transactions, the company recognized a net pre-tax gain of $3,294 million ($2,923 million after tax) in the consolidated statements of income and related to the Europe segment.

The net carrying value of Praxair's European business assets and liabilities divested on December 3, 2018 is presented below:

Millions of dollars	Carrying Value
Assets	
Cash and cash equivalents	$ 38
Accounts receivable – net	311
Inventories	67
Prepaid and other current assets	22
Property, plant and equipment – net	1,342
Equity investments	234
Goodwill	620
Other intangible assets – net	115
Other long-term assets	36
Total Assets Divested	$ 2,785
Liabilities	
Accounts payable	$ 215
Accrued taxes	27
Other current liabilities	111
Long-term debt	2
Other long-term liabilities	92
Deferred credits	174
Total Liabilities Divested	$ 621
Noncontrolling interests	$ 200
Accumulated other comprehensive income (loss)	
Pension/OPEB funded status obligation, net of taxes	(8)
Cumulative translation adjustment, net of taxes	(318)
Net Assets Divested	$ 2,290

Additionally, to satisfy regulatory requirements to consummate the business combination, Praxair agreed to the following transactions which will be completed during 2019:

- Praxair's Chilean business which will be sold as part of the Americas' SPA (as defined below) for $21 million proceeds which is further described below.
- Various transactions within China, India and South Korea.

2018 sales related to these businesses were approximately $160 million.

Effective October 22, 2018, the date of final regulatory approvals, these businesses have been accounted for as Assets Held for Sale on the Consolidated Balance Sheets. These businesses were evaluated for discontinued operations accounting treatment under U.S. GAAP and it was determined that they did not meet the definition of a discontinued operation as these transactions did not represent a strategic shift with a major effect, after considering the impact of the merger.

Linde AG Merger-Related Divestitures – Primarily Americas Industrial Gases Business

As a condition of the U.S. regulatory approval of the merger, Linde AG agreed to sell the majority of its industrial gases business in the Americas, as described below:

- The Linde AG Americas Sales and Purchase Agreement, dated July 16, 2018, as and further amended on September 22, 2018, October 19, 2018, and February 20, 2019 whereby Linde AG and Praxair, Inc. entered into an agreement with a consortium comprising companies of the German industrial gases manufacturer Messer Group and CVC Capital Partners Fund VII to sell the majority of Linde AG's industrial gases business in North America and certain industrial gases business activities of Linde AG's in South America for $2.97 billion in cash consideration after purchase price adjustments for certain items relating to assets and liabilities of the sold businesses. In addition, divestitures include $531 million of proceeds for

incremental plant sales within the Americas under other agreements. These transactions were completed on March 1, 2019.

- Various transactions within China, India and South Korea.

Discontinued Operations

Only the sales of the Linde AG merger-related divestitures meet the criteria for discontinued operations, Praxair merger-related divestitures do not qualify as discontinued operations. As such, operations related to the Linde AG merger-related divestitures are included within Income from discontinued operations, net of tax for periods subsequent to the merger, as summarized below:

Millions of dollars	November 1, - December 31, 2018
Net sales	$ 388
Cost of sales	173
Other operating costs	90
Operating profit	$ 125
Income from equity investments	1
Income taxes	9
Income from discontinued operations, net of tax	$ 117
Noncontrolling interests	(9)
Income from discontinued operations, net of tax and noncontrolling interests	$ 108

For the year ended December 31, 2018 there were no material amounts of depreciation, amortization, capital expenditures, or significant operating or investing non-cash items related to discontinued operations.

Net Assets Held for Sale

Net assets held for sale includes both the Linde AG merger-related divestitures that meet the criteria for discontinued operations and the Praxair merger-related divestitures that do not. As of December 31, 2018, the following assets and liabilities are reported as components of the net assets held for sale in the consolidated balance sheets:

Millions of dollars	Carrying / Fair Market Value
Assets	
Cash and cash equivalents	$ 182
Accounts receivable – net	297
Inventories	209
Prepaid and other current assets	54
Property, plant and equipment – net	2,005
Other Assets	187
Asset adjustments for estimated fair value (Note 3)	2,564
Total Assets Classified as Assets Held for Sale	$ 5,498
Liabilities	
Accounts payable	125
Deferred credits	206
Other liabilities	437
Total Liabilities Classified as Assets Held for Sale	768
Net Assets Classified as Held for Sale	$ 4,730

NOTE 5. TRANSACTION COSTS AND OTHER CHARGES

2018 Charges

Transaction costs and other charges were $309 million for the year ended December 31, 2018 ($306 after-tax and noncontrolling interests, or $0.92 per diluted share).

Transaction Costs

On October 31, 2018, Praxair and Linde AG combined under Linde plc, as contemplated by the business combination agreement (see Note 1). In connection with the business combination, Linde incurred transaction costs which totaled $236 million for the year ended December 31, 2018 ($236 million after-tax).

Other Charges

Also included in Transaction costs and other charges are other charges of $73 million for the year ended December 31, 2018 ($70 million after-tax) comprised of the following; (i) a $40 million charge ($40 million after-tax) related to an unfavorable development related to a supplier contract in China, (ii) restructuring charges of $21 million ($18 million after-tax) and (iii) a $12 million charge ($12 million after-tax) associated with the transition to hyper-inflationary accounting in Argentina.

2017 Charges

Transaction Costs

In connection with the intended business combination, Linde incurred transaction costs which totaled $52 million for the year ended December 31, 2017 ($48 million after-tax or $0.17 per diluted share).

2016 Charges

Cost Reduction Program and Other Charges

In the third quarter of 2016, Linde recorded pre-tax charges totaling $96 million ($63 million after-tax and noncontrolling interests of $0.22 per diluted share). Following is a summary of the pre-tax charge by reportable segment:

(millions of dollars)	Severance costs	Other Charges	Total
North America	$ 14	$ 29	$ 43
Europe	12	3	15
South America	5	7	12
Asia	6	13	19
Surface Technologies	3	4	7
Total	$ 40	$ 56	$ 96

The severance costs of $40 million are for the elimination of 730 positions. The other charges of $56 million are primarily related to (i) the consolidation of operations for efficiencies and cost reduction primarily in North America and Surface Technologies, (ii) integration costs for acquisitions in Europe and North America, and (iii) asset write-downs and other charges related to the impacts of weaker underlying industrial activity, primarily in the Americas and Asia. Amounts related to asset write-downs are net of expected sale proceeds, which are not significant.

The total cash requirement of the cost reduction program and other charges was approximately $50 million. The actions are completed.

Classification in the consolidated financial statements

The pre-tax charges for each year are shown within operating profit in a separate line item on the consolidated statements of income. In the consolidated balance sheets, reductions in assets are recorded against the carrying value of the related assets and unpaid amounts are recorded primarily as short-term liabilities. On the consolidated statement of cash flows, the pre-tax impact of these charges, net of cash payments, is shown as an adjustment to reconcile net income to net cash provided by operating activities. In Note 20 - Segment Information, Linde excluded these charges from its management definition of segment operating profit; a reconciliation of segment operating profit to consolidated operating profit is shown within the segment operating profit table.

NOTE 6. LEASES

In the normal course of its business, Linde enters into various leases as the lessee, primarily involving manufacturing and distribution equipment and office space. Total lease and rental expenses under operating leases were $193 million in 2018, $146 million in 2017 and $141 million in 2016. The increase in 2018 is a result of the merger.

At December 31, 2018, minimum payments due under operating leases are as follows:

(Millions of dollars)	
2019	$ 305
2020	236
2021	186
2022	145
2023	102
Thereafter	326
	$ 1,300

Capital leases are included in property, plant and equipment – net (see Note 10). Related obligations are included in debt. Capital lease expense is recognized as part of depreciation and interest.

At December 31, 2018, minimum payments due under capital leases are as follows:

(Millions of dollars)	
2019	18
2020	17
2021	12
2022	10
2023	5
Thereafter	42
	$ 104
Finance charge included in minimum lease payments	$ 23

Linde's leases where it is the lessor are not material.

NOTE 7. INCOME TAXES

The year ended December 31, 2018 reflects Praxair for the entire year and the Linde AG for the period beginning October 31, 2018 (the merger date), including the impacts of purchase accounting. The amounts for historical periods prior to 2018 solely reflect the results of Praxair. See Notes 1 and 3.

Pre-tax income applicable to U.S. and foreign operations is as follows:

(Millions of dollars) Year Ended December 31,	2018	2017	2016
United States	$ 931	$ 1,003	$ 954
Foreign (a)	4,118	1,284	1,094
Total income before income taxes	$ 5,049	$ 2,287	$ 2,048

(a) includes a $3,294 million gain related to Europe divestiture (see Notes 4 and 9).

U.S. Tax Cuts and Jobs Act (Tax Act)

On December 22, 2017 the U.S. government enacted the Tax Cuts and Jobs Act ("Tax Act"). This comprehensive tax legislation significantly revised the U.S. corporate income tax rules by, among other things, lowering the corporate income

tax rate from 35% to 21%, implementing a territorial tax system and imposing a one-time tax on accumulated earnings of foreign subsidiaries. Given the substantial uncertainties surrounding the Tax Act and the short period of time between December 22, 2017 and December 31, 2017 to calculate the U.S. Federal, U.S. state, and non-U.S. tax impacts of the Tax Act, at December 31, 2017 the company accounted for its income tax charge on a provisional (estimated) basis as allowed by SEC Staff Accounting Bulletin No. 118 ("SAB 118"). The company's 2017 net provisional income tax charge of $394 million has three main components: (i) an estimated $467 million U.S. Federal and state tax charge for deemed repatriation of accumulated foreign earnings; (ii) an estimated $260 million charge for foreign withholding taxes related to anticipated future repatriation of foreign earnings; and (iii) an estimated $333 million deferred tax benefit for the revaluation of net deferred tax liabilities from 35% to the new 21% tax rate. The $467 million U.S. federal and state tax charge for deemed repatriation of accumulated foreign earnings includes $422 million of deemed repatriation tax payable over eight years, of which $388 million is classified as of December 31, 2017 as other long-term liabilities on the consolidated balance sheets (see Note 9).

During 2018, the company continued to evaluate the Tax Act, additional guidance from the Internal Revenue Service, its historical foreign earnings and taxes and other items that could impact its net provisional tax charge. Additionally, the company continued to review its foreign capital structures, organizational cash needs and the foreign withholding tax cost of planned repatriation. In the fourth quarter of 2018, the company completed its accounting and updated its provisional estimates in accordance with SAB 118 resulting in a net reduction to tax expense of $61 million, $41 million U.S. federal and $20 million of state income tax (net of federal tax benefit). This resulted in a deemed repatriation tax payable of $291 million payable over the remaining seven years, of which $265 million is classified as of December 31, 2018 as other long-term liabilities on the consolidated balance sheets (see Note 9).

Further, the Tax Act enacted new provisions related to the taxation of foreign earnings, known as GILTI. The company has elected as an accounting policy to account for GILTI as period costs when incurred.

Additionally, in the fourth quarter of 2018 the company adopted Accounting Standards Update 2018-02, "Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income", electing to reclassify the income tax effects of the Tax Act from Accumulated Other Comprehensive Income ("AOCI") to retained earnings. This resulted in a net reduction to AOCI and a net increase to retained earnings of $93 million, $98 million directly related to the federal income tax rate change reduced by $5 million indirectly related to the federal tax rate change on state income taxes.

Provision for Income Taxes

The following is an analysis of the provision for income taxes:

(Millions of dollars) **Year Ended December 31,**	**2018 (a)**	**2017 (a)**	**2016**
Current tax expense (benefit)			
U.S. federal	$ 390	$ 565	$ 266
State and local	(7)	84	32
Foreign	620	374	266
	1,003	1,023	564
Deferred tax expense (benefit)			
U.S. federal	8	(221)	3
State and local	15	19	7
Foreign	(209)	205	(23)
	(186)	3	(13)
Total income taxes	$ 817	$ 1,026	$ 551

(a) Includes a benefit of $61 million and a charge of $394 million related to the Tax Act in 2018 and 2017, respectively and a charge of $371 million related to divestitures in 2018 (see Note 4) as follows:

	2018	2017
Current tax expense (benefit)		
U.S. federal	$ 219	$ 414
State and local	(36)	53
Foreign	114	60
	297	527
Deferred tax expense (benefit)		
U.S. federal	6	(333)
State and local	7	—
Foreign	—	200
	13	(133)
Total income taxes	$ 310	$ 394

Effective Tax Rate Reconciliation

For purposes of the effective tax rate reconciliation, the company utilized the U.S. statutory income tax rate of 21% in 2018 and 35% in years 2017 and 2016. An analysis of the difference between the provision for income taxes and the amount computed by applying the U.S. statutory income tax rate to pre-tax income follows:

(Dollar amounts in millions) **Year Ended December 31,**	2018		2017		2016	
U.S. statutory income tax	$ 1,060	21.0 %	$ 801	35.0 %	$ 717	35.0 %
State and local taxes – net of federal benefit	30	0.6 %	32	1.4 %	28	1.4 %
U.S. tax credits and deductions (a)	(12)	(0.2)%	(27)	(1.2)%	(32)	(1.6)%
Foreign tax differentials (b)	57	1.1 %	(145)	(6.3)%	(140)	(6.8)%
Share Based Compensation	(22)	(0.4)%	(35)	(1.5)%	(20)	(1.0)%
Tax Act	(61)	(1.2)%	394	17.2 %	—	— %
Divestitures (c)	(321)	(6.4)%	—	— %	—	— %
Other – net (d)	86	1.7 %	6	0.3 %	(2)	(0.1)%
Provision for income taxes	$ 817	16.2 %	$ 1,026	44.9 %	$ 551	26.9 %

(a) U.S. tax credits and deductions relate to foreign derived intangible income in 2018, the research and experimentation tax credit in 2018, 2017 and 2016 and manufacturing deduction in years 2017 and 2016.

(b) Primarily related to differences between the U.S. tax rate (21% in year 2018 and 35% in years 2017 and 2016) and the statutory tax rate in the countries where the company operates. Other permanent items and tax rate changes were not significant.

(c) Divestitures primarily relate to the sale of the company's European business (see Note 4).

(d) Other – net includes $34 million of U.S tax related to GILTI in 2018 and an increase in unrecognized tax benefits in Europe of $44 million.

Net Deferred Tax Liabilities

Net deferred tax liabilities included in the consolidated balance sheets are comprised of the following:

(Millions of dollars) December 31,	2018	2017
Deferred tax liabilities		
Fixed assets	$ 3,935	$ 1,128
Goodwill	124	143
Other intangible assets	3,684	72
Subsidiary/equity investments	570	200
Other	648	93
	$ 8,961	$ 1,636
Deferred tax assets		
Carryforwards	$ 526	$ 209
Benefit plans and related (a)	575	257
Inventory	63	16
Accruals and other (b)	1,112	261
	$ 2,276	$ 743
Less: Valuation allowances (c)	(237)	(76)
	$ 2,039	$ 667
Net deferred tax liabilities	$ 6,922	$ 969
Recorded in the consolidated balance sheets as (Note 9):		
Other long-term assets	510	198
Deferred credits	7,432	1,167
	$ 6,922	$ 969

(a) Includes deferred taxes of $292 million and $217 million in 2018 and 2017, respectively, related to pension / OPEB funded status (see Notes 9 and 18).

(b) Includes $104 million and $130 million in 2018 and 2017, respectively, related to research and development costs.

(c) Summary of valuation allowances relating to deferred tax assets follows (millions of dollars):

	2018	2017	2016
Balance, January 1,	$ (76)	$ (132)	$ (123)
Income tax (charge) benefit (i)	(51)	59	(13)
Merger with Linde AG	(121)	—	—
Other, including write-offs	7	—	6
Translation adjustments	4	(3)	(2)
Balance, December 31,	$ (237)	$ (76)	$ (132)

(i) 2017 includes a $59 million benefit related to the utilization of foreign tax credits under the Tax Act.

The company evaluates deferred tax assets quarterly to ensure that estimated future taxable income will be sufficient in character (e.g., capital gain versus ordinary income treatment), amount and timing to result in their recovery. After considering the positive and negative evidence, a valuation allowance is established to reduce the assets to their realizable value when management determines that it is more likely than not (i.e., greater than 50% likelihood) that a deferred tax asset will not be realized. Considerable judgment is required in establishing deferred tax valuation allowances.

At December 31, 2018, the company had $526 million of deferred tax assets relating to net operating losses ("NOLs") and tax credits and $237 million of valuation allowances. These deferred tax assets include $445 million relating to NOLs of which $55 million expire within 5 years, $125 million expire after 5 years and $265 million have no expiration. The deferred tax assets also include $81 million related to credits of which $13 million expire within 5 years, $38 million expire after 5 years, and $30 million have no expiration. The valuation allowances of $237 million primarily relate to NOLs and are required because management has determined, based on financial projections and available tax strategies, that it is unlikely

that the NOLs will be utilized before they expire. If events or circumstances change, valuation allowances are adjusted at that time resulting in an income tax benefit or charge.

The company has $570 million of foreign income taxes accrued related to its investments in subsidiaries and equity investments as of December 31, 2018. A provision has not been made for any additional foreign income tax at December 31, 2018 on approximately $30 billion related to its investments in subsidiaries because the company intends to remain indefinitely reinvested. While the $30 billion could become subject to additional foreign income tax if there is a sale of a subsidiary or earnings are remitted as dividends, it is not practicable to estimate the unrecognized deferred tax liability.

Uncertain Tax Positions

Unrecognized income tax benefits represent income tax positions taken on income tax returns but not yet recognized in the consolidated financial statements. The company has unrecognized income tax benefits totaling $319 million, $54 million and $56 million as of December 31, 2018, 2017 and 2016, respectively. If recognized, essentially all of the unrecognized tax benefits and related interest and penalties would be recorded as a benefit to income tax expense on the consolidated statement of income.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

(Millions of dollars)	2018	2017	2016
Unrecognized income tax benefits, January 1	$ 54	$ 56	$ 68
Additions for tax positions of prior years (a)	104	48	6
Reductions for tax positions of prior years	(7)	(26)	(15)
Additions for current year tax positions (b)	179	—	—
Reductions for settlements with taxing authorities (c)	(3)	(26)	(2)
Foreign currency translation and other	(8)	2	(1)
Unrecognized income tax benefits, December 31	$ 319	$ 54	$ 56

(a) Increase primarily relates to tax positions in the United States and Europe.

(b) 2018 includes $167 million related to the merger with Linde AG.

(c) Settlements are uncertain tax positions that were effectively settled with the taxing authorities, including positions where the company has agreed to amend its tax returns to eliminate the uncertainty.

