Linde plc 2019 Directors´ Report
and Financial Statements

Making our world more productive

LINDE PLC

DIRECTORS' REPORT AND FINANCIAL STATEMENTS
FINANCIAL YEAR ENDED 31 DECEMBER 2019

Forward-Looking Statements
Directors' Report
Independent Auditors' Report
Consolidated Financial Statements
Consolidated Statement of Profit and Loss
Consolidated Statement of Comprehensive Income
Consolidated Statement of Financial Position
Consolidated Statement of Changes in Equity
Consolidated Statement of Cash Flows
Notes to the Consolidated Financial Statements
Linde plc Entity Financial Statements
Combined Non-Financial Report

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: that Linde plc may be unable to achieve expected synergies from the business combination of Praxair and Linde AG 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; 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 the Principal Risks and Uncertainties section of this report, which should be reviewed carefully. Please consider Linde plc's forward-looking statements in light of those risks.

Directors' Report

PRINCIPAL ACTIVITIES

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 1 June 2017, as amended, between Linde plc, Praxair, Inc. ("Praxair") and Linde Aktiengesellschaft ("Linde AG"). Effective 31 October 2018, the business combination was completed and Linde plc is comprised of the businesses of Praxair and Linde AG (hereinafter the combined businesses 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 have 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 and is 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.

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 3 December 2018), the majority of Linde AG's Americas industrial gases business (completed on 1 March 2019), select assets of Linde AG's South Korea industrial gases business (completed 30 April 2019), select assets of Praxair's Indian industrial gases business (completed 12 July 2019), select assets of Linde AG's Indian industrial gases business (completed 16 December 2019) as well as certain divestitures of other Praxair and Linde AG businesses in Asia that are expected to be sold in 2020. As of 31 December 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 (“FTC”) hold separate order (“HSO”) restrictions were lifted 1 March 2019, concurrent with the sale of the required merger-related divestitures in the United States. See Note 3 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. 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. Effective with the lifting of the hold separate order on 1 March 2019, new operating segments were established. Linde’s industrial gases operations are managed on a geographic basis, which represents three of the company's new reportable segments - Americas, EMEA (Europe/Middle East/Africa), and APAC (Asia/South Pacific); a fourth reportable segment which represents the company's Engineering business, designs and manufactures equipment for air separation and other industrial gas applications specifically for end customers and is managed on a worldwide basis operating in all geographic segments. Other consists of corporate costs and a few smaller businesses, which individually do not meet the quantitative thresholds for separate presentation.

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 business 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 business 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.

BUSINESS REVIEW

On 31 October 2018 Praxair and Linde AG combined their respective businesses through an all-stock merger transaction, and became subsidiaries of Linde plc. The year ended 31 December 2018 reflects the results of Praxair for the entire year and the results of Linde AG for the period beginning after 31 October 2018 (the merger date), including the impacts of acquisition ("purchase") accounting (see Note 2 to the consolidated financial statements). The year ended 31 December 2019 reflects the results of Praxair and Linde AG for the entire year.

CONSOLIDATED RESULTS OF OPERATIONS

The following table provides summary results of operations of Linde plc for 2019 and 2018:

(Millions of dollars) Year Ended 31 December	2019	2018	Variance	
Revenue	$ 28,758	$ 14,973	13,785	92 %
Cost of sales (includes depreciation)	20,869	10,626	10,243	96 %
Marketing and selling expenses, and Research and development costs (includes depreciation and amortization)	5,073	2,374	2,699	114 %
Net gain on divestiture of businesses and other operating income and expenses - net	234	3,737	(3,503)	(94)%
Operating profit from continuing operations	**3,050**	**5,710**	**(2,660)**	(47)%
Operating Margin	*10.6%*	*38.1%*		
Financial expenses - net	108	248	(140)	(56)%
Share of profit and loss from associates and joint ventures (at equity)	63	54	9	17 %
Income tax expense	812	811	1	NM
PROFIT FOR THE YEAR FROM CONTINUING OPERATIONS	**$ 2,193**	**$ 4,705**	**$ (2,512)**	(53)%
attributable to Linde plc shareholders	$ 2,061	$ 4,685	$ (2,624)	(56)%
attributable to noncontrolling interests	132	$ 20	112	NM
DILUTED EARNINGS PER SHARE FROM CONTINUING OPERATIONS - LINDE PLC SHAREHOLDERS	$ 3.78	$ 14.02	(10.24)	(73)%

Results of Operations, 2019 Compared With 2018

Sales increased 92% to $28,758 million in 2019 compared to $14,973 million in 2018 primarily due to the merger, net of related divestitures. Volume increased sales by 1% driven by higher volumes largely in the APAC segment, including new project start-ups. Higher pricing across all geographic segments contributed 3% to sales. Currency translation decreased sales by 2% driven by the weakening of the Brazilian real, Canadian dollar and Chinese yuan against the US dollar. Lower cost pass-through, primarily natural gas, decreased sales by 1% with minimal impact on operating profit.

Cost of sales increased 96% to $20,869 million in 2019 compared to $10,626 million in 2018 primarily due to the merger, net of related divestitures. Cost of sales for 2019 was negatively impacted by $1,337 million for additional depreciation and amortization related to purchased accounting and a $11 million charge for the fair value step-up of inventories acquired in the merger. Also, cost of sales includes cost reduction programs and other charges of $154 million in 2019, primarily related to costs associated with executing planned synergies and an asset impairment in APAC of approximately $73 million ($42 million, after tax and noncontrolling interests) resulting from an unfavorable arbitration ruling.

Marketing and selling expenses, and Research and development costs ("SG&A/R&D") increased $2,699 million in 2019 to $5,073 million, primarily due to the merger. SG&A/R&D for 2019 includes $660 million for additional depreciation and amortization related to the required purchase accounting. Also, SG&A/R&D includes cost reduction programs and other charges of $413 million in 2019 and $309 million in 2018, primarily related to merger transaction costs and the costs associated with executing planned synergies.

Net gain on divestiture of businesses and other operating income and expenses - net in 2019 and 2018 include net gains on sales of businesses of $164 million and $3,778 million, respectively, for merger-related divestitures (See Note 3 to the consolidated financial statements). Other expenses – net in 2019 was a $70 million benefit versus a $41 million expense in 2018 (See Note 8 to the consolidated financial statements for a summary of major components).

Operating profit of $3,050 million in 2019 was $2,660, or 47% lower than operating profit of $5,710 in 2018. 2019 includes Linde AG's operating results for the full year and a gain on merger-related divestitures of $164 million, which was offset by purchase accounting impacts of $2,008 million related to the merger (see Notes 1, 2, and 3 to the consolidated financial statements), and $567 million in cost reduction program and other charges. 2018 included Linde AG's operating results from October 31, 2018 forward and a net gain on merger-related divestitures of $3,778 million, partially offset by purchase accounting impacts of $739 million and $309 million of merger-related charges. Excluding these impacts, operating profit increased as the impacts of higher pricing and volumes were partially offset by unfavorable currency impacts and cost inflation. A discussion of operating profit by segment is included in the segment discussion that follows.

Financial expense – net in 2019 decreased $140 million, or 56%, versus 2018. 2019 and 2018 included decreases of $96 million and $21 million, respectively, related to purchase accounting impacts related to the fair value of debt acquired in the merger (see Note 2 to the consolidated financial statements). 2018 also included charges of $26 million relating to the early redemption of notes.

Share of profit and loss from associates and joint ventures (at equity) increased $9 million in 2019 versus 2018 primarily driven by income from equity investments acquired in the merger, primarily in APAC and EMEA.

The effective tax rate ("ETR") for 2019 was 27.0% versus 14.7% in 2018. 2018 included the impact of the sale of Praxair's European industrial gas business (see Note 3 to the consolidated financial statements).

Profit from continuing operations for 2019 was $2,193 million, $2,512 million or 53% lower than $4,705 million in 2018 primarily due to the 2018 gain on merger-related divestitures, partially offset by the merger.

Diluted earnings per share from continuing operations - Linde plc shareholders ("EPS") of $3.78 in 2019 decreased $10.24 per diluted share, or 73% from $14.02 in 2018, primarily due to lower profit from continuing operations and an increase in diluted shares resulting from equity acquired in the merger.

SEGMENT DISCUSSION

Effective 31 October 2018, Praxair and Linde AG completed the previously announced merger, resulting in the formation of Linde plc (see Notes 1 and 2 to the consolidated financial statements for additional information). For the year ended 31 December 2018, the company's operations were organized into six reportable segments: North America, Europe, South America, Asia, Surface Technologies and Linde AG. Effective with the lifting of the "Hold Separate Order" on 1 March 2019 new operating segments were created which are used by the company's Chief Operating Decision Maker ("CODM") to allocate company resources and assess performance. Linde's operations consist of two major product lines: industrial gases and engineering/other. Linde's industrial gases operations are managed on a geographic basis, which represents three of the company's new operating segments - Americas, EMEA (Europe/Middle East/Africa), and APAC (Asia/South Pacific); a fourth operating segment which represents the company's Engineering business, designs and manufactures equipment for air separation and other industrial gas applications specifically for end customers and is managed on a worldwide basis. Each of these operating segments is a separate reporting segment for financial reporting purposes. Other consists of corporate costs and a few smaller businesses which individually do not meet the quantitative thresholds for separate presentation.

Historically and through 2019, Linde assessed the performance of the operating segments determined in accordance with US GAAP. Accordingly, the analysis of key performance indicators and the associated segment discussion that follows are based on US GAAP results. A reconciliation from US GAAP results to those determined under EU-IFRS ("IFRS") for the years ended 31 December 2019 and 2018 is also provided. The following summary of US GAAP sales and operating profit by segment provides a basis for the discussion that follows (for additional information concerning Linde's segments, see Note 26 to the consolidated financial statements). Linde evaluates the performance of its reportable segments based on US GAAP operating profit, excluding the items not indicative of ongoing business trends as disclosed in Note 26 ("Segment operating profit").

The table below presents sales and operating profit information about reportable segments and Other for the years ended 31 December 2019 and 2018. The year ended 31 December 2019 reflects the results of both Praxair and Linde AG for the entire year. The year ended 31 December 2018 reflects the results of Praxair for the entire year and the results of Linde AG for the period beginning after 31 October 2018 (the merger date), including the impacts of purchase accounting. Prior periods presented have been recast to be consistent with the new segment structure.

(Millions of dollars) Year Ended 31 December	2019	2018	Variance	
Sales				
Americas	$ 10,993	$ 8,017	$ 2,976	37%
EMEA	6,643	2,644	3,999	151%
APAC	5,839	2,446	3,393	139%
Engineering	2,799	459	2,340	510%
Other	1,954	1,270	684	54%
Total US GAAP Sales	$ 28,228	$ 14,836	$ 13,392	90%
GAAP adjustments [1]	530	137	393	
Total IFRS Sales	$ 28,758	$ 14,973	$ 13,785	92%

(1) Related to consolidation of certain entities for IFRS, not for US GAAP.

(Millions of dollars) **Year Ended 31 December**	2019	2018	Variance	
Operating Profit				
Americas	$ 2,578	$ 2,053	$ 525	26 %
EMEA	1,367	481	886	184 %
APAC	1,198	465	733	158 %
Engineering	390	14	376	2,686 %
Other	(245)	(37)	(208)	562 %
Segment operating profit	5,288	2,976	2,312	78 %
Cost reduction programs and other charges [1]	(567)	(309)	(258)	83 %
Net gain on sale of business [2]	164	3,294	(3,130)	(95)%
Purchase accounting impacts - Linde AG [3]	(1,952)	(714)	(1,238)	173 %
US GAAP consolidated operating profit	$ 2,933	$ 5,247	$ (2,314)	(44)%
GAAP adjustments [4]	117	463	(346)	(75)%
IFRS consolidated operating profit	$ 3,050	$ 5,710	$ (2,660)	(47)%

(1) Linde recorded cost reduction programs and other charges of $567 million and $309 million for 2019 and 2018, respectively, primarily related to merger and synergy-related costs and an asset impairment in the third quarter 2019 of approximately $73 million related to a joint venture in APAC resulting from an unfavorable arbitration ruling. These charges are not included in management's view of segment profitability.

(2) In 2019, related to the sale of select Indian assets resulting in a gain of $164 million. 2018 relates the sale of Praxair's European industrial gases business under US GAAP. The sale of this business under IFRS resulted in a net gain on divestiture of $3,778, a difference of $484 million due to the cumulative currency translation differences for all foreign operations having been set to zero as at 1 January 2017 due to IFRS 1. See Note 3 for further detail related to merger-related divestitures.

(3) Related to the impacts of the required purchase accounting related to the merger transaction under US GAAP (see Note 2).

(4) Primarily related to differences in accounting between US GAAP and IFRS such as: consolidation of entities, pension accounting and the aforementioned net gain on Praxair's European divestiture.

Americas

The Americas segment includes Linde's industrial gases operations in approximately 20 countries including the United States, Canada, Mexico and Brazil.

Sales for 2019 increased $2,976 million, or 37%, versus 2018, primarily due to the merger. Higher pricing contributed 3% to sales. Unfavorable currency translation decreased sales by 2%, primarily driven by the weakening of the Brazilian real, Mexican peso and Canadian dollar against the U.S. Dollar. Lower cost past-through, primarily natural gas, decreased sales by 1% with minimal impact on operating profit.

Operating profit in 2019 increased $525 million, or 26% from 2018 largely driven by the merger and higher pricing, partially offset by unfavorable currency translation impacts of 2%. Operating profit for 2018 also included net gains on asset disposals of $13 million.

EMEA

The EMEA segment includes Linde's industrial gases operations in approximately 45 European, Middle Eastern and African countries including Germany, France, Sweden, the Republic of South Africa, and the United Kingdom.

Sales in 2019 increased $3,999 million, or 151% from 2018 driven primarily by the net impact of the merger with Linde AG and the related divestiture of Praxair's European gases business in the fourth quarter of 2018. Excluding this net impact, sales decreased 2%. Volumes decreased 1% driven by weaker industrial production. Higher price contributed 1% to sales. Unfavorable currency translation and cost pass-through each decreased sales by 1%.

Operating profit in 2019 increased $886 million, or 184% from 2018 driven primarily by the net impact of the merger with Linde AG and the related divestiture of Praxair's European gases business in the fourth quarter of 2018.

APAC

The APAC segment includes Linde's industrial gases operations in approximately 20 Asian and South Pacific countries and regions including China, Australia, India, South Korea and Taiwan.

Sales in 2019 increased $3,393 million, or 139% versus 2018 driven by the merger. Unfavorable currency translation decreased sales by 3%, driven primarily by the weakening of the Chinese yuan, Korean won and Indian rupee against the U.S. Dollar. Excluding the impacts of the merger and currency, sales increased by 6% driven by higher base volumes, new project start ups and higher price.

Operating profit for 2019 increased $733 million, or 158%, versus 2018 driven by the net impact of the merger with Linde AG. Unfavorable currency translation decreased operating profit by 3% for the year. Excluding the merger and currency impacts, operating profit growth was driven by higher price and cost reduction programs.

Engineering

Sales in 2019 increased $2,340 million, or 510%, versus 2018 primarily related to the merger of the Linde Engineering business. Excluding the impact of the merger, volume growth of 8% was partially offset by unfavorable currency translation of 2%.

Operating profit in 2019 increased $376 million versus 2018 related primarily to the merger of the Linde Engineering business.

Other

Other consists of corporate costs and a few smaller businesses including: Surface Technologies, GIST, global helium wholesale, and Electronic Materials; which individually do not meet the quantitative thresholds for separate presentation.

Sales in 2019 increased $684 million, or 54% versus 2018 primarily due to the merger which increased sales by 47%. Higher volumes and price increased sales by 9% in the year, primarily driven by higher surface technologies volumes to the aerospace and manufacturing end-markets and higher price. Currency translation decreased sales by 2% for the year.

Operating profit in 2019 decreased $208 million versus 2018 primarily related to the merger as operating profit increases from higher volumes and price were more than offset by the merger of Linde AG corporate.

CONSOLIDATED FINANCIAL POSITION

The following table provides a summary of consolidated financial position of Linde plc as of 31 December 2019 and 2018:

(Millions of dollars)	31/12/2019	31/12/2018	Variance	
Goodwill	$ 27,148	$ 26,738	$ 410	2 %
Other intangible assets	16,818	17,281	(463)	(3)%
Tangible assets	29,689	30,693	(1,004)	(3)%
Other assets	10,700	9,668	1,032	11 %
Non-current assets classified as held for sale	320	5,670	(5,350)	(94)%
Cash and cash equivalents	2,790	4,533	(1,743)	(38)%
TOTAL ASSETS	**$ 87,465**	**$ 94,583**	**$ (7,118)**	**(8)%**
Equity	52,141	57,789	(5,648)	(10)%
Pensions obligations and other provisions	3,705	3,098	607	20 %
Financial debt	13,947	15,289	(1,342)	(9)%
Other liabilities	17,587	17,544	43	— %
Liabilities in connection with non-current assets classified as held for sale	85	863	(778)	(90)%
TOTAL EQUITY AND LIABILITIES	**$ 87,465**	**$ 94,583**	**$ (7,118)**	**(8)%**

Goodwill increased $410 million to $27,148 million as of 31 December 2019 from $26,738 million as of 31 December 2018. This increase is primarily related to measurement period adjustments related to the merger with Linde AG and acquisitions, partially offset by negative currency translation (see Notes 2 and 12 to the consolidated financial statements).

Other intangible assets – net decreased $463 million to $16,818 million as of 31 December 2019 from $17,281 million as of 31 December 2018. This decrease is primarily related to the amortization of finite lived intangible assets and the impact of negative currency translation, partially offset by measurement period adjustments related to the merger with Linde AG and acquisitions (see Notes 2 and 12 to the consolidated financial statements).

Tangible assets (Property, plant and equipment – net) decreased $1,004 million to $29,689 million as of 31 December 2019 from $30,693 million as of 31 December 2018. This decrease is primarily related to the depreciation of the tangible assets partially offset by capital expenditures (see Note 13 to the consolidated financial statements).

Other assets increased $1,032 million to $10,700 million as of 31 December 2019 from $9,668 million as of 31 December 2018. This increase is primarily related to the recognition in the consolidated statement of financial position of the right of use assets of $1,168 million as required under IFRS 16 (see Notes 2 and 21 to the consolidated financial statements).

Non-current assets classified as held for sale net of liabilities in connection with non-current assets classified as held for sale was $235 million at 31 December 2019 versus $4,807 million at 31 December 2018. The reduction was primarily driven by merger-related divestitures in the Americas, South Korea and India completed during 2019 (see Note 3 to the consolidated financial statements).

Cash and cash equivalents decreased $1,743 million to $2,790 million as of 31 December 2019 from $4,533 million as of 31 December 2018. Operating cash flow of $6,560 million and cash inflows from investing activities of $1,164 million were more than offset by cash outflows for financing activities of $9,391 million. See the "Liquidity and Capital Resources" discussion below for further detail. The cash is available for corporate uses, including among others capital expenditures and share repurchases.

Equity decreased $5,648 million to $52,141 million as of 31 December 2019 from $57,789 million as of 31 December 2018. This decrease was primarily driven by the completion of the cash merger squeeze-out of the remaining 8% Linde AG shareholders in April 2019 which reduced equity by $3.2 billion, net share repurchases of $2,586 million and $1,891 million of dividend payments to Linde plc shareholders, partially offset by net income of $2,287 million (see the statement of changes in consolidated equity and Note 7 to the consolidated financial statements).

Pension obligations and other provisions increased $607 million to $3,705 million as of 31 December 2019 from $3,098 million as of 31 December 2018. This increase is primarily related to the revaluation of pension obligations which was negatively impacted by a reduction in discount rates, most significantly in EMEA.

Financial debt (the sum of short-term debt, current portion of long-term debt and long-term debt), decreased $1,342 million to $13,947 million as of 31 December 2019 from $15,289 million as of 31 December 2018 driven primarily by debt repayments-net during 2019 (see "Liquidity and Capital Resources" discussion below and Note 20 to the consolidated financial statements).

Other liabilities increased $43 million to $17,587 million as of 31 December 2019 from $17,544 million as of 31 December 2018. This increase is driven by the recognition in the consolidated statement of financial position of lease liability of $1,130 million as required under IFRS 16 (see Notes 2 and 21 to the consolidated financial statements), which was largely offset by timing of accruals related to incentives and taxes, and the impact of currency translation.

LIQUIDITY AND CAPITAL RESOURCES

Following is a summary of the consolidated statement of cash flows:

(Millions of dollars)

Year Ended 31 December	**2019**	**2018**	**Variance**
Cash flow from operating activities	$ 6,560	$ 3,683	$ 2,877
Cash flow from investing activities	1,164	5,435	(4,271)
Cash flow for financing activities	(9,391)	(5,031)	(4,360)
Other cash activity	(76)	(171)	95
Change in cash and cash equivalents	(1,743)	3,916	(5,659)
Cash and cash equivalents, beginning -of-period	4,533	617	3,916
Cash and cash equivalents, end-of-period	$ 2,790	$ 4,533	$ (1,743)

Cash decreased $1,743 million in 2019 versus 2018. The primary sources of cash in 2019 were cash flows from operations of $6,560 million and proceeds from divestitures and asset sales of $5,091 million. The primary uses of cash included capital expenditures of $3,702 million, cash dividends to shareholders of $1,891 million, transactions with noncontrolling interests of $3,310 million and net purchases of ordinary shares of $2,586 million.

Operating cash flows

Cash flows from operations was $6,560 million, or 23% of sales, an increase of $2,877 million from $3,683 million, or 25% of sales in 2018. The increase was primarily attributable to the merger, higher net income adjusted for non-cash charges, partially offset by higher working capital requirements and higher merger and synergy related cash outflows.

Investing cash flows

Net cash provided by investing activities of $1,164 million decreased $4,271 million from $5,435 million in 2018. This decrease in investing cash flows was primarily driven by lower proceeds from merger-related divestitures, cash acquired in the merger and higher capital expenditures.

Divestitures and asset sales in 2019 totaled $5,091 million primarily driven by proceeds from merger-related divestitures including $3.4 billion from the sale of Linde AG's Americas business, $1.2 billion from the sale of Linde Korea, and approximately $200 million each from the sale of the legacy Praxair and legacy Linde India selected assets (see Note 3 to the consolidated financial statements).

Capital expenditures in 2019 were $3,702 million, an increase of $1,816 million from 2018, driven primarily by the merger with Linde AG. Capital expenditures during 2019 related primarily to investments in new plant and production equipment for growth. Approximately 44% of the capital expenditures were in the Americas segment with 33% in the APAC segment and the rest primarily in the EMEA segment.

Acquisition expenditures in 2019 were $225 million, an increase of $200 million from 2018 and related primarily to acquisitions in the Americas.

Financing cash flows

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.

Cash used for financing activities was $9,391 million in 2019 compared to $5,031 million in 2018. The primary financing uses of cash were for transactions with noncontrolling interests, net debt repayments, cash dividends and net purchases of Linde ordinary shares. Noncontrolling interest transactions and other payments of $3,310 million increased $2,885 million from 2018 driven by a payment of approximately $3.2 billion for the cash-merger squeeze-out of the 8% of Linde AG shares completed on 8 April 2019 (see Note 17 to the consolidated financial statements). 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 3 to the consolidated financial statements) and $25 million in interest related to the early redemption of bonds (see Note 20 to the consolidated financial statements). Cash dividends of $1,891 million increased $725 million from 2018 driven primarily by higher shares outstanding after the merger and a 6% increase in dividends per share from $3.30 to $3.50. Net purchases of ordinary shares were $2,586 million in 2019 versus $522 million in 2018 driven by increased share repurchases. The cash used for debt repayments-net of $1,276 million decreased $1,639 million from $2,915 million during 2018 while cash decreased $1,743 million. Net debt (calculated as total debt less cash and cash equivalents) increased $401 million primarily due to lower cash balances partially offset by debt repayments.

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. At 31 December 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 20 to the consolidated financial statements includes information with respect to the company's debt repayments in 2019, current debt position, debt covenants and the available credit facilities; and Note 24 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 31 December 2019 and expects to remain in compliance for the foreseeable future.

Linde's total net financial debt outstanding (i.e. total financial debt less cash) was $11,157 million, $401 million higher than $10,756 million at 31 December 31 2018. The 31 December 2019 net debt balance includes $12,762 million in public securities, $1,185 million representing primarily worldwide bank borrowings, net of $2,790 million of cash. Linde's global effective borrowing rate was approximately 2% for 2019.

Following is a summary of notes that were repaid in 2019:

- In February 2019, Linde repaid $500 million of 1.90% rate notes that became due
- In May 2019, Linde repaid $150 million of variable rate notes that became due
- In June 2019, Linde repaid €500 million of 1.75% notes that due
- In June 2019, Linde repaid AUD100 million of variable rate notes that became due
- In August 2019, Linde repaid $200 million of variable rate notes that became due.

On 26 March 2019, the company and certain of its subsidiaries entered into an unsecured revolving credit agreement ("the Credit Agreement") with a syndicate of banking institutions, which became effective on 29 March 2019. The Credit Agreement provides for total commitments of $5.0 billion, which may be increased up to $6.5 billion, subject to receipt of additional commitments and satisfaction of customary conditions. There are no financial maintenance covenants contained within the Credit Agreement. The revolving credit facility expires on 26 March 2024 with the option to request two one-year extensions of the expiration date. In connection with the effectiveness of the Credit Agreement, Praxair and Linde AG terminated their respective existing revolving credit facilities. No borrowings were outstanding under the Credit Agreement as of 31 December 2019.

On 3 September 2019, Linde and the company's subsidiaries Praxair and Linde AG entered into a series of parent and subsidiary guarantees related to currently outstanding notes issued by Praxair and Linde AG as well as the $5 billion Credit Agreement.

On 10 December 2018, the company announced a $1.0 billion share repurchase program, which was completed in February of 2019. On 22 January 2019, the company's board of directors approved the additional repurchase of $6.0 billion of its ordinary shares, of which $2.3 billion had been repurchased through 31 December 2019.

Other cash activity

Other cash activity includes the effects of currency translation on cash and cash reported as part of assets held for sale.

PRINCIPAL RISKS AND UNCERTAINTIES

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 31 October 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, 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.

The recent novel coronavirus (COVID-19) outbreak could materially adversely affect our results of operations.

The novel strain of the coronavirus identified in China in late 2019 has globally spread throughout other areas such as Asia, Europe, the Middle East, and North America and has resulted in authorities implementing numerous measures to try to contain the virus, such as travel bans and restrictions, quarantines, shelter in place orders, and shutdowns. These measures have impacted and may further impact our workforce and operations, the operations of our customers, vendors and suppliers. There is considerable uncertainty regarding such measures and potential future measures, and restrictions on our access to our manufacturing facilities or on our support operations or workforce, or similar limitations for our vendors and suppliers, and restrictions or disruptions of transportation, such as reduced availability of air transport, port closures, and increased border controls or closures, could limit our capacity to meet customer demand and have a material adverse effect on our results of operations. These restrictions and disruptions could affect our performance on our contracts. Resulting cost increases may not be fully recoverable or adequately covered by insurance, which could impact our profitability.

Furthermore, COVID-19 has impacted and may further impact the broader economies of affected countries, including negatively impacting economic growth, the proper functioning of financial and capital markets, foreign currency exchange rates, and interest rates. Risks related to economic conditions are described in our Principal Risks and Uncertainties titled "Weakening economic conditions in markets in which Linde does business may adversely impact its financial results and/or cash flows" and

"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."

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 31 December 2019, 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; health pandemics such as COVID-19; 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, the design and construction of plants and toward developing new markets and applications for the use of industrial and process 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 currently 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 also operates 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.

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. Counterparties to Linde's derivatives are major banking institutions with credit ratings of investment grade or better thereby minimizing the risk of credit loss. As of year-end, Linde 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

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 statement of financial position. Net investment exposures relate to the impact of foreign currency exchange rate changes on the carrying value of net assets denominated in foreign currencies.

Interest Rate Risk

At 31 December 2019, Linde had debt totaling $13,947 million ($15,289 million at 31 December 2018). 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 31 December 2019, including the impact of derivatives Linde had fixed-rate debt of $10,799 million and floating-rate debt of $3,157 million, representing 77% and 23%, respectively, of total debt. At 31 December 2018, 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.

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 31 December 2019, Linde had fixed-to-floating interest rate swaps outstanding that were designated as hedging instruments of the underlying debt issuances - refer to Note 20 to the consolidated financial statements for additional information.

Foreign Currency Risk

Linde's exchange-rate exposures result primarily from its investments and ongoing operations outside of the United States in the Americas (primarily Brazil, Canada, and Mexico), EMEA (primarily Germany, the United Kingdom, Sweden and South Africa), Asia South Pacific (primarily China, Australia, South Korea, Taiwan, India and Thailand) and other business transactions such as the procurement of equipment from foreign sources. Linde frequently utilizes currency contracts to hedge these exposures. See Note 24 to the consolidated financial statements for additional information.

Further details of the financial risk management objectives and policies and the exposure of the company to price risk, credit risk, liquidity risk and cash flow risk are provided in Note 24 to the consolidated financial statements.

RESEARCH AND DEVELOPMENT

Linde's research and development is directed toward development of gas processing, separation and liquefaction technologies, improving 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, hydrogen, synthesis gas, natural gas, adsorption and chemical process technologies as well as the frequent introduction of new industrial gas applications. Research and development is primarily conducted at Pullach, Germany; Tonawanda, New York, Burr Ridge, Illinois and Shanghai, China.

DIVIDENDS

On 26 February 2019, the directors of Linde plc declared an interim dividend of $0.875 per share for the first quarter of 2019 (the "Q1 Dividend"). The Q1 Dividend was payable on 22 March 2019 to shareholders of record on 8 March 2019.

On 30 April 2019, the directors of Linde plc declared an interim dividend of $0.875 per share for the second quarter of 2019 (the "Q2 Dividend"). The Q2 Dividend was payable on 17 June 2019 to shareholders of record on 3 June 2019.

On 26 July 2019, the directors of Linde plc declared an interim dividend of $0.875 per share for the third quarter of 2019 (the "Q3 Dividend"). The Q3 Dividend was payable on 17 September 2019 to shareholders of record on 3 September 2019.

On 24 October 2019, the directors of Linde plc declared an interim dividend of $0.875 per share for the fourth quarter of 2019 (the "Q4 Dividend"). The Q4 Dividend was payable on 17 December 2019 to shareholders of record on 03 December 2019.

For additional information, see Note 17 to the consolidated financial statements.

FUTURE DEVELOPMENTS

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 31 December 2019, Linde's sale of gas backlog of large projects under construction was $4.4 billion. This represents the total estimated capital cost of large plants under construction. APAC and Americas represent 64 percent and 29 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.

Linde has been actively monitoring the COVID-19 situation and its impact globally. Our priority has been the health and safety of our employees and the needs of our customers. The spread of COVID-19 has caused us to modify our business practices (including employee travel, employee work locations, modification of critical supply chains and cancellation of physical participation in meetings and events), and we may take further actions as may be required by government authorities or that we determine are in the best interests of our employees, customers, suppliers and other stakeholders. The ultimate magnitude of COVID-19, including the extent of its impact on the Company's operational results, which could be material, will be determined by the length of time that such circumstances continue, measures taken to prevent its spread, its effect on the supply chain and the demand for the Company's products and services, as well as the effect of governmental and public actions taken in response.

The Company is committed to the safety and well-being of its employees and to ensuring that its facilities follow the highest standards of safety and hygiene. At the same time, the Company and its employees remain committed to meeting the needs of customers and ensuring they receive products and services in a timely manner.

The above outlook 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 earnings guidance via earnings releases and investor teleconferences. These materials are available on the company's website, www.linde.com but are not incorporated herein.

EVENTS SINCE THE STATEMENT OF FINANCIAL POSITION DATE

Dividends

On 24 February 2020, the directors of Linde plc declared an interim dividend of $0.963 per share for the first quarter of 2020 (the "Q1 Dividend"). The Q1 Dividend was payable on 20 March 2020 to shareholders of record on 6 March 2020.

Own Shares

From the period 1 January 2020 through 31 March 2020, an additional 9,674 thousand ordinary shares were purchased by the company for total consideration of $1.8 billion, or an average price of $185.98 per share.

Other Developments

The recent novel coronavirus (COVID-19) outbreak could materially adversely affect our results of operations.