The company classifies interest income and expense related to income taxes as tax expense in the consolidated statement of income. The company recognized net interest expense of $32 million in 2018, net interest expense of $8 million in 2017, and net interest income of $10 million in 2016. The company had $48 million and $8 million of accrued interest and penalties as of December 31, 2018 and December 31, 2017, respectively which were recorded in other long-term liabilities in the consolidated balance sheets (see Note 9).

As of December 31, 2018, the company remained subject to examination in the following major tax jurisdictions for the tax years as indicated below:

Major tax jurisdictions	Open Years
North and South America	
United States	2014 through 2018
Canada	2011 through 2018
Mexico	2012 through 2018
Brazil	2005 through 2018
Europe and Africa	
Belgium	2013 through 2018
Germany	2011 through 2018
Luxembourg	2013 through 2018
Netherlands	2013 through 2018
Republic of South Africa	2014 through 2018
Scandinavia	2008 through 2018
Spain	2004 through 2018
United Kingdom	2015 through 2018
Asia and Australia	
Australia	2013 through 2018
China	2008 through 2018
India	2006 through 2018
Korea	2013 through 2018
New Zealand	2014 through 2018
Taiwan	2014 through 2018

The company is currently under audit in a number of jurisdictions. As a result, it is reasonably possible that some of these matters will conclude or reach the stage where a change in unrecognized income tax benefits may occur within the next twelve months. At the time new information becomes available, the company will record any adjustment to income tax expense as required. Final determinations, if any, are not expected to be material to the consolidated financial statements. The company is also subject to income taxes in many hundreds of state and local taxing jurisdictions that are open to tax examinations.

NOTE 8. EARNINGS PER SHARE – LINDE PLC SHAREHOLDERS

Basic and Diluted earnings per share – Linde plc shareholders is computed by dividing Income From Continuing Operations, Income From discontinued operations, net of tax, and Net income – Linde plc for the period by the weighted average number of either basic or diluted shares outstanding, as follows:

	2018	2017	2016
Numerator (millions of dollars)			
Income From Continuing Operations	$ 4,273	$ 1,247	$ 1,500
Income from discontinued operations, net of tax	108	—	—
Net Income – Linde plc	$ 4,381	$ 1,247	$ 1,500
Denominator (thousands of shares)			
Weighted average shares outstanding	330,088	285,893	285,289
Shares earned and issuable under compensation plans	313	368	388
Weighted average shares used in basic earnings per share *	330,401	286,261	285,677
Effect of dilutive securities			
Stock options and awards	3,726	2,853	2,080
Weighted average shares used in diluted earnings per share *	334,127	289,114	287,757
Basic earnings per share from continuing operations	$ 12.93	$ 4.36	$ 5.25
Basic earnings per share from discontinued operations	$ 0.33	$ —	$ —
Basic Earnings Per Share	$ 13.26	$ 4.36	$ 5.25
Diluted earnings per share from continuing operations	$ 12.79	$ 4.32	$ 5.21
Diluted earnings per share from discontinued operations	$ 0.32	$ —	$ —
Diluted Earnings Per Share	$ 13.11	$ 4.32	$ 5.21

* As a result of the merger, share amounts for the year ended December 31, 2018 reflect a weighted average effect of Praxair shares outstanding prior to October 31, 2018 and Linde plc shares outstanding on and after October 31, 2018.

There were no antidilutive shares for the years ended December 31, 2018 or 2017. Stock options of 2,602,770 for the year ended December 31, 2016 were antidilutive and therefore excluded in the computation of diluted earnings per share.

NOTE 9. SUPPLEMENTAL INFORMATION

The year ended December 31, 2018 reflects Praxair for the entire year and the Linde AG for the period beginning after October 31, 2018 (the merger date), including the impacts of purchase accounting. The amounts for historical periods prior to 2018 solely reflect the results of Praxair. See Notes 1 and 3.

Income Statement

(Millions of dollars)

Year Ended December 31,	2018	2017	2016
Selling, General and Administrative			
Selling	$ 757	$ 511	$ 493
General and administrative	872	696	652
	$ 1,629	$ 1,207	$ 1,145

Year Ended December 31,	2018	2017	2016
Depreciation and Amortization (a)			
Depreciation	$ 1,615	$ 1,093	$ 1,028
Amortization of other intangibles (Note 12)	215	91	94
	$ 1,830	$ 1,184	$ 1,122

Year Ended December 31,	2018	2017	2016
Other Income (Expenses) – Net			
Currency related net gains (losses)	$ 4	$ (3)	$ 1
Partnership income	8	6	5
Severance expense	(7)	(6)	(7)
Asset divestiture gains (losses) – net	6	4	16
Other – net	7	3	8
	$ 18	$ 4	$ 23

Year Ended December 31,	2018	2017	2016
Interest Expense – Net			
Interest incurred on debt	$ 196	$ 189	$ 208
Interest capitalized	(20)	(28)	(34)
Bond redemption (b)	26	—	16
	$ 202	$ 161	$ 190

Year Ended December 31,	2018	2017	2016
Income Attributable to Noncontrolling Interests			
Noncontrolling interests' operations (c)	$ 12	$ 59	$ 35
Redeemable noncontrolling interests' operations (Note 16)	3	2	3
Noncontrolling interests from continuing operations	$ 15	$ 61	$ 38
Noncontrolling interests from discontinued operations	$ 9	$ —	$ —

Balance Sheet

(Millions of dollars)

December 31,	2018	2017
Accounts Receivable		
Trade	$ 4,368	$ 1,814
Other	42	34
	4,410	1,848
Less: allowance for doubtful accounts (d)	(113)	(138)
	$ 4,297	$ 1,710

December 31,	2018	2017
Inventories		
Raw materials and supplies	$ 339	$ 224
Work in process	321	57
Finished goods	991	333
	$ 1,651	$ 614

December 31,	2018	2017
Prepaid and Other Current Assets		
Prepaid (e)	367	185
VAT Recoverable	250	94
Other	460	65
	$ 1,077	$ 344

December 31,	2018	2017
Other Long-term Assets		
Pension assets (Note 18)	$ 140	$ 17
Insurance contracts (f)	75	74
Long-term receivables, net (g)	135	54
Deposits	61	70
Investments carried at cost	76	12
Deferred charges	148	47
Deferred income taxes (Note 7)	510	198
Other	317	109
	$ 1,462	$ 581

December 31,	2018	2017
Other Current Liabilities		
Accrued expenses	$ 1,187	$ 319
Payroll	658	170
VAT Payable	235	50
Deferred Income	242	9
Pension and postretirement (Note 18)	117	30
Interest payable	137	81
Employee benefit accrual	104	23
Insurance reserves	36	12
Other	1,042	232
	$ 3,758	$ 926

December 31,	2018	2017
Other Long-term Liabilities		
Pension and postretirement (Note 18)	$ 2,004	$ 851
Tax liabilities for uncertain tax positions	191	35
Tax Act liabilities for deemed repatriation (Note 7)	265	388
Interest and penalties for uncertain tax positions (Note 7)	48	8
Insurance reserves	24	23
Other	903	283
	$ 3,435	$ 1,588

December 31,	2018	2017
Deferred Credits		
Deferred income taxes (Note 7)	$ 7,432	$ 1,167
Other	179	69
	$ 7,611	$ 1,236

December 31,	2018	2017
Accumulated Other Comprehensive Income (Loss)		
Cumulative translation adjustment - net of taxes:		
North America (h)	$ (955)	$ (885)
South America (h)	(2,347)	(2,004)
Europe (h)	(185)	(398)
Asia (h)	(300)	(151)
Surface Technologies	(34)	(17)
Linde AG (h)	231	—
	(3,590)	(3,455)
Derivatives – net of taxes	(2)	(1)
Unrealized gain (loss) on securities	(1)	—
Pension/OPEB funded status obligation (net of $292 million and $347 million tax benefit in 2018 and 2017) (Note 18)	(863)	(642)
	$ (4,456)	$ (4,098)

(a) Capitalized software has been reclassified from property plant and equipment – net to other intangibles – net. The associated expense has been reclassified from depreciation expense to amortization expense. The impact of this reclassification was $40 million and $43 million in 2018 and 2017, respectively. 2018 depreciation and amortization expense include $225 million and $121 million, respectively, of Linde AG purchase accounting impacts.

(b) In December 2018, Linde repaid $600 million of 4.50% notes due 2019 and €600 million of 1.50% notes due 2020 resulting in a $26 million interest charge ($20 million after-tax, or $0.06 per diluted share). In February 2016, Linde redeemed $325 million of 5.20% notes due March 2017 resulting in a $16 million interest charge ($10 million after-tax, or $0.04 per diluted share).

(c) Noncontrolling interests from continuing operations includes a $35 million charge in 2018 related to the 8% of Linde AG Shares which were not tendered in the Exchange Offer (see Note 3).

(d) Provisions to the allowance for doubtful accounts were $25 million, $33 million, and $41 million in 2018, 2017, and 2016, respectively. The allowance activity in each period related primarily to write-offs of uncollectible amounts, net of recoveries and currency movements.

(e) Includes estimated income tax payments of $172 million and $58 million in 2018 and 2017, respectively.

(f) Consists primarily of insurance contracts and other investments to be utilized for non-qualified pension and OPEB obligations.

(g) Long-term receivables are not material and are largely reserved. The balances at December 31, 2018 and 2017 are net of reserves of $46 million and $51 million, respectively. The amounts in both periods relate primarily to long-term notes receivable from customers and government receivables in Brazil. Collectability is reviewed regularly and uncollectible amounts are written-off as appropriate.

(h) North America consists of currency translation adjustments in Canada and Mexico. South America relates primarily to Brazil and Argentina. Europe relates primarily to Spain, Russia and Germany. Asia relates primarily to China, India and Korea. Linde AG includes currency movements since the merger date and relates primarily to the Euro.

NOTE 10. PROPERTY, PLANT AND EQUIPMENT – NET

Significant classes of property, plant and equipment are as follows (2018 reflects the impact of the Linde AG merger on October 31, 2018 (see Notes 1 and 3) and the divestiture of Praxair's European industrial gases business on December 3, 2018 (see Notes 1, 3 and 4)):

(Millions of dollars) December 31,	Depreciable Lives (Yrs)	2018	2017
Production plants (primarily 15-year life) (a)	10-20	$ 24,726	$ 16,258
Storage tanks	15-20	4,061	2,620
Transportation equipment and other (b)	3-15	2,654	1,588
Cylinders	10-30	3,955	1,875
Buildings	25-40	3,083	1,202
Land and improvements (c)	0-20	1,162	589
Construction in progress		2,296	1,159
		41,937	25,291
Less: accumulated depreciation		(12,220)	(13,466)
		$ 29,717	$ 11,825

(a) - Depreciable lives of production plants related to long-term customer supply contracts are consistent with the contract lives.

(b) - Capitalized software was previously reported in the transportation equipment and other line. At December 31, 2018, capitalized software balances were reported within other intangibles—net (see Note 12). Prior period amounts have been reclassified to conform to current year presentation (see Note 2).

(c) - Land is not depreciated.

The gross amount of assets recorded under capital leases by major class are as follows:

(Millions of dollars) December 31,	2018	2017
Production plants	$ 1	$ 2
Transportation equipment and other	49	1
Buildings	24	—
	$ 74	$ 3

NOTE 11. GOODWILL

Changes in the carrying amount of goodwill for the years ended December 31, 2018 and 2017 were as follows (2018 reflects the impact of the Linde AG merger on October 31, 2018 (see Notes 1 and 3) and the divestiture of Praxair's European industrial gases business on December 3, 2018 (see Notes 1 and 4)):

(Millions of dollars)	North America	South America	Europe	Asia	Surface Technologies	Linde AG	Total
Balance, December 31, 2016	$ 2,165	$ 132	$ 629	$ 58	$ 133	$ —	$ 3,117
Acquisitions (Note 3)	24	—	—	—	—	—	24
Purchase adjustments & other	—	(1)	1	—	—	—	—
Foreign currency translation	13	(2)	68	3	10	—	92
Balance, December 31, 2017	$ 2,202	$ 129	$ 698	$ 61	$ 143	$ —	$ 3,233
Addition due to Merger (Note 3)	—	—	—	—	—	24,146	24,146
Acquisitions (Note 3)	5	—	—	—	—	—	5
Purchase adjustments & other	12	—	—	—	—	—	12
Foreign currency translation	(11)	(23)	(37)	—	(5)	174	98
Disposals (Note 4)	—	—	(620)	—	—	—	(620)
Balance, December 31, 2018	$ 2,208	$ 106	$ 41	$ 61	$ 138	$ 24,320	$ 26,874

Linde has performed its goodwill impairment tests annually during the second quarter of each year, and historically has determined that the fair value of each of its reporting units was substantially in excess of its carrying value. For the 2018 test, Linde applied the FASB's accounting guidance which allows the company to first assess qualitative factors to determine the extent of additional quantitative analysis, if any, that may be required to test goodwill for impairment. Based on the qualitative assessments performed, Linde concluded that it was more likely than not that the fair value of each reporting unit substantially exceeded its carrying value and therefore, further quantitative analysis was not required. As a result, no impairment was recorded. There were no indicators of impairment through December 31, 2018.

NOTE 12. OTHER INTANGIBLE ASSETS

The following is a summary of Linde's other intangible assets at December 31, 2018 and 2017 (2018 reflects the impact of the Linde AG merger on October 31, 2018 (see Notes 1 and 3) and the divestiture of Praxair's European industrial gases business on December 3, 2018 (see Notes 1 and 4)):

(Millions of dollars) ***For the year ended December 31, 2018***	Customer Relationships	Brands/ Tradenames	Other Intangible Assets	Total
Cost:				
Balance, December 31, 2017	$ 772	$ 46	$ 619	$ 1,437
Additions due to merger (Note 3)	12,555	2,226	811	15,592
Additions (primarily acquisitions)	1	—	26	27
Foreign currency translation	121	24	(9)	136
Disposals (Note 4)	(141)	(8)	(78)	(227)
Other*	(20)	—	(3)	(23)
Balance, December 31, 2018	13,288	2,288	1,366	16,942
Less: accumulated amortization:				
Balance, December 31, 2017	(260)	(18)	(374)	(652)
Amortization expense (Note 9)	(135)	(9)	(71)	(215)
Foreign currency translation	4	—	8	12
Disposals (Note 4)	55	5	52	112
Other*	19	—	5	24
Balance, December 31, 2018	(317)	(22)	(380)	(719)
Net intangible asset balance at December 31, 2018	$ 12,971	$ 2,266	$ 986	$ 16,223

(Millions of dollars) ***For the year ended December 31, 2017***	Customer Relationships	Brands/ Tradenames	Other Intangible Assets	Total
Cost:				
Balance, December 31, 2016	$ 751	$ 45	$ 586	$ 1,382
Additions (primarily acquisitions)	1		40	41
Foreign currency translation	22	1	10	33
Other*	(2)		(17)	(19)
Balance, December 31, 2017	772	46	619	1,437
Less: accumulated amortization:				
Balance, December 31, 2016	(214)	(15)	(342)	(571)
Amortization expense (Note 9)	(40)	(3)	(48)	(91)
Foreign currency translation	(8)		(6)	(14)
Other*	2		22	24
Balance, December 31, 2017	(260)	(18)	(374)	(652)
Net balance at December 31, 2017	$ 512	$ 28	$ 245	$ 785

* Other primarily relates to the write-off of fully amortized assets, purchase accounting adjustments and reclassifications.

There are no expected residual values related to these intangible assets. Amortization expense for the years ended December 31, 2018, 2017 and 2016 was $215 million, $91 million and $94 million, respectively. The remaining weighted-average amortization period for intangible assets is approximately 26 years.

Total estimated annual amortization expense related to finite lived intangibles is as follows:

(Millions of dollars)		
2019	$	848
2020		830
2021		790
2022		648
2023		605
Thereafter		10,833
Total amortization related to finite-lived intangible assets		14,554
Indefinite-lived intangible assets at December 31, 2018		1,669
Net intangible assets at December 31, 2018	$	16,223

NOTE 13. DEBT

The following is a summary of Linde's outstanding debt at December 31, 2018 and 2017 (2018 reflects the impact of the Linde AG merger on October 31, 2018 (see Notes 1 and 3)).

(Millions of dollars)	2018	2017
Short-term		
Commercial paper and U.S. bank borrowings	$ 829	$ 202
Other bank borrowings (primarily international)	656	36
Total short-term debt	1,485	238
Long-term (a)		
1.20% Notes due 2018 (b)	—	498
1.25% Notes due 2018 (c)	—	475
1.90% Notes due 2019 (f)	500	500
Variable rate notes due 2019	150	—
1.75% Euro denominated notes due 2019 (e)	578	—
4.25% AUD denominated notes due 2019	71	—
4.50% Notes due 2019 (d)	—	599
Variable rate notes due 2019	200	—
1.50% Euro denominated notes due 2020 (d)	—	717
2.25% Notes due 2020	299	299
1.75% Euro denominated notes due 2020 (e)	1,185	—
0.634% Euro denominated notes due 2020	58	—
4.05% Notes due 2021	499	498
3.875% Euro denominated notes due 2021 (e)	755	—
3.00% Notes due 2021	498	497
0.250% Euro denominated notes due 2022 (e)	1,156	—
2.45% Notes due 2022	598	598
2.20% Notes due 2022	498	498
2.70% Notes due 2023	498	498
2.00% Euro denominated notes due 2023 (e)	805	—
5.875% GBP denominated notes due 2023 (e)	454	—
1.20% Euro denominated notes due 2024	628	658
1.875% Euro denominated notes due 2024 (e)	373	—
2.65% Notes due 2025	398	397
1.625% Euro denominated notes due 2025	568	594
3.20% Notes due 2026	725	725
3.434% Notes due 2026	195	—
1.652% Euro denominated notes due 2027	96	—
1.00% Euro denominated notes due 2028 (e)	861	—
1.90% Euro denominated notes due 2030	121	—
3.55% Notes due 2042	662	662
Other	10	12
International bank borrowings	291	33
Obligations under capital lease	81	4
	13,811	8,762
Less: current portion of long-term debt	(1,523)	(979)
Total long-term debt	12,288	7,783
Total debt	$ 15,296	$ 9,000

(a) Amounts are net of unamortized discounts, premiums and/or debt issuance costs as applicable.

(b) In March 2018, Linde repaid $500 million of 1.20% notes that became due.

(c) In November 2018, Linde repaid $475 million of 1.25% notes that became due and the associated interest rate swap was settled. See Note 14 for additional information regarding interest rate swaps.

(d) In December 2018, Linde repaid $600 million of 4.50% notes due 2019 and €600 million of 1.50% notes due 2020 resulting in a $26 million interest charge ($20 million after-tax, or $0.06 per diluted share). Also during December Linde repaid €750 million of 3.125% notes acquired in the merger that became due in December 2018.