Linde has been actively monitoring the COVID-19 situation and its impact globally. Our priority has been the safety of our employees and the needs of our customers. The spread of COVID-19 has caused us to modify our business practices (including employee travel, employee work locations, and cancellation of physical participation in meetings and events), and we may take further actions as may be required by government authorities or that we determine are in the best interests of our employees, customers, suppliers and other stakeholders. The ultimate magnitude of COVID-19, including the extent of its impact on the Company's operational results, which could be material, will be determined by the length of time that such circumstances continue, measures taken to prevent its spread, its effect on the supply chain and the demand for the Company's products and services, as well as the effect of governmental and public actions taken in response.

The Company is committed to the safety and well-being of its employees and to ensuring that its facilities follow the highest standards of safety and hygiene. At the same time, the Company and its employees remain committed to meeting the needs of customers and ensuring they receive products and services in a timely manner.

The Company continues to believe it has sufficient operating flexibility, cash, and funding sources to meet its business needs around the world. The company has a $5 billion unsecured and undrawn revolving credit agreement with no associated financial covenants. We do not anticipate any limitations on our ability to access the debt capital markets and/or other external funding sources. The company continues to remain committed to its strong ratings from Moody's and Standard & Poor's.

OWN SHARES

On 22 January 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 (and 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.

As of 31 December 2019 and 2018, the company had treasury shares of 17,632 thousand and 4,069 thousand, respectively. During the year ended 31 December 2019 14,333 thousand ordinary shares were purchased by the company for total considerations of $2.7 billion, or an average purchase price of $185.33 per share (€0.001 nominal value). The consideration includes stamp duty, commission and all customary fees. These shares were acquired in order to reduce the shares outstanding or to meet obligations under Linde plc equity awards. See Note 17 to the consolidated financial statements for more information.

All share purchases by the company are structured as redemptions under Irish law.

POLITICAL DONATIONS

No political contributions that require disclosure under Irish law were made during fiscal years 2019 or 2018.

ACCOUNTING RECORDS

The measures that the directors have taken to secure compliance with the requirements of sections 281 to 285, with regard to the keeping of accounting records, include the provision of appropriate resources to maintain adequate accounting records throughout the company, including the appointment of personnel with appropriate qualifications, experience and expertise.

The company's accounting records are maintained at The Priestley Centre, 10 Priestley Road, Surrey Research Park, Guildford, Surrey GU2 7XY, United Kingdom.

SUBSIDIARY COMPANIES AND BRANCHES

Information regarding subsidiary undertakings, including information regarding branches, is provided in Note 32 to the consolidated financial statements.

NON-FINANCIAL INFORMATION

Linde publishes non-financial indicators and qualitative information in its combined non-financial report in accordance with the Irish implementation of the European Directives 2014/95/EU and 2013/34/EU as set out in the European Union (Disclosure of Non-Financial and Diversity Information by certain large undertakings and groups) Regulations 2017, as amended (the "Irish Regulations"). The combined non-financial report is incorporated by reference and forms part of the Directors' Report (and in the case of the Board diversity report, is part of the Corporate Governance Statement) and can be found on pages 141 to 147.

The non-financial report includes reportable information on environmental matters; social and employee matters; respect for human rights and combating bribery and corruption. The non-financial report also includes a Board diversity report as required by the Irish Regulations. Reportable information includes policies, due diligence in implementing these policies and the outcomes of these actions, risk identification and management, and key performance indicators.

CORPORATE GOVERNANCE STATEMENT

Corporate Governance Practices

Linde plc is incorporated in Ireland, and is subject to Irish company law pursuant to the Irish Companies Act 2014 (the "Act"). In addition, Linde plc ordinary shares are listed and trade on the New York Stock Exchange ("NYSE") and the Frankfurt Stock Exchange ("FSE"). Linde plc's primary governance obligations arise by virtue of its listing on NYSE, and as such, the company is subject to the corporate governance rules of the NYSE, requiring it to adopt certain governance policies (which the company has complied with), and to the reporting and other rules of the United States Securities and Exchange Commission (the "SEC"), requiring it to file Forms 10-K, 10-Q, 8-K and proxy statements.

A short summary of the key aspects of Linde plc's corporate governance structure is set forth below.

Board and Governance Information			
Size of Board	12	Annual Board and Committee Evaluations	Yes
Number of Independent Directors (excludes CEO)	11 92%	Limits service on other Boards for Directors (4 other Boards) Limits service on other Boards for CEO (2 other Boards)	Yes Yes
Split Chairman and CEO	Yes	Succession Planning Process	Yes
Board Committees (Audit, Compensation, Governance and Executive)	4	Board Risk Oversight	Yes
Board Meetings	5	Code of Conduct for Directors, Officers and Employees	Yes
Annual Election of Directors	Yes	Stock Ownership Guidelines for Directors and Executive Officers	Yes
Mandatory Retirement Age	72*	Anti-Hedging and Pledging Policies	Yes
Board Diversity - 3 women, one African American	Yes	Clawback Policy	Yes
Majority Voting in Director Elections	Yes	Rights Agreement (Poison Pill)	No
Proxy Access	Yes	Comprehensive Sustainability Program	Yes
		Shareholders May Call Special Meetings	Yes

* Mandatory retirement age waived during the first three years following the completion of the business combination on 31 October 2018 (the "Integration Phase") to ensure continuity.

Internal Corporate Governance Framework

Linde plc is subject to its own internal corporate governance guidelines (the "Guidelines"), as adopted by the board of directors of Linde plc (the "Board of Directors" or "Board") at the effective time of the business combination, the current version of which is available at https://www.linde.com/en/about-linde/corporate-governance. The Guidelines provide (among other things) that, during the Integration Phase, certain matters require approval by two-thirds of the Board of Directors, including appointment and removal of a director as the Chairman of the Board of Directors and appointment and removal of the Chief Executive Officer of Linde plc.

Internal Control and Risk Management Systems in Relation to the Financial Reporting Process

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.

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 external auditors and internal auditors have full and free access to the Audit Committee and meet with the committee, with and without management present. Details of the composition and operation of the Audit Committee are available at page 31 of this report.

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 Framework* (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 31 December 2019.

Linde AG was acquired in a merger accounted for as a business combination on 31 October 2018. In connection with its antitrust review of the merger transaction, the U.S. Federal Trade Commission imposed a Hold Separate Order ("HSO") on Linde plc that was lifted on 1 March 2019 after all required asset divestitures in the U.S. were completed. The HSO required Praxair and Linde AG to continue to operate globally as separate and independent companies apart from each other in all material respects. As such, the HSO regulatory restrictions prohibited Linde plc from being able to perform procedures necessary to complete an overall assessment of Linde AG's disparate internal control environment with operations in over 100 countries. Because of this, the assessment of Linde AG's internal control environment could only begin after the HSO was terminated on 1 March 2019. Therefore, Linde's evaluation of internal control over financial reporting as of 31 December 2019 did not include the internal control over financial reporting related to Linde AG.

Information required under the European Communities (Takeover Bids (Directive 2004/ 25/EC)) Regulations 2006

As required by the Takeover Bids Regulations, the information contained below represents the position as at 31 December 2019.

Structure of the company's capital

The capital of the company is divided into ordinary shares, A ordinary shares, deferred shares and preferred shares.

As at 31 December 2019, there were 552,012,862 ordinary shares in issue. As at 31 December 2019, there were no A ordinary shares, deferred shares or preferred shares in issue.

Further detail on the structure of the company's capital is set out in Note 17 to the consolidated financial statements.

<u>*Rights and Obligations attaching to the classes of shares*</u>

Ordinary shares

Dividend rights

Under Irish law, dividends are payable on the ordinary shares of the company only out of profits available for distribution. Subject to the provisions of the Act, holders of the ordinary shares of the company are entitled to receive such dividends as may be declared by the company by ordinary resolution, provided that the dividend cannot exceed the amount recommended by the Board of Directors. The company may pay shareholders interim dividends if it appears to the Board of Directors that they are justified by the profits of the company available for distribution. Any dividend which has remained unclaimed for twelve years from the date of its declaration may be forfeited and cease to remain owing by the company.

Details of dividends declared by Linde plc are available at page 22 of this report.

Voting rights

At any general meeting, a resolution put to the vote of the meeting is decided on a poll. Every shareholder who is present in person or by proxy has one vote for every ordinary share of €0.001 each.

The necessary quorum for a general meeting is two persons present in person or by proxy and having the right to attend and vote at the meeting and together holding shares representing more than 50% of the votes that may be cast by all shareholders at the relevant time.

All business is considered to be special business if it is transacted at an extraordinary general meeting ("EGM") as is all business transacted at an annual general meeting ("AGM") other than the declaration of a dividend, the consideration of the company's statutory financial statements and reports of the Board of Directors and Auditors on those statements, the review by the shareholders of the company's affairs, the election of directors in the place of those retiring, the reappointment of the retiring Auditors (subject to sections 380 and 382 to 385 of the Act), the fixing of the remuneration of the Auditors and the consideration of a special resolution for the purpose of section 1102(2)(b) of the Act. Any business that is required to be dealt with by way of special resolution must be passed by not less than 75% of the votes cast by such shareholders as, being entitled so to do, vote in person or by proxy at a general meeting at which not less than twenty-one clear days' notice specifying the text or substance of the proposed resolution has been duly given.

Any business that is required to be dealt with by way of ordinary resolution must be passed by a simple majority of the votes cast by the shareholders as, being entitled to do so, vote in person or by proxy at a general meeting. Where an equal number of votes have been cast on any resolution the Chairman of the meeting is not entitled to a second or casting vote.

An EGM (other than an EGM called for the passing of a special resolution, which must be called by not less than twenty-one clear days' notice) may be called by not less than 14 clear days' notice where:

(a) all shareholders, who hold shares that carry rights to vote at the meeting, are permitted to vote by electronic means at the meeting; and
(b) a special resolution reducing the period of notice to fourteen days has been passed at the immediately preceding AGM, or at a general meeting held since that meeting.

Liquidation rights

In the event of any surplus arising on the occasion of the liquidation of the company, the ordinary shareholders would be entitled to a share in that surplus in proportion to the capital at the commencement of the liquidation paid up or credited as paid up on the ordinary shares held by them respectively.

A Ordinary Shares and Deferred Shares

As at 31 December 2019, there were no A ordinary shares or deferred shares in issue. On incorporation, Linde plc issued 25,000 ordinary shares to meet the minimum public limited company capitalization threshold required by Irish company law. These 25,000 ordinary shares were subsequently converted into A ordinary shares and were later converted into deferred shares, acquired by the company for nil consideration and cancelled.

The rights and obligations attaching to the A ordinary shares are the same as those attaching to the ordinary shares. The deferred shares are non-voting shares and do not convey upon the holder the right to be paid a dividend or to receive notice of or to attend, vote or speak at a general meeting. The deferred shares confer the right on a return of capital, on a winding-up or otherwise, only to the repayment of the nominal value paid up on the deferred shares after repayment of the nominal value of the ordinary shares.

Preferred shares

As at 31 December 2019, there were no preferred shares in issue. Where authorized to issue unissued shares in the capital of the company (including where relevant, by shareholder approval under section 1021 of the Act), and subject to the scope of any such authority, in accordance with the company's articles of association (the "Articles"), the Board of Directors are authorized to issue all or any of the authorized but unissued preferred shares from time to time in one or more classes or series, and to fix for each such class or series such voting power, full or limited or no voting power, and such designations, preferences or special rights and qualifications, limitations or restrictions thereof in any resolution adopted by the Board of Directors providing for the issuance of such class or series of preferred shares.

Variation of class rights

Whenever the share capital of the company is divided into different classes of shares, the rights attached to any class may be varied or abrogated with the consent in writing of 75% in nominal value of the issued shares of that class, or with the sanction of a special resolution passed at a separate general meeting of the holders of the shares of that class.

Percentage of the company's capital represented by class of share

The ordinary shares represent 95.89% of the authorized share capital and 100% of the issued share capital. The A ordinary shares represent 1.37% of the authorized share capital and 0% of the issued share capital. The deferred shares represent 1.37% of the authorized share capital and 0% of the issued share capital. The preferred shares represent 1.37 % of the authorized share capital and 0% of the issued share capital.

Restrictions on the transfer of shares in the company

There are no restrictions imposed by the company on the transfer of shares, nor are there any requirements to obtain the approval of the company or other shareholders for a transfer of shares, save in certain limited circumstances set out in the Articles. A copy of the Articles may be found on www.linde.com or may be obtained on request from the Company Secretary.

Rules of the company concerning the appointment and replacement of directors

Please see "Composition and Operation of Board of Directors and Committees of Board of Directors" section at page 30 below.

Rules of the company concerning the amendment of the company's constitution

The company's constitution may be amended by special resolution passed at an AGM or EGM. An AGM and an EGM called for the passing of a special resolution shall be called by not less than twenty-one clear days' notice. Special resolutions must be approved by not less than 75% of the votes cast by such shareholders as, being entitled so to do, vote in person or by proxy. No business may be transacted at any general meeting unless a quorum of shareholders is present at the time when the meeting proceeds to business. The necessary quorum for a general meeting is two persons present in person or by proxy and having the right to attend and vote at the meeting and together holding shares representing more than 50% of the votes that may be cast by all shareholders at the relevant time.

Powers of the company's directors, including powers in relation to issuing or buying back by the company of its shares

Under its Articles, responsibility for the management of the business of the company has been delegated by the company's shareholders to the Board of Directors, who in turn exercise all powers of the company as are not, by the Articles, reserved for the company's shareholders. The Board of Directors has further delegated the management of the company to its committees, management and the Chief Executive Officer.

The Board of Directors may exercise all the borrowing powers of the company and may give security in connection therewith. These borrowing powers may be amended or restricted only by the shareholders in general meeting.

The shareholders of the company in general meeting may at any time and from time to time by resolution increase the share capital of the company by such amount as they think proper. Whenever the share capital of the company is so increased, the Board of Directors may, subject to various provisions of the Articles, issue shares to such amount not exceeding the amount of such enlargement as they think proper. All ordinary shares so issued shall rank in equal priority with existing ordinary shares.

Subject to provisions of the Act, to any rights conferred on any class of shares in the company and to the Articles, the company may purchase any of its shares of any class and may cancel any shares so purchased or hold such shares as treasury shares (the "treasury shares") with liberty to re-issue any such treasury shares in accordance with section 109 of the Act. The company shall not make market purchases of its own shares unless such purchases shall have been authorized by an ordinary resolution of the company.

For purposes of Irish law, repurchases of shares in Linde plc may be effected by a redemption if the repurchased shares are redeemable shares or are deemed to be redeemable shares by Linde plc's constitution. Under Irish law, a company may issue redeemable shares and redeem them out of distributable reserves or the proceeds of a new issue of shares for that purpose. All redeemable shares must also be fully paid. Redeemable shares may, upon redemption, be cancelled or held in treasury. The Linde plc constitution provides that, unless the Board of Directors determines otherwise, each Linde plc ordinary share shall be deemed to be a redeemable share on, and from the time of, the existence or creation of an agreement, transaction or trade between Linde plc and any person pursuant to which Linde plc acquires or will acquire Linde plc ordinary shares, or an interest in Linde plc ordinary shares, from the relevant person. Redeemable shares of Linde plc shall have the same characteristics as any other Linde plc share save that they shall be redeemable in accordance with the arrangement.

On 10 December 2018, the Board of Directors authorized a share repurchase program for up to $1.0 billion of its ordinary shares (the "2018 Program"). Under this program, Linde may acquire up to 5% of its outstanding ordinary shares in the period from 10 December 2018 through 30 April 2019. The purpose of the program is to reduce the share capital or to meet obligations under Linde equity awards.

On 21 January 2019, the Board of Directors authorized a further share repurchase program for up to $6.0 billion of its ordinary shares (the "2019 Program"). Under the 2019 Program, Linde may acquire up to 15% of its outstanding ordinary shares in the period from 1 May 2019 (or the date following the announcement of the end of the 2018 Program, if earlier) through 1 February 2021. The purpose of the 2019 Program is to reduce the share capital or to meet obligations under Linde equity awards.

Both the 2018 Program and the 2019 Program have been structured as redemptions for Irish law purposes and are being effected pursuant to Article 9 of the Articles.

Severance and Change-in-Control Arrangements

The company provides severance benefits to eligible employees, including Executive Officers, consistent with the terms of its severance programs and applicable local law. The company has not entered into any executive severance compensation agreements with its new Executive Officers; however, in connection with the business combination, the company was required to assume severance agreements for the legacy Praxair Executive Officers that provide double trigger benefits in the event that the legacy Praxair Executive Officer's employment with the company is terminated under certain circumstances prior to 31 October 2020.

Change-in-Control Arrangements

At the time of the business combination between Praxair and Linde AG, each legacy Praxair Executive Officer was party to a double-trigger executive severance agreement with Praxair that provided certain protections in the event that the Executive Officer's employment was terminated by the company without "cause" or by the Executive Officer for "good reason," in either case within the 24-month period immediately following a "change-in-control" (the "Praxair Severance Agreements"). The business combination constituted a change-in-control and upon the closing, the company assumed the Agreements. While the legacy Praxair Executive Officers continue to receive the protections afforded under the Praxair Severance Agreements through 31 October 2020, the Praxair Severance Agreements were not renewed at 31 December 2018 and no replacement severance agreements have been provided by the company to the Executive Officers.

The Praxair Severance Agreements were adopted many years prior to the business combination and were meant to:

- provide temporary income following an involuntary termination of employment,
- encourage retention of executives for continuity of management, and
- to keep executives focused on performing their duties in the event of a change-in-control transaction.

The terms of the Praxair Severance Agreements include:

- "Double trigger" is required for payments: The change-in-control must be followed by the termination of the Executive Officer's employment within the following two years either by the company other than for cause or by executive with "good reason"
- No "tax gross-ups" for excise taxes
- As a condition of entering into the agreements, each Executive Officer was required to enter into a Nondisclosure, Nonsolicitation and Noncompetition Agreement under which the Executive Officer agrees not to:
- Disclose company confidential information both during and after termination of his or her employment with the company
- Solicit the company's customers and employees for a period of two years following the Executive Officer's termination of employment with the company for any reason
- Engage in any activities that compete with those of the company for a period of two years following the Executive Officer's termination of employment

Upon the occurrence of the "double trigger," the Severance Agreements generally provide the affected Executive Officer with:

- accrued salary, variable compensation, and benefits,
- enhanced life, accident, health insurance and pension benefits, and
- a lump sum severance payment equal to two times the sum of his or her annual salary and target performance-based variable compensation award (three times for executives who became officers of the Praxair, Inc. prior to 2010).

Significant agreements relating to a change of control subsequent to a takeover bid

In the financial years 2007 to 2017, Linde AG issued benchmark bonds under its €10 billion debt issuance programme, either itself or via Linde Finance B. V., a Dutch subsidiary of Linde plc. Under the terms and conditions of the bond issuances, in the event of a change of control of the company, the bond creditor may demand immediate repayment if such change of control leads to the withdrawal of the credit rating or to a reduction in the rating to or below certain credit rating levels for unsubordinated unsecured liabilities.

There are other significant financing agreements in place with the company / certain subsidiary companies, each of which includes specific rules that apply in the event of a change in control of the company. In particular, these rules provide for a duty on the part of the company / the relevant subsidiary to provide information to the contracting party, and also provide for cancellation rights for the contracting party.

There are customer contracts in place with the company/certain subsidiary companies, containing clauses granting the customer special cancellation rights in the event of a change of control of the company. In the event that these special cancellation rights are exercised, the contracts provide for appropriate compensation in favor of the customer.

Under the terms and conditions of the 2009 Praxair, Inc. Long-Term Incentive Plan (the "2009 Plan"), which was assumed by the company pursuant to the business combination, in the event of a change of control of the company, special rules may be adopted. Those special rules provide, in the event of a change of control of the company, that cancellation rights apply, which means that option/matching shares rights may be settled in cash in an amount to be determined in accordance with the 2009 Plan.

Shareholders' Meetings

The company operates under the Act. The Act provides for two types of shareholder meetings: the AGM with all other general meetings being called an EGM.

The company must hold a general meeting each year as its AGM, in addition to any other general meetings held in that year. Not more than 15 months may elapse between the date of one AGM and the next. EGMs can also be convened at the request of shareholders holding not less than 5% of the voting share capital of the company. The notice period for an AGM and an EGM to consider any special resolution (a resolution which requires a 75% majority vote, not a simple majority) is 21 clear days.

No business shall be transacted at any general meeting unless a quorum is present at the time when the meeting proceeds to business. Two shareholders present in person or by proxy and having the right to attend and vote at the meeting and together holding shares representing more than 50% of the votes that may be cast by all shareholders at the relevant time shall be a quorum. Only those shareholders registered on the company's register of shareholders at the prescribed record date, being a date not more than 48 hours before the general meeting to which it relates, are entitled to attend and vote at a general meeting.

Under the Act, ordinary resolutions may be passed by a majority of votes cast in favor, while special resolutions require a 75% majority of votes cast in favor. Any shareholder who is entitled to attend, speak and vote at a general meeting is entitled to appoint one or more proxies to attend, speak and vote on his or her behalf. A proxy need not be a shareholder of the company. All resolutions are determined by a poll.

As further described on page 28, the management of the business of the company has been delegated by company's shareholders to the Board of Directors, who may exercise all the powers of the company save for those reserved to shareholders. Matters reserved to shareholders in general meetings include the election of directors, the declaration of final dividends on the recommendation of the directors, the fixing of the remuneration of the external auditor, amendments to the Articles, measures to increase or reduce the ordinary share capital and the authority to issue shares.

The information required to be provided to shareholders in accordance with sections 1099 to 1110 of the Act is available on the company's website (www.linde.com).

Composition and Operation of Board of Directors and Committees of Board of Directors

Board of Directors

Linde plc has twelve directors, six of whom are former Praxair directors ("Praxair Class Directors"), including Steve Angel who is also the CEO, and six of whom are former Linde AG Supervisory Board members ("Linde Class Directors"), including Wolfgang Reitzle, who is the Chairman of the Board.

Under the Linde plc constitution, directors retire at each AGM and may be re-elected by shareholders at that meeting.

Until the third anniversary of the completion of the business combination, the Board shall nominate each of the Linde Class Directors and Praxair Class Directors (or his or her replacement) for re-election to the Board at each of Linde plc's AGMs as required to ensure that the Linde Class Directors and Praxair Class Directors (or his or her replacement) serve on the Board for the duration of the three years following the completion of the business combination.

Until the third anniversary of the completion of the business combination, any vacancy on the Board created by the cessation of service of a Praxair Class Director prior to the end of his or her term will be filled by the unanimous vote of the remaining members of the Board; provided that if the vacancy is not filled by the Board within three months, the vacancy may be filled by an individual nominated and appointed by a majority of the remaining Praxair Class Directors. Until the third anniversary of the completion of the business combination, any vacancy on the Board created by the cessation of service of a Linde Class Director prior to the end of his or her term will be filled by the unanimous vote of the remaining members of the Board; provided that if the vacancy is not filled by the Board within three months, the vacancy may be filled by an individual nominated and appointed by a majority of the remaining Linde Class Directors.

Linde's constitution also provides that a shareholder, or a group of up to 20 shareholders, who have owned at least 3% of the company's outstanding ordinary shares continually for at least three years, may nominate persons for election as directors and have these nominees included in the company's proxy statement. The shareholders or group must meet the requirements in the company's constitution. The number of nominees is limited to the greater of two persons or 20% of the number of directors serving on the Board.

The Board of Directors operates subject to both the Guidelines and the company's constitution, copies of which are available at https://www.linde.com/en/about-linde/corporate-governance.

The directors of the company during the financial year are listed in the table below.

Directors	**Appointment Date**
Current Directors	
Prof. Dr. Wolfgang Reitzle	22 October 2018
Mr. Stephen F. Angel	22 October 2018
Prof. Dr. Ann-Kristin Achleitner	22 October 2018
Prof. Dr. Clemens Börsig	22 October 2018
Dr. Nance Dicciani	22 October 2018
Dr. Thomas Enders	22 October 2018
Mr. Franz Fehrenbach	22 October 2018
Mr. Edward Galante	22 October 2018
Mr. Larry McVay	22 October 2018
Dr. Victoria Ossadnik	22 October 2018
Prof. Dr. Martin H. Richenhagen	22 October 2018
Mr. Robert Wood	22 October 2018

Committees of Board of Directors

The Board of Directors has four committees: Audit, Compensation, Nomination & Governance and Executive Committees which each consist of six directors.

Audit Committee

Committee Chair:
- Prof. Dr. Clemens Börsig

Current Members:
- Dr. Nance K. Dicciani
- Dr. Thomas Enders
- Edward G. Galante
- Larry D. McVay
- Dr. Victoria Ossadnik

Meetings in 2019: 9

The Audit Committee assists the Board in its oversight of (a) the independence, qualifications and performance of Linde's independent auditor, (b) the integrity of Linde's financial statements, (c) the performance of Linde's internal audit function, and (d) Linde's compliance with legal and regulatory requirements. In furtherance of these responsibilities, the Audit Committee, among other duties,

(1) appoints the independent auditor to audit Linde's financial statements, approves the fees and terms of such engagement, approves any non-audit engagements of the independent auditor, and meets regularly with, and receives various reports from, the independent auditor. The independent auditor reports directly to the Audit Committee;

(2) reviews Linde's principal policies for accounting and financial reporting and its disclosure controls and processes, and reviews with management and the independent auditor Linde's financial statements prior to their publication;

(3) reviews assessments of Linde's internal controls, the performance of the Internal Audit function, the performance evaluations of the General Auditor and the Chief Compliance Officer, and the guidelines and policies by which Linde undertakes risk assessment and risk management; and

(4) reviews the effectiveness of Linde's compliance with laws, business conduct, integrity and ethics programs.

Compensation Committee

Committee Chair:
- Edward G. Galante

Current Members:
- Prof. Dr. Ann-Kristin Achleitner
- Dr. Nance K. Dicciani
- Franz Fehrenbach
- Dr. Victoria Ossadnik
- Prof. Dr. Martin H. Richenhagen

Meetings in 2019: 4

The Compensation Committee assists the Board in its oversight of (a) Linde's compensation and incentive policies and programs, and (b) management development and succession, in both cases particularly as they apply to Linde's executive officers. In furtherance of these responsibilities, the Compensation Committee, among other duties,

(1) determines Linde's policies relating to the compensation of executive officers and assesses the competitiveness and appropriateness of their compensation and benefits;

(2) determines the salaries, performance-based variable compensation, equity awards, terms of employment, retirement or severance, benefits, and perquisites of executive officers;

(3) establishes the corporate goals relevent to the CEO's compensation, evaluates the CEO's performance in light of these goals and sets the CEO's compensation accordingly;

(4) reviews management's long-range planning for executive development and succession, and develops a CEO succession plan;

(5) reviews design, administration and risk associated with Linde's management incentive compensation and equity compensation plans; and

(6) reviews periodically the company's diversity policies and objectives, and programs to achieve those objectives.

Executive Committee

Committee Chair:
- Prof. Dr. Wolfgang Reitzle

Current Members:
- Stephen F. Angel
- Dr. Thomas Enders
- Robert L. Wood

Meetings in 2019: 1

The purpose of the Executive Committee is primarily to act on behalf of the entire Board with respect to certain matters that may arise in between regularly scheduled Board meetings, and act on certain other matters from time to time. In particular, the Executive Committee duties include, among others:

(1) evaluating and approving any investments, acquisitions, partnerships or divestments requiring Board approval, that are within value thresholds specified by the Board;

(2) evaluating and approving any financing or other capital markets transactions requiring Board approval, that are within value thresholds specified by the Board; and

(3) acting upon any other such matters within the competencies of the Board, that are not reserved solely to the Board, that are within value thresholds specified by the Board and, in the opinion of the Chairman of the Board, should not be postponed until the next regularly scheduled Board meeting.

Nomination and Governance Committee

Committee Chair:

- Robert L. Wood

Current Members:

- Prof. Dr. Ann-Kristin Achleitner
- Prof. Dr. Clemens Börsig
- Franz Fehrenbach
- Larry D. McVay
- Prof. Dr. Martin H. Richenhagen

Meetings in 2019: 4

The Nomination and Governance Committee assists the Board in its oversight of (a) the selection, qualifications, compensation and performance of Linde's directors, (b) Linde's governance, including the practices and effectiveness of the Board, and (c) various important public policy concerns that affect the company. In furtherance of these responsibilities, the Nomination and Governance Committee, among other duties,

(1) recommends to the Board nominees for election as directors, and periodically reviews potential candidates, including incumbent directors;

(2) reviews policies with respect to the composition, compensation, organization and practices of the Board, and developments in corporate governance matters generally; and

(3) reviews Linde's policies and responses to broad public policy issues such as social responsibility, corporate citizenship, charitable contributions, legislative issues, and important shareholder issues, including management and shareholder proposals offered for shareholder approval.

DIRECTORS' AND COMPANY SECRETARY'S INTERESTS

No director, the company secretary or any member of their immediate families had any interest in shares or debentures of any subsidiary. Directors' remuneration is set forth in Note 29 to the consolidated financial statements. The interests of the directors and secretary of the company in office as at 31 December 2019 and 2018 in the ordinary share capital of Linde plc as of 31 December 2019 and 2018, as required to be stated pursuant to section 329 of the Act, are presented in the table below.

Directors	At 31 December 2019 Ordinary Shares	Options	At 31 December 2018 Ordinary Shares	Options
Prof. Dr. Wolfgang Reitzle	16,077	—	16,077	—
Mr. Stephen F. Angel	444,781	2,000,610	443,499	1,529,558
Prof. Dr. Ann-Kristin Achleitner	979	—	979	—
Prof. Dr. Clemens Börsig	979	—	979	—
Dr. Nance Dicciani	17,786	—	17,672	—
Dr. Thomas Enders	6,600	—	—	—
Mr. Franz Fehrenbach	979	—	979	—
Mr. Edward Galante	13,229	—	13,229	—
Mr. Larry McVay	11,364	—	11,254	—
Dr. Victoria Ossadnik	—	—	—	—
Mr. Martin Richenhagen	4,114	—	4,114	—
Mr. Robert Wood	13,896	—	13,844	—
Secretary				
Susan Kelly	—	—	—	—

DIRECTORS' COMPLIANCE STATEMENT

As required by section 225(2) of the Act, the directors acknowledge that they are responsible for securing the company's compliance with its relevant obligations (as defined in section 225(1)). The directors further confirm that a "compliance policy statement" (as defined in section 225(3)(a)) has been drawn up, that appropriate arrangements and structures that are, in the directors' opinion, designed to secure material compliance with the relevant obligations have been put in place and that a review of those arrangements and structures has been conducted in the financial year to which this report relates.

STATEMENT OF DISCLOSURES TO AUDITORS

So far as each person who was a director at the date of approving this report is aware, there is no relevant audit information, being information needed by the auditor in connection with preparing its report, of which the auditor is unaware. Having made enquiries of fellow directors and the company's auditor, each director has taken all the steps that he/she is obliged to take as a director in order to made himself/herself aware of any relevant audit information and to establish that the auditor is aware of that information.

DIRECTORS' RESPONSIBILITY STATEMENT

The directors are responsible for preparing the directors' report and the financial statements in accordance with Irish law.

Irish law requires the directors to prepare financial statements for each financial year that gives a true and fair view of the company's assets, liabilities and financial position as at the end of the financial year and of the profit and loss of the company for the financial year. Under that law, the Directors have prepared the consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the European Union ("IFRS") and with those parts of the Act applicable to companies applying IFRS and the Parent Company financial statements in accordance Irish Generally Accepted Accounting Practice (accounting standards issued by the UK Financial Reporting Council, including Financial Reporting Standard 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland and Irish law).

Under Irish law, the directors shall not approve the financial statements unless they are satisfied that they give a true and fair view of the company's assets, liabilities and financial position as at the end of the financial year and the profit and loss of the company for the financial year.

In preparing these financial statements, the directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgments and estimates that are reasonable and prudent;
- state whether the financial statements have been prepared in accordance with applicable accounting standards and identify the standards in question, subject to any material departures from those standards being disclosed and explained in the notes to the financial statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the company will continue in business.

The directors are responsible for keeping adequate accounting records that are sufficient to:

- correctly record and explain the transactions of the company;
- enable, at any time, the assets, liabilities, financial position and profit and loss of the company to be determined with reasonable accuracy; and
- enable the directors to ensure that the financial statements comply with the Companies Act and enable those financial statements to be audited.