(e) The fair value decrease in debt related to hedge accounting for the year ended December 31, 2018 was $14 million; the impact in 2017 was not significant. See Note 14 for additional information.

(f) In February 2019, Linde repaid $500 million of 1.90% notes that became due.

Credit Facilities

At December 31, 2018, the company has the following major credit facilities available for future borrowing:

Millions of dollars	Total Facility	Borrowings Outstanding	Available for Borrowing	Expires
Praxair Senior Unsecured	$ 2,500	$ —	$ 2,500	Dec-19
Linde AG Revolving Credit Facility	€ 2,500	$ —	€ 2,500	Jul-20

In June 2017, Praxair entered into a $500 million 364-day revolving credit facility with a syndicate of banks which expired in June 2018 and was not renewed.

The $2.5 billion and €2.5 billion credit facilities are with major financial institutions and are non-cancelable by the issuing financial institutions until their respective maturities. There are no financial covenants contained in the agreement relating to the Linde AG €2.5 billion credit facility; the only financial covenant for the senior unsecured $2.5 billion credit facility requires the company not to exceed a maximum 70% leverage ratio. No borrowings were outstanding under the credit agreements as of December 31, 2018.

Covenants

Linde's $2.5 billion senior unsecured credit facility and long-term debt agreements contain various covenants which may, among other things, restrict certain types of mergers and changes in beneficial ownership of the company, and the ability of the company to incur or guarantee debt, sell or transfer certain assets, create liens against assets, enter into sale and leaseback agreements, or pay dividends and make other distributions beyond certain limits. These agreements also require Linde to not exceed a maximum 70% leverage ratio defined in the agreements as the ratio of consolidated total debt to the sum of consolidated total debt plus consolidated shareholders' equity of the company. For purposes of the leverage ratio calculation, consolidated shareholders' equity excludes changes in the cumulative foreign currency translation adjustments after June 30, 2011. At December 31, 2018, the actual leverage ratio, as calculated according to the agreement, was 34% and the company is in compliance with all financial covenants. Also, there are no material adverse change clauses or other subjective conditions that would restrict the company's ability to borrow under the agreement.

Other Debt Information

As of December 31, 2018 and 2017, the weighted-average interest rate of short-term borrowings outstanding was 0.6% and 2.1%, respectively. The decrease in the rate year-over-year is related primarily to significant European commercial paper balances at negative interest rates, which offsets the impact of higher rates on other bank borrowings.

Expected maturities of long-term debt are as follows:

(Millions of dollars)	
2019	$ 1,523
2020	1,642
2021	1,864
2022	2,336
2023	1,788
Thereafter	4,658
	$ 13,811

As of December 31, 2018, $74 million of Linde's assets were pledged as collateral for $81 million of long-term debt, including the current portion of long-term debt. The carrying amounts of assets pledged as collateral for long-term debt are disclosed primarily under property, plant, and equipment and are included within buildings and transportation equipment and other.

In February 2016, Linde redeemed $325 million of 5.20% notes due March 2017 resulting in a $16 million interest charge ($10 million after-tax, or $0.04 per diluted share).

See Note 15 for the fair value information related to debt.

NOTE 14. FINANCIAL INSTRUMENTS

In its normal operations, Linde is exposed to market risks relating to fluctuations in interest rates, foreign currency exchange rates, energy costs and to a lesser extent precious metal prices. The objective of financial risk management at Linde is to minimize the negative impact of such fluctuations on the company's earnings and cash flows. To manage these risks, among other strategies, Linde routinely enters into various derivative financial instruments ("derivatives") including interest-rate swap and treasury rate lock agreements, currency-swap agreements, forward contracts, currency options, and commodity-swap agreements. These instruments are not entered into for trading purposes and Linde only uses commonly traded and non-leveraged instruments.

There are three types of derivatives that the company enters into: (i) those relating to fair-value exposures, (ii) those relating to cash-flow exposures, and (iii) those relating to foreign currency net investment exposures. Fair-value exposures relate to changes in the fair value of recognized assets or liabilities, primarily financial assets and financial liabilities, and firm commitments. Cash-flow exposures relate to the variability of future cash flows associated with recognized assets or liabilities, or forecasted transactions for which no underlying exposure is yet reported in the consolidated balance sheet. Net investment exposures relate to the impact of foreign currency exchange rate changes on the carrying value of net assets denominated in foreign currencies.

When a derivative is executed and hedge accounting is appropriate, it is designated as either a fair-value hedge, cash-flow hedge, or a net investment hedge. Currently, Linde designates the majority of interest-rate and treasury-rate locks as hedges for accounting purposes; however, currency contracts are generally not designated as hedges for accounting purposes unless they are related to forecasted transactions. Whether designated as hedges for accounting purposes or not, all derivatives are linked to an appropriate underlying exposure. On an ongoing basis, the company assesses the hedge effectiveness of all derivatives designated as hedges for accounting purposes to determine if they continue to be highly effective in offsetting changes in fair values or cash flows of the underlying hedged items. If it is determined that the hedge is not highly effective, then hedge accounting will be discontinued prospectively.

Counterparties to Linde's derivatives are major banking institutions with credit ratings of investment grade or better. As of year-end, Linde AG had existing Credit Support Annexes ("CSAs") in place with their principal counterparties to minimize potential default risk and to mitigate counterparty risk. Under the CSAs, the fair values of derivatives for the purpose of interest rate and currency management are collateralized with cash on a regular basis. As of December 31, 2018, the impact of such collateral posting arrangements on the fair value of derivatives was insignificant. Management believes the risk of incurring losses on derivative contracts related to credit risk is remote and any resulting losses would be immaterial.

The following table is a summary of the notional amount and gross fair values of derivatives outstanding at December 31, 2018 and 2017 for consolidated subsidiaries:

(Millions of dollars)	Notional Amounts		Fair Value			
			Assets (a)		Liabilities (a)	
December 31,	2018	2017	2018	2017	2018	2017
Derivatives Not Designated as Hedging Instruments:						
Currency contracts:						
Balance sheet items	$ 6,357	$ 2,693	$ 24	$ 16	$ 42	$ 16
Forecasted transactions	945	—	15	—	17	—
Interest rate/Cross-currency interest rate swaps	2,110	—	112	—	40	—
Commodity contracts	—	—	27	—	9	—
Derivatives Designated as Hedging Instruments:						
Currency contracts:						
Balance sheet items	$ —	$ 38	$ —	$ —	$ —	$ 2
Forecasted transactions	158	4	2	1	3	—
Interest rate contracts:						
Interest rate swaps	2,164	475	13	—	10	—
Total Hedges	$ 2,322	$ 517	$ 15	$ 1	$ 13	$ 2
Total Derivatives	$ 11,734	$ 3,210	$ 193	$ 17	$ 121	$ 18

(a) Current assets of $67 million are recorded in prepaid and other current assets; long-term assets of $126 million are recorded in other long-term assets; current liabilities of $78 million are recorded in other current liabilities; and long-term liabilities of $43 million are recorded in other long-term liabilities.

Balance Sheet Items

Foreign currency contracts related to balance sheet items consist of forward contracts entered into to manage the exposure to fluctuations in foreign-currency exchange rates on recorded balance sheet assets and liabilities denominated in currencies other than the functional currency of the related operating unit. Certain forward currency contracts are entered into to protect underlying monetary assets and liabilities denominated in foreign currencies from foreign exchange risk and are not designated as hedging instruments. For balance sheet items that are not designated as hedging instruments, the fair value adjustments on these contracts are offset by the fair value adjustments recorded on the underlying monetary assets and liabilities.

Linde also enters into forward currency contracts, which are designated as hedging instruments, to limit the cash flow exposure on certain foreign-currency denominated intercompany loans. The fair value adjustments on these contracts are recorded to AOCI, with the effective portion immediately reclassified to earnings to offset the fair value adjustments on the underlying debt instrument.

Forecasted Transactions

Foreign currency contracts related to forecasted transactions consist of forward contracts entered into to manage the exposure to fluctuations in foreign-currency exchange rates on (1) forecasted purchases of capital-related equipment and services, (2) forecasted sales, or (3) other forecasted cash flows denominated in currencies other than the functional currency of the related operating units. For forecasted transactions that are designated as cash flow hedges, fair value adjustments are recorded to AOCI with deferred amounts reclassified to earnings over the same time period as the income statement impact of the associated purchase. For forecasted transactions that do not qualify for cash flow hedging relationships, fair value adjustments are recorded directly to earnings.

Interest Rate/Cross-Currency Interest Rate Swaps

Cross-currency interest rate swaps are entered into to limit the foreign currency risk of future principal and interest cash flows associated with intercompany loans, and to a more limited extent bonds, denominated in non-functional currencies. The fair value adjustments on the cross-currency swaps are recorded to earnings, where they are offset by fair value adjustments on the underlying intercompany loan or bond.

Commodity Contracts

Commodity contracts are entered into to manage the exposure to fluctuations in commodity prices, which arise in the normal course of business from its procurement transactions. To reduce the extent of this risk, Linde enters into a limited number of electricity, natural gas, and propane gas derivatives. As of December 31, 2018 these commodity contracts were not designated as cash flow hedges. Therefore, the fair value adjustments on these contracts are recorded to earnings and are eventually offset by the income statement impact of the underlying commodity purchase.

Net investment hedges

In 2014, Praxair designated the €600 million 1.50% Euro-denominated notes due 2020 and the €500 million ($568 million as of December 31, 2018) 1.625% Euro-denominated notes due 2025, as a hedge of the net investment position in its European operations. In 2016, Praxair designated an incremental €550 million ($628 million as of December 31, 2018) 1.20% Euro-denominated notes due 2024 as an additional hedge of the net investment position in its European operations.

On October 31, 2018 Praxair and Linde AG combined their respective businesses through an all-stock transaction and became subsidiaries of the company. In December 2018, as a condition of the merger, Praxair completed the sale of the majority of its European operations to Taiyo Nippon Sanso Corporation. This significantly reduced the net investment position in Praxair's European operations. During the same month Praxair also repaid the €600 million 1.50% Euro-denominated notes due 2020, which significantly reduced the debt balance designated as a hedge. In response to the above transactions, Praxair de-designated €965 million of its Euro-denominated notes. At December 31, 2017 Praxair had de-designated €200 million of its Euro-denominated notes in response to the U.S. government-enacted Tax Cuts and Jobs Act and associated decrease in the tax rate.

These Euro-denominated debt instruments reduce the company's exposure to changes in the currency exchange rate on investments in foreign subsidiaries with Euro functional currencies. Since hedge inception, exchange rate movements have reduced long-term debt by $202 million (long-term debt decreased by $105 million during the year ended December 31, 2018), with the offsetting gain shown within the cumulative translation component of AOCI in the consolidated balance sheets and the consolidated statements of comprehensive income.

Interest Rate Swaps

Linde uses interest rate swaps to hedge the exposure to changes in the fair value of financial assets and financial liabilities as a result of interest rate changes. These interest rate swaps effectively convert fixed-rate interest exposures to variable rates; fair value adjustments are recognized in earnings along with an equally offsetting charge/benefit to earnings for the changes in the fair value of the underlying financial asset or financial liability. The following table summarizes the outstanding interest rate swaps for Linde as of December 31, 2018:

	2018		2017	
(Millions of dollars)	US$ Derivative Notional	Change in Fair Value (b)	US$ Derivative Notional	Change in Fair Value
Underlying debt instrument:				
1.00% Euro denominated notes due 2028	$ 516	$ 8	$ —	$ —
1.25% Notes due 2018 (a)	—	—	475	—
0.250% Euro denominated notes due 2022	344	2	—	—
2.00% Euro denominated notes due 2023	287	2	—	—
3.875% Euro denominated notes due 2021	287	1	—	—
5.875% GBP denominated notes due 2023	254	1	—	—
1.75% Euro denominated notes due 2019	229	(1)	—	—
1.75% Euro denominated notes due 2020	132	—	—	—
1.875% Euro denominated notes due 2024	115	1	—	—
	$ 2,164	**$ 14**	**$ 475**	**$ —**

(a) At December 31, 2017, Praxair had one outstanding interest rate swap agreement with a $475 million notional amount related to the $475 million 1.25% notes maturing in November 2018. The increase in the fair value of this note was less than $1 million. In November 2018 the notes were repaid and the associated fixed-to-variable interest rate swap was settled.

(b) In connection with the merger, Linde AG's assets and liabilities were measured at estimated fair value as of October 31, 2018.

Terminated Treasury Rate Locks

The following table summarizes the unrecognized gains (losses) related to terminated treasury rate lock contracts:

(Millions of dollars)	Year Terminated	Original Gain / (Loss)	Unrecognized Gain / (Loss) (a) 12/31/2018	12/31/2017
Treasury Rate Locks				
Underlying debt instrument:				
$500 million 2.20% fixed-rate notes that mature in 2022 (b)	2012	$ (2)	$ —	$ (1)
$500 million 3.00% fixed-rate notes that mature in 2021 (b)	2011	(11)	(3)	(4)
$600 million 4.50% fixed-rate notes that mature in 2019 (b,c)	2009	16	—	3
Total – pre-tax			$ (3)	$ (2)
Less: income taxes			1	1
After- tax amounts			$ (2)	$ (1)

(a) The unrecognized gains / (losses) for the treasury rate locks are shown in accumulated other comprehensive income ("AOCI") and are being recognized on a straight line basis to interest expense – net over the term of the underlying debt agreements. Refer to the table below summarizing the impact of the company's consolidated statements of income and AOCI for current period gain (loss) recognition.

(b) The notional amount of the treasury rate lock contracts are equal to the underlying debt instrument with the exception of the treasury rate lock contract entered into to hedge the $600 million 4.50% fixed-rate notes that mature in 2019. The notional amount of this contract was $500 million.

(c) In December 2018, Linde repaid $600 million of 4.50% notes that mature in 2019. The unrecognized gain on the associated treasury rate lock was reclassified from other comprehensive income to interest expense.

Impact of derivative instruments on earnings and AOCI

The following table summarizes the impact of the company's derivatives not designated as hedging instruments on the consolidated statements of income:

(Millions of dollars)	Amount of Pre-Tax Gain (Loss) Recognized in Earnings *		
December 31,	**2018**	**2017**	**2016**
Derivatives Not Designated as Hedging Instruments			
Currency contracts:			
Balance sheet items:			
Debt-related	$ (118)	$ 121	$ 21
Other balance sheet items	3	—	4
Total	$ (115)	$ 121	$ 25

* The gains (losses) on balance sheet items are offset by gains (losses) recorded on the underlying hedged assets and liabilities. Accordingly, the gains (losses) for the derivatives and the underlying hedged assets and liabilities related to debt items are recorded in the consolidated statements of income as interest expense-net. The gains (losses) on other balance sheet items are recorded in the consolidated statements of income as other income (expenses)-net.

The following table summarizes the impact of the company's derivatives designated as hedging instruments that impact AOCI:

(Millions of dollars)	Amount of Gain (Loss) Recognized in AOCI			Amount of Gain (Loss) Reclassified from AOCI to the Consolidated Statement of Income		
December 31,	**2018**	**2017**	**2016**	**2018**	**2017**	**2016**
Derivatives Designated as Hedging Instruments**						
Currency contracts:						
Net investment hedge	$ —	$ —	$ (4)	$ —	$ —	$ —
Forecasted transactions	—	1	—	—	—	—
Balance sheet items	—	(1)	1	—	—	—
Interest rate contracts:						
Treasury rate locks	—	—	—	(1)	—	(1)
Total – Pre tax	$ —	$ —	$ (3)	$ (1)	$ —	$ (1)
Less: income taxes	—	—	—	—	—	1
Total—Net of Taxes	$ —	$ —	$ (3)	$ (1)	$ —	$ —

** The gains (losses) on net investment hedges are recorded as a component of AOCI within foreign currency translation adjustments in the consolidated balance sheets and consolidated statements of comprehensive income. The gains (losses) on forecasted purchases, balance sheet items, and treasury rate locks are recorded as a component of AOCI within derivative instruments in the consolidated balance sheets and the consolidated statements of comprehensive income. There was no ineffectiveness for these instruments during 2018 or 2017. The gains (losses) on net investment hedges are reclassified to earnings only when the related currency translation adjustments are required to be reclassified, usually upon sale or liquidation of the investment. The gains (losses) for interest rate contracts are reclassified to earnings as interest expense –net on a straight-line basis over the remaining maturity of the underlying debt. Net losses of less than $1 million are expected to be reclassified to earnings during 2019.

NOTE 15. FAIR VALUE DISCLOSURES

The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels as follows:

Level 1 – quoted prices in active markets for identical assets or liabilities
Level 2 – quoted prices for similar assets and liabilities in active markets or inputs that are observable
Level 3 – inputs that are unobservable (for example cash flow modeling inputs based on assumptions)

Assets and Liabilities Measured at Fair Value on a Recurring Basis

The following table summarizes assets and liabilities measured at fair value on a recurring basis at December 31, 2018 and 2017:

	Fair Value Measurements Using					
(Millions of dollars)	Level 1		Level 2		Level 3	
	2018	2017	2018	2017	2018	2017
Assets						
Derivative assets	$ —	$ —	$ 193	$ 17	$ —	$ —
Investments and securities *	22	—	—	—	30	—
Total	$ 22	$ —	$ 193	$ 17	$ 30	$ —
Liabilities						
Derivative liabilities	$ —	$ —	$ 121	$ 18	$ —	$ —

* Investments and securities are recorded in prepaid and other current assets in the company's consolidated balance sheets.

The fair values of the derivative assets and liabilities are based on market prices obtained from independent brokers or determined using quantitative models that use as their basis readily observable market parameters that are actively quoted and can be validated through external sources, including third-party pricing services, brokers and market transactions. Level 1 investments and securities are marketable securities traded on an exchange. Level 3 investments and securities consist of a venture fund. For the valuation, Linde uses the net asset value received as part of the fund's quarterly reporting, which for the most part is not based on quoted prices in active markets. In order to reflect current market conditions, Linde proportionally adjusts these by observable market data (stock exchange prices) or current transaction prices.

The following table summarizes the changes in level 3 investments and securities for the years ended December 31, 2018 and December 31, 2017. Gains (losses) recognized in earnings are recorded to interest expense – net in the company's consolidated statements of income.

(Millions of dollars)	2018
Balance at January 1	$ —
Merger impact	28
Gains (losses) recognized in earnings	2
Balance at December 31	$ 30

The fair value of cash and cash equivalents, short-term debt, accounts receivables-net, and accounts payable approximate carrying value because of the short-term maturities of these instruments.