The directors are also responsible for safeguarding the assets of the company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The directors are responsible for the maintenance and integrity of the corporate and financial information included on the company's website. Legislation in Ireland governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Approved by the Board of Directors and signed on its behalf on 30 April 2020 by:

/s/ Stephen F. Angel	/s/ Prof. Dr. Clemens Börsig
Stephen F. Angel	Prof. Dr. Clemens Börsig
Chief Executive Officer and Director	*Director*

Independent auditors' report to the members of Linde plc

Report on the audit of the financial statements

Opinion

In our opinion:

- Linde plc's consolidated financial statements and company financial statements (the "financial statements") give a true and fair view of the group's and the company's assets, liabilities and financial position as at 31 December 2019 and of the group's profit and cash flows for the year then ended;
- the consolidated financial statements have been properly prepared in accordance with International Financial Reporting Standards ("IFRSs") as adopted by the European Union;
- the company financial statements have been properly prepared in accordance with Generally Accepted Accounting Practice in Ireland (accounting standards issued by the Financial Reporting Council of the UK, including Financial Reporting Standard 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland" and Irish law); and
- the financial statements have been properly prepared in accordance with the requirements of the Companies Act 2014 and, as regards the group financial statements, Article 4 of the IAS Regulation.

We have audited the financial statements, included within the Director's Report and Financial Statements (the "Annual Report"), which comprise:

- the consolidated statement of financial position as at 31 December 2019;
- the company statement of financial position as at 31 December 2019;
- the consolidated statement of profit and loss and consolidated statement of comprehensive income for the year then ended;
- the consolidated statement of cash flows for the year then ended;
- the consolidated statement of changes in equity for the year then ended;
- the company statement of changes in equity of Linde plc for the year then ended; and
- the notes to the consolidated financial statements and the notes to the company financial statements, which include a description of the significant accounting policies.

Our opinion is consistent with our reporting to the Audit Committee.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (Ireland) ("ISAs (Ireland)") and applicable law. Our responsibilities under ISAs (Ireland) are further described in the Auditors' responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

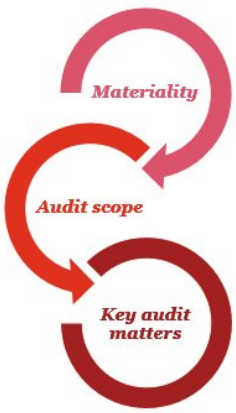
We remained independent of the group in accordance with the ethical requirements that are relevant to our audit of the financial statements in Ireland, which includes IAASA's Ethical Standard as applicable to listed entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

To the best of our knowledge and belief, we declare that non-audit services prohibited by IAASA's Ethical Standard were not provided to the group or the parent company.

Other than those disclosed in note 31 to the financial statements, we have provided no non-audit services to the group or the parent company in the period from 1 January 2019 to 31 December 2019.

Our audit approach

Overview



Materiality

- $185 million (2018: $119 million) - Consolidated financial statements
- Based on circa 2.3% of EBITDA (2018: Circa 5% of profit before tax from continuing operations adjusted for non-recurring items relating to the gain on the divestiture of businesses, merger related inventory step up and initial transaction costs).
- $420 million (2018: $443 million) - Company financial statements
- Based on circa 0.5% of net assets.

Audit scope

- We conducted full scope audits of thirty two of the group's largest reporting components.
- Specified audit procedures were performed at nine additional components.
- Additionally, certain other activities controlled and managed centrally such as acquisitions and disposals, intangible asset and goodwill accounting and impairment testing, financing and treasury, legal and certain elements of income taxes were subject to full scope audit procedures.
- Overall, we obtained coverage of circa 68% of group net revenues, circa 85% of total assets and circa 82% of total liabilities.

Key audit matters

- Goodwill Impairment Assessment
- Revenue Recognition - Estimated Costs at Completion

The scope of our audit

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements. In particular, we looked at where the directors made subjective judgements, for example in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain. As in all of our audits we also addressed the risk of management override of internal controls, including evaluating whether there was evidence of bias by the directors that represented a risk of material misstatement due to fraud.

Key audit matters

Key audit matters are those matters that, in the auditors' professional judgement, were of most significance in the audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by the auditors, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. These matters, and any comments we make on the results of our procedures thereon, were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. This is not a complete list of all risks identified by our audit.

Key audit matter	*How our audit addressed the key audit matter*
Goodwill Impairment Assessment *Refer to Note 6 - "Accounting Policies" and Note 12 - "Goodwill/other intangible assets"* As described in Notes 6 and 12 to the consolidated financial statements, the Company's consolidated goodwill balance was \$27,148 million as of 31 December 2019. Management performs an impairment test annually or more frequently if events or circumstances indicate that an impairment loss may have been incurred. In estimating the recoverable amount of each cash generating unit, management applied a multiple of earnings from a peer group to the market participant forecasted earnings for the year ending 31 December 2019. The peer group comprised of comparable entities with similar operations and economic characteristics. We determined that the goodwill impairment assessment is a key audit matter because there is significant judgment exercised by management relating to the significant assumption for the multiples of earnings for a peer group of comparable entities with similar operations and economic characteristics.	We evaluated and tested the Company's key internal controls over financial reporting related to the recoverable amount determination of cash generating units, including controls over key assumptions used in the valuation model. We obtained the impairment analyses prepared by management including the recoverable amount calculations of the cash generating units, and assessed the reasonableness of each significant assumption, which includes the multiples of earnings from a peer group of comparable entities with similar operations and economic characteristics. We did this by comparing the multiple of earnings from a peer group of comparable entities to external market and industry data. We evaluated with the assistance of PwC experts with specialized skill and knowledge the appropriateness of the multiples of earnings model used by management. We also tested the completeness, accuracy, and relevance of underlying data used in the model.
Revenue Recognition - Estimated Costs at Completion *Refer to Note 6 - "Accounting Policies" and Note 7 - "Revenue"* As discussed in Note 7 to the consolidated financial statements, \$2,790 million of the Company's total revenues for the year ended 31 December 2019 was generated from sale of equipment contracts. Revenue from sale of equipment is generally recognized over time as the Company 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, labour, and overhead costs and represent work contributing and proportionate to the transfer of control to the customer. Management's estimation of costs at completion is complex and requires significant judgment. We determined revenue recognition - estimated costs at completion to be a key audit matter as significant judgment was exercised by management when developing the estimated costs at completion for the sale of equipment contracts including significant assumptions related to estimated material and labour costs.	We tested management's process for developing the estimated costs at completion for the sale of equipment contracts, and evaluated the reasonableness of management's significant assumptions, including the estimated expected material and labour costs. Evaluating the reasonableness of management's significant assumptions involved evaluating management's ability to reasonably estimate costs at completion for the sale of equipment contracts on a sample basis by (i) performing a comparison of the originally estimated and actual costs incurred on similar completed equipment contracts, and (ii) evaluating the timely identification of circumstances that may warrant a modification to estimated costs at completion, including actual costs in excess of estimates. Professionals with specialized skill and knowledge were used to assist in evaluating management's estimates and assumptions relating to the expected material and labour costs.

How we tailored the audit scope

We tailored the scope of our audit to ensure that we performed enough work to be able to give an opinion on the financial statements as a whole, taking into account the structure of the group, the accounting processes and controls, and the industry in which the group operates.

The group is structured along four operating segments, Americas, EMEA, APAC and Engineering.

Certain other activities are controlled and managed centrally from Corporate within the consolidated group such as acquisitions and disposals, intangible asset and goodwill accounting and impairment testing, financing and treasury, legal and certain elements of income taxes.

In determining our audit scope we first focused on individual reporting components and determined the type of work that needed to be performed at the reporting components by us, as the Irish group engagement team, PwC US as the US component team, or other component auditors within other PwC network firms and other non PwC firms. Where the work was performed by PwC US and other component auditors, we determined the level of involvement we needed to have in the audit work of those reporting components to be able to conclude whether sufficient appropriate audit evidence had been obtained as a basis for our opinion on the financial statements as a whole.

Overall, through the thirty two full scope audits of the group's reporting components selected based on our risk assessment and their financial significance to the Group, specified procedures performed at nine components and work performed on central activities, we obtained coverage of circa 68% of group net revenues, circa 85% of total assets and circa 82% of total liabilities. We allocated materiality levels and issued instructions to each component auditor. In addition to the audit report from each of the component auditors, we received detailed memoranda of examinations on work performed and relevant findings which supplemented our understanding of the component, its results and the audit findings and we participated in certain local audit closing meetings. This, together with additional procedures performed at the group level, gave us evidence we needed for our opinion on the financial statements as a whole.

Materiality

The scope of our audit was influenced by our application of materiality. We set certain quantitative thresholds for materiality. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and in evaluating the effect of misstatements, both individually and in aggregate on the financial statements as a whole.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

	Consolidated financial statements	***Company financial statements***
Overall materiality	$185 million (2018: $119 million).	$420 million (2018: $443 million).
How we determined it	Circa 2.3% of EBITDA. (2018: Circa 5% of profit before tax from continuing operations adjusted for non-recurring items relating to the gain on the divestiture of businesses, merger related inventory step up and initial transaction costs)	Circa 0.5% of net assets.
Rationale for benchmark applied	The engagement team believes EBITDA is the most appropriate measure reflecting the underlying operations of the group.	The entity is a holding company whose main activity is the management of investments in subsidiaries.

We agreed with the Audit Committee that we would report to them misstatements identified during our audit above $15 million (group audit) (2018: $10 million) and $15 million (company audit) (2018: $10 million) as well as misstatements below that amount that, in our view, warranted reporting for qualitative reasons.

Conclusions relating to going concern

We have nothing to report in respect of the following matters in relation to which ISAs (Ireland) require us to report to you where:

- the directors' use of the going concern basis of accounting in the preparation of the financial statements is not appropriate; or
- the directors have not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the group's or the company's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the financial statements are authorised for issue.

However, because not all future events or conditions can be predicted, this statement is not a guarantee as to the group's or the company's ability to continue as a going concern.

Reporting on other information

The other information comprises all of the information in the Annual Report other than the financial statements and our auditors' report thereon. The directors are responsible for the other information. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or, except to the extent otherwise explicitly stated in this report, any form of assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

With respect to the Directors' Report, we also considered whether the disclosures required by the Companies Act 2014 (excluding the information included in the "Non Financial Statement" as defined by that Act on which we are not required to report) have been included.

Based on the responsibilities described above and our work undertaken in the course of the audit, ISAs (Ireland) and the Companies Act 2014 require us to also report certain opinions and matters as described below:

Director's Report

- In our opinion, based on the work undertaken in the course of the audit, the information given in the Directors' Report (excluding the information included in the "Non Financial Statement" on which we are not required to report) for the year ended 31 December 2019 is consistent with the financial statements and has been prepared in accordance with the applicable legal requirements.
- Based on our knowledge and understanding of the group and company and their environment obtained in the course of the audit, we have not identified any material misstatements in the Directors' Report (excluding the information included in the "Non Financial Statement" on which we are not required to report).

Corporate Governance Statement

- In our opinion, based on the work undertaken in the course of the audit of the financial statements,

  \- the description of the main features of the internal control and risk management systems in relation to the financial reporting process; and

  \- the information required by Section 1373(2)(d) of the Companies Act 2014; included in the Corporate Governance Statement, is consistent with the financial statements and has been prepared in accordance with section 1373(2) of the Companies Act 2014.

- Based on our knowledge and understanding of the company and its environment obtained in the course of the audit of the financial statements, we have not identified material misstatements in the description of the main features of the internal control and risk management systems in relation to the financial reporting process and the information required by section 1373(2)(d) of the Companies Act 2014 included in the Corporate Governance Statement.
- In our opinion, based on the work undertaken during the course of the audit of the financial statements, the information required by section 1373(2)(a),(b),(e) and (f) of the Companies Act 2014 and regulation 6 of the European Union (Disclosure of Non-Financial and Diversity Information by certain large undertakings and groups) Regulations 2017 is contained in the Corporate Governance Statement.

Responsibilities for the financial statements and the audit

Responsibilities of the directors for the financial statements

As explained more fully in the Directors' Responsibilities Statement, the directors are responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view.

The directors are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the group's and the company's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the group or the company or to cease operations, or have no realistic alternative but to do so.

Auditors' responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (Ireland) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located on the IAASA website at:

https://www.iaasa.ie/getmedia/b2389013-1cf6-458b-9b8f-a98202dc9c3a/Description_of_auditors_responsibilities_for_audit.pdf

This description forms part of our auditors' report.

Use of this report

This report, including the opinions, has been prepared for and only for the company's members as a body in accordance with section 391 of the Companies Act 2014 and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

Other required reporting

Companies Act 2014 opinions on other matters

- We have obtained all the information and explanations which we consider necessary for the purposes of our audit.
- In our opinion the accounting records of the company were sufficient to permit the company financial statements to be readily and properly audited.
- The company balance sheet is in agreement with the accounting records.

Other exception reporting

Directors' remuneration and transactions

Under the Companies Act 2014 we are required to report to you if, in our opinion, the disclosures of directors' remuneration and transactions specified by sections 305 to 312 of that Act have not been made. We have no exceptions to report arising from this responsibility.

Prior financial year Non Financial Statement

We are required to report if the company has not provided the information required by Regulation 5(2) to 5(7) of the European Union (Disclosure of Non-Financial and Diversity Information by certain large undertakings and groups) Regulations 2017 in respect of the prior financial year. We have nothing to report arising from this responsibility.

Appointment

We were appointed by the directors on 17 October 2018 to audit the financial statements for the year ended 31 December 2018 and subsequent financial periods. The period of total uninterrupted engagement is 2 years, covering the years ended 31 December 2018 to 31 December 2019.

/s/ Alisa Hayden

Alisa Hayden
for and on behalf of PricewaterhouseCoopers
Chartered Accountants and Statutory Audit Firm
Dublin
30 April 2020

- The maintenance and integrity of the Linde plc website is the responsibility of the directors; the work carried out by the auditors does not involve consideration of these matters and, accordingly, the auditors accept no responsibility for any changes that may have occurred to the financial statements since they were initially presented on the website.
- Legislation in the Republic of Ireland governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Consolidated statement of profit and loss	44
Consolidated statement of comprehensive income	45
Consolidated statement of financial position	46
Consolidated statement of changes in equity	48
Consolidated statement of cash flows	49
Notes to the consolidated financial statements	51

Consolidated Financial Statements

CONSOLIDATED STATEMENT OF PROFIT AND LOSS

For The Years Ended 31 December (Millions of dollars)	*Note*	**2019**	**2018**
Revenue	[7]	$ 28,758	$ 14,973
Cost of sales		20,869	10,626
GROSS PROFIT		**$ 7,889**	**$ 4,347**
Marketing and selling expenses		2,201	936
Research and development costs		254	139
Administration expenses		2,448	1,274
Impairment losses on receivables and contract assets	[24]	170	25
Net gain on divestiture of businesses	[3]	164	3,778
Other operating income	[8]	330	109
Other operating expenses	[8]	260	150
OPERATING PROFIT FROM CONTINUING OPERATIONS		**$ 3,050**	**$ 5,710**
Financial income	[9]	91	120
Financial expenses	[9]	199	368
Share of profit and loss from associates and joint ventures (at equity)	[14]	63	54
PROFIT BEFORE TAX FROM CONTINUING OPERATIONS		**$ 3,005**	**$ 5,516**
Income tax expense	[10]	812	811
PROFIT FOR THE YEAR FROM CONTINUING OPERATIONS		**$ 2,193**	**$ 4,705**
PROFIT FOR THE YEAR FROM DISCONTINUED OPERATIONS, NET OF TAX		**$ 94**	**$ 98**
PROFIT FOR THE YEAR		**$ 2,287**	**$ 4,803**
attributable to Linde plc shareholders		2,148	4,775
attributable to noncontrolling interests of continuing operations		132	20
attributable to noncontrolling interests of discontinued operations		7	8
PROFIT FOR THE YEAR - LINDE PLC SHAREHOLDERS			
Income from continuing operations		$ 2,061	$ 4,685
Income from discontinued operations		$ 87	$ 90
EARNINGS PER SHARE – CONTINUING OPERATIONS LINDE PLC SHAREHOLDERS	[11]		
Earnings per share in USD – undiluted		$ 3.81	$ 14.18
Earnings per share in USD – diluted		$ 3.78	$ 14.02
EARNINGS PER SHARE – LINDE PLC SHAREHOLDERS	[11]		
Earnings per share in USD – undiluted		$ 3.97	$ 14.45
Earnings per share in USD – diluted		$ 3.94	$ 14.29

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

Year Ended 31 December (Millions of dollars)	2019	2018
PROFIT FOR THE YEAR	$ 2,287	$ 4,803
OTHER COMPREHENSIVE INCOME (LOSS)		
ITEMS THAT WILL BE RECLASSIFIED SUBSEQUENTLY TO PROFIT AND LOSS		
Currency translation adjustments		
Foreign currency translation adjustments	92	(420)
Reclassifications to net income	12	(166)
Income taxes	3	(5)
Currency translation adjustments	107	(591)
Derivative instruments		
Current year unrealized gain (loss)	(32)	—
Reclassifications to net income	—	(1)
Income taxes	7	—
Derivative instruments	(25)	(1)
Securities		
Current year unrealized gain (loss)	1	(1)
Reclassifications to net income	—	—
Income taxes	—	—
Securities	1	(1)
ITEMS THAT WILL NOT BE RECLASSIFIED SUBSEQUENTLY TO PROFIT AND LOSS		
Funded status - retirement obligation remeasurement	(574)	(91)
Income Taxes	117	37
Funded status - retirement obligations	(457)	(54)
TOTAL OTHER COMPREHENSIVE INCOME (LOSS)	(374)	(647)
COMPREHENSIVE INCOME (INCLUDING NONCONTROLLING INTERESTS)	$ 1,913	$ 4,156
Less: noncontrolling interests	(50)	(62)
COMPREHENSIVE INCOME - LINDE PLC	$ 1,863	$ 4,094

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

(Millions of dollars)	*Note*	**31/12/2019**	**31/12/2018**
Assets			
Goodwill	[12]	$ 27,148	$ 26,738
Other intangible assets	[12]	16,818	17,281
Tangible assets	[13]	29,689	30,693
Right of use assets	[21]	1,168	—
Investments in associates and joint ventures (at equity)	[14]	1,008	980
Other financial assets	[14]	100	87
Receivables from leases	[16]	55	52
Trade receivables	[16]	3	7
Miscellaneous other receivables and other assets	[16]	595	777
Deferred tax assets	[10]	251	517
NON-CURRENT ASSETS		**76,835**	**77,132**
Inventories	[15]	1,710	1,658
Receivables from finance leases	[16]	17	23
Trade receivables	[16]	4,122	4,104
Contract Assets	[7, 16]	369	267
Miscellaneous other receivables and other assets	[16]	1,194	1,024
Income tax receivables	[16]	108	172
Cash and cash equivalents	[24]	2,790	4,533
Non-current assets classified as held for sale	[3]	320	5,670
CURRENT ASSETS		**$ 10,630**	**$ 17,451**
TOTAL ASSETS		**$ 87,465**	**$ 94,583**

(Millions of dollars)	*Note*	**31/12/2019**	**31/12/2018**
EQUITY AND LIABILITIES			
Called-up share capital presented as equity	[17]	$ 1	$ 1
Share premium	[17]	—	—
Retained earnings	[17]	52,249	52,448
Treasury shares	[17]	(3,156)	(629)
Other reserves	[17]	105	(125)
TOTAL EQUITY ATTRIBUTABLE TO LINDE PLC SHAREHOLDERS		**$ 49,199**	**$ 51,695**
Noncontrolling interests	[17]	2,942	6,094
TOTAL EQUITY		**$ 52,141**	**$ 57,789**
Long-term pensions and similar obligations	[18]	2,549	2,007
Other non-current provisions	[19]	562	535
Deferred tax liabilities	[10]	6,993	7,726
Financial liabilities	[20]	10,622	12,276
Liabilities from leases	[21]	840	59
Trade payables	[22]	1	1
Contract liabilities	[7, 22]	359	154
Income tax liabilities	[22]	236	266
Other non-current liabilities	[22]	403	433
NON-CURRENT LIABILITIES		**$ 22,565**	**$ 23,457**
Current pensions and similar obligations	[18]	27	104
Current provisions	[19]	567	452
Financial liabilities	[20]	3,325	3,013
Liabilities from leases	[21]	290	19
Trade payables	[22]	4,079	4,095
Contract liabilities	[7, 22]	1,761	1,709
Other current liabilities	[22]	1,878	2,187
Income tax liabilities	[22]	747	895
Liabilities in connection with non-current assets classified as held for sale and disposal groups	[3]	85	863
CURRENT LIABILITIES		**$ 12,759**	**$ 13,337**
TOTAL EQUITY AND LIABILITIES		**$ 87,465**	**$ 94,583**

On behalf of the board

/s/ Stephen F. Angel
Stephen F. Angel
Chief Executive Officer and Director

/s/ Prof. Dr. Clemens Börsig
Prof. Dr. Clemens Börsig
Director

30 April 2020

STATEMENT OF CHANGES IN CONSOLIDATED EQUITY

(Millions of dollars)	Called-up share capital	Share premium	Retained earnings (including remeasurement of defined benefit plans)	Other reserves: Currency translation differences	Other reserves: Hedging instruments	Other reserves: Other	Treasury shares	Total equity attributable to Linde plc shareholders	Non-controlling interests	Total equity
AS AT 01/01/2018	**$ 4**	**$ 4,207**	**$ 8,607**	**$ 502**	**$ (1)**	**$ —**	**$ (7,196)**	**$ 6,123**	**$ 493**	**$ 6,616**
Profit for the year	–	–	4,775	—	—	–	—	4,775	28	4,803
Other comprehensive income (net of tax)	–	–	(55)	(625)	(1)	–	—	(681)	34	(647)
TOTAL COMPREHENSIVE INCOME	**—**	**—**	**4,720**	**(625)**	**(1)**	—	**—**	**4,094**	**62**	**4,156**
Dividend payments	–	–	(1,166)	—	—	–	—	(1,166)	(49)	(1,215)
Changes as a result of share option schemes and stock purchase plans	–	29	—	—	—	–	84	113	—	113
Other changes	**—**	**—**	**—**	**—**	**—**	—	(630)	(630)	—	(630)
TOTAL CONTRIBUTIONS BY AND DISTRIBUTIONS TO OWNERS OF THE COMPANY	**—**	**29**	**(1,166)**	**—**	**—**	—	**(546)**	**(1,683)**	**(49)**	**(1,732)**
CHANGES IN OWNERSHIP INTERESTS IN SUBSIDIARIES	—	(127)	—	—	—	—	—	(127)	(186)	(313)
IMPACT OF MERGER (Notes 2 and 17)	(3)	(4,109)	40,287	—	—	—	7,113	43,288	5,774	49,062
AT 31/12/2018	**$ 1**	**$ —**	**$ 52,448**	**$ (123)**	**$ (2)**	**$ —**	**$ (629)**	**$ 51,695**	**$ 6,094**	**$ 57,789**
Profit for the year	–	—	2,148	—	—	–	—	2,148	139	2,287
Other comprehensive income (net of tax)	–	—	(456)	196	(25)	–	—	(285)	(89)	(374)
TOTAL COMPREHENSIVE INCOME	**—**	—	**1,692**	**196**	**(25)**	—	**—**	**1,863**	**50**	**1,913**
Dividend payments	–	—	(1,891)	—	—	–	—	(1,891)	(184)	(2,075)
Changes as a result of share option schemes and stock purchase plans	–	—	—	—	—	59	(2,527)	(2,468)	—	(2,468)
TOTAL CONTRIBUTIONS BY AND DISTRIBUTIONS TO OWNERS OF THE COMPANY	**—**	—	**(1,891)**	**—**	**—**	**59**	**(2,527)**	**(4,359)**	**(184)**	**(4,543)**
CHANGES IN OWNERSHIP INTERESTS IN SUBSIDIARIES	—	—	—	—	—	—	—	—	(3,018)	(3,018)
AT 31/12/2019	**$ 1**	**$ —**	**$ 52,249**	**$ 73**	**$ (27)**	**$ 59**	**$ (3,156)**	**$ 49,199**	**$ 2,942**	**$ 52,141**

CONSOLIDATED STATEMENT OF CASH FLOWS

For The Years Ended 31 December (Millions of dollars)	*Note*	**2019**	**2018**
Profit for the year attributable to Linde plc shareholders		$ 2,148	$ 4,775
Less: Profit for the year from discontinued operations		(87)	(90)
Add: Profit for the year from continuing operations attributable to noncontrolling interests		132	20
Profit for the year from continuing operations		2,193	4,705
Adjustments to profit after tax to calculate cash flow from operating activities – continuing operations			
Restructuring and merger costs, and other		(236)	40
Amortization of intangible assets/depreciation of tangible assets	[12,13,21]	5,144	1,863
Impairments of financial assets		—	25
Amortization of merger-related inventory step-up		11	369
Deferred income taxes, excluding Tax Act		(336)	(228)
Tax Act income tax charge, net		—	(61)
Gain on divestiture of business		(108)	(3,407)
Share of profit and loss from associates and joint ventures (at equity)	[14]	(63)	(54)
Distributions/dividends received from associates and joint ventures	[14]	69	58
Share based compensation		95	62
Non-cash charges and other		(152)	122
Changes in assets and liabilities			
Change in trade receivables	[16]	52	(119)
Contract assets & liabilities	[7]	86	—
Change in inventories	[15]	(86)	(3)
Change in prepaid and other current assets	[16]	(68)	43
Change in payables, provisions and accruals	[19, 22]	(193)	284
Pension contributions		(94)	(87)
Long-term assets, liabilities and other		246	71
CASH FLOW FROM OPERATING ACTIVITIES		**$ 6,560**	**$ 3,683**
Capital expenditures		(3,702)	(1,886)
Acquisitions / Payments for investments in consolidated companies		(225)	(25)
Cash acquired in Merger transaction	[2]	—	1,431
Proceeds on disposal of tangible and intangible assets, and receivables from leases		5,091	5,915
CASH FLOW (FOR)/FROM INVESTING ACTIVITIES		**$ 1,164**	**$ 5,435**

(Millions of dollars)	*Note*	2019	2018
Dividend payments to Linde plc shareholders		$ (1,891)	$ (1,166)
Cash inflows/outflows due to changes of noncontrolling interests		(3,310)	(425)
Issuance of common stock		72	77
Purchases of common stock		(2,658)	(599)
Short-term debt borrowings (repayments) - net		181	199
Long-term debt borrowings		104	10
Long-term debt repayments		(1,561)	(3,124)
Cash outflows for the repayment of liabilities from leases		(328)	(3)
CASH FLOW FOR FINANCING ACTIVITIES		**$ (9,391)**	**$ (5,031)**
Discontinued Operations			
Cash provided by operating activities		78	52
Cash used for investing activities		(71)	(24)
Cash used for financing activities		(2)	—
CASH FLOW FROM DISCONTINUED OPERATIONS		**5**	**28**
CHANGE IN CASH AND CASH EQUIVALENTS	[25]	**(1,662)**	**4,115**
OPENING BALANCE OF CASH AND CASH EQUIVALENTS	[24]	**$ 4,533**	**$ 617**
Effects of currency translation		(77)	(61)
Cash and cash equivalents reported as non-current assets classified as held for sale and disposal groups	[3]	(4)	(138)
CLOSING BALANCE OF CASH AND CASH EQUIVALENTS	[24]	**$ 2,790**	**$ 4,533**

OTHER CASH FLOW FROM OPERATING ACTIVITIES			
Income taxes paid		$ 1,317	$ 770
Interest paid, net of capitalized interest		$ 253	$ 216

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

[1] Business Overview and Basis of Preparation

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 1 June 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 31 October 2018, Linde 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.

The business combination has been accounted for using the acquisition method of accounting in accordance with the provisions of IFRS 3, Business Combinations, with Praxair representing the accounting acquirer.

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 (completed on 3 December 2018), the majority of Linde AG's Americas business (completed on 1 March 2019), select assets of Linde AG's South Korean industrial gases business (completed on 30 April 2019), select assets of Praxair's Indian industrial gases business (completed on 12 July 2019), select assets of Linde AG's Indian industrial gases business (completed on 16 December 2019) as well as certain divestitures of other Praxair and Linde AG businesses in Asia that are currently expected to be sold in 2020 (collectively, the "merger-related divestitures"). See Note 3 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 1 October 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 1 March 2019, concurrent with the sale of the required merger-related divestitures in the United States.

As a result of the merger and effective with the lifting of a Hold Separate Order effective on 1 March 2019, new operating segments were created which are used by the company's Chief Operating Decision Maker ("CODM") to allocate company resources and assess performance. Linde's operations consist of two major product lines: industrial gases and engineering/other. Linde's industrial gases operations are managed on a geographic basis, which represents three of the company's new reportable segments - Americas, EMEA (Europe/Middle East/Africa), and APAC (Asia/South Pacific); a fourth operating segment which represents the company's Engineering business, designs and manufactures equipment for air separation and other industrial gas applications specifically for end customers and is managed on a worldwide basis operating in all three geographic segments. Other consists of corporate costs and a few smaller businesses, which individually do not meet the quantitative thresholds for separate presentation.

Linde (Registration number 602527) is an incorporated public limited company formed under the laws of Ireland. Linde's registered office is located at Ten Earlsfort Terrace, Dublin 2, D02 T380 Ireland. Linde's principal executive offices are located at The Priestley Centre, 10 Priestley Road, Surrey Research Park, Guildford, Surrey GU2 7XY, United Kingdom. Linde trades on the New York Stock Exchange ("NYSE") and on the Frankfurt Stock Exchange under the symbol LIN.

The consolidated financial statements of Linde for the year ended 31 December 2019 have been prepared in accordance with International Financial Reporting Standards ("IFRS") issued by the International Accounting Standards Board ("IASB") as adopted by the European Union pursuant to EU Regulation No. 1606/2002 of the European Parliament, the Council on the application of International Accounting Standards in the European Union and interpretations issued by the IFRS Interpretations Committee (IFRS IC) applicable to companies reporting under IFRS. The consolidated financial statements have also been prepared in accordance with the provisions of the Irish Companies Act ("Companies Act 2014"), as applicable to companies reporting under IFRS.

The consolidated financial statements of Linde have been prepared on a historical cost basis, except for the following: 1) certain financial assets and liabilities (including derivative instruments) - measured at fair value 2) certain assets and disposal groups held for sale acquired in a business combination- measured at fair value less costs to sell and 3) defined benefit pension plans - plans assets measured at fair value.

The reporting currency is the US dollar ("USD"). All amounts are shown in millions of US dollars ($ million), unless stated otherwise. Expenses are presented by function in the consolidated statement of profit and loss.

The annual financial statements of companies included in the consolidation are prepared at the same reporting date as the annual financial statements of Linde plc.

The consolidated financial statements of Linde plc and subsidiaries were authorized for issue by the Board of Directors on 30 April 2020. The Board of Directors has the power to amend and reissue financial statements.

[2] Business Combinations

Merger of Praxair, Inc. and Linde AG in 2018

On 31 October 2018 Praxair and Linde combined their respective businesses through an all-stock transaction and became subsidiaries under the company.

In connection with the Business Combination, each share of common stock of Praxair, Inc. par value $0.01, (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 the one share of common stock, par value €0.001 per share, of Linde plc ordinary shares. Additionally, each tendered share of common stock of Linde AG was converted into 1.54 shares of Linde plc ordinary shares.

Finalization of Purchase Price Allocation

In accordance with the IASB's IFRS 3, *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 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 plc Common Shares in exchange for Linde AG Shares at an exchange ratio of 1.54 Linde plc 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 fair value of the 92% of Linde AG shares tendered and Linde plc 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 31 October 2018 of $164.50 per share.

The purchase price and fair value of Linde AG’s net assets acquired as if the merger date on 31 October 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 31 October 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 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 31 October 2018.

In accordance with IFRS 3, Linde AG's assets and liabilities were measured at fair values at 31 October 2018, primarily using Level 3 inputs, except debt which was Level 1. Fair value is defined as the price that would be received to sell an asset, or paid to transfer a liability, in an orderly transaction between market participants at the measurement date. Fair value was estimated using 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 data input factors, 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 final 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. At 31 December 2019, the valuation process to determine the fair values is now complete.