The fair value of long-term debt is estimated based on the quoted market prices for the same or similar issues. Long-term debt is categorized within either Level 1 or Level 2 of the fair value hierarchy depending on the trading volume of the issues and whether or not they are actively quoted in the market as opposed to traded through over-the-counter transactions. Linde AG's long-term debt is primarily categorized within Level 1 measurements as the majority of the Linde AG bond portfolio is publicly traded. At December 31, 2018, the estimated fair value of Linde's long-term debt portfolio was $13,725 million versus a carrying value of $13,811 million. As Linde AG's assets and liabilities were measured at estimated fair value as of the merger date, differences between the carrying value and the fair value are insignificant; remaining differences are attributable to interest rate increases subsequent to when the debt was issued and relative to stated coupon rates. At December 31, 2017, the estimated fair value of Linde's long-term debt portfolio was $8,969 million versus a carrying value of $8,762 million.

NOTE 16. EQUITY AND NONCONTROLLING INTERESTS

Linde plc Shareholders' Equity

At December 31, 2018, Linde has total authorized share capital of €1,825,000 divided into 1,750,000,000 ordinary shares of €0.001 each, 25,000 A ordinary shares of €1.00 each, 25,000 deferred shares of €1.00 each and 25,000,000 preferred shares of €0.001 each.

At December 31, 2018 there were 551,310,272 and 547,241,630 of Linde plc ordinary shares issued and outstanding, respectively. At December 31, 2018 there were no shares of A ordinary shares, deferred shares or preferred shares issued or outstanding.

At December 31, 2017 there were 800,000,000 shares of Praxair common stock authorized (par value $0.01 per share) of which shares 383,230,625 were issued and 286,776,991 were outstanding at December 31, 2017. At December 31, 2017, there were 25,000,000 shares of Praxair preferred stock (par value $0.01 per share) authorized, of which no shares were issued and outstanding.

Linde's Board of Directors may from time to time authorize the issuance of one or more series of preferred stock and, in connection with the creation of such series, determine the characteristics of each such series including, without limitation, the preference and relative, participating, optional or other special rights, and the qualifications, limitations or restrictions of the series.

Merger of Praxair and Linde AG

Following is a summary of the Linde plc shareholders' equity transactions related to the merger:

	Ordinary Shares		Additional Paid in Capital	Treasury Stock	
(Dollar amounts in millions, shares in thousands)	Shares	Amount		Shares	Amount
Merger with Linde AG (a)	263,148	$ —	$ 43,288	—	$ —
Conversion of Praxair to Linde plc shares (b)	—	(3)	3	—	—
Cancellation of Praxair Treasury stock (c)	(95,324)	—	(7,113)	(95,324)	7,113
Impact of Linde AG merger	167,824	$ (3)	$ 36,178	(95,324)	$ 7,113

(a) The total fair value of consideration transferred for the merger was $43,288 million, resulting in an increase to "Additional paid-in capital" in stockholders' equity (see Note 3 for additional information).

(b) On October 31, 2018, the conversion of Praxair common stock and Linde AG common stock into Linde ordinary shares resulted in a $3 million decrease to "Ordinary Shares" with a corresponding increase to "Additional paid-in capital" in stockholders' equity.

(c) Each share of Praxair common stock held in treasury immediately prior to the merger was canceled. The elimination of Praxair's historical treasury stock at cost resulted in a $7,113 million decrease in "Treasury stock" and "Additional paid-in capital" in stockholders' equity.

As indicated above, in connection with the merger, Praxair and Linde AG common stock was converted into shares of Linde plc ordinary shares. The following table provides a summary of the share activity resulting from the merger:

(in thousands, except Linde AG exchange ratio)	
Linde plc shares exchanged for Linde AG shares	
Linde AG common stock tendered as of October 31, 2018 (i)	170,875
Business combination agreement exchange ratio (ii)	1.54
Linde plc ordinary shares issued in exchange for Linde AG	263,148
Linde plc shares issued to Praxair shareholders upon conversion	
Praxair shares outstanding at merger date	287,907
Total Linde plc shares issued at merger date	**551,055**

(i) Number of Linde AG shares tendered in the 2017 Exchange Offer.

(ii) Exchange ratio for Linde AG shares as set forth in the business combination agreement.

Other Linde plc Ordinary Share and Treasury Stock Transactions

Linde may issue new ordinary shares shares for dividend reinvestment and stock purchase plans and employee savings and incentive plans. The number of new Linde ordinary shares shares issued from merger date through December 31, 2018 was approximately 255 thousand shares. Prior to the merger, Praxair issued shares related to such activity out of treasury stock.

On December 10, 2018 the Linde board of directors approved the repurchase of $1.0 billion of its common stock under which Linde had repurchased 4,068,642 shares through December 31, 2018. Subsequently, on January 22, 2019 the company's board of directors approved the additional repurchase of $6.0 billion of its common stock.

Noncontrolling Interests

Noncontrolling interest ownership changes are presented within the consolidated statements of equity. The $186 million decrease during 2018 primarily relates to the sale of Praxair's industrial gases business in Europe (see Notes 1 and 4). The "Impact of Merger" line item of the consolidated statements of equity includes the fair value of the noncontrolling interests acquired from Linde AG, including the 8% of Linde AG shares which were not tendered in the Exchange Offer and are intended to be the subject of a cash-merger squeeze-out. See Note 3.

The $15 million increase during 2017 relates to additional funding provided to PG Technologies, LLC ("PGT") by the joint venture partner.

The $20 million increase during 2016 relates to the sale of an ownership interest in a majority-owned joint venture in India during the third quarter offset by the formation of PGT, a majority-owned joint venture with GE Aviation. The 2016 "Additions (Reductions)" line item of the consolidated statements of equity also includes an increase to Additional Paid-In Capital resulting from the sale of the noncontrolling interest to the PGT joint venture partner.

Redeemable Noncontrolling Interests

Noncontrolling interests with redemption features, such as put/sell options, that are not solely within the company's control ("redeemable noncontrolling interests") are reported separately in the consolidated balance sheets at the greater of carrying value or redemption value. For redeemable noncontrolling interests that are not yet exercisable, Linde calculates the redemption value by accreting the carrying value to the redemption value over the period until exercisable. If the redemption value is greater than the carrying value, any increase is adjusted directly to retained earnings and does not impact net income. At December 31, 2018, the redeemable noncontrolling interest balance includes one packaged gas distributor in the United States where the noncontrolling shareholder has a put option.

The following is a summary of redeemable noncontrolling interests for the years ended December 31, 2018, 2017 and 2016:

(Millions of dollars)	2018	2017	2016
Beginning Balance	$ 11	$ 11	$ 113
Net income	3	2	3
Distributions to noncontrolling interest	(1)	(3)	(2)
Redemption value adjustment/accretion	3	1	(6)
Foreign currency translation and other	—	—	7
Purchase/divestiture of noncontrolling interest *	—	—	(104)
Ending Balance	$ 16	$ 11	$ 11

* In June 2016, Linde acquired the remaining 34% stake in a Scandinavian joint venture for $104 million. The cash payment related to this acquisition is shown in the financing section of the consolidated statements of cash flows under the caption "Noncontrolling interest transactions and other" as there was no change in control.

NOTE 17. SHARE-BASED COMPENSATION

Share-based compensation expense was $62 million in 2018 ($59 million and $39 million in 2017 and 2016, respectively). The related income tax benefit recognized was $30 million in 2018 ($53 million and $32 million in 2017 and 2016, respectively). The expense was primarily recorded in selling, general and administrative expenses and no share-based compensation expense was capitalized.

Summary of Plans

The 2009 Praxair, Inc. Long-Term Incentive Plan was initially adopted by the board of directors and shareholders of Praxair, Inc. on April 28, 2009 and has been amended since its initial adoption ("the 2009 Plan"). Upon completion of the business combination of Praxair, Inc. with Linde AG on October 31, 2018, the 2009 Plan was assumed by the company. Prior to April 28, 2009, Praxair, Inc. granted equity awards under the 2002 Praxair, Inc. Long-Term Incentive Plan , ("the 2002 Plan") which was also assumed by the company upon completion of the business combination. The 2009 Plan permits awards of stock options, stock appreciation rights, restricted stock and restricted stock units, performance-based stock units and other equity awards to eligible officer and non-officer employees and non-employee directors of the company and its affiliates. As of December 31, 2018, 8,009,603 shares remained available for equity grants under the 2009 Plan, of which 2,600,000 shares may be granted as awards other than options or stock appreciation rights.

In 2005, the board of directors and shareholders of Praxair, Inc. adopted the 2005 Equity Compensation Plan for Non-Employee Directors of Praxair, Inc. ("the 2005 Plan"). Upon completion of the business combination in October 2018, the 2005 Plan was also assumed by the company. Under the 2005 Plan, the aggregate number of shares available for option and other equity grants was limited to a total of 500,000 shares. The 2005 Plan expired on April 30, 2010, by its own terms, and no shares were available for grant thereafter.

Upon the completion of the business combination, all options outstanding under the 2009 Plan, the 2002 Plan and the 2005 Plan were converted into options to acquire the same number of shares of the company and at the same exercise price per share that applied prior to the business combination.

Exercise prices for options granted under the 2009 Plan may not be less than the closing market price of the company's ordinary shares on the date of grant and granted options may not be re-priced or exchanged without shareholder approval. Options granted under the 2009 Plan subject only to time vesting requirements may become partially exercisable after a minimum of one year after the date of grant but may not become fully exercisable until at least three years have elapsed from the date of grant, and all options have a maximum duration of ten years. Options granted under predecessor plans had similar terms.

In connection with the business combination, on October 31, 2018 the company's Board of Directors adopted the Long Term Incentive Plan of Linde plc ("the LTIP 2018"), the purpose of which is to replace certain outstanding Linde AG equity based awards that were terminated. Under the LTIP 2018, the aggregate number of shares available for replacement option rights and replacement restricted share units was set at 473,128. As of December 31, 2018, all shares remained available for grant, as the Company is not obligated to make these replacement awards until 2019.

Exercise prices for the replacement option rights to be granted in 2019 under the LTIP 2018 will be equal to EUR 1.67 as prescribed in the business combination agreement. Each replacement option right granted under the LTIP 2018 will be subject to vesting based on continued service until the end of the four-year waiting period applicable to the relevant Linde AG award that had been granted before the business combination. After vesting, each option right will be exercisable for one year.

In order to satisfy option exercises and other equity grants, the Company may issue authorized but previously unissued shares or it may issue treasury shares.

Stock Option Fair Value

The company utilizes the Black-Scholes Options-Pricing Model to determine the fair value of stock options consistent with that used in prior years. Management is required to make certain assumptions with respect to selected model inputs, including anticipated changes in the underlying stock price (i.e., expected volatility) and option exercise activity (i.e., expected life). Expected volatility is based on the historical volatility of the company's stock over the most recent period commensurate with the estimated expected life of the company's stock options and other factors. The expected life of options granted, which represents the period of time that the options are expected to be outstanding, is based primarily on historical exercise experience. The expected dividend yield is based on the company's most recent history and expectation of dividend payouts. The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant for a period commensurate with the estimated expected life. If factors change and result in different assumptions in future periods, the stock option expense that the company records for future grants may differ significantly from what the company has recorded in the current period.

The weighted-average fair value of options granted during 2018 was $19.29 ($12.40 in 2017 and $8.91 in 2016) based on the Black-Scholes Options-Pricing model. The increase in grant date fair value year-over-year is primarily attributable to an increase in the company's stock price.

The following weighted-average assumptions were used to value the grants in 2018, 2017 and 2016:

Year Ended December 31,	2018	2017	2016
Dividend yield	2.1%	2.7%	2.9%
Volatility	14.4%	14.0%	14.4%
Risk-free interest rate	2.67%	2.13%	1.41%
Expected term years	5	6	6

The following table summarizes option activity under the plans as of December 31, 2018 and changes during the period then ended (averages are calculated on a weighted basis; life in years; intrinsic value expressed in millions):

Activity	Number of Options (000's)	Average Exercise Price	Average Remaining Life	Aggregate Intrinsic Value
Outstanding at January 1, 2018	10,787	$ 108.70		
Granted	1,625	154.00		
Exercised	(1,714)	95.25		
Cancelled or expired	(74)	131.91		
Outstanding at December 31, 2018	10,624	$ 117.65	5.9	$ 408
Exercisable at December 31, 2018	7,065	$ 111.16	4.7	$ 317

The aggregate intrinsic value represents the difference between the company's closing stock price of $156.04 as of December 31, 2018 and the exercise price multiplied by the number of in the money options outstanding as of that date. The total intrinsic value of stock options exercised during 2018 was $113 million ($137 million and $82 million in 2017 and 2016, respectively).

Cash received from option exercises under all share-based payment arrangements for 2018 was $66 million ($107 million and $128 million in 2017 and 2016, respectively). The cash tax benefit realized from share-based compensation totaled $30 million for 2018 ($51 million and $32 million cash tax benefit in 2017 and 2016, respectively).

As of December 31, 2018, $19 million of unrecognized compensation cost related to non-vested stock options is expected to be recognized over a weighted-average period of approximately 1 year.

Performance-Based and Restricted Stock Awards

No performance-based stock awards were granted in 2018 as restricted stock units were granted in place of performance-based stock awards. In years prior to 2018, the company granted performance-based stock awards under the 2009 Plan to senior management that vest, subject to the attainment of pre-established minimum performance criteria, principally on the third anniversary of their date of grant. These awards were tied to either return on capital ("ROC") performance or relative total shareholder return ("TSR") performance versus that of the S&P 500. The actual number of shares issued in settlement of a vested award can range from zero to 200 percent of the target number of shares granted based upon the company's attainment of specified performance targets at the end of a three-year period. Compensation expense related to these awards is recognized over the three-year performance period based on the fair value of the closing market price of the company's ordinary shares on the date of the grant and the estimated performance that will be achieved. Compensation expense for ROC awards were adjusted during the three-year performance period based upon the estimated performance levels that will be achieved. TSR awards were measured at their grant date fair value and not subsequently re-measured.

The weighted-average fair value of ROC performance-based stock awards granting during 2017 and 2016 was $109.68 and $93.46, respectively. These fair values are based on the closing market price of Linde's ordinary shares on the grant date adjusted for dividends that will not be paid during the vesting period.

The weighted-average fair value of performance-based stock tied to relative TSR performance granted during 2017 was $124.12 ($124.18 in 2016), and was estimated using a Monte Carlo simulation performed as of the grant date.

Upon completion of the merger, each outstanding ROC and TSR performance-based award was converted into a Linde RSU based on performance achieved as of immediately prior to the closing of the merger, and became subject to service-vesting conditions only. This resulted in the conversion of 435,000 performance-based shares into 704,000 restricted stock units. Compensation expense related to these awards will continue to be recognized over the remainder of the respective three-year service period.

There were 278,907 restricted stock units granted to employees by Praxair during 2018. The weighted-average fair value of restricted stock units granted during 2018 was $144.86 ($111.95 in 2017 and $98.18 in 2016). These fair values are based on the closing market price of Linde's ordinary shares on the grant date adjusted for dividends that will not be paid during the vesting period. Compensation expense related to the restricted stock units is recognized over the vesting period. These awards were converted into equivalent Linde restricted stock units at the time of the business combination.

The following table summarizes non-vested performance-based and restricted stock award activity as of December 31, 2018 and changes during the period then ended (shares based on target amounts, averages are calculated on a weighted basis):

	Performance-Based		Restricted Stock	
	Number of Shares (000's)	Average Grant Date Fair Value	Number of Shares (000's)	Average Grant Date Fair Value
Non-vested at January 1, 2018	665	$ 113.40	264	$ 107.56
Granted	—	—	279	144.86
Vested	(79)	119.98	(153)	117.67
Award conversions	(435)	—	704	—
Cancelled and Forfeited	(151)	110.29	(23)	111.41
Non-vested at December 31, 2018	—	$ —	1,071	$ 118.84

There are approximately 12 thousand restricted stock shares that are non-vested at December 31, 2018 which will be settled in cash due to foreign regulatory limitations. The liability related to these grants reflects the current estimate of performance that will be achieved and the current ordinary shares price.

As of December 31, 2018, $30 million of unrecognized compensation cost related to the restricted stock awards is expected to be recognized primarily through the first quarter of 2021.

NOTE 18. RETIREMENT PROGRAMS

Defined Benefit Pension Plans – U.S.

Linde has two main U.S. retirement programs which are non-contributory defined benefit plans: the Linde Pension Plan and the CBI Pension Plan. The latter program benefits primarily former employees of CBI Industries, Inc. which Linde acquired in 1996. Effective July 1, 2002, the Linde Pension Plan was amended to give participating employees a one-time choice to remain covered by the old formula or to elect coverage under a new formula. The old formula is based predominantly on years of service, age and compensation levels prior to retirement, while the new formula provides for an annual contribution to an individual account which grows with interest each year at a predetermined rate. Also, this new formula applies to all new employees hired after April 30, 2002 into businesses adopting this plan. The U.S. and international pension plan assets are comprised of a diversified mix of investments, including domestic and international corporate equities, government securities and corporate debt securities. Linde has several plans that provide supplementary retirement benefits primarily to higher level employees that are unfunded and are nonqualified for federal tax purposes. Pension coverage for employees of certain of Linde's international subsidiaries generally is provided by those companies through separate plans. Obligations under such plans are primarily provided for through diversified investment portfolios, with some smaller plans provided for under insurance policies or by book reserves.

Defined Benefit Pension Plans – International

Linde has international, defined benefit commitments primarily in Germany and the United Kingdom (U.K.). The defined benefit commitments in Germany relate to old age pensions, invalidity pensions and surviving dependents pensions. These commitments also take into account vested rights for periods of service prior to January 1, 2002 based on earlier final-salary pension plan rules. In addition, there are direct commitments in respect of the salary conversion scheme for the form of cash balance plans. The resulting pension payments are calculated on the basis of an interest guarantee and the performance of the corresponding investment. There are no minimum funding requirements. The pension obligations in Germany are partly funded by a Contractual Trust Agreement (CTA). Defined benefit commitments in the U.K. prior to July 1, 2003 are earnings-related and dependent on the period of service. Such commitments relate to old age pensions,

invalidity pensions and surviving dependents pensions. Beginning in April 1, 2011, the amount of future increases in inflation-linked pensions and of increases in pensionable emoluments was restricted.

Multi-employer Pension Plans

In the United States Linde participates in six multi-employer defined benefit pension plans ("MEPs"), pursuant to the terms of collective bargaining agreements, covering approximately 200 union-represented employees. The collective bargaining agreements expire on different dates through 2021. In connection with such agreements, the company is required to make periodic contributions to the MEPs in accordance with the terms of the respective collective bargaining agreements. Linde's participation in these plans is not material either at the plan level or in the aggregate. Linde's contributions to these plans were $2 million in 2018, 2017, and 2016 (these costs are not included in the tables that follow). For all MEPs, Linde's contributions were significantly less than 1% of the total contributions to each plan for 2017 and 2016. Total 2018 contributions were not yet available from the MEPs.

Linde has obtained the most recently available Pension Protection Act ("PPA") annual funding notices from the Trustees of the MEPs. The PPA classifies MEPs as either Red, Yellow or Green zone plans. Among other factors, plans in the Red zone are generally less than 65 percent funded with a projected insolvency date within the next twenty years; plans in the Yellow zone are generally 65 to 80 percent funded; and plans in the Green zone are generally at least 80 percent funded. According to the most current data available, three of the MEPs that the company participates in are in a Red zone status and three are in a Green zone status. As of December 31, 2018, the three Red Zone plans have pending or have implemented financial improvement or rehabilitation plans. Linde does not currently anticipate significant future obligations due to the funding status of these plans. If Linde determined it was probable that it would withdraw from an MEP, the company would record a liability for its portion of the MEP's unfunded pension obligations, as calculated at that time. Historically, such withdrawal payments have not been significant.

Defined Contribution Plans

Linde's U.S. business employees are eligible to participate in the Linde defined contribution savings plan. Employees may contribute up to 40% of their compensation, subject to the maximum allowable by IRS regulations. For the U.S. packaged gases business, company contributions to this plan are calculated as a percentage of salary based on age plus service. U.S. employees other than those in the packaged gases business have company contributions to this plan calculated on a graduated scale based on employee contributions to the plan. The cost for these defined contribution plans was $33 million in 2018, $29 million in 2017 and $28 million in 2016 (these costs are not included in the tables that follow).

The defined contribution plans include a non-leveraged employee stock ownership plan ("ESOP") which covers all employees participating in this plan. The collective number of shares of Linde ordinary shares in the ESOP totaled 2,381,714 at December 31, 2018.

Certain international subsidiaries of the company also sponsor defined contribution plans where contributions are determined under various formulas. The expense for these plans was $32 million in 2018, $21 million in 2017 and $18 million in 2016 (these expenses are not included in the tables that follow).

Postretirement Benefits Other Than Pensions (OPEB)

Linde provides health care and life insurance benefits to certain eligible retired employees. These benefits are provided through various insurance companies and healthcare providers. Linde is also obligated to make payments for a portion of postretirement benefits related to retirees of Linde's former parent. Additionally, as part of the CBI acquisition in 1996, Linde assumed responsibility for healthcare and life insurance benefit obligations for CBI's retired employees. All postretirement healthcare programs have cost caps that limit the company's exposure to future cost increases. In addition, as part of the retirement elections made for July 1, 2002, eligible employees were given the choice of maintaining coverage in the current retiree medical design (as may be amended from time to time), or to move to a design whereby coverage would be provided, but with no Linde subsidy whatsoever. Also, all new employees hired after April 30, 2002 into a business adopting these plans will not receive a company subsidy. Linde does not currently fund its postretirement benefits obligations. Linde's retiree plans may be changed or terminated by Linde at any time for any reason with no liability to current or future retirees.

Linde uses a measurement date of December 31 for its pension and other post-retirement benefit plans.

Pension and Postretirement Benefit Costs

The components of net pension and postretirement benefits other than pension ("OPEB") costs for 2018, 2017 and 2016 are shown in the table below (2018 reflects the impact of the Linde AG merger on October 31, 2018 (see Notes 1 and 3) and the divestiture of Praxair's European industrial gases business on December 3, 2018 (see Notes 1 and 4)):

(Millions of dollars) Year Ended December 31,	Pensions			OPEB		
	2018	2017	2016	2018	2017	2016
Amount recognized in Operating Profit						
Service cost	$ 74	$ 46	$ 45	$ 2	$ 3	$ 2
Amount recognized in Net pension and OPEB cost (benefit), excluding service cost						
Interest cost	128	103	100	5	5	6
Expected return on plan assets	(219)	(161)	(157)	—	—	—
Net amortization and deferral	71	68	59	(3)	(3)	(3)
Curtailment gain (a)	—	—	—	—	(18)	—
Settlement charges (b)	14	2	4	—	—	—
	$ (6)	$ 12	$ 6	$ 2	$ (16)	$ 3
Amount recognized in Net gain on sale of businesses						
Settlement gains from divestitures (c)	(44)	—	—	—	—	—
Net periodic benefit cost (benefit)	$ 24	$ 58	$ 51	$ 4	$ (13)	$ 5

(a) The curtailment gain recorded during the year ended December 31, 2017 resulted from the termination of an OPEB plan in South America in the first quarter.

(b) 2018 includes the impacts of a $4 million charge and a $10 million charge recorded in the third and fourth quarters, respectively. In the third quarter, a series of lump sum benefit payments made from the U.S. supplemental pension plan triggered a settlement of the related pension obligation. In the fourth quarter, a change in control provision triggered the settlement of a U.S. non-qualified plan. 2017 includes the impact of a $2 million charge related to a series of lump sum benefit payments for employees under an international pension plan. 2016 includes a charge of $4 million related primarily to the retirement of senior managers in the United States (see Note 2).

(c) In connection with Praxair merger-related divestitures, primarily the European industrial gases business, certain European pension plan obligations were settled. This resulted in the recognition of associated pension benefit obligations and deferred losses in accumulated other comprehensive income (loss) within operating profit in the "Net gain on sale of businesses" line item.

Funded Status

The changes in benefit obligation and plan assets for Linde's pension and OPEB programs, including reconciliation of the funded status of the plans to amounts recorded in the consolidated balance sheet, as of December 31, 2018 and 2017 are shown below (2018 reflects the impact of the Linde AG merger on October 31, 2018 (see Notes 1 and 3) and the divestiture of Praxair's European industrial gases business on December 3, 2018 (see Notes 1 and 4)):

(Millions of dollars) Year Ended December 31,	Pensions				OPEB	
	2018		2017			
	U.S.	International	U.S.	International	2018	2017
Change in Benefit Obligation ("PBO")						
Benefit obligation, January 1	$ 2,215	$ 725	$ 2,066	$ 666	$ 146	$ 156
Merger impact (a)	415	6,920	—	—	53	—
Service cost	42	32	32	14	2	3
Interest cost	74	54	70	33	5	5
Divestitures (b)	—	(106)	—	—	—	—
Participant contributions	—	4	—	—	9	6
Plan amendment	—	1	—	—	—	—
Actuarial loss (gain)	(100)	7	153	8	(11)	(6)
Benefits paid	(138)	(84)	(106)	(43)	(19)	(13)
Plan curtailment	—	—	—	—	—	(6)
Foreign currency translation and other changes	—	(20)	—	47	(1)	1
Benefit obligation, December 31	$ 2,508	$ 7,533	$ 2,215	$ 725	$ 184	$ 146
Accumulated benefit obligation ("ABO")	$ 2,428	$ 7,385	$ 2,113	$ 691		
Change in Plan Assets						
Fair value of plan assets, January 1	$ 1,655	$ 567	$ 1,507	$ 507	$ —	$ —
Merger impact (a)	475	5,880	—	—	—	—
Actual return on plan assets	(72)	(88)	243	44	—	—
Company contributions	—	75	4	15	—	—
Benefits paid from plan assets	(106)	(69)	(99)	(32)	—	—
Divestitures (b)	—	(49)	—	—	—	—
Foreign currency translation and other changes	—	(24)	—	33	—	—
Fair value of plan assets, December 31	$ 1,952	$ 6,292	$ 1,655	$ 567	$ —	$ —
Funded Status, End of Year	$ (556)	$ (1,241)	$ (560)	$ (158)	$ (184)	$ (146)
Recorded in the Balance Sheet (Note 9)						
Other long-term assets	$ 47	$ 93	$ —	$ 17	$ —	$ —
Other current liabilities	(94)	(10)	(13)	(7)	(13)	(10)
Other long-term liabilities	(509)	(1,324)	(547)	(168)	(171)	(136)
Net amount recognized, December 31	$ (556)	$ (1,241)	$ (560)	$ (158)	$ (184)	$ (146)
Amounts recognized in accumulated other comprehensive income (loss) consist of:						
Net actuarial loss (gain)	$ 834	$ 339	$ 807	$ 192	$ (23)	$ (15)
Prior service cost (credit)	—	10	—	11	(5)	(6)
Deferred tax benefit (Note 7)	(212)	(87)	(309)	(47)	7	9
Amount recognized in accumulated other comprehensive income (loss) (Note 9)	$ 622	$ 262	$ 498	$ 156	$ (21)	$ (12)

(a) Represents Linde AG plan assets and benefit obligations assumed as part of the merger. Such plan assets and benefit obligations were remeasured as of the merger date and all subsequent activity through December 31, 2018 is presented within the respective captions above.

Funded status information as of December 31, 2018 for select international pension plans is presented in the table below as the benefit obligations of these plans are considered to be significant relative to the total benefit obligation:

	United Kingdom	Germany	Other International	Total International
(Millions of dollars)	2018	2018	2018	2018
Benefit obligation, December 31	$ 4,444	$ 1,916	$ 1,173	$ 7,533
Fair value of plan assets, December 31	4,339	1,043	910	6,292
Funded Status, End of Year	$ (105)	$ (873)	$ (263)	$ (1,241)

(b) Represents plan assets and benefit obligations associated with the divestiture of the majority of the Praxair industrial gases business in Europe.

The changes in plan assets and benefit obligations recognized in other comprehensive income in 2018 and 2017 are as follows:

	Pensions		OPEB	
(Millions of dollars)	2018	2017	2018	2017
Current year net actuarial losses (gains)*	$ 286	$ 34	$ (11)	$ (6)
Amortization of net actuarial gains (losses)	(70)	(67)	2	1
Divestitures	(12)	—	—	—
Amortization of prior service credits (costs)	(1)	(1)	1	2
Pension settlements (Note 5)	(14)	(2)	—	—
Curtailments	—	—	—	12
Foreign currency translation and other changes	(16)	13	1	(2)
Total recognized in other comprehensive income	$ 173	$ (23)	$ (7)	$ 7

* Pension net actuarial losses in 2018 are primarily driven by a lower actual return on plan assets, which more than offset the benefit derived from favorable liability experience. Pension net actuarial losses in 2017 are driven by lower U.S. discount rates, which more than offset favorable plan asset experience. OPEB net actuarial gains in 2018 relate to the benefits from higher U.S. discount rates and favorable actual participant experience and net actuarial gains in 2017 relate primarily to favorable liability experience.

The amounts in accumulated other comprehensive income (loss) that are expected to be recognized as components of net periodic benefit cost during 2019 are as follows:

(Millions of dollars)	Pension	OPEB
Net actuarial loss (gain)	$ 54	$ (3)
Prior service cost (credit)	2	(1)
	$ 56	$ (4)

The following table provides information for pension plans where the accumulated benefit obligation exceeds the fair value of the plan assets:

	Pensions			
	2018		2017	
(Millions of dollars)	U.S.	International	U.S.	International
Year Ended December 31,				
Projected benefit obligation (“PBO”)	$ 2,139	$ 6,681	$ 2,215	$ 391
Accumulated benefit obligation (“ABO”)	$ 2,060	$ 6,586	$ 2,113	$ 383
Fair value of plan assets	$ 1,482	$ 5,307	$ 1,655	$ 215

Assumptions

The assumptions used to determine benefit obligations are as of the respective balance sheet dates and the assumptions used to determine net benefit cost are as of the previous year-end, as shown below:

	Pensions					
	U.S.		International		OPEB	
	2018	2017	2018	2017	2018	2017
Weighted average assumptions used to determine benefit obligations at December 31,						
Discount rate	4.20%	3.61%	2.72%	4.46%	4.16%	3.58%
Rate of increase in compensation levels	3.25%	3.25%	2.38%	3.35%	N/A	N/A
Weighted average assumptions used to determine net periodic benefit cost for years ended December 31,						
Discount rate	3.73%	4.05%	2.73%	5.09%	3.81%	4.21%
Rate of increase in compensation levels	3.25%	3.25%	2.45%	3.73%	N/A	N/A
Expected long-term rate of return on plan assets (1)	7.62%	8.00%	5.13%	7.91%	N/A	N/A

(1) The expected long term rate of return on the U.S. and international plan assets is estimated based on the plans' investment strategy and asset allocation, historical capital market performance and, to a lesser extent, historical plan performance. For the U.S. plans, the expected rate of return of 7.62% was derived based on the target asset allocation of 40%-60% equity securities (approximately 9.5% expected return), 30%-50% fixed income securities (approximately 5.5% expected return) and 5%-15% alternative investments (approximately 7% expected return). For the international plans, the expected rate of return was derived based on the weighted average target asset allocation of 15%-25% equity securities (approximately 10% expected return), 30%-50% fixed income securities (approximately 7.5% expected return), and 30%-40% alternative investments (approximately 7.5% expected return). For the U.S. plan assets, the actual annualized total return for the most recent 10-year period ended December 31, 2018 was approximately 8.44%. For the international plan assets, the actual annualized total return for the same period was approximately 6.26%. Changes to plan asset allocations and investment strategy over this time period limit the value of historical plan performance as factor in estimating the expected long term rate of return. For 2019, the expected long-term rate of return on plan assets will be 7.50% for the U.S. plans. Expected weighted average returns for international plans will vary.

	OPEB	
Assumed healthcare cost trend rates	2018	2017
Praxair, Inc.		
Healthcare cost trend assumed	6.25%	6.50%
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	5.00%	5.00%
Year that the rate reaches the ultimate trend rate	2023	2023
Linde AG		
Healthcare cost trend assumed	5.49%	
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	4.50%	
Year that the rate reaches the ultimate trend rate	2038	

These healthcare cost trend rate assumptions have an impact on the amounts reported. However, cost caps limit the impact on the net OPEB benefit cost in the U.S. To illustrate the effect, a one-percentage point change in assumed

healthcare cost trend rates would have the following effects:

(Millions of dollars)	One-Percentage Point Increase	One-Percentage Point Decrease
Effect on the total of service and interest cost components of net OPEB benefit cost	$ —	$ —
Effect on OPEB benefit obligation	$ 7	$ (6)

Pension Plan Assets

The investments of the U.S. pension plan are managed to meet the future expected benefit liabilities of the plan over the long term by investing in diversified portfolios consistent with prudent diversification and historical and expected capital market returns. When Linde became an independent, publicly traded company in 1992, its former parent retained all liabilities for its term-vested and retired employees. Linde's plan received assets and retained pension liabilities for its own active employee base. Therefore, the liabilities under the Linde U.S. pension plan mature at a later date compared to pension funds of other similar companies. Investment strategies are reviewed by management and investment performance is tracked against appropriate benchmarks. There are no concentrations of risk as it relates to the assets within the plans.

The international pension plans are managed individually based on diversified investment portfolios, with different target asset allocations that vary for each plan. Linde's U.S. and international pension plans' weighted-average asset allocations at December 31, 2018 and 2017, and the target asset allocation range for 2018, by major asset category, are as follows:

	U.S.				International			
Asset Category	**Target 2018 ****	**Target 2017**	**2018**	**2017**	**Target 2018 ****	**Target 2017**	**2018**	**2017**
Equity securities	40%-60%	50%-70%	48%	61%	15%-25%	30%-50%	20%	38%
Fixed income securities	30%-50%	20%-40%	40%	30%	30%-50%	40%-60%	46%	53%
Other	5%-15%	2%-10%	13%	9%	30%-40%	0%-10%	34%	9%

** Target asset allocations provided above for fiscal year 2018 are calculated based on weighting the individual Praxair and Linde AG pension plan target allocations by their respective portions of the total asset portfolio.

The following table summarizes pension assets measured at fair value by asset category at December 31, 2018 and 2017. During the years presented, there has been no transfer of assets between Levels 1, 2 and 3 (see Note 13 for definition of the levels):

	Fair Value Measurements Using							
	Level 1		Level 2		Level 3 **		Total	
(Millions of dollars)	2018	2017	2018	2017	2018	2017	2018	2017
Cash and cash equivalents	$ 348	$ 7	$ —	$ —	$ —	$ —	$ 348	$ 7
Equity securities:								
Global equities	1,131	302	—	—	—	—	1,131	302
Mutual funds	74	—	43	—	—	—	117	—
Fixed income securities:								
Government bonds	—	—	1,772	246	—	—	1,772	246
Emerging market debt	—	—	522	—	—	—	522	—
Mutual funds	109	118	21	—	—	—	130	118
Corporate bonds	—	—	382	181	—	—	382	181
Bank loans	—	—	313	—	—	—	313	—
Alternative investments:								
Insurance contracts	—	—	—	—	—	50	—	50
Real estate funds	—	—	—	—	298	158	298	158
Private debt	—	—	—	—	671	—	671	—
Other investments	—	—	33	—	—	—	33	—
Liquid alternative	—	—	1,192	—	—	—	1,192	—
Total plan assets at fair value, December 31,	$ 1,662	$ 427	$ 4,278	$ 427	$ 969	$ 208	$ 6,909	$ 1,062
Pooled funds *							1,335	1,160
Total fair value plan assets December 31,							$ 8,244	$ 2,222

* Pooled funds are measured using the net asset value ("NAV") as a practical expedient for fair value as permissible under the accounting standard for fair value measurements and have not been categorized in the fair value hierarchy.

** The following table summarizes changes in fair value of the pension plan assets classified as level 3 for the periods ended December 31, 2018 and 2017:

(Millions of dollars)	Insurance Contracts	Real Estate Funds	Private Debt	Total
Balance, December 31, 2016	$ 45	$ 135	$ —	$ 180
Gain/(Loss) for the period	(1)	12	—	11
Acquisitions	—	11	—	11
Foreign currency translation	6	—	—	6
Balance, December 31, 2017	50	158	—	208
Assumed in Linde AG merger	—	148	667	815
Gain/(Loss) for the period	—	9	4	13
Acquisitions	—	—	—	—
Merger-related divestitures	(49)	—	—	(49)
Other divestitures	—	(17)	—	(17)
Foreign currency translation	(1)	—	—	(1)
Balance, December 31, 2018	$ —	$ 298	$ 671	$ 969

The descriptions and fair value methodologies for the U.S. and international pension plan assets are as follows:

Cash and Cash Equivalents – This category includes cash and short-term interest bearing investments with maturities of three months or less. Investments are valued at cost plus accrued interest. Cash and cash equivalents are classified within level 1 of the valuation hierarchy.

Equity Securities – This category is comprised of shares of common stock in U.S. and international companies from a diverse set of industries and size. Common stock is valued at the closing market price reported on a U.S. or international exchange where the security is actively traded. Equity securities are classified within level 1 of the valuation hierarchy.