The final determination of the fair values has resulted in the values presented in the following table:

Millions of dollars		Final fair value of assets and liabilities acquired
Goodwill	$	24,472
Intangible assets		16,993
Tangible assets		19,936
Investments in associated and joint ventures (at equity)		526
Other long-term assets		1,013
Non-current assets	**$**	**62,940**
Inventories		1,450
Trade receivables		2,709
Other assets		1,347
Cash		1,428
Assets classified as held for sale		5,579
Current assets	**$**	**12,513**
Total assets	**$**	**75,453**
Equity acquired equals purchase price paid (i)	**$**	**43,288**
Noncontrolling Interest		5,814
Total equity		**49,102**
Provisions for pensions and similar obligations		1,165
Deferred tax liabilities		7,298
Financial liabilities		6,295
Other Long-term Liabilities		904
Non-current liabilities	**$**	**15,662**
Trade payables		3,007
Current liabilities classified as held for sale		771
Other current liabilities		6,911
Current liabilities	**$**	**10,689**
Total equity and liabilities	**$**	**75,453**

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

The more significant measurement period adjustments were made for Goodwill ($ 447 million), Intangible Assets ($ 304 million), Tangible Assets ($ -439 million), Assets classified as held for sale ($ 231 million), Deferred taxes ($ 298 million) and Other liabilities ($ 222 million).

2019 and 2018 Non Merger-Related Acquisitions

Non-merger related acquisitions of $225 million and $25 million during the years ended 31 December 2019 and 2018 are not material individually or in the aggregate.

[3] Merger-Related Divestitures, Discontinued Operations And Assets Held For Sale

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 by 3 December 2018 in two transactions, as described below:

- The Società Italiana Acetilene e Derivati S.p.A. ("SIAD") Sale and Purchase Agreement ("SPA") dated 5 December 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 consolidated subsidiary, Rivoira S.p.A., and payment of a net purchase price of €90 million ($102 million as of 31 October 2018) by Praxair to Flow Fin. This transaction was completed on 31 October 2018 and;

- The Praxair Europe Sale and Purchase Agreement dated 5 July 2018 pursuant to which Praxair sold the majority of its European businesses to Taiyo Nippon Sanso Corporation for €5 billion in cash consideration ($5.7 billion at 3 December 2018), reduced by normal closing adjustments of €86 million ($96 million). These transactions were completed on 3 December 2018.

In connection with these transactions, the company recognized a net pre-tax gain of $3.8 billion ($3.4 billion after tax) in the consolidated statements of profit and loss as part of the net gain on divestiture of businesses.

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

(Millions of dollars)		Carrying Value
Tangible assets	$	1,342
Investments in associates and joint ventures (at equity)		234
Goodwill		620
Other intangible assets		115
Other receivables and other assets		36
Total Non-Current Assets		2,347
Cash and cash equivalents	$	38
Trade receivables		311
Inventories		67
Other receivables and other assets		22
Total Current Assets	$	438
Total Assets Divested	$	2,785
Financial liabilities		2
Other non-current liabilities		92
Deferred tax liabilities		174
Total Non-Current Liabilities	$	268
Trade payables		215
Income tax liabilities		27
Other current liabilities		111
Total Current Liabilities	$	353
Total Liabilities Divested	$	621
Noncontrolling interests	$	200
Pension/OPEB funded status obligation, net of taxes		(8)
Cumulative translation adjustment, net of taxes		165
Net Assets Divested	$	1,807

Additionally, to satisfy regulatory requirements in other jurisdictions, Praxair agreed to sell certain operations in Chile, China, India and South Korea. The Chilean business was sold as part of the Linde AG Americas SPA (as defined below), the select Indian assets were sold in July 2019, and other sales are expected in 2020. Effective 22 October 2018, the date of final regulatory approvals, these businesses have been accounted for as Non-current assets held for sale on the consolidated statement of financial position. These businesses were evaluated for discontinued operations accounting treatment under IFRS and it was determined that they did not meet the definition of a discontinued operation as these transactions did not represent a disposal of a separate major line of business or geographical area of operations, after considering the impact of the merger.

The sale of the select Indian assets was completed on 12 July 2019 with a sale price of $218 million and resulted in a gain of $164 million recognized in "Net gain on divestiture of businesses" in the consolidated statement of profit and loss.

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 16 July 2018, as and further amended on 22 September 2018, 19 October 2018, and 20 February 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 approximately $2.9 billion in net cash consideration after purchase price adjustments for certain items relating to assets and liabilities of the sold businesses. In addition, divestitures include approximately $0.5 billion of proceeds for incremental plant sales within the Americas under other agreements. These transactions were completed on 1 March 2019.

- On 30 April 2019, Linde completed the sale of selected assets of Linde AG Korea to IMM Private Equity Inc., to satisfy requirements of the Korea Fair Trade Commission. The assets divested include bulk and on-site business in Giheung, Pohang and Seosansites as well as oxygen and nitrogen on-site generators. The sale price of $1.2 billion was subject to customary adjustments.
- On 16 December 2019, Linde completed the sale of select assets of Linde India with a sale price of $193 million.

The net carrying value of Linde AG's Americas business assets and liabilities divested on 1 March 2019 is presented below:

(Millions of dollars)		**Carrying Value**
Tangible assets	$	1,590
Investments in associates and joint ventures (at equity)		37
Goodwill		3
Other intangible assets		10
Other receivables and other assets		76
Total Non-Current Assets		1,716
Cash and cash equivalents	$	200
Trade receivables		479
Inventories		181
Other receivables and other assets		409
Fair value adjustment of assets relating to subsidiaries acquired for sale as part of business combination (Note 2)		1,650
Total Current Assets	$	2,919
Total Assets Divested	$	4,635
Financial liabilities		2
Other non-current liabilities		98
Deferred tax liabilities		177
Total Non-Current Liabilities	$	277
Trade payables		94
Income tax liabilities		60
Other current liabilities		767
Total Current Liabilities	$	921
Total Liabilities Divested	$	1,198
Cumulative translation adjustment, net of taxes		12
Net Assets Divested	$	3,449

The net carrying value of Linde AG's South Korean business assets and liabilities divested on 30 April 2019 is presented below:

(Millions of dollars)	Carrying Value
Tangible assets	$ 389
Trade receivables	27
Inventories	16
Fair value adjustment of assets relating to subsidiaries acquired for sale as part of business combination (Note 2)	879
Total Assets Divested	$ 1,311
Financial liabilities	6
Other non-current liabilities	3
Deferred tax liabilities	31
Total Non-Current Liabilities	$ 40
Trade payables	2
Income tax liabilities	12
Other current liabilities	29
Total Current Liabilities	$ 43
Total Liabilities Divested	$ 83
Net Assets Divested	$ 1,228

Discontinued operations and net assets held for sale

Only the sales of the Linde AG merger-related divested subsidiaries meet the criteria for discontinued operations, under IFRS as they were acquired with a view to being sold. Related pre-tax earnings of $150 million and $107 million (net of taxes of $56 million and $9 million) for the years ended 31 December 2019 and 2018, respectively, are included within profit from discontinued operations, net of tax for periods subsequent to the merger.

Net assets held for sale include 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 31 December 2019 and 2018, the following assets and liabilities are reported as components of the net assets held for sale in the consolidated statement of financial position:

(Millions of dollars)	2019	2018
Assets		
Trade receivables	$ 24	$ 315
Inventories	4	213
Other current receivables and other assets	25	280
Tangible assets	121	2,123
Other receivables and other assets	14	114
Fair value adjustment of assets relating to subsidiaries acquired for sale as part of business combination (Note 2)	132	2,625
Total Non-current assets classified as held for sale	$ 320	$ 5,670
Liabilities		
Current liabilities	$ 81	$ 506
Other non-current liabilities	4	357
Total liabilities in connection with non-current assets classified as held for sale	85	863
Net Assets Classified as Held for Sale	**$ 235**	**$ 4,807**

[4] Scope of consolidation

The following table provides the structure of companies included in the consolidated financial statements:

	As at 31/12/2018	Additions	Disposals	As at 31/12/2019
Consolidated subsidiaries	**717**	**19**	**143**	**593**
Companies accounted for as a joint operation	**7**	**0**	**1**	**6**
Companies accounted for using the equity method	**55**	**2**	**9**	**48**

Changes in the scope of the consolidation may arise as a result of acquisitions, sales, mergers, closures or as a result of changes in the assessment as to whether Linde plc exercises control or joint control.

The following table shows the subsidiaries that make use of the exemption options provided for in §264 (3)/§264b HGB for the disclosure of the annual financial statements or the preparation of a management report/notes to the financial statements. For these companies, the consolidated financial statements of Linde Plc are the exempting consolidated financial statements.

Overview of the German companies that make use of the exemption provision set out in the German commercial Code (HGB)

Name	Registered Office
Blue LNG GmbH & Co. KG	Hamburg
Coatec Gesellschaft für Oberflächenveredelung mbH	Schluechtern
Commercium Immobilien- und Beteiligungs-GmbH	Munich
Gas & More GmbH	Pullach
Hydromotive GmbH & Co. KG	Leuna
Hydromotive Verwaltungs-GmbH	Leuna
Linde Aktiengesellschaft	Munich
Linde Electronics GmbH & Co. KG	Pullach
Linde Electronics Verwaltungs GmbH	Pullach
Linde Gas Produktionsgesellschaft mbH & Co. KG	Pullach
Linde Gas Therapeutics GmbH	Oberschleissheim
Linde Gas Verwaltungs GmbH	Pullach
Linde Holding GmbH	Munich
Linde Schweißtechnik GmbH	Pullach
Linde Welding GmbH	Pullach
MTA GmbH Medizin-Technischer-Anlagenbau	Mainhausen
Nauticor GmbH & Co. KG	Hamburg
Praxair Surface Technologies GmbH	Ratingen
Selas-Linde GmbH	Pullach
Unterbichler Gase GmbH	Munich

[5] Foreign Currency Translation

The consolidated financial statements are presented in USD currency units, which is the company's functional and presentation currency.

Items included in the financial statements of each of the company's entities are measured using the currency of the primary economic environment in which the entity operates ("the functional currency"). Transactions in foreign currency are translated into the relevant functional currency of the individual entity on the transaction date. After initial recognition, foreign currency fluctuations relating to monetary assets and liabilities denominated in foreign currencies at year end exchange rates are generally recognized in profit and loss.

Foreign exchange gains and losses that relate to borrowings are presented in the statement of profit and loss, within finance costs. All other foreign exchange gains and losses are presented in the consolidated statement of profit and loss on a net basis within other operating income/expense. For non-monetary items, historical translation rates form the measurement basis.

Translation differences arising from the translation of items into the reporting currency are recognized in other comprehensive income. The financial statements of foreign subsidiaries, including any fair value adjustments identified during a purchase price allocation, that have a functional currency different from the presentation currency are translated into the presentation currency in accordance with IAS 21, *The Effects of Changes in Foreign Exchange Rates*.

Assets and liabilities, contingent liabilities, and other financial commitments are translated at the closing rate on the reporting date (closing rate method). Items in the consolidated statement of profit and loss for the year are translated at a rate which approximates to the translation rate on the date of the transaction (the average rate).

Foreign exchange gains and losses are deferred in equity if they relate to qualifying cash flow hedges and qualifying net investment hedges or are attributable to part of the net investment in a foreign operation. The company did not have any net investment hedges during the year ended 31 December 2019. During the year ended 31 December 2018, the company recognized $105 million of gains in net investment hedges in the statement of comprehensive income within currency translation adjustments.

The financial statements of foreign companies accounted for using the equity method of accounting are translated using the same principles for the adjustment of equity as are applied to consolidated subsidiaries.

In general, the financial statements of subsidiaries which report in a functional currency which is the currency of a hyperinflationary economy are adjusted for the change in purchasing power arising from the inflation in accordance with IAS 29, *Financial Reporting in Hyperinflationary Economies*.

Principal exchange rates of Linde plc:

	Statement of Profit and Loss		**Statement of Financial Position**	
	Average Year Ended 31 December,		**31 December,**	
Currency	**2019**	**2018**	**2019**	**2018**
Euro	0.89	0.85	0.89	0.87
Chinese yuan	6.90	6.60	6.96	6.88
British pound	0.78	0.75	0.75	0.78
Australia dollars	1.44	1.34	1.42	1.42
Brazilian real	3.94	3.63	4.03	3.87
Korean won	1,165	1,100	1,156	1,111
Canadian dollar	1.33	1.30	1.30	1.36
Mexican Peso	19.24	19.20	18.93	19.65
Taiwan dollars	30.90	30.13	29.99	30.55
Indian rupee	70.40	68.00	71.38	69.77
South African rand	14.43	13.16	14.00	14.35
Swedish kroner	9.45	8.68	9.37	8.85
Thailand bhat	31.04	32.30	29.71	32.33

[6] Accounting Policies

This note provides a list of the significant accounting policies adopted in the preparation of these consolidated financial statements to the extent they have not already been disclosed in the other notes. These policies have been consistently applied to all the years presented, unless otherwise stated.

The financial statements of companies included in the consolidated financial statements of Linde have been prepared using uniform accounting policies in accordance with IFRS 10, *Consolidated Financial Statements* ("IFRS 10").

The preparation of the consolidated financial statements in accordance with IFRS requires management judgments and estimates for some items, which might have an impact on their recognition and measurement in the consolidated statement of financial position and consolidated statement of profit and loss. The actual amounts realized may differ from these estimates.

All amounts disclosed in the financial statements and notes have been rounded off to the nearest million currency units unless otherwise stated.

The primary accounting and valuation policies, as well as the estimates and management judgments associated with them, are explained below:

Principles of consolidation

Consolidation

The consolidated financial statements comprise Linde and all the companies over which Linde is able to exercise control as defined by IFRS 10.

Control is achieved when Linde has power over the investee, is exposed, or has rights to variable returns from its involvement with the investee and has the ability to affect those returns through its power to direct the activities of the investee. If Linde plc holds a majority of the voting rights in a company, this typically indicates that it exercises control over the company in the absence of any other restrictive contractual agreements. Subsidiaries are fully consolidated from the date on which control is transferred to the company. They are deconsolidated from the date the control ceases.

Intra-company sales, income and expenses and accounts receivable and payable between group companies are eliminated. Intra-company profits and losses arising from intra-company deliveries of non-current assets and inventories are also eliminated. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the company.

Noncontrolling Interests

Noncontrolling interests in the results and equity of subsidiaries are shown separately in the consolidated statement of profit and loss, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of financial position.

Joint arrangements

Linde has several joint arrangements in which it has joint control with one or several parties through a contractual agreement. If joint control exists, Linde needs to distinguish whether the investment is a joint operation or a joint venture. This distinction is dependent on whether Linde has rights to the assets and obligations for the liabilities of the arrangement or whether it has rights to the net assets of the arrangement. To make the distinction, Linde considers the structure and legal form of the arrangement, any contractual agreements which might apply and any other relevant circumstances.

Significant influence

Associates over which Linde plc can exercise significant influence as defined by IAS 28, *Investments in Associates and Joint Ventures* are also accounted for using the equity method of accounting. Significant influence is presumed if Linde holds (directly or indirectly) 20 percent or more of the voting rights in an investee.

Joint ventures

Investments in associates and joint ventures are accounted for under the equity method at cost at the date of acquisition. In subsequent periods, the carrying amount is adjusted up or down to reflect Linde's share of the total comprehensive income of the investee. Any distributions received from the investee and other changes in the investee's equity reduce or increase the carrying amount of the investment. If the losses of an associate or joint venture attributable to Linde equal or exceed the value of the interest held in this associate or joint venture, no further losses are recognized unless Linde incurs an obligation or makes payments on behalf of the associate or joint venture. The same principles apply to companies accounted for using the equity method as for the consolidation of subsidiaries.

Investments in associates and joint ventures are reviewed for impairment whenever events or circumstances reflect that an impairment may have occurred.

Joint operations

If the joint arrangement qualifies as joint operation, Linde recognizes the assets, liabilities, revenues and expenses relating to its interest in a joint operation in accordance with the IFRS's applicable to the particular assets, liabilities, revenues and expenses.

Other investments

Other investments, when taken individually and together, are immaterial from Linde's point of view in terms of total assets, revenue and profit and loss for the year and do not have a significant impact on the consolidated net assets, financial position and results of operations of Linde.

Change in ownership interests

Linde treats transactions with noncontrolling interests that do not result in a loss of control as equity transactions. Where noncontrolling interests are acquired, any remaining balance between the acquisition cost and the share of net assets acquired is offset directly in equity.

When Linde loses control over a subsidiary, it derecognizes: the assets and liabilities of the subsidiary, any related noncontrolling interests and other components of equity. Any resulting gain or loss is recognized in profit and loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

When Linde ceases to consolidate (or account for as an equity method investment) an investment because of a loss of control, joint control or significant influence, any retained interest in the entity is remeasured to its fair value when control is lost. Any resulting gain or loss is recognized in profit and loss. In addition, any amounts previously recognized in other comprehensive income in related to that entity are accounted for as if the company had directly (or partially) disposed of the related assets or liabilities. This may mean that amounts previously recognized in other comprehensive income are reclassified to profit and loss.

Management judgments in relation to control

When assessing whether Linde exercises control, joint control or significant influence over companies in which it holds less than 100 percent of the voting rights, management judgment is required to assess whether it controls the investee. In addition, companies are fully consolidated if Linde exerts increased management authority in those companies and is able to exercise the most extensive decision-making powers over major portions of the operating activities of the entities.

Changes to contractual agreements or facts or circumstances are monitored on an ongoing basis and are evaluated to determine whether they have an impact on the assessment as to whether Linde is exercising control or joint control over its investment.

Business Combinations

Business combinations require estimates to be made when determining fair values. When discounted cash flow methods are used, discretionary aspects include in particular the time period and amount of the cash flow and the determination of an appropriate discount rate. In connection with management judgments about purchase price allocations in the case of significant business combinations, Linde may utilize external valuation services.

Acquisitions are accounted for using the acquisition method of accounting. The cost of an acquisition is measured at the fair value of the assets acquired, and liabilities assumed. Any excess of the purchase price, and noncontrolling interests recognized over the fair value of the net identifiable assets and liabilities acquired is recorded as goodwill. Allocations of the purchase price are initially 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 recognizes noncontrolling interests in an acquired entity either at fair value or at the noncontrolling interest's proportionate share of the acquired entity's net identifiable assets. This decision is made on an acquisition-by-acquisition basis.

If the business combination is achieved in stages, the acquisition date carrying value of the acquirer's previously held equity interest in the acquiree is remeasured to fair value at the acquisition date. Any gains or losses arising from such remeasurement are recognized in consolidated statement of profit and loss.

Intangible assets

Intangible assets are stated at acquisition cost or manufacturing cost less accumulated amortization and any impairment losses. An intangible asset is recognized if it can be identified as an asset, if it is probable that the future economic benefits that are attributable to the asset will flow to Linde, and if the cost of the asset can be measured reliably. It is important to determine whether the intangible assets have finite or indefinite useful lives. The estimated useful life of customer relationships purchased is calculated on the basis of the term of the contractual relationship underlying the customer relationship, or on the basis of expected customer behavior. Goodwill, intangible assets with indefinite useful lives and intangible assets not yet ready for use are not amortized but are subject instead to an impairment test once a year, or more often if there is any indication that an asset may be impaired. Other intangible assets are tested for impairment whenever events, or changes in circumstances, indicate that the asset may be impaired. If the reason for an impairment loss recognized in prior years no longer exists, the carrying amount of the intangible asset is increased to a maximum figure of the carrying amount that would have been determined had no impairment loss been recognized.

The "Linde" brand name is considered to have an indefinite useful life. The brand has been long established and will continue to be used as the name for the merged company. The Linde brand has been used and in existence for many years, demonstrating proven value over that period. The brand name continues to have a strong market presence and there are no material legal, contractual, or other factors that limit its useful life. Based on an analysis of these relevant factors there is no foreseeable limit to the period over which the asset is expected to generate cash inflows. The company performs the annual impairment testing in the fourth quarter.

In a business combination, goodwill is initially measured at cost, which is the excess of the fair value of consideration transferred and the fair value of net assets (including noncontrolling interests) acquired. After initial recognition, goodwill is measured at cost less any accumulated impairment losses. Goodwill is tested for impairment annually, in the financial year of acquisition, if later, or more frequently if events or circumstances indicate that an impairment loss may have been incurred. During the fourth quarter of fiscal year 2019, the company changed the date of its annual goodwill and indefinite useful life intangible asset impairment test from 30 April to 1 October. The change was made to more closely align the impairment testing date with the company's planning process. The company performs the annual impairment testing in the fourth quarter.

Goodwill acquired in a business combination is, from the acquisition date, allocated to each of the company's groups of cash-generating units ("CGUs") that are expected to benefit from the combination. The impairment review of goodwill is performed for the following groups of CGUs: North America, Lincare, Latin America, EMEA, Greater China, South Pacific, South Korea/South Asia & ASEAN, Surface Technologies, Electronics Material (EM), GIST, Helium, Engineering, as management monitors goodwill at that level during the reporting period presented.

Impairment is determined for goodwill by assessing the recoverable amount of each group of CGUs to which the goodwill is allocated to. Where the recoverable amount of the group of CGUs is less than its carrying amount, an impairment loss is recognized. The recoverable amount is determined as the group of CGU's fair value less cost of disposal. If the carrying amount of the group of CGUs exceeds or is close to the fair value less costs of disposal, a test is performed to determine whether the value in use is higher than the carrying amount. In order to determine the fair value of the group of CGUs, the company utilizes a market multiples approach, multiplying the earnings before interest, tax, depreciation, and amortization ("EBITDA") of each group of CGU's by an EBITDA multiple. Impairment losses relating to goodwill are not reversed in future periods.

Costs incurred in connection with the purchase of software or in-house development of software used internally, including the costs of bringing this software to an operational state, are capitalized and amortized on a straight-line basis.

The useful lives of intangible assets are:

Intangible Asset Classification	Amortization Period
Customer relationships	3 - 30 years
Linde Brand	Indefinite useful life
Brands / Tradenames	3 - 30 years
Other intangible assets	3 - 20 years

Tangible assets

Tangible assets are reported at acquisition cost or manufacturing cost less accumulated depreciation based on the estimated useful life of the asset and any impairment losses. Tangible assets are depreciated using the straight-line method, and the depreciation expense is disclosed in the consolidated statement of profit and loss under the heading which corresponds to the functional features of the underlying asset.

The depreciation method and the estimated useful lives of the assets are reviewed on an annual basis and adapted to prevailing conditions.

The following useful lives apply to the different types of tangible assets:

	Depreciable Lives (Yrs)
Production plants (primarily 15-year life)	10-20
Storage tanks	15-20
Transportation equipment and other	3-15
Cylinders	10-30
Buildings	25-40
Land and improvements	0-20

The useful lives are estimated based on past experience. Assumptions also need to be made when Linde assesses whether an asset may be capitalized and which components of the cost of the asset may be capitalized. Estimates need to be made here, for example, of the expected future economic benefits of an asset or the expected future costs of the dismantling of plants. In addition, the capitalization of costs which are incurred during the operating phase of an asset, such as the costs of upgrades to plants or their complete overhaul, depends on whether these costs will lead to better or higher output or whether they extend the estimated useful life of the asset. The company capitalizes borrowing cost as part of the cost of constructing major facilities.

If significant events or market developments indicate an impairment in the value of the tangible or intangible asset, Linde reviews the recoverability of the carrying amount of the asset by testing for impairment. The impairment test is performed at the CGU level to which the asset belongs. A cash-generating unit is the smallest identifiable group of assets that generates cash inflows from external parties that are largely independent of the cash inflows from other assets. In identifying whether cash inflows are largely independent, Linde considers various factors including how management monitors the operations and how management makes decisions about continuing or disposing of the entity's assets and operations. The recoverable amount of the CGU is calculated, which is the higher of its fair value less costs of disposal and its value in use. Linde typically uses value in use. To determine the value in use, estimated future cash flows are discounted at a rate which reflects the risk specific to the CGU. When estimating future cash flows, segment specific, technological, economic and general developments are taken into account. If the reason for an impairment loss recognized in prior years no longer exists, the carrying amount of the tangible asset is increased to the new recoverable amount, but not exceeding the carrying amount that would have been determined had no impairment loss been recognized.

Inventories

Inventories are reported at the lower of acquisition or manufacturing cost and net realizable value. Cost is determined using the average-cost method.

Non-current assets (or disposal groups) classified as held for sale, and discontinued operations

Non-current assets, as well as liabilities directly related to these (or disposal groups), are classified separately in the consolidated statement of financial position as held for sale if they are available for sale in their present condition and the sale within the next twelve months is highly probable.

Non-current assets classified as held for sale (including those that are part of a disposal group) are measured at the lower of carrying amount and fair value less costs to sell. Amortization and depreciation are discontinued from the date on which the non-current assets are classified as held for sale. Interest and other expenses attributable to the liabilities of a disposal group classified as held for sale continue to be recognized. 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 when a part of the business is classified as held for sale, or has already been disposed of, and the business area in question represents either a separate major line of business or a geographical area of operations, or is part of a single coordinated plan to dispose of a separate major line of business or geographical area of operations, or is a subsidiary acquired exclusively with a view to resale. The profit/loss from discontinued operations is reported separately from the expenses and income from continuing operations in the consolidated statement of profit and loss; prior-year figures are shown on a like-for-like basis. In the consolidated statement of cash flows, the cash flows from discontinued operations are shown separately from the cash flows from continuing operations; prior-year figures are shown on a like-for-like basis. If the information relates exclusively to discontinued operations, this is highlighted accordingly.

Provisions for pensions and similar obligations

The valuation of pension provisions is based on the projected unit credit method set out in IAS 19, *Employee Benefits* ("IAS 19") for defined benefit obligations. This method takes into account not only vested future benefits and known pensions at the reporting date, but also expected future increases in salaries and pensions. The calculation of the provisions is determined using actuarial reports.

The fair value of the plan assets is deducted from the present value of the pension obligations (gross pension obligation) to give the net pension obligation or net pension asset in respect of defined benefit pension plans. The net pension asset is adjusted if necessary to comply with the rules relating to the asset ceiling set out in IAS 19.64. According to IAS 19.64, a net pension asset may only be disclosed if Linde, under its obligation as an employer, has the right to receive a refund of the surplus or to reduce future contributions.

The net interest expense for the financial year is calculated by multiplying the net pension obligation or net pension asset at the beginning of the period by the interest rate underlying the discounting of the gross defined benefit obligation at the beginning of the period.

The discount rate is calculated on the basis of the returns achieved on the relevant call date for high quality fixed-interest corporate bonds in the market. The currency and period to maturity of the underlying bonds correspond to the currency and probable period to maturity of the post-employment benefit obligations. If such returns are not available, the discount rates are based on market returns for government bonds.

Remeasurements comprise of the actuarial gains and losses on the remeasurement of the gross defined benefit obligation and the difference between the return on plan assets actually realized and the return assumed at the beginning of the period, which is based on the discount rate of the corresponding gross defined benefit obligation. If a pension plan is overfunded and the asset ceiling applies, remeasurements also comprise the change in the net asset from the application of the asset ceiling rules to the extent that this has not been accounted for in net interest.

Actuarial gains and losses arise from changes in actuarial assumptions or from variations between earlier actuarial assumptions and actual events.

All remeasurements (i.e. actuarial gains and losses, the cumulative effect of an asset ceiling and the effects of an increase in the pension obligation in accordance with IFRIC 14, *The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction*) are recognized immediately in other comprehensive income.

The expense arising from additions to the pension provisions resulting from service during the period and past service costs are allocated to functional costs. The net interest expense or net interest income from defined benefit plans is disclosed in the financial result. For each pension plan, it is established whether the net figure is a net interest expense or net interest income and the amounts are disclosed accordingly in the financial result.

Miscellaneous provisions

In accordance with IAS 37, *Provisions, Contingent Liabilities and Contingent Assets*, miscellaneous provisions are recognized when a present obligation to a third party exists as a result of a past event, it is probable that an outflow of resources will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

Miscellaneous provisions are recognized for all identifiable risks and liabilities of uncertain timing or amount. The amounts provided are the best estimate of the probable expenditure required to settle the obligation and are not offset against recourse claims. The settlement amount is calculated based on the assessment of the probability of an outflow of resources, and on past experience and the circumstances known at the reporting date. This also includes any cost increases which need to be taken into account at the reporting date. The actual outflow of resources at a future date may therefore vary from the figure included in other provisions. Provisions which relate to periods of more than twelve months are discounted.

Provisions include provisions for warranties, onerous contracts and provisions for litigation. Assumptions are made here about the probability of occurrence of the risk and the expected future outflow of resources. The uncertainty associated with the measurement of warranty provisions is relatively moderate, as Linde has recourse to historical warranty cost ratios when determining the amounts to be set aside.

Litigation is associated with great uncertainty. A degree of discretion is required to assess whether a present obligation to a third party exists at the reporting date as a result of a past event, whether it is probable that an outflow of resources will be required in future to settle the obligation and whether a reliable estimate can be made of the amount of the obligation. The current status of outstanding litigation is regularly reviewed and updated by Linde's legal department and lawyers appointed by Linde. Changes to this status as a result of new information may result in adjustments being made to the provision.

Provisions for warranty claims are recognized taking current or estimated future claims experience into account.

Dismantling provisions are capitalized when they arise, at the discounted value of the obligation, and a provision for the same amount is established at the same time. An estimate is made, based on past experience, of future costs expected to be incurred to dismantle plants and restore the land on which the plant was built to its original condition. The expected costs are reassessed on an annual basis and the amount of the provision is adjusted if required. The depreciation charged on the asset and the unwinding of interest applied to the provision are both allocated as an expense to the periods of use of the asset.

Provisions for restructuring are recognised if a formal, detailed restructuring plan has been drawn up and communicated to the relevant parties.

Income tax provisions are disclosed in income tax liabilities.

Revenue recognition

Revenue from contracts with customers is recognized when control of the goods or services are transferred to the customer at an amount that reflects the consideration to which Linde expects to be entitled in exchange for those goods or services. If the consideration in a contract includes a variable amount, Linde estimates the amount of consideration to which it will be entitled in exchange for transferring the goods to the customer. The variable consideration is estimated at contract inception and is recognized only when it is highly probable that a significant revenue reversal in the amount of cumulative revenue recognized will not occur when the associated uncertainty with the variable consideration is subsequently resolved.

Revenue is recognized at a point in time or over time depending on when control is transferred for each individual contract (see Note 7).

Linde pays sales commission to its employees for each contract that they obtain for bundled sales of equipment and installation services.

Linde has elected to apply the optional practical expedient for costs to obtain a contract which allows Linde to immediately expense sales commissions (included under employee benefits and part of marketing and selling expense) because the amortization period of the asset that Linde otherwise would have used is one year or less.

Cost of sales

Cost of sales comprises the cost of goods and services sold and the cost of merchandise sold. It includes not only the cost of direct materials and direct manufacturing expenses, but also overheads including depreciation of production plants, amortization of certain intangible assets and inventory write-downs.

Research and development costs

Research costs and development costs which cannot be capitalized are recognized immediately in profit and loss.

Financial result

The financial result includes:

- interest expenses on liabilities,
- dividends received,
- interest income on receivables,
- gains and losses on financial instruments recognized in profit and loss,
- the net interest expense and net interest income from defined benefit plans, and
- interest expense and income from finance leases.

Interest income and interest expenses are recognized in profit and loss on the basis of the effective interest rate method. Dividends are recognized in profit and loss when they have been declared.

Financial instruments

Financial assets and liabilities are only recognized in the statement of financial position when Linde becomes a party to the contractual provisions of the financial instrument. In the normal course of events, purchases and sales of financial assets are accounted for on settlement day. The same does not apply to derivatives, which are accounted for on the trading day.

The classification of financial instruments at initial recognition depends on their contractual terms and the business model for managing the instruments.

Financial assets are classified, at initial recognition, as financial assets at amortized cost, fair value through other comprehensive income ("OCI"), or fair value through profit and loss. Linde did not elect the fair value option. Linde measures financial assets at amortized cost if both, the business model and the solely payments of principal and interest ("SPPI") test are met. Debt instruments are measured at fair value through OCI if both, the business model and the SPPI test are met. An entity can elect on an instrument-by-instrument basis to classify irrevocably its equity investments as equity instruments designated at fair value through OCI when they meet the definition of equity under IAS 32, *Financial Instruments: Presentation* and are not held for trading. Linde did not elect to classify investments under this category. Financial assets at fair value through profit and loss include equity investments and derivative financial assets unless they are designated as effective hedging instruments. Linde trade receivables are generally measured at amortized cost.

Business model assessment

The company determines its business model at the level that best reflects how it manages groups of financial assets to achieve its business objective.

The company's business model is not assessed on an instrument-by-instrument basis, but at a higher level of aggregated portfolios that is based on observable factors.

Financial instruments are initially recognized at fair value. Transaction expenses which are directly attributable to the acquisition or issue of financial instruments are only included in the determination of the carrying amount if the financial instruments are not recognized at fair value through profit and loss.

Financial assets at amortized cost are subsequently measured using the effective interest ("EIR") method and are subject to impairment testing. Linde's financial assets at amortized cost includes trade receivables, receivables from finance lease, loan receivables and other financial assets included under other assets. Trade receivables are measured at the transaction price, the face value less impairment losses recognized, if the receivables do not contain a significant financing component. Management has considered factors such as the difference between the cash price for assets and transaction prices within its agreements, terms of its agreements and market interest rates. Management has reviewed its current portfolio noting that its receivables do not contain significant financing components.

The starting point of the impairment model for trade receivables, contract assets and lease receivables is an analysis of the actual historical default rates per business and product area, taking into account regional circumstances. These historical default rates are adjusted for the impact of current macroeconomic changes, if indicated, taking into account forward-looking information. Furthermore, a critical review of the default rates takes place against the background of the expectations of the responsible management with regard to the realizability of the receivables.

Expected credit losses ("ECLs") are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the company expects to receive, discounted at the appropriate effective interest rate.

The company generally considers a financial asset to be in default (credit impaired) when contractual payments are 360 days past due. However, in certain cases, the company may also consider a financial asset to be in default when internal or external information indicates that the company is unlikely to receive the outstanding contractual amounts. A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

A financial asset is derecognized if it is settled, Linde loses its contractual entitlement to cash flows from such an asset or if it transfers virtually all the risks and opportunities associated with that financial asset. No financial assets that would not qualify for derecognition were transferred or sold to another party by Linde.

All derivative financial instruments are reported at fair value, irrespective of their purpose or the reason for which they were acquired. Embedded derivatives (i. e. derivatives which are included in host contracts) are separated from the host contract and accounted for as derivative financial instruments, if certain requirements are met.

For more information about risk management and the impact on the statement of financial position of derivative financial instruments, see Note 24.

Financial liabilities are classified, at initial recognition, as financial liabilities at amortized cost, at fair value through profit and loss, or as derivatives designated as hedging instruments in an effective hedge. All financial liabilities are recognized initially at fair value and, in the case of financial liabilities at amortized cost, net of directly attributable transaction costs. Liabilities from finance leases, trade payables, financial debt, as well as miscellaneous liabilities, are reported at amortized cost as long as they are not derivative financial instruments. Differences between historical cost and the repayment amount are accounted for using the effective interest rate method. The carrying amount of the financial debt which comprises the hedged item in a fair value hedge is adjusted for the corresponding gain or loss with respect to the hedged risk. A financial liability is derecognized when the obligation under the liability is discharged, cancelled or expires.

Financial liabilities which contain both an equity portion and a liability portion (commonly refer as “compound financial instruments”) are classified in accordance with IAS 32. The financial instruments issued by Linde are classified entirely as financial liabilities and reported at fair value. No material compound financial instruments exist.

Financial assets and financial liabilities are offset and the net amount is reported in the consolidated statement of financial position if there is a currently enforceable legal right to offset the recognized amounts and there is an intention to settle on a net basis, to realize the assets and settle the liabilities simultaneously.

Income taxes

The income tax expense or credit for the period is the tax payable on the current period’s taxable income based on the applicable income tax rate for each jurisdiction adjusted by changes in deferred tax assets and liabilities attributable to temporary differences and to unused tax losses. The current income tax charge is calculated on the basis of the tax laws enacted or substantively enacted at the end of the reporting period. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. It establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

Deferred taxes

Deferred tax assets and liabilities are accounted for in accordance with IAS 12, *Income Taxes* under the liability method in respect of all temporary differences between the carrying amounts of the assets and liabilities under IFRS and the corresponding tax base used in the computation of taxable profit, and in respect of all consolidation adjustments affecting net income and unused tax loss carryforwards.

Deferred tax assets are only recognised for unused tax losses to the extent that it is probable that taxable profits will be available in future years against which the tax losses can be utilized. Deferred taxes are calculated at the tax rates that apply to the period when the asset is realized or the liability is settled, using tax rates set out in laws that have been enacted or substantively enacted in the individual countries by the reporting date.

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, the company reduces the assets to their realizable value when management determines that it is probable (i.e., greater than 50% likelihood) that a deferred tax asset will not be realized.

The following amendments to standards / interpretations had no material impact on Linde's financial reporting:

Amendments to standards / implementations		Mandatory application
IFRS 9	Amendments to IFRS 9: Prepayment Features with Negative Compensation	Jan. 1, 2019
IAS 19	Amendments to IAS 19 - (Employee Benefits): Plan Amendment, Curtailment or Settlement	Jan. 1, 2019
IAS 28	Amendment to IAS 28: Long-term Interests in Associates and Joint Ventures	Jan. 1, 2019
IFRIC 23	Uncertainty over Income Tax Treatments	Jan. 1, 2019
	Annual Improvements to IFRS Standards 2015-2017 Cycle	Jan. 1, 2019

Reclassifications

Certain prior years' amounts have been reclassified to conform to the current year's presentation.

Critical accounting estimates

The preparation of the Group financial statements in accordance with IFRS requires decisions and estimates for some items, which might have an effect on their recognition and measurement in the statement of financial position and statement of profit or loss. The actual amounts realized may differ from these estimates. Estimates that are considered by management to be critical to understanding Linde's financial statements include (i) the assessment of the need to recognize and the measurement of impairment losses relating to intangible assets (See Note 12) and (ii) the assessment of the stage of completion of long-term construction contracts (See Note 7).

New standards and interpretations adopted in the current period

IFRS 16 Leases

IFRS 16 requires lessees to recognize a right-of-use asset and lease liability for all leases, except those that meet certain scope exceptions , and requires expanded quantitative and qualitative disclosures. Linde has adopted this guidance beginning in the first quarter of 2019 using the modified retrospective transition method and has not restated comparatives for the 2018 reporting period. The standard has an immaterial impact on the consolidated statement of profit and loss.

The most significant impact was the recognition of right of use ('ROU") assets and lease liabilities for operating leases, while the accounting for finance leases remained substantially unchanged. The company recognized both right of use assets and lease liabilities. of $1.2 billion upon adoption. The liabilities for leases previously classified as operating leases were measured at the present value of the remaining lease payments, discounted using the lessee’s incremental borrowing rate as of 1 January 2019. The weighted average lessee’s incremental borrowing rate applied to the lease liabilities on 1 January 2019 was 2.66%. Leases previously classified as finance leases were recognized at the carrying amount of the lease asset and lease liability immediately before transition.

Operating and financial leases commitments under IAS 17 at 31 December 2018 were $1.4 billion with the primary differences from the lease ROU liability being discounting at Linde's incremental borrowing rate. The Company elected not to reassess whether a contract is or contains a lease at the date of initial application and there were no onerous contracts as at 1 January 2019. The adoption of the new lease accounting standard had no material impact to net income or retained earnings.

Until December 31, 2018 leases were accounted for under the guidance of IAS17. Leases were classified as operating or finance leases in accordance with the classification criteria prescribed within IAS 17. Operating leases were expensed on a straight line basis in the applicable functional cost account and no asset or liability was recognized within the statement of financial position. Leases classified as finance leases have an asset and liability recorded within the statement of financial position. Expenses for finance leases are recognized as depreciation and interest expense, recorded within functional expenses and financial expense respectively.

New standards and interpretations that have not yet been adopted

The following standards have been issued by the IASB, but have not been applied in the consolidated financial statements of Linde for the year ended 31 December 2019, as they are either not yet effective and/or have not yet been adopted by the European Union:

- Amendments to IFRS 3, *Definition of a Business* (first-time application according to IASB in financial years beginning on or after 1 January 2020)
- Amendments to IAS 1 and IAS 8, *Definition of Material* (first-time application according to IASB in financial years beginning on or after 1 January 2020)
- The Conceptual Framework for Financial Reporting (first-time application according to IASB in financial years beginning on or after 1 January 2020)
- Amendments to IFRS 9, IAS 39 and IFRS 7, *Interest Rate Benchmark Reform* (first-time application according to IASB in financial years beginning on or after 1 January 2020)
- IFRS 17, Insurance Contracts (first-time application according to IASB in financial year beginning on or after 1 January 2021)
- IAS 1, Classification of Liabilities as Current or Non-Current (Amendments to IAS 1) (first-time application according to IASB in financial years beginning on or after 1 January 2021).

Based on the analysis performed so far, we do not expect these new standards and standard amendments to have a material effect on Linde's financial reporting.

[7] Revenue

Contracts with Customers

Approximately 83% of Linde's consolidated sales are generated from industrial gases and related products in three geographic segments (Americas, EMEA, and APAC) and the remaining 17% is related primarily to the Engineering segment, and to a lesser extent Other (see Note 26 for operating segment details). Linde serves a diverse group of industries including healthcare, energy, 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 our 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.

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 $369 million at December 31, 2019. Total contract liabilities are $2,120 million at December 31, 2019 (current contract liabilities of $1,761 million and noncurrent contract liabilities of $359 million in the consolidated statement of financial position). Total contract liabilities were $1,863 million at 31 December 2018 (current contract liabilities of $1,709 million and non-current of $154 million in the consolidated statement of financial position). Revenue recognized for the twelve months ended December 31, 2019 that was included in the contract liability at December 31, 2018 was $1,167 million. Contract assets and liabilities primarily relate to the Linde Engineering business acquired in the merger. The industrial gases business does not typically 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 business. 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 profit and loss. Additionally, sales returns and allowances are not a normal practice in the industry and are not significant.

Disaggregated Revenue Information

As described above and in Note 26, the company manages its industrial gases business on a geographic basis, while the Engineering and other businesses are generally managed on a global basis. Furthermore, 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 tables show sales by distribution method at the consolidated level and for each reportable segment and Other for the years ended 31 December 2019 and 2018. The year ended 31 December 2019 reflects the results of both Praxair and Linde AG for the entire year. The year ended 31 December 2018 reflects the results of Praxair for the entire year and the results of Linde AG for the period beginning after 31 October 2018 (the merger date).

(Millions of dollars)	2019						
Sales	**Americas**	**EMEA**	**APAC**	**Engineering**	**Other**	**Total**	**%**
Merchant	2,946	1,857	2,114	—	184	7,101	25%
On-Site	2,811	1,486	2,453	—	—	6,750	23%
Packaged Gas	5,185	3,348	1,567	—	19	10,119	35%
Other	104	6	137	2,790	1,751	4,788	17%
	11,046	6,697	6,271	2,790	1,954	28,758	100%

(Millions of dollars)	2018						
Sales	**Americas**	**EMEA**	**APAC**	**Engineering**	**Other**	**Total**	**%**
Merchant	2,776	832	832	—	119	4,559	31%
On-Site	2,464	545	1,217	—	—	4,226	28%
Packaged Gas	2,805	1,271	443	—	3	4,522	30%
Other	37	5	21	455	1,148	1,666	11%
	8,082	2,653	2,513	455	1,270	14,973	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 $51 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 passthrough 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 will be earned in the next five years and the remaining thereafter.

[8] Other Operating Income and Expenses

Other Operating Income

(Millions of dollars)	2019	2018
Exchange gains including hedges	$ 99	$ 37
Profit on disposal of non-current assets	34	28
Compensation payments received	3	4
Partnership income	8	8
Ancillary revenue	18	5
Income from release of provisions	24	9
Miscellaneous operating income	144	18
TOTAL	**$ 330**	**$ 109**

Other Operating Expense

(Millions of dollars)	2019	2018
Exchange losses including hedges	$ 124	$ 41
Loss on disposal of non-current assets	20	74
Taxes	10	6
Severance expense	7	7
Miscellaneous operating expenses	99	22
TOTAL	**$ 260**	**$ 150**

[9] Financial income and expenses

Financial Income

(Millions of dollars)	2019	2018
Net interest income from defined benefit plans, see Note 18	$ 7	$ 2
Finance expense for finance leases in accordance with IFRS16 and IFRIC 4/IAS 17	—	1
Income from investments	25	18
Other interest and similar income	59	99
TOTAL	**$ 91**	**$ 120**

Financial Expense

(Millions of dollars)	2019	2018
Net interest expense from defined benefit plans, see Note 18	$ 55	$ 35
Finance expense for finance leases in accordance with IFRS16 and IFRIC 4/IAS 17	17	—
Interest incurred on debt	265	348
Amortization on acquired debt	(96)	(21)
Capitalized interest	(38)	(20)
Other interest and similar charges	(4)	26
TOTAL	**$ 199**	**$ 368**

In interest income and interest expenses, gains and losses from fair value hedge accounting on debt instruments are offset against each other, in order to give a fair presentation of the economic effect of the underlying hedging relationship. Interest income and interest expenses relating to derivatives were also disclosed net. An overview of the composition of the financial result can be found in Note 24.

[10] Income Tax Expense

The year ended 31 December 2019 reflects a full year of Linde plc; the year ended 31 December 2018 reflects Praxair for the entire year and Linde AG for the period beginning 31 October 2018 (the merger date), including the impacts of purchase accounting.

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

(Millions of dollars) **Year Ended 31 December**	**2019**	**2018**
United States	$ 1,217	$ 956
Foreign (a)	1,788	4,560
Total income before income taxes	$ 3,005	$ 5,516

(a) 2019 includes $164 million gain related to the Indian divestiture and 2018 includes a $3,294 million gain related to Europe divestiture (see Note 3)

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

On 22 December 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. The company recorded a charge of $394 million comprising: (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.

During 2018, the company completed its accounting and updated its provisional estimates 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 $261 million and $291 million and is payable over the remaining six and seven years, respectively of which $235 million and $265 million is classified as of 31 December 2019 and 31 December 2018 as other long-term liabilities on the consolidated statement of financial position (see Note 22).

Further, the Tax Act enacted new provisions related to the taxation of foreign earnings, known as GILTI. The company accounts for GILTI as period costs when incurred.

Provision for Income Taxes

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

(Millions of dollars) **Year Ended 31 December**		**2019 (a)**		**2018 (b)**
Current tax expense (benefit)				
U.S. federal	$	106	$	412
U.S. state and local		39		(7)
Foreign		1,007		621
	$	1,152	$	1,026
Deferred tax expense (benefit)				
U.S. federal	$	94	$	(2)
U.S. state and local		—		15
Foreign		(434)		(228)
		(340)		(215)
Total income taxes (c)	$	812	$	811

(a) 2019 includes $70 million related to divestitures, foreign current tax expense of $48 million and foreign deferred tax expense of $22 million.

(b) 2018 includes a benefit of $61 million related to the Tax Act (2018) and a charge of $371 million ($252 million U.S., $4 million state, $114 million foreign current tax expense and $1 million of U.S. deferred income tax expense) related to divestitures (see Note 3).

(c) Includes prior year current income tax benefit $13 million and $40 million for 2019 and 2018, respectively; includes prior year deferred income tax expense of $18 million and a prior year deferred income tax benefit of $36 million for 2019 and 2018, respectively.

Effective Tax Rate Reconciliation

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 31 December**		**2019**			**2018**	
U.S. statutory income tax	$	631	21.0 %	$	1,158	21.0 %
U.S. state and local taxes – net of federal benefit		31	1.0 %		30	0.5 %
U.S. tax credits and deductions (a)		(31)	(1.0)%		(12)	(0.2)%
Foreign tax differentials (b)		101	3.4 %		47	0.9 %
Tax Act		—	— %		(61)	(1.1)%
Divestitures (c)		36	1.2 %		(423)	(7.7)%
Other – net (d)		44	1.5 %		72	1.3 %
Provision for income taxes	$	812	27.1 %	$	811	14.7 %

(a) U.S. tax credits and deductions relate to foreign derived intangible income and the research and experimentation tax credit.

(b) Primarily related to differences between the U.S. tax rate of 21% 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 Indian business in 2019 and European business in 2018 (see Note 3).

(d) Other - net includes $26 million and $34 million of U.S tax related to GILTI in 2019 and 2018, respectively and an increase in unrecognized tax benefits in Europe of $44 million in 2018.

Net Deferred Tax Liabilities

Net deferred tax liabilities included in the consolidated statement of financial position are comprised of the following:

	31 December	
(Millions of dollars)	2019	2018
Deferred tax liabilities		
Fixed assets	$ 3,613	$ 4,064
Goodwill	145	124
Other intangible assets	3,865	3,969
Subsidiary/equity investments	664	570
Other (a)	801	819
	$ 9,088	$ 9,546
Deferred tax assets		
Carryforwards	231	346
Benefit plans and related (b)	863	651
Inventory	72	63
Accruals and other (c)	1,181	1,277
	2,347	2,337
Net deferred tax liabilities (d)	$ 6,741	$ 7,209
Recorded in the consolidated statement of financial position as:		
Deferred tax assets	251	517
Deferred tax liabilities	6,992	7,726
	$ 6,741	$ 7,209

(a) Includes $255 million in 2019 related to right-of-use lease assets.

(b) Includes deferred taxes of $200 million and $39 million as of 31 December 2019 and 2018, respectively, related to pension / OPEB funded status (see Notes 9 and 18).

(c) Includes $255 million related to lease liabilities in 2019 and $81 and $104 million as of 31 December 2019 and 2018, respectively, related to research and development costs.

(d) Movements in deferred tax assets and liabilities result from the following items:

	31 December	
(Millions of dollars)	2019	2018
Net deferred tax liability, 1 January	$ 7,209	$ 881
Deferred income tax expense (benefit)	(340)	(215)
Merger with Linde AG	82	6,612
Divestitures	—	(118)
Change in Consolidated Equity	(172)	35
Other	1	(3)
Translation adjustments	(39)	17
Net deferred tax liability, 31 December	$ 6,741	$ 7,209

In 2019, the net deferred income tax benefit of $340 million comprised primarily of deferred income tax benefit related to intangibles. The $82 million addition due to the merger of Linde AG increased deferred income tax liabilities primarily related to subsidiary/equity investments.

In 2018, the net deferred income tax benefit of $215 million comprised primarily of deferred income tax benefit related to inventory of $100 million. The $6,612 million addition due to the merger of Linde AG increased deferred income tax liabilities primarily related to fixed assets of $2.9 billion, other intangible assets of $3.9 billion, subsidiary/equity investments of $418 million offset by increase in carryforwards of $217 million and benefit plans of $300 million. The $118 million reduction in net deferred income tax liability due to the Praxair's European divestiture in 2018 reduced deferred income taxes primarily related to fixed assets of $102 million and goodwill of $36 million.

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, the company reduces the assets to their realizable value when management determines that it is probable (i.e., greater than 50% likelihood) that a deferred tax asset will not be realized. Considerable judgment is required in valuing deferred tax assets.

The company had $290 million and $346 million of deferred tax assets relating to net operating losses ("NOLs") and tax credits as of 31 December 2019 and 2018, respectively. These deferred tax assets include $228 million and $292 million relating to NOLs and $62 million and $54 million related to tax credits as of 31 December 2019 and 2018, respectively. Of the NOL's, $25 million ($20 million at 31 December 2018) expire within 5 years, $102 million ($84 million at 31 December 2018) expire after 5 years and $101 million ($188 million at 31 December 2018) have no expiration. Of the credits, $2 million ($1 million at 31 December 2018) expire within 5 years, $50 million ($20 million at 31 December 2018), expire after 5 years and $11 million ($33 million at 31 December 2018) have no expiration.

Deferred tax assets of $97 million ($210 million at 31 December 2018) have not been recognized relating to NOL's of $437 million ($853 million at 31 December 2018), tax credits of $68 million ($58 million at 31 December 2018) and deductible temporary differences of $58 million ($42 million at 31 December 2018). The tax benefits related to NOL's, tax credits and deductible temporary differences were not recognized as it is probable (i.e., greater than 50% likelihood) that the NOL's and deferred tax assets will not be realized.

Of the loss carryforwards and tax credits not recognized totaling $393 million ($911 million at 31 December 2018), $93 million ($134 million at 31 December 2018) expire within 5 years, $113 million ($61 million at 31 December 2018) expire after 5 years and $187 million ($716 at 31 December 2018) have no expiration.

A summary of net operating loss carryforwards follows:

	31 December	
(Millions of dollars)	**2019**	**2018**
May be carried forward for up to 5 years	$ 277	$ 218
May be carried forward for longer than 5 years	424	282
May be carried forward indefinitely	496	1,235
TOTAL	$ 1,197	$ 1,735

The company also has U.S. state NOL carryforwards of $910 million and $1,037 million as of 31 December 2019 and 2018, respectively.

The company has $664 million of foreign income taxes accrued related to its investments in subsidiaries and equity investments as of 31 December 2019. A provision has not been made for any additional foreign income tax at 31 December 2019 on approximately $31 billion related to its investments in subsidiaries because the company controls the subsidiaries and intends to remain indefinitely reinvested. While the $31 billion could become subject to additional foreign income tax if there is a sale of a subsidiary or if earnings are remitted as dividends, it is not practicable to estimate the unrecognized deferred tax liability.

Distributions to Linde plc shareholders do not have any impact on taxes on income at the level of Linde plc.

[11] Earnings Per Share

	2019	2018
Numerator (Millions of dollars)		
Income From Continuing Operations - Linde plc shareholders	$ 2,061	$ 4,685
Loss from discontinued operations, net of tax - Linde plc shareholders	87	90
Net income – Linde plc	$ 2,148	$ 4,775
Denominator (Thousands of shares)		
Weighted average shares outstanding	540,859	330,088
Shares earned and issuable under compensation plans	235	313
Weighted average shares used in basic earnings per share *	541,094	330,401
Effect of dilutive securities		
Stock options and awards	4,076	3,726
Weighted average shares used in diluted earnings per share *	545,170	334,127
Basic earnings per share from continuing operations	$ 3.81	$ 14.18
Basic earnings per share from discontinued operations	0.16	0.27
Basic Earnings Per Common Share	$ 3.97	$ 14.45
Diluted earnings per share from continuing operations	$ 3.78	$ 14.02
Diluted earnings per share from discontinued operations	0.16	0.27
Diluted Earnings Per Common Share	$ 3.94	$ 14.29

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

Further information about the share option schemes is given in Note 23.

[12] Goodwill/other intangible assets

Movement Schedule Intangible Assets - Acquisition Cost

(Millions of dollars)	Goodwill	Customer Relationships	Brands/ Tradenames	Other Intangible Assets	Total
Year beginning 1 January 2018	**$ 3,233**	**$ 772**	**$ 46**	**$ 619**	**$ 4,670**
Currency adjustments	83	95	24	(9)	193
Additions due to merger	24,025	13,649	2,226	814	40,714
Additions, primarily due to acquisitions	5	1	—	26	32
Disposals	(620)	(141)	(8)	(78)	(847)
Other	12	(20)	—	(3)	(11)
Year ended 31 December 2018	**$ 26,738**	**$ 14,356**	**$ 2,288**	**$ 1,369**	**$ 44,751**
Currency adjustments	(133)	(80)	(22)	(12)	(247)
Measurement period adjustments	408	(325)	488	176	747
Additions, primarily due to acquisitions	135	35	7	56	233
Disposals	—	—	—	(7)	(7)
Other	—	(14)	—	1	(13)
Year ended 31 December 2019	**$ 27,148**	**$ 13,972**	**$ 2,761**	**$ 1,583**	**$ 45,464**

Schedule of Intangible Assets - Cumulative Amortization

(Millions of dollars)	Goodwill	Customer Relationships	Brands/ Tradenames	Other Intangible Assets	Total
Year beginning 1 January 2018	**$ —**	**$ 260**	**$ 18**	**$ 374**	**$ 652**
Currency adjustments	—	(4)	—	(8)	(12)
Amortization	—	147	9	72	228
Disposals	—	(55)	(5)	(52)	(112)
Other	—	(19)	—	(5)	(24)
Year ended 31 December 2018	**$ —**	**$ 329**	**$ 22**	**$ 381**	**$ 732**
Currency adjustments	—	(3)	—	(3)	(6)
Amortization	—	629	46	103	778
Disposals	—	—	—	(4)	(4)
Other	—	(3)	—	(1)	(4)
Year ended 31 December 2019	**$ —**	**$ 952**	**$ 68**	**$ 476**	**$ 1,496**
NET CARRYING AMOUNT AT 31/12/2018	**$ 26,738**	**$ 14,027**	**$ 2,266**	**$ 988**	**44,019**
NET CARRYING AMOUNT AT 31/12/2019	**$ 27,148**	**$ 13,020**	**$ 2,693**	**$ 1,107**	**$ 43,968**

See Note 2 for further discussion of intangible assets acquired due to the merger.

The Linde name acquired in the course of the Merger of $1,870 million has an indefinite useful life. The indefinite lived asset at Linde AG acquired as part of the business combination has been assessed for impairment, and there is no indication that the recoverable amount is below the carrying amount.

The amortization expense for intangible assets with finite useful lives was disclosed in functional costs, principally in marketing and selling expenses.

Technologies, in-process research and development as well as software solutions are the main component of other intangible assets.

The carrying amount of goodwill for each group of CGUs as of 31 December 2019 is as follows:

(Millions of dollars)		**31/12/2019**
EMEA	$	10,242
North America		5,969
Lincare		1,057
Latin America		2,006
Greater China		1,605
South Pacific		2,478
South Korea, South Asia & ASEAN		1,082
Engineering		2,461
GIST		24
Surface Technologies		139
Electronic Materials		77
Helium		8
Total	$	27,148

The company performs annual impairment testing each year. Impairment testing is performed by the group of cash-generating units ("CGUs"), at which management monitors goodwill.

The recoverable amount of each operating segment is determined using the unit's fair value. In order to determine the fair value of an operating segment, the company utilizes a market multiples approach, multiplying the earnings before interest, tax, depreciation, and amortization ("EBITDA") of each unit by an EBITDA multiple.

The EBITDA multiple used to determine fair value was calculated based on external financial information as of the date at which the impairment test is performed, based on the enterprise value of comparable companies divided by the EBITDA of these companies. The share prices of comparable companies, used to calculate the enterprise value, are derived from publicly available information. Inputs such as adjusted earnings before interest, tax, depreciation, and amortization of comparable companies, are developed by the external provider using financial data published by these companies. The data used to calculate the multiple is assigned to Level 2 of the fair value hierarchy.

The company has not recorded any goodwill impairment losses. As of 31 December 2018 and 31 December 2019 the recoverable amounts of each unit exceeded their net carrying amount.

The market multiples used as of 31 December 2019 were within the range of 12.1 to 14.5. At 31 December 2018 the market multiple was within a range of 10.2 to 13.8, and the valuation technique was consistently applied for each period.

[13] Tangible assets

Schedule of Tangible Assets - Acquisition Cost

(Millions of dollars)	**Production plants (primarily 15-year life)**	**Storage tanks**	**Transportation equipment and other**	**Cylinders (primarily 30-year life)**	**Buildings**	**Land and improvements**	**Construction in progress**	**Total**
Year beginning 1 January 2018	**$ 16,258**	**$ 2,620**	**$ 1,588**	**$ 1,875**	**$ 1,202**	**$ 589**	**$ 1,159**	**$ 25,291**
Additions due to merger	10,907	1,813	1,263	2,493	2,052	616	1,231	20,375
Additions due to acquisitions	—	—	1	5	—	—	—	6
Additions	1,028	146	122	132	93	10	338	1,869
Disposals	(1,877)	(410)	(268)	(504)	(145)	(43)	(58)	(3,305)
Currency and other adjustments	(810)	(104)	(7)	(46)	(38)	(11)	(288)	(1,304)
Year ended 31 December 2018	**$ 25,506**	**$ 4,065**	**$ 2,698**	**$ 3,955**	**$ 3,164**	**$ 1,161**	**$ 2,382**	**$ 42,932**
Measurement Period Adjustment	$ (314)	$ (3)	$ (48)	$ (25)	$ (51)	$ 16	$ —	$ (425)
Additions due to acquisitions	89	5	6	1	10	—	1	112
Additions	1,133	171	232	170	183	59	1,821	3,769
Disposals	(249)	(31)	(70)	(39)	(68)	(15)	(16)	(488)
Currency and other adjustments	566	118	(115)	103	18	19	(1,024)	(315)
Year ended 31 December 2019	**$ 26,731**	**$ 4,325**	**$ 2,703**	**$ 4,165**	**$ 3,256**	**$ 1,240**	**$ 3,164**	**$ 45,585**

Schedule of Tangible Assets - Cumulative Depreciation

(Millions of dollars)	Production plants (primarily 15-year life)	Storage tanks	Transportation equipment and other	Cylinders (primarily 30-year life)	Buildings	Land and improvements	Construction in progress	Total
Year beginning 1 January 2018	**$ 9,167**	**$ 1,581**	**$ 1,058**	**$ 881**	**$ 601**	**$ 178**	**$ —**	**$ 13,466**
Depreciation	1,095	184	137	140	69	10	—	1,635
Disposals	(1,181)	(275)	(143)	(254)	(64)	(10)	—	(1,927)
Currency and other adjustments	(675)	(121)	(44)	(51)	(38)	(6)	—	(935)
Year ended 31 December 2018	8,406	1,369	1,008	716	568	172	—	12,239
Depreciation	2,611	392	364	403	231	2	—	4,003
Disposals	(115)	(8)	(52)	(15)	(31)	—	—	(221)
Currency and other adjustments	(158)	(1)	(18)	(31)	68	15		(125)
Year ended 31 December 2019	**10,744**	**1,752**	**1,302**	**1,073**	**836**	**189**	**—**	**15,896**
NET CARRYING AMOUNT AT 12/31/2018	**17,100**	**2,696**	**1,690**	**3,239**	**2,596**	**989**	**2,382**	**30,693**
NET CARRYING AMOUNT AT 12/31/2019	**$ 15,987**	**$ 2,573**	**$ 1,401**	**$ 3,092**	**$ 2,420**	**$ 1,051**	**$ 3,164**	**$ 29,689**

As of 31 December 2019, right-of-use assets resulting from the adoption of IFRS 16 have been recognized as a separate asset on the statement of financial position. Refer to Note 21 for additional information. As of 31 December 31 2018, tangible assets include leased assets with a carrying amount totaling $71 million.

Impairment tests were based on the recoverable amount of the assets examined, whereby generally the value in use was applied. An asset impairment in the third quarter 2019 of approximately $73 million in APAC resulting from an unfavorable arbitration ruling. Impairment losses of $51 million were recognized in 2018 within currency and other adjustments. The impairment losses related mainly to production plants and were allocated to the following segments: Asia $22 million and North America $29 million. The impairment losses relating to tangible assets are largely included in cost of sales.

Borrowing costs during the construction phase of $38 million (2018: $20 million) were capitalized, based on an approximately 2.8% interest rate for both 2019 and 2018.

Tangible assets of $50 million were pledged as security.

[14] Investments in associates and joint ventures/other financial assets

Schedule of Financial Assets - Acquisition Cost

(Millions of dollars)	Investments in associates and joint ventures (at equity)	Other investments	Non-current Loans	Total
Year beginning 1 January 2018	**$ 727**	**$ —**	**$ —**	**$ 727**
Currency adjustments	(4)	—	—	(4)
Additions (primarily merger impact)	546	21	66	633
Disposals	(289)	0	0	(289)
Year ended 31 December 2018	**$ 980**	**$ 21**	**$ 66**	**$ 1,067**
Currency adjustments	1	1	—	2
Additions	183	20	—	203
Disposals	(156)	(8)	—	(164)
Year ended 31 December 2019	**$ 1,008**	**$ 34**	**$ 66**	**$ 1,108**

The share of profit and loss from associates and joint ventures in the 2019 financial year was $63 million (2018: $54 million). $49 million of the total figure related to the APAC segment (2018: $34 million) and $14 million to the EMEA segment (2018: $20 million).

On the reporting date, there were no contingent liabilities relating to shares in associates or joint ventures. There were no payment obligations relating to joint ventures and associates that had not been recognized in the statement of financial position at 31 December 2019 and 2018. There were no significant restrictions on the ability of the associates and joint ventures to transfer dividends or funds to Linde or to repay loans to Linde as of 31 December 2019 and 2018. Cumulative amortization was not considered material.

More information about associates and joint ventures is given in Note 32.

No individual investment in associates or joint ventures is material and as such no individual financial information is disclosed. Aggregate financial information about associates and joint ventures based on the investment in those associates held by Linde is immaterial and is therefore not disclosed separately.

[15] Inventories

(Millions of dollars)	31/12/2019	31/12/2018
Inventories		
Raw materials and supplies	$ 398	$ 340
Work in process	331	321
Finished goods (including merchandise)	981	997
Total Inventories	**$ 1,710**	**$ 1,658**

At 31 December 2019, the total inventory allowance was $111 million ($54 million at 31 December 2018). The inventories recognized as an expense in the 2019 financial year were $17.9 billion ($10.2 billion in 2018). Employee expenses are not a significant component of capitalized inventory costs.