Mutual Funds – These categories consist of publicly and privately managed funds that invest primarily in marketable equity and fixed income securities. The fair value of these investments is determined by reference to the net asset value of the underlying securities of the fund. Shares of publicly traded mutual funds are valued at the net asset value quoted on the exchange where the fund is traded and are primarily classified as level 1 within the valuation hierarchy.

U.S. and International Government Bonds – This category includes U.S. treasuries, U.S. federal agency obligations and international government debt. The majority of these investments do not have quoted market prices available for a specific government security and so the fair value is determined using quoted prices of similar securities in active markets and is classified as level 2 within the valuation hierarchy.

Corporate Bonds – This category is comprised of corporate bonds of U.S. and international companies from a diverse set of industries and size. The fair values for U.S. and international corporate bonds are determined using quoted prices of similar securities in active markets and observable data or broker or dealer quotations. The fair values for these investments are classified as level 2 within the valuation hierarchy.

Pooled Funds – Pooled fund NAVs are provided by the trustee and are determined by reference to the fair value of the underlying securities of the trust, less its liabilities, which are valued primarily through the use of directly or indirectly observable inputs. Depending on the pooled fund, underlying securities may include marketable equity securities or fixed income securities.

Bank Loans – This category is comprised of traded syndicated loans of larger corporate borrowers. Such loans are issued by sub-investment grade rated companies both in the U.S. and internationally and are syndicated by investment banks to institutional investors. They are regularly traded in an active dealer market comprised of large investment banks, which supply bid and offer quotes and are therefore classified within level 2 of the valuation hierarchy.

Liquid Alternative Investments – This category is comprised of investments in alternative mutual funds whose holdings include liquid securities, cash, and derivatives. Such funds focus on diversification and employ a variety of investing strategies including long/short equity, multi-strategy, and global macro. The fair value of these investments is determined by reference to the net asset value of the underlying holdings of the fund, which can be determined using observable data (e.g., indices, yield curves, quoted prices of similar securities), and is classified within level 2 of the valuation hierarchy.

Insurance Contracts – The fair value of insurance contracts is determined based on the cash surrender value of the insurance contract, which is determined based on such factors as the fair value of the underlying assets and discounted cash flows. These contracts are with highly rated insurance companies. Insurance contracts are classified within level 3 of the valuation hierarchy.

Real Estate Funds – This category includes real estate properties, partnership equities and investments in operating companies. The fair value of the assets is determined using discounted cash flows by estimating an income stream for the property plus a reversion into a present value at a risk adjusted rate. Yield rates and growth assumptions utilized are derived from market transactions as well as other financial and industry data. The fair value for these investments are classified within level 3 of the valuation hierarchy.

Private Debt – This category includes non-traded, privately-arranged loans between one or a small group of private debt investment managers and corporate borrowers, which are typically too small to access the syndicated market and have no credit rating. This category also includes similar loans to real estate companies or individual properties. Loans included in this category are valued at par value, are held to maturity or to call, and are classified within level 3 of the valuation hierarchy.

Contributions

At a minimum, Linde contributes to its pension plans to comply with local regulatory requirements (e.g., ERISA in the United States). Discretionary contributions in excess of the local minimum requirements are made based on many factors, including long-term projections of the plans' funded status, the economic environment, potential risk of overfunding, pension insurance costs and alternative uses of the cash. Changes to these factors can impact the timing of discretionary contributions from year to year. Pension contributions were $87 million in 2018, $19 million in 2017 and $11 million in 2016. Estimated

required contributions for 2019 are currently expected to be in the range of $95 million to $160 million.

Estimated Future Benefit Payments

The following table presents estimated future benefit payments, net of participants contributions:

(Millions of dollars)	Pensions		
Year Ended December 31,	**U.S.**	**International**	**OPEB**
2019 (a)	$ 353	$ 322	$ 14
2020	150	333	15
2021	146	344	15
2022	168	352	15
2023	149	364	14
2024-2028	767	1,018	59

(a) In January 2019, benefits of $91 million were paid related to the settlement of a U.S. non-qualified plan that was triggered due to a change in control provision. This resulted in a $51 million charge.

NOTE 19. COMMITMENTS AND CONTINGENCIES

The company accrues non income-tax liabilities for contingencies when management believes that a loss is probable and the amounts can be reasonably estimated, while contingent gains are recognized only when realized. In the event any losses are sustained in excess of accruals, they will be charged against income at that time. Attorney fees are recorded as incurred. Commitments represent obligations, such as those for future purchases of goods or services, that are not yet recorded on the company's balance sheet as liabilities. The company records liabilities for commitments when incurred (i.e., when the goods or services are received).

Contingent Liabilities

Linde is subject to various lawsuits and government investigations that arise from time to time in the ordinary course of business. These actions are based upon alleged environmental, tax, antitrust and personal injury claims, among others. Linde has strong defenses in these cases and intends to defend itself vigorously. It is possible that the company may incur losses in connection with some of these actions in excess of accrued liabilities. Management does not anticipate that in the aggregate such losses would have a material adverse effect on the company's consolidated financial position or liquidity; however, it is possible that the final outcomes could have a significant impact on the company's reported results of operations in any given period.

Significant matters are:

- During May 2009, the Brazilian government published Law 11941/2009 instituting a new voluntary amnesty program ("Refis Program") which allowed Brazilian companies to settle certain federal tax disputes at reduced amounts. During the 2009 third quarter, Praxair decided that it was economically beneficial to settle many of its outstanding federal tax disputes and such disputes were enrolled in the Refis Program, subject to final calculation and review by the Brazilian federal government. The company recorded estimated liabilities based on the terms of the Refis Program. Since 2009, Praxair has been unable to reach final agreement on the calculations and initiated litigation against the government in an attempt to resolve certain items. Open issues relate to the following matters: (i) application of cash deposits and net operating loss carryforwards to satisfy obligations and (ii) the amount of tax reductions available under the Refis Program. It is difficult to estimate the timing of resolution of legal matters in Brazil.
- At December 31, 2018 the most significant non-income and income tax claims in Brazil, after enrollment in the Refis Program, relate to state VAT tax matters and a federal income tax matter where the taxing authorities are challenging the tax rate that should be applied to income generated by a subsidiary company. The total estimated exposure relating to such claims, including interest and penalties, as appropriate, is approximately $205 million. Linde has not recorded any liabilities related to such claims based on management judgments, after considering judgments and opinions of outside counsel. Because litigation in Brazil historically takes many years to resolve, it is very difficult to estimate the timing of resolution of these matters; however, it is possible that certain of these matters may be resolved within the near term. The company is vigorously defending against the proceedings.
- On September 1, 2010, CADE ("Brazilian Administrative Council for Economic Defense") announced alleged anticompetitive activity on the part of five industrial gas companies in Brazil and imposed fines on all five companies. Originally, CADE imposed a civil fine of R$2.2 billion Brazilian reais (US$568 million) against White Martins, the Brazil-based subsidiary of Praxair. In response to a motion for clarification, the fine was reduced to R$1.7 billion Brazilian reais (US$439 million) due to a calculation error made by CADE. The amount of the fine is subject to indexation using SELIC. On September 2, 2010, Praxair issued a press release and filed a report on Form 8-K rejecting all claims and stating that the fine represents a gross and arbitrary disregard of Brazilian law.

  On October 19, 2010, White Martins filed an annulment petition ("appeal") with the Federal Court in Brasilia seeking to have the fine against White Martins entirely overturned. In order to suspend payment of the fine pending the completion of the appeal process, Brazilian law required that the company tender a form of guarantee in the amount of the fine as security. Initially, 50% of the guarantee was satisfied by letters of credit with a financial institution and 50% by equity of a Brazilian subsidiary. On April 15, 2016, the Ninth Federal Court in Brasilia allowed White Martins to withdraw and cancel the letters of credit. Accordingly, the guarantee is currently satisfied solely by equity of a Brazilian subsidiary.

  On September 14, 2015, the Ninth Federal Court of Brasilia overturned the fine against White Martins and declared the original CADE administrative proceeding to be null and void. On June 30, 2016, CADE filed an appeal against this decision with the Federal Circuit Court in Brasilia.

Praxair strongly believes that the allegations are without merit and that the fine will be entirely overturned during the appeal process. The company further believes that it has strong defenses and will vigorously defend against the allegations and related fine up to such levels of the Federal Courts in Brazil as may be necessary. Because appeals in Brazil historically take many years to resolve, it is very difficult to estimate when the appeal will be finally decided. Based on management judgments, after considering judgments and opinions of outside counsel, no reserve has been recorded for this proceeding as management does not believe that a loss is probable.

- As stated above, in 2010, the Brazilian competition authority CADE imposed fines on a number of gases companies, including Linde AG's Brazilian subsidiary, on the grounds of alleged anti-competitive business conduct. CADE imposed a fine of approximately R$188 million Brazilian reais (US $49 million) on Linde AG's Brazilian subsidiary. Based on the fact that the fine has been overturned by a federal court in the first instance and on a subsequent appeal by CADE, Linde believes that this decision will not stand up to judicial review in the third instance either, and deems the possibility of cash outflows to be extremely unlikely. As a result, no reserve has been recorded for this proceeding as management does not believe that a loss is probable.

Commitments

At December 31, 2018, Linde had undrawn outstanding letters of credit, bank guarantees and surety bonds valued at approximately $2,961 million from financial institutions. These relate primarily to customer contract performance guarantees (including plant construction in connection with certain on-site contracts), self-insurance claims and other commercial and governmental requirements, including foreign litigation matters.

Other commitments related to leases, tax liabilities for uncertain tax positions, long-term debt, other post retirement and pension obligations are summarized elsewhere in the financial statements (see Notes 6, 7, 13, and 18).

NOTE 20. SEGMENT INFORMATION

Effective October 31, 2018, Praxair and Linde AG completed the previously announced merger of equals transaction pursuant to the business combination agreement, resulting in a newly formed corporation named Linde plc. See Notes 1,3 and 4 for additional information on the merger. Although it is the company's intention to create new operating segments that will be used by management to allocate company resources and assess performance, due to the hold separate order with the U.S. Federal Trade Commission (see Note 1) it was not possible to implement this new management organization structure in calendar 2018. Therefore, the company has added Linde AG as a separate segment for 2018 reporting purposes effective with the merger date, which is consistent with the way the company was managed and results reviewed by the Chief Operating Decision Maker. As the restrictions under the hold separate order was lifted effective March 1, 2019, the company implemented a new operating segment structure effective for 2019 reporting periods, as follows: Americas; EMEA (Europe/ Middle East/Africa); APAC (Asia/Pacific), Engineering and Other.

Accordingly, during 2018 the company's operations were organized into five reportable segments, four of which have been determined on a geographic basis of segmentation: North America, Europe, South America and Asia. The company's worldwide surface technologies business represents the fifth reportable segment. As discussed above, Linde AG became a sixth reportable segment effective with the merger on October 31, 2018.

Linde's operations consist of two major product lines: industrial gases and surface technologies. The industrial gases product line centers on the manufacturing and distribution of atmospheric gases (oxygen, nitrogen, argon, rare gases) and process gases (carbon dioxide, helium, hydrogen, electronic gases, specialty gases, acetylene). Many of these products are co-products of the same manufacturing process. Linde manufactures and distributes nearly all of its products and manages its customer relationships on a regional basis. Linde's industrial gases are distributed to various end-markets within a regional segment through one of three basic distribution methods: on-site or tonnage; merchant or bulk; and packaged or cylinder gases. The distribution methods are generally integrated in order to best meet the customer's needs and very few of its products can be economically transported outside of a region. Therefore, the distribution economics are specific to the various geographies in which the company operates and are consistent with how management assesses performance.

Linde evaluates the performance of its reportable segments based primarily on operating profit, excluding purchase accounting impacts of Linde AG, inter-company royalties and items not indicative of ongoing business trends. Corporate and globally managed expenses, and research and development costs relating to Praxair's global industrial gases business, are allocated to operating segments based on sales.

The table below presents information about reportable segments for the years ended December 31, 2018, 2017 and 2016.

(Millions of dollars)	2018	2017	2016
Sales (a)			
North America	$ 6,420	$ 6,023	$ 5,592
Europe	1,592	1,558	1,392
South America	1,369	1,501	1,399
Asia	1,964	1,738	1,555
Surface Technologies	682	617	596
Linde AG	2,873	$ —	$ —
	$ 14,900	$ 11,437	$ 10,534

	2018	2017	2016
Operating Profit			
North America	$ 1,648	$ 1,517	$ 1,431
Europe	316	301	274
South America	215	239	263
Asia	427	333	276
Surface Technologies	118	106	99
Linde AG	252	—	—
Segment operating profit	2,976	2,496	2,343
Transaction costs and other charges	(309)	(52)	(96)
Net gain on sale of business	3,294	—	—
Purchase accounting impacts – Linde AG	(714)	—	—
Total operating profit	$ 5,247	$ 2,444	$ 2,247

	2018	2017	2016
Total Assets (b)			
North America	$ 11,643	$ 10,419	$ 10,019
Europe	769	3,282	2,928
South America	2,675	2,738	2,748
Asia	3,518	3,252	2,984
Surface Technologies	940	745	653
Linde AG	73,841	—	—
	$ 93,386	$ 20,436	$ 19,332

	2018	2017	2016
Depreciation and Amortization			
North America	$ 660	$ 631	$ 614
Europe	146	169	155
South America	148	159	133
Asia	204	185	179
Surface Technologies	44	40	41
Linde AG	282	—	—
Segment depreciation and amortization	1,484	1,184	1,122
Purchase accounting impacts – Linde AG	346	—	—
Total depreciation and amortization	$ 1,830	$ 1,184	$ 1,122

	2018	2017	2016
Capital Expenditures and Acquisitions			
North America	$ 916	$ 779	$ 989
Europe	157	141	402
South America	97	129	232
Asia	248	209	165
Surface Technologies	93	86	40
Linde AG	397	—	—
	$ 1,908	$ 1,344	$ 1,828

	2018	2017	2016
Sales by Product Group			
Atmospheric gases and related	$ 8,375	$ 7,938	$ 7,329
Process gases and other	2,970	2,882	2,609
Surface technologies	682	617	596
Linde AG	2,873	—	—
	$ 14,900	$ 11,437	$ 10,534

	2018	2017	2016
Sales by Major Country			
United States	$ 5,942	$ 4,973	$ 4,623
Europe, excluding Germany	2,435	1,372	1,240
Brazil	1,067	1,179	1,091
China	1,032	735	613
Germany	868	401	373
Other – foreign	3,556	2,777	2,594
	$ 14,900	$ 11,437	$ 10,534

	2018	2017	2016
Long-lived Assets by Major Country (c)			
United States	$ 7,189	$ 4,979	$ 4,779
Europe, excluding Germany	7,754	1,318	1,170
Germany	2,411	413	379
China	2,237	1,060	975
Brazil	1,012	1,204	1,240
Other – foreign	9,114	2,851	2,706
Total long-lived assets	$ 29,717	$ 11,825	$ 11,249

(a) Sales reflect external sales only and include two months of Linde AG sales from the merger date of October 31, 2018 to year end. Intersegment sales, primarily from North America to other segments, were not material.

(b) Includes equity investments as of December 31, as follows:

(Millions of dollars)	2018	2017	2016
North America	$ 118	$ 115	$ 121
Europe (i)	34	287	243
Asia	306	325	353
Linde AG (ii)	1,380	—	—
	$ 1,838	$ 727	$ 717

(i) The reduction in European equity investments relates primarily to the sale of Praxair's 34% non-controlling interest participation in its Italian joint venture – refer to Note 4, Divestitures, for additional information. Other fluctuations relate to equity investment earnings, dividends, and foreign currency impacts.

(ii) Linde AG equity investments relate primarily to Asia.

(c) Long-lived assets include property, plant and equipment – net and reflect the impact of the merger with Linde AG (refer to Note 3).

NOTE 21. REVENUE RECOGNITION

Effective January 1, 2018, Linde adopted the FASB's Accounting Standards Update No. 2014-09 ("ASC 606") relating to Revenue Recognition using the modified retrospective transition method. The new accounting standard requires revenue to be recognized as control of goods or services are transferred to customers in an amount that reflects the consideration to which an entity expects to be entitled to receive in exchange for the goods or services. No material differences in revenue recognition were identified as compared to the company's historical revenue recognition accounting; accordingly, there is no adjustment to opening retained earnings at January 1, 2018 and therefore no need to present comparable revenue in accordance with the prior accounting policy. The following sections include Linde's revenue recognition accounting policies and disclosures in accordance with ASC 606.

Contracts with Customers

Approximately 76% of Linde's consolidated sales are generated from industrial gases and related products in four geographic segments (North America, Europe, South America and Asia), Linde AG represents approximately 19% of 2018 sales and the remaining 5% is related to the global surface technologies segment. Linde serves a diverse group of industries including healthcare, petroleum refining, manufacturing, food, beverage carbonation, fiber-optics, steel making, aerospace, chemicals and water treatment.

Industrial Gases

Within each of the company's geographic segments for industrial gases, there are three basic distribution methods: (i) on-site or tonnage; (ii) merchant or bulk liquid; and (iii) packaged or cylinder gases. The distribution method used by Linde to supply a customer is determined by many factors, including the customer's volume requirements and location. The distribution method generally determines the contract terms with the customer and, accordingly, the revenue recognition accounting practices. Linde's primary products in its industrial gases business are atmospheric gases (oxygen, nitrogen, argon, rare gases) and process gases (carbon dioxide, helium, hydrogen, electronic gases, specialty gases, acetylene). These products are generally sold through one of the three distribution methods.

Following is a description of each of the three industrial gases distribution methods and the respective revenue recognition policies:

On-site. Customers that require the largest volumes of product and that have a relatively constant demand pattern are supplied by cryogenic and process gas on-site plants. Linde constructs plants on or adjacent to these customers' sites and supplies the product directly to customers by pipeline. Where there are large concentrations of customers, a single pipeline may be connected to several plants and customers. On-site product supply contracts generally are total requirement contracts with terms typically ranging from 10-20 years and contain minimum purchase requirements and price escalation provisions. Many of the cryogenic on-site plants also produce liquid products for the merchant market. Therefore, plants are typically not dedicated to a single customer. Additionally, Linde is responsible for the design, construction, operations and maintenance of the plants and customers typically have no involvement in these activities. Advanced air separation processes also allow on-site delivery to customers with smaller volume requirements.

The company's performance obligations related to on-site customers are satisfied over time as customers receive and obtain control of the product. Linde has elected to apply the practical expedient for measuring progress towards the completion of a performance obligation and recognizes revenue as the company has the right to invoice each customer, which generally corresponds with product delivery. Accordingly, revenue is recognized when product is delivered to the customer and the company has the right to invoice the customer in accordance with the contract terms. Consideration in these contracts is generally based on pricing which fluctuates with various price indices. Variable components of consideration exist within on-site contracts but are considered constrained.