[16] Receivables from finance leases, trade receivables, miscellaneous receivables and assets and income tax receivables

(Millions of dollars)	Current 31/12/2019	Current 31/12/2018	Non-current 31/12/2019	Non-current 31/12/2018	Total 31/12/2019	Total 31/12/2018
Receivables from finance leases	$ 17	$ 23	$ 55	$ 52	$ 72	$ 75
Contract assets	369	267	—	—	369	267
Trade receivables	4,122	4,104	3	7	4,125	4,111
Derivatives with positive fair values	86	66	81	127	167	193
Other financial assets	139	137	49	85	188	222
Other receivables and assets	969	821	465	565	1,434	1,386
Miscellaneous other receivables and other assets	$ 1,194	$ 1,024	$ 595	$ 777	$ 1,789	$ 1,801
Income tax receivables	$ 108	$ 172	$ —	$ —	$ 108	$ 172

Receivables from finance leases

Almost all the receivables from finance leases relate to agreements which are classified as embedded finance leases according to IFRS 16. The counterparty risk arising from receivables from finance leases is covered by the air separation plants and other plants underlying the contracts.

Miscellaneous other receivables

Miscellaneous other receivables are due from a large number of customers in a wide variety of industry sectors and many different regions. To assess the recoverability of accounts receivable, the creditworthiness of customers is subject to constant review.

[17] Equity

Equity Presentation

Called-up share capital presented as equity ("Called-up share capital") represents the notional value of outstanding ordinary shares.

Share premium represents the accumulated premiums arising on the issue of shares.

Retained earnings (including remeasurement of defined benefit plans) represents the portion of net income retained by the company that have not been declared or distributed to shareholders as dividends.

Treasury shares represents the premium over par value of Linde plc share that have been repurchased by the company and not yet cancelled or retired.

Other reserves reports the differences arising from currency translation differences of the financial statements of foreign subsidiaries and gains or losses on the remeasurement of securities and hedging instruments, accounted for in equity rather than being recognised in the statement of profit and loss.

Linde plc Shareholders' Equity

At 31 December 2019 and 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 31 December 2019, there were 552,012,862 and 534,380,544 of Linde plc ordinary shares issued and outstanding, respectively. At 31 December 2019, there were no shares of A ordinary shares, deferred shares or preferred shares issued or outstanding.

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

The Linde 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.

2018 Merger of Praxair and Linde AG

The total fair value of consideration transferred for the merger was $43,288 million, resulting in an increase to stockholders' equity (see Note 2 for additional information). On 31 October 2018, the conversion of Praxair common stock and Linde AG common stock into Linde ordinary shares resulted in a $3 million decrease to "Called-up share capital " in order to reflect the aggregate par value of outstanding ordinary shares. Each share of Praxair common stock held in treasury immediately prior to the merger was canceled. The elimination of Praxair's historical treasury shares at cost resulted in a $7,113 million decrease in "Treasury shares". The current balance reported in Treasury shares as of 31 December 2018 represent the value of those shares of Linde plc acquired subsequent to the merger.

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 summarizes the equity transactions related to the merger:

(Millions of dollars)	Called up share capital	Share premium	Retained earnings (including remeasurement of defined benefit plans)	Treasury shares	Total equity attributable to Linde plc shareholders	Non-controlling interests	Total equity
Merger with Linde AG (a)	$ —	$ —	$ 43,288	$ —	$ 43,288	$ —	$ 43,288
Increase in noncontrolling interests (a)	—	—	—	—	—	5,774	5,774
Reclassification of Praxair share premium	—	(4,109)	4,109	—	—		—
Conversion of Praxair to Linde plc shares (b)	(3)	—	3	—	—	—	—
Cancellation of Praxair treasury shares (c)	—	—	(7,113)	7,113	—	—	—
Impact of Merger	**$ (3)**	**$ (4,109)**	**$ 40,287**	**$ 7,113**	**$ 43,288**	**$ 5,774**	**$ 49,062**

The following table summarizes the ordinary share transactions during 2018 and 2019:

(in thousands of shares)	Shares subscribed	Treasury shares	Shares outstanding
Balance 1 January 2018	**383,231**	**96,454**	**286,777**
Issuances for employee savings and incentive plans	255	(1,140)	1,395
Purchases	—	4,079	(4,079)
Impact of Merger:			
Issued in exchange for Linde AG (d)	263,148	—	263,148
Cancellation of Praxair treasury shares (c)	(95,324)	(95,324)	—
Balance 31 December 2018	**551,310**	**4,069**	**547,241**
Issuances for employee savings and incentive plans	703	(770)	1,473
Purchases	—	14,333	(14,333)
Balance 31 December 2019	**552,013**	**17,632**	**534,381**

(a) The total fair value of consideration transferred for the merger was $43,288 million, resulting in an increase to "Retained earnings" in the statement of changes in consolidated equity. The fair value of noncontrolling interests increased $5,774 million (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 "Called-up share capital" with a corresponding increase to "Retained earnings" 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 shares at cost resulted in a $7,113 million decrease in "Treasury shares" and "Retained earnings" in the statement of changes in consolidated equity.

(d)The following table provides the share exchange calculation:

(in thousands, except Linde AG exchange ratio)	
Linde plc shares exchanged for Linde AG shares	
Linde AG common stock tendered as of 31 October 2018	170,875
Business combination agreement exchange ratio	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**

Refer to the Linde plc entity financial statements for more detail on the capitalization activities upon and subsequent to the merger.

Other Linde plc Ordinary Share and Treasury Shares Transactions

Linde may issue new ordinary shares for dividend reinvestment and stock purchase plans and employee savings and incentive plans. The number of new Linde ordinary shares issued from merger date through 31 December 2019 was approximately 958,293 shares.

On 10 December 2018, the Linde board of directors approved $1.0 billion for the repurchase of its ordinary shares under which Linde had repurchased 6,385,887 shares through 31 December 2019 (4,068,642 shares through 31 December 2018). Linde completed the repurchases under this program in the first quarter of 2019.

On 22 January 2019 the company's board of directors approved the additional repurchase of up to $6.0 billion of its ordinary shares under which Linde repurchased 12,016,083 shares through 31 December 2019, leaving an additional $3.7 billion authorized.

On 26 February 2019, the directors of Linde plc declared an interim dividend of $0.875 per share for the first quarter of 2019 (the "Q1 Dividend"). The Q1 Dividend was paid on 22 March 2019 to shareholders of record on 8 March 2019.

On 30 April 2019, the directors of Linde plc declared an interim dividend of $0.875 per share for the second quarter of 2019 (the "Q2 Dividend"). The Q2 Dividend was paid on 17 June 2019 to shareholders of record on 3 June 2019.

On 26 July 2019, the directors of Linde plc declared an interim dividend of $0.875 per share for the third quarter of 2019 (the "Q3 Dividend"). The Q3 Dividend was paid on 17 September 2019 to shareholders of record on 3 September 2019

On 24 October 2019, the directors of Linde plc declared a quarterly dividend of $0.875 per share for the fourth quarter of 2019 (the "Q4 Dividend"). The dividend was paid on 17 December 2019 to shareholders of record on 3 December 2019.

Noncontrolling interests

The total noncontrolling interest ("NCI") as of 31 December 2019 and 2018 was $2,942 million and $6,094 million, respectively. NCI as of 31 December 2018 includes approximately $3.2 billion related to the 8% of Linde AG shares which were not tendered in the Exchange Offer. On 8 April 2019 Linde AG completed the merger squeeze-out of the NCI for a cash consideration of €189.46 per share. The total payment for the squeeze out was $3.2 billion (€2.8 billion).

In general the voting rights of noncontrolling shareholders correspond to their share of the equity in the companies concerned. Detailed information about other individual subsidiaries which have noncontrolling shareholders is not disclosed due to the individual figures not being material.

Capital structure management

The aim of Linde's capital structure management is to obtain unrestricted low-cost access to the capital markets, to maintain A/A2 credit ratings while consistently growing dividends. Linde follows a disciplined investment strategy and targets value enhancing investment opportunities that offer growth rates above the company's cost of capital. The company also anticipates regularly repurchasing shares while maintaining its target credit ratings.

Linde has a $5 billion syndicated revolving credit line at its disposal, which is available until 2024.

[18] Provisions for pensions and similar obligations

Provisions For Pensions And Similar Obligations

Millions of dollars	31/12/2019	31/12/2018
Provisions for pension plans	$ 2,382	$ 2,053
Provisions for similar obligations	194	58
TOTAL PROVISIONS	**$ 2,576**	**$ 2,111**
Prepaid pension costs	$ 78	$ 120

Different countries have different pension systems, due to the variety of legal, economic and fiscal conditions applicable in each country. These are generally based on the remuneration and length of service of the employees.

The provisions for similar obligations include bridging allowances as well as other obligations. Occupational pension schemes can be either defined contribution or defined benefit schemes. In the case of defined benefit plans, the company's obligation is to meet the defined benefit commitments to current and former employees. Two different methods can be distinguished: the recognition of provisions for pensions and the use of externally financed pension schemes.

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 percent 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 $47 million in 2019 and $33 million in 2018 (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 2,070,100 at 31 December 2019.

Certain non-U.S. subsidiaries of the company also sponsor defined contribution plans where contributions are determined under various formulas. The expense for these plans was $95 million in 2019 and $32 million in 2018 (these expenses are not included in the tables that follow).

Defined Benefit Pension Plans

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 1 July 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 30 April 2002 into businesses adopting this plan. The plan participants have the option to take a lump-sum payment or annual pension payments. Legal and regulatory minimum funding requirements are in place.

In addition to the U.S. retirement plans Linde has other global defined benefit commitments, primarily in Germany and the United Kingdom ("UK"). 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 1 January 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 1 July 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 1 April 2011, the amount of future increases in inflation-linked pensions and of increases in pensionable emoluments was restricted. Legal, regulatory and contractual minimum funding requirements are in place. Regulatory funding obligations to resolve a deficit, based on the local valuation, mainly relate to the UK.

The U.S. and non-U.S. 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 non-U.S. 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.

Multi-employer Pension Plans

In the United States Linde participates in eight 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 2026. 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 2019 and 2018 (these costs are not included in the tables that follow). For all MEPs, Linde's contributions were significantly less than 1 percent of the total contributions to each plan for 2018. Total 2019 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. Red Zone plans are considered to be in "critical" or "critical and declining" status, while Yellow Zone plans are considered to be in "endangered" status. Plans that are in neither "critical" nor "endangered" status are considered to have Green Zone status. According to the most recent data available, four of the MEPs that the company participates in are in a Red Zone status and four are in a Green Zone status. As of 31 December 2019, the four 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.

The amount of the pension obligation (actuarial present value of the defined benefit obligation, or DBO) was calculated using actuarial valuation methods, which require the use of estimates. In addition to assumptions about mortality and disability, the following assumptions, which depend on the economic situation in that particular country, are also relevant; for countries classed as "All Other", weighted average figures based on the obligation are given:

Assumptions Used To Calculate The Provisions For Pensions

in percent	**Germany**		**UK**		**U.S.**		**All Other**	
Year ended 31 December	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**
Discount rate	1.11%	1.82%	2.06%	2.94%	3.20%	4.20%	2.74%	3.95%
Growth in future benefits	2.51%	2.51%	2.36%	2.35%	3.25%	2.69%	2.70%	2.36%
Growth in pensions	1.61%	1.64%	3.18%	2.36%	2.20%	2.29%	1.50%	1.34%

The growth in future benefits comprises expected future increases in salaries, which are estimated annually, taking inflation and the economic situation into account.

The sensitivity analysis below demonstrates the extent to which the present value of the defined benefit obligation changes when, in each case, just one of the actuarial assumptions changes while the other actuarial assumptions remain the same.

For the pension plans in Germany, an increase of one year in life expectancy would result in an increase in the defined benefit obligation of 5.1 percent (2018: 4.9 percent). The sensitivity analysis of life expectancy in Germany is based on pension funds held at 31 December 2019. For the pension plans in the UK, an increase of one year in life expectancy would result in an increase in the DBO of 3.8 percent (2018: 3.9 percent). For the pension plans in the United States, no sensitivity analysis of life expectancy was prepared, as the plan's liability is not as sensitive to changes in the life expectancy assumption.

In Germany, life expectancy is calculated on the basis of the "2018 G mortality tables" produced by Professor Dr Klaus Heubeck. Pension plans in the UK use their own mortality tables and biometric assumptions. These are determined on the basis of actual experience in a pool of comparable pension plans. At the reporting date, the average life expectancy applicable to pension plans in the UK is 22.8 years for a male pensioner aged 65 (2018: 22.7 years) and 24.7 years for a female pensioner aged 65 (2018: 24.5 years), while the future average life expectancy at the pensionable age of 65 for active members of the pension plans is currently 25.1 years for men aged 45 (2018: 25.0 years) and 27.4 years for women aged 45 (2018: 27.3 years).

Sensitivity Analysis

(Millions of dollars)	Change	Discount rate +50 bp	Discount rate –50 bp	Growth in future benefits +50 bp	Growth in future benefits –50 bp	Growth in pensions +50 bp	Growth in pensions –50 bp
Germany	31/12/2019	$ (183)	$ 212	$ 14	$ (15)	$ 92	$ (84)
	31/12/2018	(152)	176	13	(14)	81	(74)
UK	31/12/2019	(448)	512	16	(15)	383	(342)
	31/12/2018	(366)	418	15	(15)	320	(287)
U.S.	31/12/2019	(138)	153	19	(17)	—	—
	31/12/2018	(118)	130	16	(15)	—	—
All other	31/12/2019	(86)	99	18	(17)	60	(55)
	31/12/2018	(76)	85	17	(17)	49	(51)
TOTAL	**31/12/2019**	**$ (855)**	**$ 976**	**$ 67**	**$ (64)**	**$ 535**	**$ (481)**
	31/12/2018	**$ (712)**	**$ 809**	**$ 61**	**$ (61)**	**$ 450**	**$ (412)**

Reconciliation Of The Defined Benefit Obligation And Of The Plan Assets

(Millions of dollars)	Germany Defined benefit obligation	Germany Plan assets	UK Defined benefit obligation	UK Plan assets	U.S. Defined benefit obligation	U.S. Plan assets	All other Defined benefit obligation	All other Plan assets	Total Defined benefit obligation	Total Plan assets
Year beginning 1 January 2018	**92**	**—**	**114**	**(110)**	**2,232**	**(1,655)**	**664**	**(457)**	**3,102**	**(2,222)**
Merger impact (a)	1,826	(1,056)	4,354	(4,282)	429	(475)	795	(542)	7,404	(6,355)
Service cost	8	—	9	—	70	—	19	—	106	—
Current service cost	8	—	7	—	37	—	19	—	71	—
Past service cost	—	—	2	—	28	—	—	—	30	—
Effects from plan settlements	—	—	—	—	5	—	—	—	5	—
Interest expense (+)/ interest income (–)	6	(2)	21	(20)	73	(54)	30	(21)	130	(97)
Remeasurements	20	32	(14)	87	(148)	127	(10)	11	(152)	257
Return on plan assets (excluding amounts included in interest expenses and income)	—	32	—	87	—	127	—	11	—	257
Actuarial gains (–)/losses (+)	20	—	(14)	—	(148)	—	(10)	—	(152)	—
Effects from changes in demographic assumptions	—	—	(1)	—	30	—	2	—	31	—
Effects from changes in financial assumptions	16	—	(9)	—	(150)	—	(23)	—	(166)	—
Effects from changes in experience assumptions	4	—	(4)	—	(28)	—	11	—	(17)	—
Employers' contributions	—	—	—	(55)	—	(12)	(40)	(20)	(40)	(87)
Employees' contributions	3	(3)	—	—	—	—	1	(1)	4	(4)
Pension payments made	(12)	—	(31)	31	(120)	100	(13)	40	(176)	171
Settlement payments	(50)	—	—	—	(18)	18	(56)	48	(124)	66

Reconciliation Of The Defined Benefit Obligation And Of The Plan Assets

Effects of changes in exchange rates	23	(14)	(9)	10	—	—	(33)	30	(19)	26
Changes in Group structure/other changes	—	—	—	—	—	—	—	1	—	1
Year ended 31 December 2018	**1,916**	**(1,043)**	**4,444**	**(4,339)**	**2,518**	**(1,951)**	**1,357**	**(911)**	**10,235**	**(8,244)**
Service cost	41	—	44	—	38	—	27	—	150	—
Current service cost	41	—	34	—	38	—	31	—	144	—
Past service cost	—	—	17	—	—	—	(4)	—	13	—
Effects of plan curtailments	—	—	(7)	—	—	—	—	—	(7)	—
Interest expense (+)/ interest income (–)	26	(14)	117	(112)	88	(70)	45	(32)	276	(228)
Remeasurements	285	(70)	624	(287)	250	(287)	135	(86)	1,294	(730)
Return on plan assets (excluding amounts included in interest expenses and income)	—	(70)	—	(287)	—	(287)	—	(86)	—	(730)
Actuarial gains (–)/ losses (+)	285	—	624	—	250	—	135	—	1,294	—
Effects from changes in demographic assumptions	—	—	(2)	—	(15)	—	4	—	(13)	—
Effects from changes in financial assumptions	267	—	632	—	243	—	139	—	1,281	—
Effects from changes in experience assumptions	18	—	(6)	—	23	—	(8)	—	27	—
Employers' contributions	—	(3)	—	(64)	—	—	—	(27)	—	(94)
Employees' contributions	15	(15)	—	—	—	—	5	(5)	20	(20)
Pension payments made	(60)	3	(202)	202	(340)	244	(78)	56	(680)	505
Settlement payments	—	—	—	—	—	—	(7)	7	(7)	7
Effects of changes in exchange rates	(43)	23	195	(181)	—	—	3	(10)	155	(168)
Changes in Group structure/other changes	—	—	—	4	(3)	17	(5)	14	(8)	35
Year ended 31 December 2019	**2,180**	**(1,119)**	**5,222**	**(4,777)**	**2,551**	**(2,047)**	**1,482**	**(994)**	**11,435**	**(8,937)**

(a) Represents plan assets and benefit obligations assumed as part of the merger between Praxair and Linde AG. Such plan assets and benefit obligations were remeasured as of the merger date and all subsequent activity through 31 December 2018 is presented within the respective captions above.

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 $94 million in 2019, $87 million in 2018 and $19 million in 2017. Estimated required contributions for 2020 are currently expected to be in the range of $50 million to $80 million.

The expense for newly acquired pension entitlements in the financial year and the net interest cost for each respective financial year are determined each year on the basis of the prior year's net obligation at the reporting date.

Pension Expense Relating To Defined Benefit Plans

	Germany		UK		USA		All Other		Total	
(Millions of dollars)	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Service cost	$ 41	$ 8	$ 44	$ 9	$ 38	$ 70	$ 27	$ 19	$ 150	$ 106
Current service cost	41	8	34	7	38	37	31	19	144	71
Past service cost	—	—	17	2	—	28	(4)	—	13	30
Gains (–)/losses (+) from plan curtailments	—	—	(7)	—	—	—	—	—	(7)	—
Gains (–)/losses (+) from plan settlements	—	—	—	—	—	5	—	—	—	5
Net interest expense (+)/ income (–)	12	4	5	1	18	19	13	9	48	33
Interest expense from DBO	26	6	117	21	88	73	45	30	276	130
Interest income from plan asset	(14)	(2)	(112)	(20)	(70)	(54)	(32)	(21)	(228)	(97)
Other effects recognised in the statement of profit and loss	—	—	4	—	16	14	3	1	23	15
Total net pension cost	**$ 53**	**$ 12**	**$ 53**	**$ 10**	**$ 72**	**$ 103**	**$ 43**	**$ 29**	**$ 221**	**$ 154**

For the external financing of defined benefit obligations, the Company uses standard international models for the transfer of pension assets (e.g. pension funds and Contractual Trust Arrangements). Pension plans financed via external pension funds exist principally in Australia, Canada, Germany, Ireland, South Africa, Switzerland, the UK and the U.S.

In some countries, Linde is obliged to make contributions to plan assets as a result of legal requirements or contractual agreements. In certain countries, however, these increases in plan assets will not lead to the recognition of an asset because of the asset ceiling described in IAS 19.64 (IFRIC 14). In 2019, as in the previous year, there was no asset ceiling.

Funding Status Of The Defined Benefit Obligation

(Millions of dollars)	Germany		UK		USA		All Other		Total	
For the years ended 31 December	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Actuarial present value of pension obligations (defined benefit obligation)	$ 2,180	$ 1,916	$ 5,222	$ 4,444	$ 2,551	$ 2,518	$ 1,482	$ 1,357	$ 11,435	$ 10,235
of which unfunded pension obligations	136	115	—	—	65	140	226	225	427	480
of which funded pension obligations	2,044	1,801	5,222	4,444	2,486	2,378	1,256	1,132	11,008	9,755
Fair value of plan assets	(1,119)	(1,043)	(4,777)	(4,339)	(2,047)	(1,951)	(994)	(911)	(8,937)	(8,244)
NET OBLIGATION	**$ 1,061**	**$ 873**	**$ 445**	**$ 105**	**$ 504**	**$ 567**	**$ 488**	**$ 446**	**$ 2,498**	**$ 1,991**
Year ended 31 December	**$ 1,061**	**$ 873**	**$ 445**	**$ 105**	**$ 504**	**$ 567**	**$ 488**	**$ 446**	**$ 2,498**	**$ 1,991**
of which pension provision (+)	1,061	873	465	140	504	604	546	494	2,576	2,111
of which pension asset (–)	—	—	(20)	(35)	—	(37)	(58)	(48)	(78)	(120)

Linde is exposed to various risks in relation to defined benefit pension schemes. In addition to general actuarial risks, the company is exposed to currency risk and investment risk in respect of the plan assets.

Plan assets and the defined benefit obligation may fluctuate over time. To compensate for such fluctuations, potential fluctuations in the defined benefit obligation are taken into account in the course of the investment management of the plan assets. In ideal circumstances, plan assets and pension obligations are influenced in the same way by external factors, which provides a natural protection against such factors (liability-driven investment). Moreover, the broadly-based portfolio structure of plan assets in the company results in diversification of capital market risk.

Portfolio Structure Of Pension Assets

(Millions of dollars)	Germany		UK		USA		All Other		Total			
	2019	**2018**	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**	**2019**	**in %**	**2018**	**in %**
Shares	$ 345	$ 297	$ 927	$ 759	$ 1,160	$ 933	$ 367	$ 308	$ 2,799	31.3 %	$ 2,297	27.9 %
Fixed-interest securities	473	463	2,317	2,201	584	772	441	413	3,815	42.7 %	3,849	46.7 %
Property	78	63	18	20	146	145	63	62	305	3.4 %	290	3.5 %
Insurance	—	—	—	—	—	—	51	56	51	0.6 %	56	0.7 %
Others	223	220	1,515	1,359	157	101	72	72	1,967	22.0 %	1,752	21.3 %
TOTAL	**$ 1,119**	**$ 1,043**	**$ 4,777**	**$ 4,339**	**$ 2,047**	**$ 1,951**	**$ 994**	**$ 911**	**$ 8,937**	**100%**	**$ 8,244**	**100%**

Plan assets comprise mainly shares and fixed-interest securities. Prices quoted in an active market are not available in the case of property and insurance. Around half of the fixed-interest securities relate to government bonds issued by first-rate debtors (the UK, the U.S. and Germany) as part of the “liability-driven investment” strategies pursued by the corresponding pension plans, while the rest relate to broadly diversified portfolios of bonds issued by companies and emerging markets, as well as loans to finance companies and property.

Financial instruments issued by the company are not included in plan assets to any significant extent. The plan assets do not include any real estate used by the company.

[19] Miscellaneous provisions

Miscellaneous Provisions

	Current		Non-current		Total	
	31 December		31 December		31 December	
(Millions of dollars)	2019	2018	2019	2018	2019	2018
Warranty obligations and risks from transactions in course of completion	$ 36	$ 56	$ 16	$ 18	$ 52	$ 74
Provisions for legal disputes	84	77	69	83	153	160
Obligations relating to personnel	137	94	100	92	237	186
Dismantling obligations	5	8	292	296	297	304
Restructuring provisions	34	97	2	9	36	106
Cost reduction programs	107	—	26	—	133	—
Environmental provisions	11	7	28	12	39	19
Insurance provisions	8	7	29	25	37	32
Other obligations	145	106	—	—	145	106
TOTAL	$ 567	$ 452	$ 562	$ 535	$ 1,129	$ 987

The warranty obligations and risks from transactions in course of completion consist principally of provisions for onerous contracts, guarantees and warranties. The provisions for warranties relate mainly to the Engineering business and are generally utilized within three years.

The provisions for obligations relating to personnel comprise mainly provisions for profit-sharing and other variable compensation.

The provisions for dismantling obligations are stated at a discounted settlement amount. A corresponding item is recognised in tangible assets and is subject to depreciation. The provision is compounded over the duration of the underlying contracts. Due to the wide range of residual terms of the contracts, the residual term of the provision falls mainly in a range of between one and twenty years.

The restructuring provisions include provisions for legacy restructuring actions and efficiency programs.

Cost reduction programs include severance and other charges related to the execution of the company's synergistic actions including location consolidations and business rationalization projects and software and process harmonization. Total cost reduction program related charges were $304 million for the year ended December 31, 2019 and included severance costs of $204 million for the elimination of approximately 2,400 positions, largely in EMEA, APAC, and the Americas, of which approximately 1,500 have terminated employment at December 31, 2019. The majority of these actions are anticipated to be completed within the next 12 months. The remaining $100 million of charges relate to other non-recurring charges related to synergistic actions.

The unwinding of interest applied to miscellaneous long-term provisions was not material.

Movements In Miscellaneous Provisions

(Millions of dollars)	1/1/2019	Changes in scope of consolidation [1]	Utilization	Release	Addition	Transfers and other activity	31/12/2019
Warranty obligations and risks from transactions in course of completion	$ 74	$ (2)	$ (23)	$ (37)	$ 40	$ —	$ 52
Provisions for legal disputes	160	16	(20)	(27)	28	(4)	153
Obligations relating to personnel	186	(4)	(262)	(15)	266	68	237
Dismantling obligations	304	(1)	(21)	(2)	16	1	297
Restructuring provisions	106	(5)	(52)	(13)	—	—	36
Cost reduction programs	—	—	(148)		283	(2)	133
Environmental provisions	19	—	(4)	(1)	25	—	39
Insurance provisions	32	—	(10)	(1)	11	5	37
Other obligations	106	—	(35)	(33)	94	13	145
TOTAL	**$ 987**	**$ 4**	**$ (575)**	**$ (129)**	**$ 763**	**$ 81**	**$ 1,129**

[1] Including currency adjustments

[20] Financial debt

The following is a summary of Linde's outstanding debt at 31 December 2019 and 31 December 2018.

(Millions of dollars)	31/12/2019	31/12/2018
Current (a)		
Current portion of non-current debt	$ 1,493	$ 1,499
Commercial paper and U.S. bank borrowings	996	829
Other bank borrowings (primarily non-U.S.) (b)	836	685
Total current debt	**$ 3,325**	**$ 3,013**
Non-current (a)		
Non-current notes	$ 10,263	$ 11,930
Other	10	10
Non-U.S. bank borrowings	349	336
Total non-current debt	**$ 10,622**	**$ 12,276**
Total Debt	**$ 13,947**	**$ 15,289**
Non-current note carrying values (a)		
1.90% Notes due 2019 (c)	—	500
Variable rate notes due 2019 (c)	—	150
1.75% Euro denominated notes due 2019 (c)	—	578
4.25% AUD denominated notes due 2019 (c)	—	71
Variable rate notes due 2019 (c)	—	200
2.25% Notes due 2020	300	299
1.75% Euro denominated notes due 2020 (d)	1,137	1,185
0.634% Euro denominated notes due 2020	56	58
4.05% Notes due 2021	499	499
3.875% Euro denominated notes due 2021 (d)	711	755
3.00% Notes due 2021	499	498
0.250% Euro denominated notes due 2022 (d)	1,129	1,156
2.45% Notes due 2022	599	598
2.20% Notes due 2022	499	498
2.70% Notes due 2023	499	498
2.00% Euro denominated notes due 2023 (d)	776	805
5.875% GBP denominated notes due 2023 (d)	456	454
1.20% Euro denominated notes due 2024	615	628
1.875% Euro denominated notes due 2024 (d)	361	373
2.65% Notes due 2025	398	398
1.625% Euro denominated notes due 2025	556	568
3.20% Notes due 2026	725	725
3.434% Notes due 2026	196	195
1.652% Euro denominated notes due 2027	93	96
1.00% Euro denominated notes due 2028 (d)	872	861
1.90% Euro denominated notes due 2030	118	121
3.55% Notes due 2042	662	662

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

(b) Amounts include $110 million of Credit Support Annexes, see Note 24.

(c) In February 2019, Linde repaid $500 million of 1.9% notes that became due; in May 2019 Linde repaid $150 million of variable notes that became due; in June 2019 Linde repaid €500 million of 1.75% notes that became due and the associated interest rate swap was settled; also in June 2019 Linde settled AUD100 million of variable rate notes that became due; and in August 2019 Linde repaid $200 million of variable rate notes that became due.

(d) The fair value decrease in debt related to hedge accounting for the year ended 31 December 2019 was $38 million; the impact in 2018 was $14 million. See Note 24 Financial Instruments for additional information on the $1,908 million notional value interest rate swaps outstanding at 31 December 2019.

Credit Facilities

On 26 March 2019, Linde plc and certain of its subsidiaries have entered into an unsecured revolving credit agreement (the "Credit Agreement") with Bank of America, N.A., as administrative agent (the "Administrative Agent") and a syndicate of banking institutions as lenders. The Credit Agreement became effective on 29 March 2019 and provides for total commitments of $5 billion which may be increased to up to $6.5 billion subject to receipt of additional commitments and satisfaction of customary conditions. The Credit Agreement does not contain a financial maintenance covenant. The commitments will expire on 26 March 2024, however, the company has the option to request two one-year extensions of the expiration date. Any such extension will be subject to approval by the extending lenders. In connection with the effectiveness of the Credit Agreement, each of Praxair and Linde AG terminated their respective existing revolving credit agreements. As of the date of this Report, the Credit Agreement has no usage outstanding.

On 3 September 2019 Linde and the company's subsidiaries Praxair and Linde AG entered into a series of parent and subsidiary guarantees related to currently outstanding notes issued by Praxair and Linde AG as well as the Credit Agreement.

Other Debt Information

As of 31 December 2019 and 2018, the weighted-average interest rate of short-term borrowings outstanding was 0.6 percent for both periods.

[21] Leases

IFRS 16 requires lessees to recognize a right-of-use asset and lease liability for all leases, except those that meet certain scope exceptions. In the normal course of its business, Linde enters into various leases as the lessee, primarily involving manufacturing and distribution equipment and real estate. Right-of-use assets are generally depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis. If the group is reasonably certain to exercise a purchase option, the right-of-use asset is depreciated over the underlying asset's useful life. Total lease and rental expenses related to lease right of use assets for the twelve months ended 31 December 2019 included $363 million of depreciation ($184 million related to Buildings, $141 million related to vehicles, $19 million related to land, $19 million related to other) and $33 million of interest. The related lease right of use assets are reported as a separate line in non-current assets, and liabilities are included in current and non-current liabilities from leases in the consolidated statement of financial position. Right of use assets and liabilities are measured on a present value basis. Linde includes renewal options that are reasonably certain to be exercised as part of the lease term.

As most leases do not provide an implicit rate, Linde uses the applicable incremental borrowing rate at lease commencement to measure lease liabilities and right-of-use assets. Linde determines incremental borrowing rates through market sources.

The company has elected to apply the short-term lease exception. Short-term leases are leases that, at the commencement date, have a lease term of twelve months or less and do not include a purchase option that the lessee is reasonably certain to exercise. Leases that meet the short-term lease definition are not recognized on the statement of financial position, but rather expensed in profit and loss on a straight-line basis over the lease term. Short term lease expense and low-value leases for the twelve months ended 31 December 2019 were immaterial.

Some leasing arrangements require variable payments that are dependent on usage, output, or may vary for other reasons. Lease payments are allocated between principal and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period. The company does not have material variable lease payments.

Gains and losses on sale and leaseback transactions were immaterial. Cash outflows related to ROU lease liabilities for the twelve months ended 31 December 2019 were $361 million. Cash outflows from short term and low value leases were immaterial.