Merchant. Merchant deliveries generally are made from Linde's plants by tanker trucks to storage containers at the customer's site. Due to the relatively high distribution cost, merchant oxygen and nitrogen generally have a relatively small distribution radius from the plants at which they are produced. Merchant argon, hydrogen and helium can be shipped much longer distances. The customer agreements used in the merchant business are usually three-to seven-year supply agreements based on the requirements of the customer. These contracts generally do not contain minimum purchase requirements or volume commitments.

The company's performance obligations related to merchant customers are generally satisfied at a point in time as the customers receive and obtain control of the product. Revenue is recognized when product is delivered to the customer and the company has the right to invoice the customer in accordance with the contract terms. Any variable components of consideration within merchant contracts are constrained however this consideration is not significant.

Packaged Gases. Customers requiring small volumes are supplied products in containers called cylinders, under medium to high pressure. Linde distributes merchant gases from its production plants to company-owned cylinder filling plants where cylinders are then filled for distribution to customers. Cylinders may be delivered to the customer's site or

picked up by the customer at a packaging facility or retail store. Linde invoices the customer for the industrial gases and the use of the cylinder container(s). The company also sells hardgoods and welding equipment purchased from independent manufacturers. Packaged gases are generally sold under one to three-year supply contracts and purchase orders and do not contain minimum purchase requirements or volume commitments.

The company's performance obligations related to packaged gases are satisfied at a point in time. Accordingly, revenue is recognized when product is delivered to the customer or when the customer picks up product from a packaged gas facility or retail store, and the company has the right to payment from the customer in accordance with the contract terms. Any variable consideration is constrained and will be recognized when the uncertainty related to the consideration is resolved.

Surface Technologies

The company's surface technologies segment, operated through Praxair Surface Technologies, Inc., supplies wear-resistant and high-temperature corrosion-resistant metallic and ceramic coatings and powders. Praxair Surface Technologies is a leading global supplier of coatings services and thermal spray consumables to customers in the aircraft, energy, printing, primary metals, petrochemical, textile, and other industries. Its coatings are used to provide wear resistance, corrosion protection, thermal insulation, and many other surface-enhancing functions which serve to extend component life, enable optimal performance, and reduce operating costs. It also manufactures a complete line of electric arc, plasma and wire spray, and high-velocity oxy-fuel ("HVOF") equipment.

The company's performance obligation related to surface technologies customers are generally satisfied at a point in time when the customer receives and takes control of product. Accordingly, revenue is recognized when product is delivered to the customer or when the customer picks up the product from the company's facility, and the company has the right to invoice the customer in accordance with the contract terms.

Linde Engineering

The company designs and manufactures equipment for air separation and other industrial gas applications manufactured specifically for end customers. Sale of equipment contracts are generally comprised of a single performance obligation. Revenue from sale of equipment is generally recognized over time as Linde has an enforceable right to payment for performance completed to date and performance does not create an asset with alternative use. For contracts recognized over time, revenue is recognized primarily using a cost incurred input method. Costs incurred to date relative to total estimated costs at completion are used to measure progress toward satisfying performance obligations. Costs incurred include material, labor, and overhead costs and represent work contributing and proportionate to the transfer of control to the customer. Contract modifications are typically accounted for as part of the existing contract and are recognized as a cumulative adjustment for the inception-to-date effect of such change.

Contract Assets and Liabilities

Contract assets and liabilities result from differences in timing of revenue recognition and customer invoicing. Contract assets primarily relate to sale of equipment contracts for which revenue is recognized over time. The balance represents unbilled revenue which occurs when revenue recognized under the measure of progress exceeds amounts invoiced to customers. Customer invoices may be based on the passage of time, the achievement of certain contractual milestones or a combination of both criteria.

Contract liabilities include advance payments or right to consideration prior to performance under the contract. Contract liabilities are recognized as revenue as performance obligations are satisfied under contract terms.

Linde has contract assets of $283 million and contract liabilities of $1,546 million at December 31, 2018. Contract assets and liabilities primarily relate to the Linde Engineering business acquired in the merger. The Industrial Gases Businesses and Surface Technologies do not have material contract assets or liabilities.

Payment Terms and Other

Linde generally receives payment after performance obligations are satisfied, and customer prepayments are not typical for the Industrial Gases Businesses and Surface Technologies. Payment terms vary based on the country where sales originate and local customary payment practices. Linde does not offer extended financing outside of customary payment terms. Amounts billed for sales and use taxes, value-added taxes, and certain excise and other specific transactional taxes imposed on revenue producing transactions are presented on a net basis and are not included in sales within the consolidated statement of income. Additionally, sales returns and allowances are not a normal practice in the industry and are not significant.

Disaggregated Revenue Information

The company manages its industrial gases business on a geographic basis, while the surface technologies business is managed on a global basis. Linde AG had been managed as a separate segment due to the restrictions under the hold separate order, which were lifted on March 1, 2019. Further, the company believes that reporting sales by distribution method by reportable geographic segment best illustrates the nature, timing, type of customer, and contract terms for its revenues, including terms and pricing.

The following table shows sales by distribution method for each reportable segment and at the consolidated level for the year ended December 31, 2018.

(Dollars in Millions)

Sales	North America	Europe	South America	Asia	Surface Technologies	Linde AG	Total	%
Merchant	$ 2,364	$ 548	$ 520	$ 624	$ —	$ 524	$ 4,580	31%
On-Site	1,901	291	454	984	—	501	4,131	28%
Packaged Gas	1,995	685	361	221	—	1,257	4,519	30%
Other	160	68	34	135	682	591	1,670	11%
	$ 6,420	$ 1,592	$ 1,369	$ 1,964	$ 682	$ 2,873	$ 14,900	100%

Remaining Performance Obligations

As described above, Linde's contracts with on-site customers are under long-term supply arrangements which generally require the customer to purchase their requirements from Linde and also have minimum purchase requirements. The company estimates the consideration related to minimum purchase requirements is approximately $45 billion. This amount excludes all sales above minimum purchase requirements, which can be significant depending on customer needs. In the future, actual amounts will be different due to impacts from several factors, many of which are beyond the company's control including, but not limited to, timing of newly signed, terminated and renewed contracts, inflationary price escalations, currency exchange rates, and pass-through costs related to natural gas and electricity. The actual duration of long-term supply contracts ranges up to twenty years. The company estimates that approximately half of the revenue related to minimum purchase requirements are estimated to be earned in the next five years and the remaining thereafter.

NOTE 22. QUARTERLY DATA (UNAUDITED)

(Dollar amounts in millions, except per share data)

2018	1Q (a)	2Q (a)	3Q (a)	4Q (a)	YEAR (a)
Sales	$ 2,999	$ 3,061	$ 3,024	$ 5,816	$ 14,900
Cost of sales, exclusive of depreciation and amortization	$ 1,677	$ 1,723	$ 1,714	$ 3,970	$ 9,084
Depreciation and amortization	$ 311	$ 311	$ 306	$ 902	$ 1,830
Operating profit	$ 653	$ 689	$ 669	$ 3,236	$ 5,247
Net income – Linde plc	$ 462	$ 480	$ 461	$ 2,978	$ 4,381
Income from continuing operations	$ 462	$ 480	$ 461	$ 2,870	$ 4,273
Income from discontinued operations	$ —	$ —	$ —	$ 108	$ 108
Basic Per Share Data					
Income from continuing operations *	$ 1.61	$ 1.67	$ 1.60	$ 6.27	$ 12.93
Income from discontinued operations *	—	—	—	0.24	0.33
Weighted average shares (000's)	287,504	287,803	288,093	457,518	330,401
Diluted Per Share Data					
Income from continuing operations *	$ 1.59	$ 1.65	$ 1.58	$ 6.22	$ 12.79
Income from discontinued operations *	—	—	—	0.23	0.32
Weighted average shares (000's)	290,809	290,908	291,513	461,150	$ 334,127

2017	1Q (a)	2Q (a)	3Q (a)	4Q (a)	YEAR (a)
Sales	$ 2,728	$ 2,834	$ 2,922	$ 2,953	$ 11,437
Cost of sales, exclusive of depreciation and amortization	$ 1,549	$ 1,599	$ 1,652	$ 1,661	$ 6,461
Depreciation and amortization	$ 287	$ 292	$ 298	$ 307	$ 1,184
Operating profit	$ 567	$ 606	$ 632	$ 639	$ 2,444
Net income – Linde plc	$ 389	$ 406	$ 419	$ 33	$ 1,247
Basic Per Share Data					
Net income	$ 1.36	$ 1.42	$ 1.46	$ 0.11	$ 4.36
Weighted average shares (000's)	285,509	286,090	286,467	286,976	286,261
Diluted Per Share Data					
Net income	$ 1.35	$ 1.41	$ 1.45	$ 0.11	$ 4.32
Weighted average shares (000's)	287,384	288,535	289,216	290,456	289,114

* Due to quarterly changes in the share count as a result of the merger the sum of the four quarters does not equal the earnings per share amount calculated for the year.

(a) 2018 and 2017 include the impact of the following matters (see Notes 3, 4, 5, 7, 13 and 18):

(Millions of dollars)	Operating Profit/ (Loss)	Income from Continuing Operations
Transaction costs and other charges - Q1	$ (19)	$ (18)
Transaction costs and other charges - Q2	(24)	(21)
Transaction costs and other charges - Q3	(31)	(29)
Pension settlement charge - Q3	—	(3)
Transaction costs and other charges - Q4	(235)	(238)
Gain on sale of business - Q4	3,294	2,923
Bond redemption - Q4	—	(20)
Pension settlement charge - Q4	—	(8)
Tax Act and other tax charges - Q4	—	17
Purchase accounting impacts – Linde AG - Q4	(714)	(451)
Year 2018	$ 2,271	$ 2,152
Transaction costs and other charges - Q1	$ (6)	$ (6)
Transaction costs and other charges - Q2	(15)	(15)
Transaction costs and other charges - Q3	(14)	(13)
Pension settlement charge - Q3	—	(1)
Transaction costs and other charges - Q4	(17)	(14)
Tax Act - Q4	—	(394)
Year 2017	$ (52)	$ (443)

NOTE 23. SUBSEQUENT EVENTS

Divestitures

On March 1, 2019, Linde AG completed the sale of the majority of its industrial gases business in North America and certain industrial gases business activities in South America to a consortium comprising companies of the German industrial gases manufacturer Messer Group and CVC Capital Partners Fund VII, pursuant to a Sale and Purchase Agreement, dated July 16, 2018, as amended on September 22, 2018, October 19, 2018 and February 20, 2019, by and among the Company, Linde AG, Praxair, Inc., Messer Group and CVC Capital Partners Fund VII (the "SPA"). Messer Group and CVC Capital Partners Fund VII paid $2.97 billion in cash consideration after purchase price adjustments for certain items relating to assets and liabilities of the sold businesses. The SPA was entered into as part of the commitments in connection with the merger control review by the U.S. Federal Trade Commission (the "FTC") of the previously completed combination of the businesses of Praxair, Inc. and Linde AG under the Company (the "business combination" – see Note 1).

As part of the company's, Praxair's and Linde AG's further commitments in connection with the merger control review by the FTC, Linde AG divested additional assets within the Americas for aggregate net proceeds of $531 million (i) to Matheson Tri-Gas, Inc., five of Linde AG's HyCO facilities outside the Gulf Coast region, along with Linde AG's hydrogen pipeline in the Gulf Coast, intellectual property, customer contracts, and other assets, (ii) to Celanese Corporation, Linde AG's Clear Lake, Texas plant, and (iii) to LyondellBasell Industries N.V., Linde AG's La Porte, Texas plant.

Hold Separate Order

Additionally, concurrent with the sale of the required merger-related divestitures in the United States, on March 1, 2019, the hold separate order restrictions described in Note 1 were lifted and the Company was able to commence integration activities.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

Based on an evaluation of the effectiveness of Linde's disclosure controls and procedures, which was made under the supervision and with the participation of management, including Linde's principal executive officer and principal financial officer, the principal executive officer and principal financial officer have each concluded that, as of the end of the annual period covered by this report, such disclosure controls and procedures are effective in ensuring that information required to be disclosed by Linde in reports that it files or submits under the Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms, and accumulated and communicated to management including Linde's principal executive officer and principal financial officer, to allow timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting

Refer to Item 8 for Management's Report on Internal Control Over Financial Reporting as of December 31, 2018.

Changes in Internal Control over Financial Reporting

There were no changes in Linde's internal control over financial reporting that occurred during the quarter ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, Linde's internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Certain information required by this item is incorporated herein by reference to the sections captioned "Corporate Governance and Board Matters - Director Nominees" and "Corporate Governance And Board Matters-Section 16(a) Beneficial Ownership Reporting Compliance" in Linde's Proxy Statement to be filed by April 30, 2019 for the Annual General Meeting.

Identification of the Audit Committee

Linde has a separately-designated standing Audit Committee established in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934 as amended (the "Exchange Act"). The members of that audit committee are Prof. Dr. Clemens Börsig (chairman), Dr. Nance K. Dicciani, Dr. Thomas Enders, Edward G. Galante, Larry D. McVay and Dr. Victoria Ossadnik, and each member is independent within the meaning of the independence standards adopted by the Board of Directors and those of the New York Stock Exchange.

Audit Committee Financial Expert

The Linde Board of Directors has determined that Prof. Dr. Clemens Börsig is an "audit committee financial expert" as defined by Item 407(d)(5)(ii) of Regulation S-K of the Exchange Act and is independent within the meaning of the independence standards adopted by the Board of Directors and those of the New York Stock Exchange.

Code of Ethics

Linde has adopted a code of ethics that applies to the company's directors and all employees, including its Chief Executive Officer, Chief Financial Officer, and Controller. This code of ethics, including specific standards for implementing certain provisions of the code, has been approved by the Linde Board of Directors and is named the "Code of Business Integrity". This document is posted on the company's public website, www.linde.com but is not incorporated herein.

ITEM 11. EXECUTIVE COMPENSATION

Information required by this item is incorporated herein by reference to the sections captioned "Executive Compensation Matters" and "Corporate Governance and Board Matters – Director Compensation" in Linde's Proxy Statement to be filed by April 30, 2019 for the Annual General Meeting.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Equity Compensation Plans Information – The table below provides information as of December 31, 2018 about company shares that may be issued upon the exercise of options, warrants and rights granted to employees or members of Linde's Board of Directors under equity compensation plans that were assumed by Linde upon the completion of the business combination on October 31, 2018.

EQUITY COMPENSATION PLANS TABLE

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by shareholders	11,694,110 (1)	$ 117.65	8,482,731 (2)
Equity compensation plans not approved by shareholders	—	—	—
Total	11,694,110	$ 117.65	8,482,731

(1) This amount includes 1,070,423 restricted shares.

(2) This amount includes 8,009,603 shares available for future issuance pursuant to the Amended and Restated 2009 Praxair, Inc. Long Term Incentive Plan assumed by Linde, and 473,128 shares available for future issuance pursuant to the Linde plc Long Term Incentive Plan 2018.

Certain information required by this item regarding the beneficial ownership of the company's ordinary shares is incorporated herein by reference to the section captioned "Information on Share Ownership" in Linde's Proxy Statement to be filed by April 30, 2019 for the Annual General Meeting.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

Information required by this item is incorporated herein by reference to the sections captioned "Corporate Governance And Board Matters – Review, Approval or Ratification of Transactions with Related Persons," "Corporate Governance And Board Matters – Certain Relationships and Transactions," and "Corporate Governance And Board Matters – Director Independence" in Linde's Proxy Statement to be filed by April 30, 2019 for the Annual General Meeting.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Information required by this item is incorporated herein by reference to the section captioned "Audit Matters" in Linde's Proxy Statement to be filed by April 30, 2019 for the Annual General Meeting.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this report:

(1) The company's 2018 Consolidated Financial Statements and the Report of the Independent Registered Public Accounting Firm are included in Part II, Item 8. Financial Statements and Supplementary Data.

(2) Financial Statement Schedules – All financial statement schedules have been omitted because they are not applicable or the required information is shown in the financial statements or notes thereto.

(3) Exhibits – The exhibits filed as part of this Annual Report on Form 10-K are listed in the accompanying index.