Based on the finance lease right-of use asset and liability balance as of January 1, 2019, the reconciliation to the closing balance for as of December 31, 2019, was as follows:

		Right-of-Use Assets
January 1, 2019	$	1,217
Additions		359
Adjustments		(45)
Depreciation		(363)
December 31, 2019	**$**	**1,168**

Supplemental statement of financial position information related to leases is as follows:

(Millions of dollars)		
Lease right-of-use assets		31 December 2019
Buildings		552
Vehicles		411
Land		151
Other*		54
Total	**$**	**1,168**
Current liabilities from leases		290
Non-current liabilities from leases		840
Total lease liabilities	**$**	**1,130**

*Other consists of all other categories

Future lease payments as of 31 December 2019 are as follows (millions of dollars):

Period		
2020		315
2021		244
2022		195
2023		133
2024		90
Thereafter		356
Total future undiscounted lease payments	$	1,333
Less imputed interest		(203)
Total reported lease liability	$	1,130

In limited instances Linde acts as a lessor, primarily for assets to provide industrial gas to specific customers. These leases are not significant to the consolidated statement of financial position or consolidated statements of profit and loss.

[22] Trade payables, miscellaneous liabilities, liabilities from income taxes

	Current		Non-current		Total	
	31 December		31 December		31 December	
(Millions of dollars)	2019	2018	2019	2018	2019	2018
Trade payables	$ 4,079	$ 4,095	$ 1	$ 1	$ 4,080	$ 4,096
Contract liabilities	1,761	1,709	359	154	2,120	1,863
Income tax liabilities	747	895	237	266	984	1,161
Miscellaneous liabilities	1,878	2,187	401	433	2,279	2,620
Other taxes	267	257	86	47	353	304
Derivatives with negative fair values	53	78	46	43	99	121
Obligations relating to personnel	758	752	14	15	772	767
Other financial liabilities	559	637	115	132	674	769
Other liabilities	241	463	140	196	381	659
Total	$ 8,465	$ 8,886	$ 998	$ 854	$ 9,463	$ 9,740

Income tax liabilities disclosed as current are due with immediate effect and generally Linde has no option to defer them. Included in the non-current income tax liabilities disclosed are amounts which may not fall due until more than twelve months after the reporting date.

Also included in current income tax liabilities are liabilities relating to prior periods arising from external tax audits in various countries.

[23] Share option schemes

Share-based compensation expense was $95 million in 2019 ($62 million in 2018). The related income tax benefit recognized was $1 million in 2019 ($8 million in 2018). The expense was primarily recorded in marketing & selling and administration 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 28 April 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 31 October 2018, the 2009 Plan was assumed by the company. Prior to 28 April 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 31 December 2019, 6,454,428 shares remained available for equity grants under the 2009 Plan, of which 1,757,354 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 30 April 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 common stock 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 31 October 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 in connection with the Exchange offer. 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 31 December 2019, 260,794 shares remained available for grant, and since the Company was obligated to make these replacement awards in 2019, it does not expect any further grants from this program.

Exercise prices for the replacement option rights that were granted in 2019 under the LTIP 2018 were equal to €1.67 as prescribed in the business combination agreement. Each replacement option right granted under the LTIP 2018 is 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 2019 was $23.38 ($19.29 in 2018) 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 weighted-average fair value of replacement option rights granted in 2019 was $160.08 based on intrinsic value method.

The following weighted-average assumptions were used to value the grants in 2019 and 2018:

Year Ended 31 December	2019	2018
Dividend yield	2.0%	2.1%
Volatility	14.3%	14.4%
Risk-free interest rate	2.38%	2.67%
Expected term years	6	5

The following table summarizes option activity under the plans as of 31 December 2019 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 1 January 2019	10,624	117.65		
Granted	1,486	157.14		
Exercised	(2,705)	103.87		
Cancelled or expired	(108)	158.17		
Outstanding at 31 December 2019	9,297	127.04	6	$ 798
Exercisable at 31 December 2019	6,306	117.26	5	$ 603

The aggregate intrinsic value represents the difference between the company's closing stock price of $212.90 as of 31 December 2019 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 2019 was $219 million ($113 million in 2018.)

Cash received from option exercises under all share-based payment arrangements for 2019 was $64 million ($66 million in 2018). The cash tax benefit realized from share-based compensation totaled $56 million for 2019 ($30 million in 2018).

As of 31 December 2019, $32 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

In 2019, Linde granted 261,760 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 are tied to either after tax return on capital ("ROC") performance or relative total shareholder return ("TSR") performance versus that of the S&P 500 (weighted 67%) and Eurofirst 300 (weighted 33%). 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 will be adjusted during the three-year performance period based upon the estimated performance levels that will be achieved. TSR awards are measured at their grant date fair value and not subsequently re-measured.

The weighted-average fair value of ROC performance-based stock awards granted in 2019 was $168.47, and during 2017 was $109.68. 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. There were no ROC performance-based stock awards granted in 2018.

The weighted-average fair value of performance-based stock tied to relative TSR performance granted during 2019 was $215.85, and during 2017 was $124.12, and was estimated using a Monte Carlo simulation performed as of the grant date. There were no performance-based stock tied to relative TSR performance granted in 2018.

Upon completion of the merger, each outstanding ROC and TSR performance-based award granted prior to 2018 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 161,072 restricted stock units granted to employees in 2019. The weighted-average fair value of restricted stock units granted during 2019 was $165.04 ($144.86 in 2018). 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.

The following table summarizes non-vested performance-based and restricted stock award activity as of 31 December 2019, 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 1 January 2019	—	$ —	1,071	$ 118.84
Granted	262	184.29	161	165.04
Vested	—	—	(330)	107.10
Cancelled and Forfeited	(16)	184.26	(18)	146.32
Non-vested December 31, 2019	246	$ 184.29	884	$ 129.43

There are approximately 7 thousand performance-based shares and 11 thousand restricted stock shares that are non-vested at 31 December 2019 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 common stock price.

As of 31 December 2019, $23 million of unrecognized compensation cost related to performance based awards and $21 million of unrecognized compensation cost related to the restricted stock awards is expected to be recognized primarily through the first quarter of 2022.

[24] Financial instruments

Accounting standard IFRS 9, *Financial Instruments* sets out the rules on the classification and measurement of financial assets and contains rules on impairment losses on financial instruments as well as on hedge accounting.

Financial Assets

(Millions of dollars)	Fair value 31/12/2019	Fair value 31/12/2018	Carrying amount 31/12/2019	Carrying amount 31/12/2018
At fair value in other comprehensive income (debt instruments) ("FVtOCI")				
Investments and securities	$ 2	$ —	$ 2	$ —
At fair value through profit and loss				
Freestanding derivatives	111	178	111	178
Derivatives designated as hedging instruments	56	15	56	15
Cash and cash equivalents	—	317	—	317
Investments and securities	46	54	46	54
At amortized cost				
Cash and cash equivalents	2,790	4,216	2,790	4,216
Trade receivables	4,125	4,111	4,125	4,111
Other receivables and assets	1,789	1,608	1,789	1,608
Investments and securities	1	1	1	1
Total	$ 8,920	$ 10,500	$ 8,920	$ 10,500

Financial Liabilities

(Millions of dollars)	Fair value 31/12/2019	Fair value 31/12/2018	Carrying amount 31/12/2019	Carrying amount 31/12/2018
Financial liabilities at amortised cost				
Financial liabilities	$ 13,761	$ 15,203	$ 13,947	$ 15,289
Trade payables	4,080	4,096	4,080	4,096
Miscellaneous liabilities	2,281	1,428	2,281	1,428
Derivatives with negative fair values				
Freestanding derivatives	91	108	91	108
Derivatives designated as hedging instruments	8	13	8	13
Liabilities from finance leases	1,130	78	1,130	78
Total	$ 21,351	$ 20,926	$ 21,537	$ 21,012

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 financial instruments is generally determined using stock exchange prices. If stock exchange prices are not available, the fair value is determined using measurement methods customary in the market, based on market parameters specific to the instrument.

The fair value of derivative financial instruments is determined as follows: Options are valued using the Black-Scholes option pricing model. Futures are measured with recourse to the quoted market price in the relevant market. All other derivative financial instruments are measured by discounting expected future cash flows using the net present value method. As far as possible, the entry parameters used in these models are relevant observable market prices and interest rates at the reporting date.

The following table shows the financial instruments in Linde plc which are measured at fair value. Linde plc uses the following hierarchy to determine and disclose fair values based on the method used to ascertain their fair values:

- Level 1: Quoted prices (unadjusted) in active markets for identical assets and liabilities.
- Level 2: Inputs other than quoted market prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.
- Level 3: Inputs for the asset or liability that are not based on observable market data.

Financial Assets And Liabilities Measured At Fair Value

(Millions of dollars)	Level 1		Level 2		Level 3	
	31/12/2019	31/12/2018	31/12/2019	31/12/2018	31/12/2019	31/12/2018
Investments and securities	18	$ 24		—	28	$ 30
Thereof debt instruments at FVtOCI	2	—		—		—
Thereof at FVtPL	16	24		—	28	30
Freestanding derivatives with positive fair values	0	—	111	178		—
Derivatives designated as hedging instruments with positive fair values	0	—	56	15		—
Freestanding derivatives with negative fair values	0	—	91	108		—
Derivatives designated as hedging instruments with negative fair values	0	—	8	13		—
Cash and cash equivalents	—	317	—	—	—	—

During the reporting year, there were no transfers between Levels 1, 2 and 3 of the fair value hierarchy.

The fair value of financial instruments in the “financial assets at amortised cost”, and “financial liabilities at amortised cost” categories is determined by discounting the expected cash flows. The interest rates applied are the same as those that would apply to new financial instruments with a similar risk structure, currency and maturity. Fair value is determined using the discounted cash flow method, taking into account individual credit ratings and other market circumstances in the form of credit and liquidity spreads generally applied in the market (Level 2). The exception to this is bonds issued by Linde AG and Linde Finance B.V. traded in the capital market (Level 1). The fair value of these instruments is determined using the current stock exchange price. In cases involving short-term financial instruments in the “financial assets at amortised cost”, and “financial liabilities at amortised cost” categories, it is assumed that the fair value corresponds to the carrying amount.

Level 3 investments and securities contain 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.In the 2019 financial year, there were no differences between the fair value *of* a financial instrument when it was first recognized and the amount which would have been recognized at that time had the valuation methods described above been used.

The following table summarizes the changes in level 3 investments and securities for the years ended 31 December 2019. Gains (losses) recognized in earnings are recorded to in financial income (expense) within the company's consolidated statements of profit and loss.

(Millions of dollars)	**2019**
Balance at 1 January	$ 30
Additions	1
Gains (losses) recognized in earnings	(3)
Balance at 31 December	**$ 28**

Net Financial Gains And Losses

(Millions of dollars)	2019	2018
From freestanding derivatives	$ 318	$ 116
From financial assets at amortized cost	71	32
From financial assets at fair value other comprehensive income		
of which reported in the income statement	$ (11)	$ (3)
of which reported in other reserves	—	—
From financial liabilities at amortized cost	(201)	(99)
Total	**$ 177**	**$ 46**

The net financial gains and losses on financial instruments arise from changes in fair value, the recognition and reversal of impairment losses, eliminations and exchange rate fluctuations.

The net financial gains and losses correspond to the valuation gains and losses of the financial instruments but exclude interest and dividends.

Free-standing derivatives comprise all those derivatives which are not designated as hedging instruments. They include those derivatives in economic hedging relationships not designated as hedges in respect of which gains and losses arising from the underlying transaction and the hedged item are recognised at the same time in the statement of profit and loss.

The financial result includes fees and other costs of capital of $16 million (2018: $6 million) relating to financial instruments not at fair value through profit and loss.

No interest income has been accrued which relates to impaired financial instruments, especially receivables.

The following table provides information about the exposure to credit risk for financial assets.

Impairment Loss At 31 December

	2019				2018			
(Millions of dollars)	Carrying amount before impairment	Cumulative impairment loss	Carrying amount after impairment	Of which impairment loss for 2019 financial year	Carrying amount before impairment	Cumulative impairment loss	Carrying amount after impairment	Of which impairment loss for 2018 financial year
Investments and securities at fair value	$55	—	$55	—	$54	—	$54	—
Investments and securities at amortised cost	1	—	1	—	1	0	1	0
Receivables from finance leases	72	—	72	—	75	0	75	0
Trade receivables	4,432	(306)	4,126	(164)	4,224	(113)	4,111	(25)
Contract assets	380	(11)	369	(6)	272	(5)	267	(5)
Derivatives with positive fair values	167	—	167	—	193	0	193	0
Other receivables and assets	1,789		1,789	—	1,637	-29	1,608	0
Cash and cash equivalents	2,790	—	2,790	—	4,533	0	4,533	0

For cash and cash equivalents and other receivables, Linde determines the 12-month expected credit loss as a basis for impairment losses. In the reporting period these impairment losses were not significant.

Financial assets which are initially measured at amortized cost are subsequently measured using the effective interest (EIR) method and are subject to impairment. Linde's financial assets at amortized cost includes trade receivables, receivables from finance lease, loan receivables and other financial assets included under other assets. Trade receivables are measured at the transaction price, the face value less impairment, if the receivables do not contain a significant financing component. Management has considered factors such as the difference between the cash price for assets and transaction prices within its agreements, terms of its agreements and market interest rates. Management has reviewed its current portfolio noting that its receivables do not contain significant financing components.

For trade receivables, Linde applies the simplified approach permitted by IFRS 9, which requires expected lifetime losses to be recognized from initial recognition of the receivables. The expected loss rates are based on an analysis of the actual historical default rates (between 1.5 and 2 years) for each business and product area, taking regional circumstances into account. If necessary, these historical default rates are adjusted to reflect the impact of current changes in the macroeconomic environment using forward-looking information. The default rates are also critically evaluated based on the expectations of the responsible management team regarding the collectability of the receivables. Gross receivables aged less than one year were $4,186 million and $4,048 million at 31 December 2019 and 2018 respectively and gross receivables aged greater than one year were $246 million and $177 million at 31 December 2019 and 2018. Average loss rates on receivables aged less than one year were approximately 6.2% and 1.9% at 31 December 2019 and 2018 respectively. Receivables aged greater than one year are generally fully reserved unless specific circumstances warrant exceptions.

Trade receivables net of reserves were $4,126 million at 31 December 2019 and $4,111 million at 31 December 2018. Allowances for expected credit losses were $306 million at 31 December 2019 and $113 million at 31 December 2018. Provisions for expected credit losses were $170 million and $25 million in 2019 and 2018 respectively. The allowance activity in each period related primarily to write-offs of uncollectible amounts, net of recoveries and currency movements.

Interest Income/Expense From Financial Instruments Not Measured At Fair Value[1]

(Millions of dollars)	2019	2018
Interest income	$ 267	$ 70
Interest expense	317	317
Total	**$ (50)**	**$ (247)**

[1]Income and expenses are shown as positive figures where the line item designation is clear. In the “total” line item, net expenses are shown as negative figures.

Not included here are the interest income and interest expense from derivatives or the interest income and interest expense from assets and liabilities outside the scope of IFRS 7.

Risk positions and risk management

Linde plc is exposed to a variety of financial risks. These include in particular: counterparty risk, liquidity risk, interest rate risk, exchange rate risk and other market price risks. These are described below. For further information about risk management at Linde, please refer to the disclosures in the management report.

Counterparty risk

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 31 December 2019, 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.

Financial Assets/Liabilities Subject To Offsetting Or Enforceable Master Agreements For Financial Derivative Transactions

31 December 2019, *(Millions of dollars)*	Gross amount of recognised financial assets/ liabilities	Gross amount of recognised financial assets/ liabilities set off in the statement of financial position	Net amount of financial assets/ liabilities presented in the statement of financial position	Financial instruments that qualify for netting	Net amount before CSAs	Collaterals received from collateral agreements[1]	Collaterals due to pledged collateral agreements[1]	Net amount
Derivatives with positive fair values	$ 319	$ —	$ 319	$ (31)	$ 288	$ (64)	$ 1	$ 225
Derivatives with negative fair values	(182)	—	(182)	31	(151)	(46)	19	(178)
Trade receivables	35	(8)	27	—	27	—	—	27
Trade payables	(34)	8	(26)	—	(26)	—	—	(26)
Total	**$ 138**	**$ —**	**$ 138**	**$ —**	**$ 138**	**$ (110)**	**$ 20**	**$ 48**

Financial Assets/Liabilities Subject To Offsetting Or Enforceable Master Agreements For Financial Derivative

31 December 2018, (Millions of dollars)	Gross amount of recognised financial assets/ liabilities	Gross amount of recognised financial assets/ liabilities set off in the statement of financial position	Net amount of financial assets/ liabilities presented in the statement of financial position	Financial instruments that qualify for netting	Net amount before CSAs	Collaterals received from collateral agreements 1	Collaterals due to pledged collateral agreements 1	Net amount
Derivatives with positive fair	$ 193	$ —	$ 193	$ (57)	$ 136	$ (60)	$ 14	$ 90
Derivatives with negative fair	(121)	—	(121)	57	(64)	(9)	18	(55)
Trade receivables	6	(3)	3	—	3	—	—	3
Trade payables	(7)	3	(4)	—	(4)	—	—	(4)
Total	**$ 71**	**$ —**	**$ 71**	**$ —**	**$ 71**	**$ (69)**	**$ 32**	**$ 34**

[1]The terms governing CSAs may result in the net fair value position per counterparty being over-secured.

Liquidity Risk

Liquidity risk is the risk that the company will no longer be able to meet its financial payment obligations. Contractual undiscounted expected future cash flows from financial liabilities are shown in the table below:

Future Cash Flows From Financial Liabilities

	Due within one year		Due in one to five years		Due in more than five years	
(Millions of dollars)	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**
Cash outflows from non-derivative financial liabilities	$9,174	$8,547	$10,599	$ 9,424	$ 4,333	$ 4,696
Cash outflows from derivative financial liabilities	$ 119	$ 297	$ 312	$ 415	$ 35	$ 93

Within this context, it is important to note that the cash outflows from derivative financial liabilities in the amount of $466 million (2018: $804 million) are offset by cash inflows from derivatives with gross settlement in the amount of $376 million (2018: $722 million).

Interest rate risks

Interest rate risks arise from market fluctuations in interest rates. As a result of its financing activities, Linde plc is exposed to a risk from interest rate changes. At 31 December 2019, Linde plc held interest-bearing instruments (net, including interest rate derivatives/hedges) totaling $13.9 billion (2018: $15.3 billion). Of these, $10.8 billion (2018: $12.6 billion) related to instruments bearing interest at fixed interest rates and $3.2 billion (2018: $2.7 billion) to instruments bearing interest at variable rates. This is equivalent to a company-wide fixed-rate ratio of 77 percent (2018: 82 percent).

Linde plc has used forward payer swaps to provide an element of hedging against exposure to rising interest rates with regard to future bond issues.

Based on instruments bearing interest at variable rates and financial instruments hedging interest rate risks which Linde plc holds or has issued, a hypothetical change in the interest rates applicable to the respective instruments would have had the following effects (if exchange rates remained constant):

Effect Of Changes In Interest Rates

(Millions of dollars)	**Change**	**Recognised in profit and loss**		**Directly in equity**	
		2019	**2018**	**2019**	**2018**
EUR	+ 100 bp	(82)	117	$ (184)	$ —
	– 100 bp	83	(117)	187	—
GBP	+ 100 bp	8	(20)		—
	– 100 bp	(8)	20		—
USD	+ 100 bp	2	(25)	(14)	—
	– 100 bp	(2)	25	14	—
AUD	+ 100 bp	19	(24)		—
	– 100 bp	(19)	24		—
Other currencies	+ 100 bp	5	(22)	463	—
	– 100 bp	(5)	22	(467)	—

Exchange rate risks

Due to its activities as an international group, Linde is exposed to exchange rate risks. Its broad spread of activities over many different currency areas and its local business model result in a low concentration of risk for the company.

Linde monitors and manages its exchange rate risk, a risk which has an impact on its operations. The gross exchange rate risk encompasses all the operating activities of the company. This gross exchange rate risk is reduced by around 83 percent (2018: 85 percent). Therefore, Linde is exposed at the reporting date to a net exchange rate risk from operating activities involving foreign currency corresponding to 17 percent (2018: 15 percent) of the original unsecured risk.

The risk of exchange rate movements is monitored for internal management purposes on the basis of a value-at-risk, which relates to positions in currencies other than the relevant functional currency.

The value-at-risk is calculated on the basis of historical data (250 working days) in accordance with international banking standards. The value-at-risk presents the maximum potential loss based on a probability of 97.5 percent for a holding period of twelve months. The calculation takes into account correlations between the transactions being considered; the risk of a portfolio is generally lower than the total of the respective individual risks.

At 31 December 2019, the value-at-risk was $44 million (2018: $22 million).

Other market price risks

As a result of its energy purchases, Linde is exposed to risks arising from changes in commodity prices. Linde plc monitors and manages these commodity price risks arising from the purchase of electricity, natural gas and propane for use in production. These hedging operations are governed by risk management guidelines, compliance with which is monitored. Commodity price risks are hedged in the main by long-term supply contracts or limited by the form and structure of sales contracts. Derivatives are also used to a much lesser extent to hedge against the exposure to changes in the price of electricity, natural gas and propane gas. The commodity price risk from financial instruments is therefore not material.

Hedge Accounting

Cash flow hedges

Linde hedges cash flows at both consolidated and company levels, based on agreed minimum hedging rates. At the company level, future transactions which are highly probable are hedged against foreign exchange risks.

In general, these hedges are accounted for as cash flow hedges in accordance with IFRS 9, *Financial Instruments*. The effective portion of the gain or loss on the hedging instruments is recognized directly in equity and released to the statement of profit and loss when the hedged cash flows are also recognised in the statement of profit and loss or if a hedged future transaction is no longer expected to occur. In addition, the risks associated with changes in interest rates relating to certain financial liabilities or future financing measures are hedged by derivative financial instruments and accounted for as cash flow hedges.

Linde also hedges the exposure to commodity price risks which arise in the normal course of business from its procurement transactions and result in open risk positions. To reduce the extent of the risk, Linde enters into a small number of electricity, natural gas and propane gas derivatives. Usually, hedging relationships of this type are also designated as cash flow hedging relationships, if this accords with the facts.

If the hedged future transactions (forecast transactions as defined by IFRS 9) result in the recognition of a non-financial asset or liability, the initial carrying amounts of these are adjusted for the amount recorded in equity. This is usually the case for non-current assets and inventories.

The following table presents a reconciliation of the reserve for cash flow hedges:

Reserve For Cash Flow Hedges

(Millions of dollars)	2019	2018
Opening balance at 1 Janaury	$ (2)	$ (1)
Additions	(33)	—
Transfers to the statement of profit and loss	(8)	(1)
of which relating to revenue	—	—
of which relating to cost of sales	(6)	—
of which relating to financial income and expenses	(2)	(1)
Closing balance at 31 December	**$ (27)**	**$ (2)**

In the 2019 and 2018 financial years, no amounts were recognised in the financial result as a result of ineffectiveness in cash flow hedges.

Cash Flow Hedge Accounting

	Exchange rate		Interest rate		Commodity risk	
(Millions of dollars)	2019	2018	2019	2018	2019	2018
In a cash flow hedge designated hedging instruments						
Fair value	$ 4	$ (1)	$ —	$ —	$ 4	$ —
Nominal value	491	158	—	—	65	—
Cash flow hedge reserve for continuing hedge relationships	(27)	(2)	—	—	—	—
Cash flow hedge reserve for discontinued hedge relationships	—	—	—	—	—	—

Cash Flow Hedge Accounting

	Within one year		In one to five years		In more than five years		Total	
	2019	2018	2019	2018	2019	2018	2019	2018
FX risk EUR/USD								
Net exposure (nominal volume) - in m USD	32	54	9	14	—	—	41	68
Average hedged rate	0.8954	0.8664	0.8230	0.8312	—	—		
Cash flows from hedging instrument	16	(48)	1	(8)	—	—	17	(56)
FX risk EUR/RUB								
Net exposure (nominal volume) - in m RUB	335	685	1,723	2,143	—	—	2,058	2,828
Average hedged rate	0.0129	0.014	0.0118	0.0123	—	—		
Cash flows from hedging instrument	(3)	(521)	(4)	(1,283)	—	—	(7)	(1,804)
FX risk USD/EUR								
Net exposure (nominal volume) - in m EUR	—	8	—	2	—	—	—	10
Average hedged rate	—	1.1627	—	1.2157	—	—	—	
Cash flows from hedging instrument	—	(8)	—	(2)	—	—	—	(10)

Fair value hedges

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. If the hedge is deemed to be effective, the carrying amount of the hedged item is adjusted for changes in the fair value attributable to the hedged risk.

The following table shows the changes in underlying transactions and hedging instruments in fair value hedging relationships recognised in profit and loss.

Fair Value Hedge Accounting

(Millions of dollars)	2019	2018
Fair value changes of hedged items and hedging instruments		
From hedged items	$ (37)	$ (14)
From hedging instruments (interest rate swaps)	39	14
Ineffectiveness recognized in the financial result	$ 2	$ —
In Fair value hedge accounting designated hedging instruments		
Fair Value	$ 39	$ 3
Nominal value	$ 1,908	$ 2,164

Hedges of a net investment in a foreign operation

Linde hedges its exposure to translation risk by taking out loans in foreign currencies and by entering into forward exchange contracts and interest rate swaps. These hedges generally qualify as hedges of a net investment in a foreign operation (referred to below as net investment hedges) in accordance with IFRS 9, and hence the effective portion of the hedge is transferred to equity.

As of December 31, 2019, Linde has not designated any hedges of net investment positions in foreign operations. Linde had previously designated Euro-denominated debt instruments as net investment hedges to reduce the company's exposure to changes in the currency exchange rate on investments in foreign subsidiaries with Euro functional currencies. Exchange rate movements of $206 million relating to the previously denominated Euro-denominated debt incurred in the financial periods prior to de-designation will remain in AOCI, until appropriate, such as upon sale or liquidation of the foreign operations at which time amounts will be reclassified to the consolidated statements of income. Exchange rate movements related to the Euro-denominated debt occurring after de-designation are shown in the consolidated statements of income.

No amounts were recognised in 2019 or 2018 as a result of ineffectiveness in net investment hedges.

[25] Consolidated statement of cash flows

The statement of cash flows shows the source and application of funds. In accordance with IAS 7, *Cash Flow Statements*, cash flows from operating activities are distinguished from cash flows from investing and financing activities.

The cash and cash equivalents disclosed in the statement of cash flows comprise all cash and cash equivalents disclosed in the statement of financial position: i.e. cash in hand, bank balances and money market funds with a maturity of three months or less. Cash equivalents include an amount of $20 million (2018: $32 million) for bilateral Credit Support Annexes. Explanatory information on CSAs can be found in Note 24.

Cash flows for investing and financing activities are calculated on the basis of payments, while cash flow from operating activities is derived indirectly from profit for the year from continuing operations.

When the cash flow from operating activities is calculated, the changes in assets and liabilities are adjusted for certain effects, such as foreign currency translation. As a result, it is not possible to reconcile the figures to the differences between the headings in the published consolidated statement of financial position.

Distributions received and income taxes paid included in cash inflows from operating activities are disclosed separately. Cash inflows from associates and joint ventures are disclosed in cash inflows from operating activities. Finance income from embedded finance leases IAS 16 has been included in cash inflows from operating activities, due to the fact that such income is clearly related to the operating business of Linde plc, while capitalised borrowing costs of $38 million (2018: $20 million) are disclosed in cash flows from investing activities. All other interest payments are disclosed in cash flow for financing activities.

Cash inflows of $5.1 billion are included in cash inflows from investing activities and relate primarily to the proceeds received from merger-related divestitures including $3.4 billion from the sale of Linde AG's Americas business, $1.2 billion from the sale of Linde Korea, and approximately $200 million each from the sale of the legacy Praxair and legacy Linde India selected assets. For cash outflows relating to newly consolidated companies, please refer to the consolidated statement of cash flows.

Investing activities comprise additions to and disposals of tangible assets, financial assets, intangible assets and consolidated companies. Additions and disposals in foreign currencies have been translated at average rates.

Reconciliation Of Liabilities From Financing Activities

			Non-cash changes			
(Millions of dollars)	Opening balance at 01/01/2019	Cash flows	Exchange rate effects[1]	Changes in fair value	Other changes[2]	Closing balance at 31/12/2019
Non-current financial debt	$ 12,276	$ 21	$ (175)	$ (85)	$ (1,415)	$ 10,622
Current financial debt	3,013	(1,297)	61	(10)	1,559	3,325
Liabilities from finance leases	78	(361)	—	—	1,413	1,130
LIABILITIES FROM FINANCING ACTIVITIES	**$ 15,367**	**$ (1,637)**	**$ (114)**	**$ (95)**	**$ 1,557**	**$ 15,077**

[1] For financial debt, incl. adjustments due to hedging transactions.

[2] Under financial debt, reclassification from non-current to current financial debt; under liabilities from finance leases, for lease liabilities recognized upon the adoption of IFRS 16.

The following table presents the cash flows from continuing and discontinued operations:

(Millions of dollars)

Year Ended 31 December	**2019**	**2018**
Cash flow from operating activities from continuing operations	$ 6,560	$ 3,683
Cash flow from operating activities from discontinued operations	78	52
CASH FLOW FROM OPERATING ACTIVITIES	6,638	3,735
Cash flow from investing activities from continuing operations	1,164	5,435
Cash flow for investing activities from discontinued operations	(71)	(24)
CASH FLOW FROM INVESTING ACTIVITIES	1,093	5,411
Cash flow for financing activities from continuing operations	(9,391)	(5,031)
Cash flow for financing activities from discontinued operations	(2)	—
CASH FLOW FOR FINANCING ACTIVITIES FROM CONTINUING OPERATIONS	(9,393)	(5,031)
CHANGE IN CASH AND CASH EQUIVALENTS	$ (1,662)	$ 4,115

[26] Segment information

Effective 31 October 2018, Praxair and Linde AG completed the previously announced merger pursuant to the Merger Agreement, resulting in the formation of Linde plc (see Note 1 for additional information on the merger). As a result of the merger and effective with the lifting of the “Hold Separate Order” effective on 1 March 2019, new operating segments were created which are used by the company's Chief Operating Decision Maker ("CODM") to allocate company resources and assess performance. Linde’s operations consist of two major product lines: industrial gases and engineering/other. As further described in the following paragraph, Linde’s industrial gases operations are managed on a geographic basis, which represents three of the company's new operating segments - Americas, EMEA (Europe/Middle East/Africa), and APAC (Asia/South Pacific); a fourth operating segment which represents the company's Engineering business, designs and manufactures equipment for air separation and other industrial gas applications specifically for end customers and is managed on a worldwide basis operating in all three geographic segments. Each of these operating segments is a separate reporting segment for financial reporting purposes. Other consists of corporate costs and a few smaller businesses which individually do not meet the quantitative thresholds for separate presentation.

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.

Historically and through 2019 the CODM assessed the performance of the operating segments determined in accordance with US GAAP. Accordingly, and consistent with the 2018 presentation, the segment discussion below is based on US GAAP results. A reconciliation to IFRS as adopted by the European Union is disclosed below. Linde evaluates the performance of its reportable segments based on operating profit, excluding the items not indicative of ongoing business trends (referred to as “Segment operating profit”). The same accounting policies as those set out in Note 6 apply to the segments. For a description of Linde's previous operating segments, refer to Note 26 to Linde's 2018 Directors' Report and Financial Statements.

The table below presents information about reportable segments in accordance with US GAAP for the years ended 31 December 2019 and 2018. Sales for the year ended 31 December 2018 include two months of Linde AG sales from the merger date of 31 October 2018 to year end. Also, each table includes a reconciliation of US GAAP to IFRS amounts along with an explanation of the major differences.

	Year ended 31 December	
(Millions of dollars)	**2019**	**2018**
Sales (a)		
Americas	$ 10,993	$ 8,017
EMEA	6,643	2,644
APAC	5,839	2,446
Engineering	2,799	459
Other	1,954	1,270
Total US GAAP sales	$ 28,228	$ 14,836
GAAP adjustments [1]	530	137
Total IFRS sales	**$ 28,758**	**$ 14,973**

(1) Related to consolidation of certain entities for IFRS, not for US GAAP.