INDEX TO EXHIBITS

Linde plc and Subsidiaries

Exhibit No.	Description
2.1	Business Combination Agreement by and among Linde Aktiengesellschaft, Praxair, Inc., Zamalight PLC, Zamalight Holdco LLC and Zamalight Subco, Inc. dated as of June 1, 2017 (Filed as Exhibit 2.1 to Praxair, Inc.'s Current Report on Form 8-K dated June 1, 2017, Filing No. 1-11037, and is incorporated herein by reference.)
2.1a	Amendment No. 1, dated August 10, 2017, to the Business Combination Agreement, by and among Praxair, Inc., Linde Aktiengesellschaft, Linde plc, Zamalight Holdco LLC and Zamalight Subco, Inc. (Filed as Exhibit 2.1 to Praxair, Inc.'s Current Report on Form 8-K dated August 10, 2017, Filing No. 1-11037, and is incorporated hereby by reference.)
**2.2	Sale and Purchase Agreement, dated July 5, 2018, by and among Praxair, Inc., Taiyo Nippon Sanso Corporation ("Taiyo"), and Linde plc with respect to the sale of a majority of Praxair's businesses in Europe to Taiyo in connection with the Business Combination Agreement (Filed as Exhibit 2.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2018, File No. 1-38730, and is incorporated hereby by reference).
**2.3	Sale and Purchase Agreement, dated July 16, 2018, by and among Linde AG, Praxair, Inc., MG Industries GmbH, Messer Canada Inc., MG Industries USA, Inc. (the MG entities and Messer Canada, Inc. being collectively referred to as "Messer"), and Linde plc with respect to the sale of certain assets of Linde AG in the Americas and certain assets of Praxair, Inc. to Messer in connection with the Business Combination Agreement (Filed as Exhibit 2.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2018, File No. 1-38730, and is incorporated hereby by reference).
**2.3a	First Amendment dated September 21, 2018 to the Sale and Purchase Agreement, dated July 16, 2018, by and among Linde AG, Praxair, Inc., Messer, and Linde plc with respect to the sale of certain additional assets of Linde AG in the Americas to Messer in connection with the Business Combination Agreement (Filed as Exhibit 2.3 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2018, File No. 1-38730, and is incorporated hereby by reference).
**2.3b	Second Amendment dated October 19, 2018 to the Sale and Purchase Agreement, dated July 16, 2018, as amended by the First Amendment thereto, by and among Linde AG, Praxair, Inc., Messer, and Linde plc, with respect to the sale of certain additional assets of Linde AG in the Americas to Messer in connection with the Business Combination Agreement (Filed as Exhibit 2.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2018, File No. 1-11037, and is incorporated hereby by reference).
**2.3c	Third Amendment dated February 20, 2019 to the Sale and Purchase Agreement, dated July 16, 2018, as amended by the First and Second Amendment thereto, by and among Linde AG, Praxair, Inc., Messer, and Linde plc, with respect to the sale of certain additional assets of Linde AG in the Americas to Messer in connection with the Business Combination Agreement dated as of June 1, 2017, as amended, to effect a combination of the businesses of Linde AG and Praxair, Inc. (Filed as Exhibit 2.4 to the Company's Current Report on Form 8-K, filed on March 7, 2019, File No. 1-11037, and is incorporated hereby by reference).
3.01	Amended and Restated Public Limited Company Constitution of Linde plc (Filed as Exhibit 3.1 to the Company's Current Report on Form 8-K, filed on October 31, 2018, File No. 333-218485, and incorporated herein by reference).
4.01	Indenture, dated as of July 15, 1992, between Praxair, Inc. and U.S. Bank National Association, as the ultimate successor trustee to Bank of America, Illinois, formerly Continental Bank, National Association (Filed as Exhibit 4 to Praxair, Inc.'s Current Report on Form 8-K dated March 19, 2007, Filing No. 1-11037, and incorporated herein by reference).
4.02	Form of Subordinated Indenture for Praxair, Inc. (Filed as Exhibit 4.3 to Praxair, Inc.'s Form S-3, filed on May 12, 2015, File No. 333-204093, and is incorporated herein by reference.)
4.03	Copies of the agreements relating to long-term debt which are not required to be filed as exhibits to this Annual Report on Form 10-K will be furnished to the Securities and Exchange Commission upon request.
10.01	Credit Agreement dated as of December 19, 2014 among Praxair, Inc. and the Eligible Subsidiaries Referred to therein, the Lenders listed therein, and Bank of America, N.A., as Administrative Agent, Citibank N.A., Deutsche Bank Securities Inc. and HSBC Securities (USA) Inc., as Syndication Agents was filed as Exhibit 10.1 to Praxair, Inc.'s current report on Form 8-K, dated December 22, 2014, Filing No. 1-11037, and is incorporated herein by reference.
10.01a	Waiver, dated as of June 22, 2018, to the Credit Agreement, dated as of December 19, 2014, as amended, among Praxair, Inc., the Eligible Subsidiaries party thereto from time to time, the lenders party thereto from time to time and Bank of America, N.A., as Administrative Agent (Filed as Exhibit 10.1 to Praxair, Inc.'s Quarterly Report on Form 10-Q for the second quarter of 2018, File No. 1-11037, and is incorporated herein by reference).

Exhibit No.	Description
10.02	Credit Agreement dated as of July 18, 2013 among Linde AG and Linde Finance B.V., as original borrowers, the Lenders listed therein, and Deutsche Bank Luxembourg S.A., as Agent and EUR Swingline Agent, Deutsche Bank AG, New York Branch, as USD Swingline Agent, and the several Lead Arrangers listed therein.
10.02a	Waiver, dated as of June 19, 2018, to the Credit Agreement dated as of July 18, 2013 among Linde AG and Linde Finance B.V., as original borrowers, the Lenders listed therein, and Deutsche Bank Luxembourg S.A., as Agent and EUR Swingline Agent, Deutsche Bank AG, New York Branch, as USD Swingline Agent, and the several Lead Arrangers listed therein.
*10.03	Long Term Incentive Plan 2018 of Linde plc (Filed as Exhibit 4.4 to the Company's Form S-8, filed on October 31, 2018, File No. 333-228084, and incorporated herein by reference).
*10.04	Linde plc Annual Variable Compensation Plan effective January 1, 2019 (Filed as Exhibit 10.1 to the Company's Current Report on Form 8-K, filed on January 25, 2019, File No. 1-38730, and is incorporated hereby by reference).
*10.05	Form of Executive Severance Compensation Agreement effective January 1, 2009 (Filed as Exhibit 10.02 to Praxair, Inc.'s 2008 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.05a	Form of Amendment, effective December 31, 2012, to Executive Severance Compensation Agreements that were effective January 1, 2009 (Filed as Exhibit 10.1 to Praxair, Inc.'s Current Report on Form 8-K dated December 14, 2012, Filing No. 1-11037, and incorporated herein by reference.
*10.05b	Form of Executive Severance Compensation Agreement effective January 1, 2010 (Filed as Exhibit 10.02 to Praxair, Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2010, Filing No. 1-11037, and incorporated herein by reference).
*10.05c	Form of Amendment, effective December 31, 2012, to Executive Severance Compensation Agreements that were effective January 1, 2010 (Filed as Exhibit 10.02c to Praxair, Inc.'s 2012 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.05d	Form of Executive Severance Compensation Agreement effective January 1, 2013 (Filed as Exhibit 10.02d to Praxair, Inc.'s 2012 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.05e	Form of Assumption of Praxair, Inc. Executive Severance Compensation Agreement by Linde plc.
*10.06	Praxair, Inc. Supplemental Retirement Income Plan A effective January 1, 2008 (Filed as Exhibit 10.05a to Praxair, Inc.'s 2008 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.06a	First amendment to the Praxair, Inc. Supplemental Retirement Income Plan A effective January 1, 2010 (Filed as Exhibit 10.05b to Praxair, Inc.'s 2009 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.06b	Second Amendment to Praxair, Inc. Supplemental Retirement Income Plan A effective February 28, 2017, (Filed as Exhibit 10.05c to Praxair, Inc.'s 2016 Annual Report on Form 10-K, Filing No. 1-11037, and is incorporated hereby by reference).
*10.06c	Praxair, Inc. Supplemental Retirement Income Plan B amended and restated effective December 31, 2007 (Filed as Exhibit 10.05b to Praxair, Inc.'s 2008 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.06d	First amendment to the Praxair, Inc. Supplemental Retirement Income Plan B effective January 1, 2010 (Filed as Exhibit 10.05d to Praxair, Inc.'s 2009 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.06e	Second Amendment to Praxair, Inc. Supplemental Retirement Income Plan B effective July 1, 2012 (Filed as Exhibit 10.05e to Praxair Inc.'s 2012 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.06f	Third Amendment to Praxair, Inc. Supplemental Retirement Income Plan B effective February 28, 2017, (Filed as Exhibit 10.05g to Praxair, Inc.'s 2016 Annual Report on Form 10-K, Filing No. 1-11037, and is incorporated herein by reference).
*10.07	Praxair, Inc. Equalization Benefit Plan amended and restated effective December 31, 2007 (Filed as Exhibit 10.05c to Praxair, Inc.'s 2008 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.07a	First amendment to the Praxair, Inc. Equalization Benefit Plan effective January 1, 2010 (Filed as Exhibit 10.05f to Praxair Inc.'s 2009 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.07b	Second Amendment to the Praxair, Inc. Equalization Benefit Plan effective February 28, 2017,(Filed as Exhibit 10.05j to Praxair, Inc.'s 2016 Annual Report on Form 10-K, Filing No. 1-11037, and is incorporated herein by reference).

Exhibit No.	Description
*10.07c	Third Amendment to the Praxair, Inc. Equalization Benefit Plan effective December 1, 2017 (Filed as Exhibit 10.05k to Praxair, Inc.'s 2017 Annual Report on Form 10-K, File No. 1-11037, and is incorporated herein by reference).
*10.07d	Fourth Amendment to the Praxair, Inc. Supplemental Retirement Income Plan B effective December 1, 2017 (Filed as Exhibit 10.05l to Praxair, Inc.'s 2017 Annual Report on Form 10-K, File No. 1-11037, and is incorporated herein by reference).
*10.07e	Third Amendment to the Praxair, Inc. Supplemental Retirement Income Plan A effective December 1, 2017 (Filed as Exhibit 10.05m to Praxair, Inc.'s 2017 Annual Report on Form 10-K, File No. 1-11037, and is incorporated herein by reference).
*10.07f	Praxair, Inc. 2018 Equalization Benefit Plan (Filed as Exhibit 99.1 to Praxair, Inc.'s Current Report on Form 8-K filed on October 22, 2018, File No. 1-11037, and incorporated herein by reference).
*10.07g	Praxair, Inc. 2018 Supplemental Retirement Income Plan A (Filed as Exhibit 99.2 to Praxair, Inc.'s Current Report on Form 8-K filed on October 22, 2018, File No. 1-11037, and incorporated herein by reference).
*10.07h	Praxair, Inc. 2018 Supplemental Retirement Income Plan B (Filed as Exhibit 99.3 to Praxair, Inc.'s Current Report on Form 8-K, filed October 22, 2018, File No. 1-11037, and incorporated herein by reference).
*10.08	Praxair, Inc. Director's Fees Deferral Plan amended and restated effective January 26, 2010 (Filed as Exhibit 10.06 to Praxair Inc.'s 2009 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.09	Praxair, Inc. Compensation Deferral Program Amended and Restated as of July 15, 2014 (Filed as Exhibit 10.01 to Praxair, Inc.'s Quarterly Report on Form 10-Q for the quarter ended September 30, 2014, Filing No. 1-11037, and incorporated herein by reference).
*10.09a	First Amendment to the Praxair Compensation Deferral Program effective February 28, 2017,(Filed as Exhibit 10.07a to Praxair, Inc.'s 2016 Annual Report on Form 10-K, Filing No. 1-11037, and is incorporated herein by reference).
*10.10	Service Credit Arrangement for Stephen F. Angel dated May 23, 2007 was filed as Exhibit 10.20 to Praxair, Inc.'s Form 8-K filed on May 24, 2007 and is incorporated herein by reference.
*10.11	Amended and Restated 2009 Praxair, Inc. Long Term Incentive Plan (Filed as Exhibit 4.03 to Praxair, Inc.'s Form S-8, filed on October 31, 2018, File No. 333-228084, and incorporated herein by reference).
*10.11a	Form of Standard Option Award under the 2009 Praxair, Inc. Long Term Incentive Plan (Filed as Exhibit 10.22 to Praxair, Inc.'s 2009 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.11b	Form of Transferable Option Award under the 2009 Praxair, Inc. Long Term Incentive Plan (Filed as Exhibit 10.23 to Praxair, Inc.'s 2009 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.11c	Form of Restricted Stock Unit Award under the 2009 Praxair, Inc. Long Term Incentive Plan (Filed as Exhibit 10.24 to Praxair, Inc.'s 2009 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).

Exhibit No.	Description
*10.11d	First Amendment, dated as of April 25, 2017, to the Amended and Restated 2009 Praxair, Inc. Long Term Incentive Plan (Filed as Exhibit 10.01 to Praxair, Inc.'s Quarterly Report on Form 10-Q for the quarter ended March 31, 2017, Filing No. 1-11037, and is incorporated herein by reference).
*10.11e	Form of Transferable Option Award under the Amended and Restated 2009 Praxair, Inc. Long Term Incentive Plan for grants made in 2015-2017 (Filed as Exhibit 10.26 to Praxair, Inc.'s 2014 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.11f	Form of Transferable Option Award under the Amended and Restated 2009 Praxair, Inc. Long Term Incentive Plan for grants made in 2018 (Filed as Exhibit 10.26a to Praxair, Inc.'s 2017 Annual Report on Form 10-K, File No. 1-11037, and incorporated herein by reference).
*10.11g	Form of Restricted Stock Unit Award under the Amended and Restated 2009 Praxair, Inc. Long Term Incentive Plan for grants made in 2015 and thereafter (Filed as Exhibit 10.27 to Praxair, Inc.'s 2014 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.11h	Form of Restricted Stock Unit Award under the Amended and Restated 2009 Praxair, Inc. Long Term Incentive Plan for grants made in 2018 (Filed as Exhibit 10.27a to Praxair, Inc.'s 2017 Annual Report on Form 10-K, File No. 1-11037, and incorporated herein by reference).
*10.11i	Form of Performance Share Unit Award under the Amended and Restated 2009 Praxair, Inc. Long Term Incentive Plan for grants made in 2015 and thereafter with Earnings Per Share performance metrics (Filed as Exhibit 10.28A to Praxair, Inc.'s 2014 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.11j	Form of Performance Share Unit Award under the Amended and Restated 2009 Praxair, Inc. Long Term Incentive Plan for grants made in 2016-2017 with Total Shareholder Return performance metrics (Filed as Exhibit 10.28C to Praxair, Inc.'s 2015 Annual Report on Form 10-K, Filing No. 1-11037, and incorporated herein by reference).
*10.11k	Form of Non-Employee Director Restricted Stock Unit Award under the Amended and Restated 2009 Praxair, Inc. Long Term Incentive Plan (Filed as Exhibit 10.01 to Praxair, Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2015, Filing No. 1-11037, and incorporated herein by reference.
*10.11l	Form of Transferable Option Award under the Amended and Restated 2009 Praxair, Inc. Long Term Incentive Plan for grants beginning in 2019.
*10.11m	Form of Restricted Stock Unit Award under the Amended and Restated 2009 Praxair, Inc. Long Term Incentive Plan for grants beginning in 2019.
*10.11n	Form of Performance Share Unit Award under the Amended and Restated 2009 Praxair, Inc. Long Term Incentive Plan for grants beginning in 2019 with Return on Capital performance metrics.
*10.11o	Form of Performance Share Unit Award under the Amended and Restated 2009 Praxair, Inc. Long Term Incentive Plan for grants beginning in 2019 with Total Shareholder Return performance metrics.
*10.12	Separation Agreement and General Release dated April 6, 2018, by and between Praxair, Inc. and Scott Telesz, Executive Vice President of Praxair (Filed as Exhibit 10.01 to the Praxair, Inc.'s Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, File No. 1-11037, and incorporated herein by reference).
*10.13a	Plan conditions 2015 Awards under the Linde AG 2012 Long Term Incentive Plan.
*10.13b	Plan conditions 2016 Awards under the Linde AG 2012 Long Term Incentive Plan.
*10.13c	Plan conditions 2017 Awards under the Linde AG 2012 Long Term Incentive Plan.
*10.13d	Form of First Amendment to the Plan Conditions under the Linde AG 2012 Long Term Incentive Plan.
*10.13e	Form of Second Amendment to the Plan Conditions under the Linde AG 2012 Long Term Incentive Plan.
*10.13f	Form of Award Agreement under the Linde AG 2012 Long Term Incentive Plan.
*10.14	Form of Employer-Funded Pension Plan Executive Agreement of Linde AG.
*10.15	Form of Linde AG Executive Employment Agreement.
*10.15a	Form of Change Control Appendix to Linde AG Executive Employment Agreement.
*10.16	Executive Employment Agreement by and between Linde AG and Mr. Sanjiv Lamba, dated March 9, 2011, as amended.

Exhibit No.	Description
*10.17	Form of Linde plc Director Indemnification Agreement (Filed as Exhibit 10.1 to the Company's Current Report on Form 8-K, filed on October 31, 2018, File No. 333-218485, and incorporated herein by reference).
21.01	Subsidiaries of Linde plc
23.01	Consent of Independent Registered Public Accounting Firm.
31.01	Rule 13a-14(a) Certification
31.02	Rule 13a-14(a) Certification
32.01	Section 1350 Certification (such certifications are furnished for the information of the Commission and shall not be deemed incorporated by reference into any filing under the Securities Act or the Exchange Act).
32.02	Section 1350 Certification (such certifications are furnished for the information of the Commission and shall not be deemed incorporated by reference into any filing under the Securities Act or the Exchange Act).
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema
101.CAL	XBRL Taxonomy Extension Calculation Linkbase
101.LAB	XBRL Taxonomy Extension Label Linkbase
101.PRE	XBRL Taxonomy Extension Presentation Linkbase
101.DEF	XBRL Taxonomy Extension Definition Linkbase

Copies of exhibits incorporated by reference can be obtained from the SEC and are located in SEC File No. 1-11037.

* Indicates a management contract or compensatory plan or arrangement.

** Certain schedules or similar attachments have been omitted pursuant to Item 601(b)(2) of Regulation S-K. The Registrant agrees to furnish supplemental copies of any of the omitted schedules or attachments upon request by the SEC.

ITEM 16. FORM 10-K SUMMARY

None.

SIGNATURES

Linde plc and Subsidiaries

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Linde plc
(Registrant)

Date: March 18, 2019

By: /s/ KELCEY E. HOYT

Kelcey E. Hoyt
Chief Accounting Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated on March 18, 2019.

/s/ PROF. DR. WOLFGANG REITZLE	/s/ STEPHEN F. ANGEL	/s/ MATTHEW J. WHITE
Wolfgang Reitzle ***Chairman***	**Stephen F. Angel** ***Chief Executive Officer and Director***	**Matthew J. White** ***Chief Financial Officer***
/s/ PROF. DDR. ANN-KRISTIN ACHLIETNER	/s/ DR. CLEMENS BÖRSIG	/s/ DR. NANCE K. DICCIANI
Ann-Kristin Achleitner ***Director***	**Clemens Börsig** ***Director***	**Nance K. Dicciani** ***Director***
/s/ DR. THOMAS ENDERS	/s/ FRANZ FEHRENBACH	/s/ EDWARD G. GALANTE
Thomas Enders ***Director***	**Franz Fehrenbach** ***Director***	**Edward G. Galante** ***Director***
/s/ LARRY D. MCVAY	/s/ DR. VICTORIA OSSADNIK	/s/ PROF. DR. MARTIN H. RICHENHAGEN
Larry D. McVay ***Director***	**Victoria Ossadnik** ***Director***	**Martin Richenhagen** ***Director***
/s/ ROBERT L. WOOD		
Robert L. Wood ***Director***		

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Ordinary Shares Listing (Symbol: LIN)
New York Stock Exchange
Frankfurt Stock Exchange
CUSIP: G5494J 103
ISIN: IE00BZ12WP82

Stock Transfer Agent and Stock Record Keeping
Computershare Trust Company, N.A. ("Computershare") is Linde's stock transfer agent and registrar, and administers all matters for shareholders of record.

For information about account records, stock certificates, change of address and dividend payments, contact: +1 866 201-5090 Toll Free and +1 781 575-2553 outside the United States or web.queries@computershare.com.

Website address:
www.computershare.com/investor
By mail, address shareholder inquiries to:
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Providence, RI 02940-3078

Dividend Reinvestment Plan
Linde provides investors a convenient, low-cost program that allows dividends to be automatically reinvested into additional shares of Linde ordinary shares. Contact Computershare for full details.

For more information
Visit us online at www.linde.com/investors for more information about Linde.



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