(Millions of dollars)	Year ended 31 December 2019	2018
Operating Profit		
Americas	$ 2,578	$ 2,053
EMEA	1,367	481
APAC	1,198	465
Engineering	390	14
Other	(245)	(37)
US GAAP segment operating profit	$ 5,288	$ 2,976
Cost reduction programs and other charges[1]	(567)	(309)
Net gain on sale of business[2]	164	3,294
Purchase accounting impacts - Linde AG[3]	(1,952)	(714)
US GAAP operating profit from continuing operations	$ 2,933	$ 5,247
GAAP adjustments [4]	117	463
IFRS operating profit from continuing operations	**$ 3,050**	**$ 5,710**

(1) Linde recorded cost reduction programs and other charges of $567 million and $309 million for 2019 and 2018, respectively, primarily related to merger and synergy-related costs and an asset impairment in the third quarter 2019 of approximately $73 million related to a joint venture in APAC resulting from an unfavorable arbitration ruling. These charges are not included in management's view of segment profitability.

(2) In 2019, related to the sale of select Indian assets resulting in a gain of $164 million. 2018 relates the sale of Praxair's European industrial gases business under US GAAP. The sale of this business under IFRS resulted in a net gain on divestiture of $3,778, a difference of $484 million due to the cumulative currency translation differences for all foreign operations having been set to zero as at 1 January 2017 due to IFRS 1. See Note 3 for further detail related to merger-related divestitures.

(3) Related to the impacts of the required purchase accounting related to the merger transaction under US GAAP (see Note 2).

(4) Primarily related to differences in accounting between US GAAP and IFRS such as: consolidation of entities, pension accounting and the aforementioned net gain on Praxair's European divestiture.

(Millions of dollars)	Year ended 31 December 2019	2018
Depreciation and Amortization		
Americas	$ 1,195	$ 860
EMEA	749	269
APAC	613	271
Engineering	35	5
Other	143	79
US GAAP segment depreciation and amortization	$ 2,735	$ 1,484
Purchase accounting impacts - Linde AG [1]	1,940	346
Total US GAAP depreciation and amortization	$ 4,675	$ 1,830
GAAP adjustments [2]	338	33
Total IFRS depreciation and amortization	**$ 5,013**	**$ 1,863**

(1) Related to the impacts of the required purchase accounting related to the merger transaction under US GAAP.
(2) Related to consolidation of certain entities for IFRS, not for US GAAP.

(Millions of dollars)	Year ended 31 December 2019	2018
Expenditures on Long-lived Assets		
Americas	$ 1,814	$ 1,068
EMEA	738	329
APAC	1,231	372
Engineering	79	27
Other	45	112
Total US GAAP expenditures on long-lived assets	$ 3,907	$ 1,908
GAAP adjustments [1]	20	3
Total IFRS expenditures on long-lived assets	**$ 3,927**	**$ 1,911**

(1) Related to consolidation of certain entities for IFRS, not for US GAAP.

(Millions of dollars)	Year ended 31 December 2019	2018
Sales by Major Country (b)		
United States	$ 8,604	$ 6,001
Germany	3,630	868
China	2,411	1,093
United Kingdom	1,653	398
Australia	1,127	183
Brazil	994	1,003
Other- Foreign	10,339	5,427
Total sales	**$ 28,758**	**$ 14,973**

(Millions of dollars)	31 December 2019	2018
Long-lived Assets by Major Country (b, c)		
United States	$ 16,728	$ 16,182
Germany	9,873	8,899
China	5,827	5,214
United Kingdom	5,679	5,378
Australia	4,126	4,655
Brazil	1,077	1,113
Other- Foreign	31,513	33,271
Total long-lived Assets	**$ 74,823**	**$ 74,712**

(a) Sales reflect external sales only. Intersegment sales, primarily from Engineering to the industrial gases segments, were not material. There is no significant concentration of sales with any single customer.

(b) Sales and long-lived assets for Ireland, the company's country of domicile, are not significant for separate presentation.

(c) Long-lived assets in both periods include property, plant and equipment – net, goodwill and intangible assets. Long-lived assets at 31 December 2019 also includes right-of-use assets resulting from the adoption of IFRS 16 (See Note 21).

[27] Employees

In 2019, the average number of employees was 79,627 (2018: 33,533). As of 31 December 2019, the total number of employees of Linde plc was 79,886 (80,946 in 2018) of which 1,177 (1,251 in 2018) are designated as senior management based upon their level within the overall organization. The decrease for both the total number of employees and senior management from 2018 to 2019 was primarily due to cost reduction actions partially offset by acquisitions. The increase in the average number of employees from 2018 to 2019 is primarily due to Linde AG employees being included for a full 12 months in 2019.

In 2019, the average number of employees in the joint operations included in the consolidated financial statements was 194 (2018: 196). Part-time employees have been included on a pro-rata basis.

All in all, personnel expenses in 2019 totaled $5.8 billion (2018: $2.8 billion), of which $4.1 billion (2018: $1.9 billion) related to salaries (including social security contributions of approximately $660 million in 2019 and $300 million in 2018), $221 million (2018: $153 million) to pensions, and share-based compensation expense of $95 million in 2019 ($62 million in 2018). In 2019, approximately $530 million ($160 million in 2018) of personnel costs were capitalized within fixed assets.

[28] Related party transactions

In addition to the subsidiaries included in the consolidated financial statements, Linde plc is related, directly or indirectly, while carrying out its normal business activities, to other investments, joint ventures and associates. The business relationships with these companies are conducted under the same conditions as for non-related third parties. Related companies which are controlled by Linde plc or over which Linde plc may exercise significant influence are disclosed in the list of shareholdings, arranged by division.

The information about the remuneration of the Board of Directors and the Key Management Personnel is set out in Note 30.

Revenue With Related Parties

	2019				2018			
(Millions of dollars)	**Other investments**	**Associates or joint ventures**	**Other related parties**	**Total**	**Other investments**	**Associates or joint ventures**	**Other related parties**	**Total**
Revenue	$2	$219	–	$221	$34	$187	–	$221

Purchased Goods And Services From Related Parties

	2019				2018			
(Millions of dollars)	**Other investments**	**Associates or joint ventures**	**Other related parties**	**Total**	**Other investments**	**Associates or joint ventures**	**Other related parties**	**Total**
Goods and services purchased from related parties	$17	$529	–	$546	$3	$177	–	$180

Related persons are mainly the members of the Board of Directors. In 2019, there were no material transactions between Linde plc and members of the Board of Directors or their family members which were outside the bounds of existing employment, service or appointment agreements or remuneration contracts.

Some members of Linde's Board of Directors hold similar positions in other companies. Linde has normal business relationships with virtually all of these companies. The sale and purchase of goods and services to and from these companies take place under the usual market conditions.

Receivables From And Payables To Related Parties

	31 December 2019				31 December 2018			
(Millions of dollars)	**Other investments**	**Associates or joint ventures**	**Other related parties**	**Total**	**Other investments**	**Associates or joint ventures**	**Other related parties**	**Total**
Receivables from related parties	13	$110	–	$123	$3	$110	–	$113
Payables to related parties	—	79	–	79	1	76	–	77

There were no material charge-free guarantee agreements in place for associates or joint ventures on the reporting date, nor any material open purchase orders relating to joint ventures.

[29] Directors' Remuneration and Key Management Personnel Compensation

Directors Remuneration under Irish Companies Act

The following table discloses the remuneration for members of the board of directors of Linde plc for the current and preceding year as required under Irish Companies Act 2014. Prior to consummation of the merger on 31 October 2018 (see Notes 1 and 2), an interim board of directors of Linde plc was established, all four members of which resigned with effect from 22 October 2018. The interim Board members did not receive incremental compensation for their services in this capacity and, as such, no amounts for that period are included below.

(Millions of dollars)	2019	2018
Emoluments in respect of qualifying services (1)	$3	$1
Long-term incentive plans (2)	10	—
Gain on exercise of stock options (3)	40	18
Defined benefit and contribution payments (4)	—	—
TOTAL EMOLUMENTS	**$53**	**$19**

(1) Represents the aggregate emoluments (including salary, fees, bonuses, expenses and estimated money value of other benefits received) for the period. Financial year 2018 includes such emoluments from the date of appointment to the board of directors 31 October 2018 to 31 December 2018 in respect of qualifying services.
(2) Represents non-equity incentive plans and stock awards that have vested in the year.
(3) Represents gain on exercise of stock options.
(4) Retirement benefits in respect of qualifying services are accruing to one director under a defined benefit scheme.

Key Management Personnel Compensation under IFRS

For the period up to the consummation of the merger the Board of Directors of Praxair, Inc, and members of the Praxair, Inc.'s Office Of the Chairman ("OOC") were deemed to be Key Management Personnel ("KMP"). Post the merger the Board of Directors of Linde Plc and members of the Linde Management Committee ("MC") are deemed the KMP.

The following table discloses the compensation in relation to the KMP for the current and prior year.

(Millions of dollars)	2019	2018
Short-term employee benefits (1)	$14	$9
Post-employment benefits (2)	12	1
Other long-term benefits (3)	5	5
Termination benefits (4)	—	3
Share based compensation benefits (5)	24	20
Total benefits	**$55**	**$38**

(1) Primarily includes short-term cash compensation, including salary and bonuses, which were not deferred by the participant.
(2) Represents the increase in pension obligation to the plan participant. Reductions in obligations are not reflected within the table above.
(3) Primarily relates to short-term compensation which has which was elected to be deferred by the participant.
(4) Primarily relates to cash compensation and acceleration of share based compensation benefits for a member of key management which departed the company during calendar year 2018.
(5) Represents share-based compensation benefits accrued during the respective periods.

[30] Contingent liabilities and other financial commitments

Contingent Liabilities

(Millions of dollars)	31/12/2019	31/12/2018
Guarantees	$302	$240
Other contingent liabilities	35	33
TOTAL	**$337**	**$273**

Guarantee agreements

Contingent liabilities arise at Linde from guarantees, among other things.

Other contingent liabilities mainly include penalties and interest for a potential subsequent tax payment in India. Judicial proceedings have been ongoing in this matter for some years now. It is not possible to reliably pinpoint the timing of potential cash outflows. There is no entitlement to reimbursement.

Other contingencies

The Engineering business regularly enters into contracts with consortium partners to build turnkey industrial plants, under which the consortium partners assume joint and several liability to the customer for the total volume of the contract. There are clear internal rules here as to how the liability should be split between the partners. At present, there are plant construction orders with one of our consortium partners totaling $10 million (2018: $16 million).

Other financial commitments

Other financial commitments include lease commitments and commitments relating to orders. Commitments relating to orders are in respect of open orders for which a contractual payment obligation has already been agreed and totaled $3.4 billion and $3.3 billion as of 31 December 2019 and 2018, respectively. Refer to Note 21 for further information related to lease commitments.

Litigation

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 31 December 2019 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 $260 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 1 September 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. Originally, CADE imposed a civil fine of R $2.2 billion Brazilian reais ($546 million) on White Martins, the Brazil-based subsidiary of Praxair, Inc. The fine was reduced to R$1.7 billion Brazilian reais ($422 million) due to a calculation error made by CADE. On 14 September 2015, the fine against White Martins was overturned by the Ninth Federal Court of Brasilia. CADE appealed this decision on 30 June 2016.

  Similarly, on 1 September 2010, CADE imposed a civil fine of R$237 million Brazilian reais ($59 million) on Linde Gases Ltda., the former Brazil-based subsidiary of Linde AG, which was divested to MG Industries GmbH on 1 March 2019 and with respect to which Linde provided a contractual indemnity. The fine was reduced to R$188 million Brazilian reais ($47 million) due to a calculation error made by CADE. On 6 May 2014 the fine against Linde Gases Ltda. was overturned by the Seventh Federal Court in Brasilia. CADE appealed this decision on 27 October 2016.

  Linde has strong defenses and is confident that it will prevail on appeal and have the fines overturned. Linde strongly believes that the allegations of anticompetitive activity against our current and former Brazilian subsidiaries are not supported by valid and sufficient evidence. Linde believes that this decision will not stand up to judicial review and deems the possibility of cash outflows to be extremely unlikely. As a result, no reserves have been recorded as management does not believe that a loss from this case is probable.

- On and after 23 April 2019 former shareholders of Linde AG filed appraisal proceedings at the District Court (Landgericht) Munich I (Germany), seeking an increase of the cash consideration paid in connection with the previously completed cash merger squeeze-out of all of Linde AG's minority shareholders for €189.46 per share. Any such increase would apply to all 14,763,113 Linde AG shares that were outstanding on 8 April 2019, when the cash merger squeeze-out was completed. The period for plaintiffs to file claims expired on 9 July 2019. The company believes the consideration paid was fair and that the claims lack merit, and no reserve has been established. We cannot estimate the timing of resolution.

[31] Auditors' fees and services

	2019			2018		
(Millions of dollars)	PwC Ireland	Other PwC network firms	Total	PwC Ireland	Other PwC network firms	Total
Audit (including expenses)	$ 0.4	$18.4	$18.8	$ 0.8	$15.4	$16.2
Other assurance services	—	—	—	0.4	1.6	2
Tax advisory services	0.1	1.3	1.4	—	2.3	2.3
Other services	—	—	—	0.3	0.2	0.5
TOTAL	**$ 0.5**	**$ 19.7**	**$ 20.2**	**$ 1.5**	**$ 19.5**	**$ 21.0**

[32] Interest in other entities

The information below contains information on the principal subsidiaries, associates and joint ventures in which the company has an interest at December 31, 2019. A full list of subsidiaries, associates and joint ventures will be annexed to the Annual Return to be filed with the Irish Registrar of Companies.

Principal subsidiaries included in the consolidated financial statements in accordance with IFRS 10:

Company Name	Registered Office	Country	Business Activity	Participating Interest in Percent	Share Class
Commercium Immobilien- und Beteiligungs-GmbH	Klosterhofstrasse 1, Munich, 80331, Germany	Germany	Holding Company	100	Ordinary shares
Linde Aktiengesellschaft	Klosterhofstrasse 1, Munich, 80331, Germany	Germany	Gases and Engineering Company	100	Ordinary shares
Linde Finance B.V.	Buitenveldertselaan 106, Amsterdam, 1081AB, Netherlands	Netherlands	Financial Services	100	Ordinary shares
Linde Holdings Netherlands B.V.	Havenstraat 1, Schiedam, 3115HC, Netherlands	Netherlands	Holding Company	100	Ordinary shares
Linde Sverige AB (formerly AGA Aktiebolag)	Lidingö, 181 81, Sweden	Sweden	Industrial and specialty gases	100	Ordinary shares
LindeGas Holding Sweden AB	Lidingö, 181 81, Sweden	Sweden	Holding Company	100	Ordinary shares

BOC HELEX	The Priestley Centre, 10 Priestley Road, The Surrey Research Park, Guildford, Surrey, GU2 7XY, England, United Kingdom	United Kingdom	Finance and Administrative Services	100	Ordinary shares
LINDE INVESTMENTS No.1 LIMITED	The Priestley Centre, 10 Priestley Road, The Surrey Research Park, Guildford, Surrey, GU2 7XY, England, United Kingdom	United Kingdom	Holding Company	100	Ordinary shares
LINDE UK HOLDINGS LIMITED	The Priestley Centre, 10 Priestley Road, The Surrey Research Park, Guildford, Surrey, GU2 7XY, England, United Kingdom	United Kingdom	Holding Company	100	Ordinary shares
The BOC GROUP LIMITED	The Priestley Centre, 10 Priestley Road, The Surrey Research Park, Guildford, Surrey, GU2 7XY, England, United Kingdom	United Kingdom	Holding Company	100	Ordinary & preference shares
Linde Delaware Investments Inc.	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE, 19808, United States	United States	Holding Company	100	Ordinary shares
Linde Gas North America LLC	c/o Corporation Service Company, 251 Little Falls Drive, Wilmington, DE, 19808, United States	United States	Industrial and specialty gases	100	Ordinary shares
Linde North America Holdings Limited	The Priestley Centre, 10 Priestley Road, The Surrey Research Park, Guildford, Surrey, GU2 7XY, England, United Kingdom	United States	Industrial, specialty and medical gases	100	Ordinary shares
Praxair Distribution Inc.	251 Little Falls Drive, Wilmington, Delaware 19808	United States	Industrial and specialty gases	100	Ordinary shares
Praxair, Inc.	521 Little Falls Drive, Wilmington, Delaware 19808	United States	Industrial and specialty gases	100	Ordinary shares
White Martins Gases Industriais Ltda.	Rau Mayrink Veiga, 9 Rio de Janerio RJ	Brazil	Industrial and specialty gases	100	Ordinary shares
Praxair Mexico S. de R.L. de C.V.	Oficinas en el Parque, Torre II, Piso 10, Blvd. Diaz Ordaz No. 140, Col. Santa Maria, Monterrey, N.L., C.P. 64650	Mexico	Industrial and specialty gases	100	Ordinary shares

Noncontrolling Interests

The total noncontrolling interest as at 31 December 2019 and 31 December 2018 was $2,942 million and $6,094 million, respectively.

Principal investments accounted for using the equity method in accordance with IAS 28

There are no individually material investments accounted for using the equity method in accordance with IAS 28 that require disclosure.

[33] Events after the reporting date

Dividends After Year End

On 24 February 2020, the directors of Linde plc declared an interim dividend of $0.963 per share for the first quarter of 2020 (the "Q1 Dividend") totaling $511 million. The Q1 Dividend was payable on 20 March 2020 to shareholders of record on 6 March 2020.

Own Shares

From the period 1 January 2020 through 31 March 2020, an additional 9,674 thousand ordinary shares were purchased by the company for total consideration of $1.8 billion, or an average price of $185.98 per share.

Other Developments

The recent novel coronavirus (COVID-19) outbreak could materially adversely affect our results of operations.

Linde has been actively monitoring the COVID-19 situation and its impact globally. Our priority has been the safety of our employees and the needs of our customers. The spread of COVID-19 has caused us to modify our business practices (including employee travel, employee work locations, and cancellation of physical participation in meetings and events), and we may take further actions as may be required by government authorities or that we determine are in the best interests of our employees, customers, suppliers and other stakeholders. The ultimate magnitude of COVID-19, including the extent of its impact on the Company's operational results, which could be material, will be determined by the length of time that such circumstances continue, measures taken to prevent its spread, its effect on the supply chain and the demand for the Company's products and services, as well as the effect of governmental and public actions taken in response.

The Company is committed to the safety and well-being of its employees and to ensuring that its facilities follow the highest standards of safety and hygiene. At the same time, the Company and its employees remain committed to meeting the needs of customers and ensuring they receive products and services in a timely manner.

The Company continues to believe it has sufficient operating flexibility, cash, and funding sources to meet its business needs around the world. The company has a $5 billion unsecured and undrawn revolving credit agreement with no associated financial covenants. We do not anticipate any limitations on our ability to access the debt capital markets and/or other external funding sources. The company continues to remain committed to its strong ratings from Moody's and Standard & Poor's.

[34] Date of approval of the financial statements

The financial statements of Linde plc for the year ended 31 December 2019 were authorized for issue by the Board of Directors on 30 April 2020.

Company Statement of Financial Position of Linde plc
As of 31 December 2019

(In millions of USD)

	Note	31 December 2019	31 December 2018
Assets			
Fixed assets			
Financial assets			
Shares in group undertakings	4	$ 84,985	$ 89,832
		84,985	**89,832**
Current assets			
Debtors			
Tax Receivable and other debtors		27	—
Cash at bank and in hand		—	2
		27	**2**
Total assets		**$ 85,012**	**$ 89,834**
Capital, reserves and liabilities			
Capital and reserves			
Called up share capital as presented as equity	5	$ 1	$ 1
Share premium account	5	—	—
Other reserves	6	(3,092)	(615)
Profit and loss account	6	87,226	89,326
		84,135	**88,712**
Creditors - amounts falling due within one year			
Accruals	7	48	48
Amounts owed to group undertakings	8	17	19
Creditors - amounts falling due beyond one year			
Amounts owed to group undertakings	8	812	1,055
		877	**1,122**
Total equity and liabilities		**$ 85,012**	**$ 89,834**

The company's loss for the years ended 31 December 2019 and 2018 determined in accordance with Irish GAAP was $136 million (loss) and $25 million (loss), respectively.

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

On behalf of the board

/s/ Stephen F. Angel
Stephen F. Angel
Chief Executive Officer and Director

/s/ Prof. Dr. Clemens Börsig
Prof. Dr. Clemens Börsig
Director

30 April 2020

Company Statement of Changes in Equity of Linde plc

For the year ended 31 December 2019

(In millions of USD)

	Called up share capital	Share premium	Other reserves	Profit and loss account	Total equity
31 December 2017	**$ —**	**$ —**	**$ —**	**$ (2)**	**$ (2)**
Loss for the year	—	—		(25)	(25)
Other comprehensive loss for the year - currency translation	—	—	—	—	—
Total comprehensive loss for the year	—	—	—	(25)	(25)
Transactions with equity owners recognised directly in equity					
Equity dividends paid	—	—	—	(454)	(454)
Reclassification of SEC registration fees	—	—	—	(9)	(9)
Issuance of shares in relation to Praxair, inc. (Note 1)	—	47,360	—	—	47,361
Issuance of shares in relation to Linde AG (Note 1)	—	—	42,455	—	42,456
Issuance of bonus preferred share (Note 1)	—	42,455	(42,455)	—	—
Capital reduction approved by the Irish High Court (Note 1)	—	(89,816)	—	89,816	—
Share-based compensation (Note 6)	—	—	14	—	14
Treasury shares (Note 6)	—	—	(629)	—	(629)
31 December 2018 [1]	**$ 1**	**$ —**	**$ (615)**	**$ 89,326**	**$ 88,712**
Loss for the year	—	—	—	(136)	(136)
Other comprehensive loss for the year - currency translation	—	—	—	—	—
Total comprehensive loss for the year	—	—	—	(136)	(136)
Transactions with equity owners recognised directly in equity					
Equity dividends paid	—	—	—	(1,891)	(1,891)
Changes as a result of share option schemes and stock purchase plans	—	—	82	(73)	9
Share-based compensation (Note 6)	—	—	95	—	95
Treasury shares (Note 6)	—	—	(2,654)	—	(2,654)
31 December 2019 [1]	**$ 1**	**$ —**	**$ (3,092)**	**$ 87,226**	**$ 84,135**

1. Balances may not sum due to rounding to the nearest million USD.

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

Notes to the Company Financial Statements

1. Organization and Basis of Presentation

The company is a public limited company registered in Ireland under the registration number 602527 and with its registered office located at Ten Earlsfort Terrace, Dublin 2, D02 T380 Ireland and principal executive offices at The Priestley Centre, 10 Priestley Road, Surrey Research Park, Guildford, Surrey GU2 7XY, United Kingdom.

The principal activity of Linde plc, the legal entity, is to act an investment holding company.

2. Statement of compliance

The company's financial statements have been prepared in accordance with applicable accounting standards issued by the Financial Reporting Council and promulgated by the Institute of Chartered Accountants in Ireland, including FRS 102, 'The Financial Reporting Standard applicable in the UK and Republic of Ireland' and the Irish Companies Act 2014.

3. Summary of significant accounting policies

The preparation of these financial statements requires the use of certain critical accounting estimates. It also requires management to exercise its judgment in the process of applying the company's accounting policies. The significant accounting policies used in the preparation of the entity financial statements are set out below. These policies have been consistently applied to all financial years presented, unless otherwise stated.

Basis of preparation

The financial statements are prepared on a going concern basis under the historical cost convention, in USD which is the functional currency of the company and rounded to the nearest million USD.

The preparation of the financial statements requires management to make judgments, estimates and assumptions that affect the amounts reported for assets and liabilities as at the statement of financial position date and the amounts reported for revenues and expenses during the year. However, the nature of estimation means that actual outcomes could differ from those estimates.

The financial statements present the entity financial position for the year ended 31 December 2019. Comparative information is for the year ended 31 December 2018.

In accordance with section 304 of the Companies Act 2014, the company is availing of the exemption from presenting its individual profit and loss account to the annual general meeting and from filing it with the Registrar of Companies.

Disclosure exemptions

FRS 102 allows a qualifying entity certain disclosure exemptions. The company is a qualifying entity and has availed of the following disclosure exemptions:

i. Exemption from the requirements of Section 7 of FRS 102 and FRS 102 paragraph 3.17(d) to present a statement of cash flows.
ii. Exemption from the financial instrument disclosure requirements of Section 11 paragraphs 11.39 to 11.48A and Section 12 paragraphs 12.26 to 12.29A of FRS 102 as the equivalent disclosures are included in the consolidated financial statements of the company in which the entity is consolidated.
iii. Exemption from certain disclosure requirements of Section 26 of FRS 102 (paragraphs 26.18(b), 26.19 to 26.21 and 26.23), in respect of share-based payments as the share-based payment concerns its own equity instruments and its separate financial statements are presented alongside the consolidated financial statements of the company; and the equivalent disclosures are included in the consolidated financial statements of the company in which the entity is consolidated.
iv. Exemption from the requirement of FRS 102 paragraph 33.7 to disclose key management personnel compensation in total.

Critical accounting judgments and estimation uncertainty

Estimates and judgments made in the process of preparing the entity financial statements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

Critical accounting estimates and assumptions

The estimation process required to prepare the company's financial statements requires assumptions to be made about future events and conditions, and as such, is inherently subjective and uncertain. The company's actual results could differ materially from those estimates.

Carrying value of investment in subsidiary

The company is a holding company and at the statement of financial position has an investment in subsidiary carried at cost of $84,985 million. The investment is reviewed for impairment indicators. Recoverability of the investment is dependent on the financial condition of the subsidiaries of the company. As of 31 December 2019, no impairments were noted.

Foreign currency translation

Items included in these financial statements are measured using the currency of the primary economic environment in which the entity operates ('the functional currency'). The financial information is presented in U.S. Dollars ("USD").

Foreign currency transactions are translated into the functional currency using the exchange rates at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at year end exchange rates are generally recognised in profit and loss.

Shares in group undertakings

Shares in group undertakings are stated in the company's statement of financial position at cost less any return of capital, unless it has been impaired in which case it is carried at net of any impairment loss recognized.

Cash at bank and in-hand

Cash and cash equivalents consist of cash at banks or other highly liquid securities with original maturities of three months or less.

Financial instruments

The company has chosen to apply the provisions of Sections 11 and 12 of FRS 102 to account for all of its financial instruments.

Financial assets

Basic financial assets, including trade and other receivables, cash and cash equivalents are initially recognized at transaction price (including transaction costs), unless the arrangement constitutes a financing transaction. Where the arrangement constitutes a financing transaction the resulting financial asset is initially measured at the present value of the future receipts discounted at a market rate of interest for a similar debt instrument.

At the end of each financial year, financial assets measured at amortized cost are assessed for objective evidence of impairment. If there is objective evidence that a financial asset measured at amortized cost is impaired an impairment loss is recognized in profit and loss. The impairment loss is the difference between the financial asset's carrying amount and the present value of the financial asset's estimated cash inflows discounted at the asset's original effective interest rate. No impairments were recognized in the periods ended 31 December 2019 or 31 December 2018.

Financial assets are derecognized when (a) the contractual rights to the cash flows from the asset expire or are settled, or (b) substantially all the risks and rewards of ownership of the financial asset are transferred to another party or (c) control of the financial asset has been transferred to another party who has the practical ability to unilaterally sell the financial asset to an unrelated third party without imposing additional restrictions.

Financial liabilities

Basic financial liabilities, including accrued liabilities, and amounts due to related parties, are initially recognized at transaction price, unless the arrangement constitutes a financing transaction. Where the arrangement constitutes a financing transaction the resulting financial liability is initially measured at the present value of the future payments discounted at a market rate of interest for a similar debt instrument. Amounts due to related parties, and financial liability from arrangements which constitute financing transactions are subsequently carried at amortized cost, using the effective interest method.

Financial liabilities are derecognized when the liability is extinguished, that is when the contractual obligation is discharged, cancelled or expires.

Share capital

Ordinary shares are classified as equity. Incremental costs directly attributable to the issue of new shares are capitalized and upon the closing of the associated equity transaction are reclassified to equity as a deduction, net of tax, from the proceeds.

Treasury shares

Treasury shares comprise the company's ordinary shares that have been purchased under the company's approved share buyback programs which allow for the the repurchase of ordinary shares from time to time in the open market subject to market and business conditions. Subsequent sales, transfers or cancellations of treasury shares held by the company are accounted for within equity.

Income taxes

The company establishes provisions based on reasonable estimates, for possible consequences of audits by the tax authorities of the respective countries in which it operates. The amount of such provisions is based on various factors, such as experience with previous tax audits and differing interpretations of tax regulations by the taxable entity and the responsible tax authority.

Management estimation is required to determine the amount of deferred tax assets that can be recognised, based upon likely timing and level of future taxable profits together with an assessment of the effect of future tax planning strategies.

The income tax expense or credit for the period is the tax payable on the current period's taxable income based on the applicable income tax rate for each jurisdiction adjusted by changes in deferred tax assets and liabilities attributable to temporary differences and to unused tax losses. Current tax is the amount of income tax payable in respect of the taxable profit for the financial year or past financial years. Current tax is measured at the amount of current tax that is expected to be paid using tax rates and laws that have been enacted or substantively enacted by the end of the financial year.

Deferred tax assets are recognized only if it is probable that future taxable amounts will be available to utilize those temporary differences and losses. No deferred tax has been recognized as at the dates of the statement of financial position, as the company has recently been incorporated and therefore does not have any history of income.

Dividends

Dividends and other distributions to company's equity shareholders are recognized as a liability in the financial statements in the financial year in which the dividends and other distributions are approved by the company's shareholders.

Other debtors

Other receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. Other receivables are stated at the lower of amortized cost or recoverable amount. If collection of the amounts is expected in one year or less they are classified as current assets.

Share-based compensation

The company and its subsidiaries operate various share based payment plans. See Note 23 to the consolidated financial statements for details on the share based payment plans.

The share based payment expense associated with the share plans is recognized as an expense by the entity which receives services in exchange for the share based compensation. In these company only financial statements, the expense related to the options vested is recorded in other reserves and recorded as a capital contribution to the appropriate entity that receives the services of the employees.

4. Shares in group undertakings

The directly held subsidiaries of the company include the following:

Name	Nature of Business	Registered office, Country of Incorporation and Principal Place of Business	Proportion of Ownership (Ordinary Shares) Interest at 31 December 2019
Zamalight Holdco LLC	Holding Company	10 Riverview Dr, Danbury, CT 06810 USA	100%
Linde Holding GmbH	Holding Company	Klosterhofstr. 1 80331 Munich Germany	100%
Linde UK Holdings No.2 Limited	Holding Company	The Priestley Centre 10 Priestley Road Guildford Surrey GU2 7XY	100%

Company's investment in subsidiaries - shares (in millions of USD)		
At 31 December 2018	$	89,832
Additions		18,738
Return of capital during the year		(23,585)
At 31 December 2019	$	84,985

During 2019, Linde plc became the direct parent of a new subsidiary. In addition, two subsidiaries of Linde plc declared dividend distributions to Linde plc in the amount of $23 billion. These dividend distributions were accounted for as a return of capital consistent with the substance of the transaction. Refer to Note 32 of the consolidated financial statements of the company for a listing of all principal subsidiaries of the company.

5. Share capital and share premium

Authorised

As set out in the Constitution of the company, the authorised share capital of the company is €1,825,000 divided into 1,750,000,000 Ordinary Shares of €0.001 each ("Ordinary shares"), 25,000 A ordinary shares of €1.00 each ("A Ordinary Shares"), 25,000 deferred shares of €1.00 each ("Deferred Shares") and 25,000,000 preferred shares of €0.001 each ("Preferred Shares").

Allotted, called up and fully paid (in millions of USD)

	31 December 2019	31 December 2018
552,012,862 Ordinary shares of €0.001 each (31 December 2019 only); 551,310,272 Ordinary shares of €0.001 each (31 December 2018 only)	1	1
	$ 1	$ 1

Share Premium

Share premium represents proceeds received from the issuance of share capital in excess of par value.

6. Other reserves and profit and loss account

Other reserves

Other reserves includes treasury stock, the impact of share-based compensation, currency translation adjustment and other undenominated capital as a result of the cancellation of some of the company's shares during the period since incorporation.

Treasury stock

As of 31 December 2019 17,632 thousand ordinary shares were purchased by the company for total consideration of $3,156 million, or an average price of $178.98 per share (€0.001 nominal value). The consideration includes stamp duty, commission and all customary fees. The ordinary shares acquired represented less than 1% of the called-up ordinary share capital immediately prior to the acquisition and at the date of the statement of financial position.

These shares were acquired in order to reduce the shares in issue or to meet obligations under Linde plc equity awards.

On 22 January 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 (and 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 1 February 2021.

As of 31 December 2019, the company had purchased ordinary shares for consideration of $2.3 billion pursuant to the 2019 program, leaving an additional $3.7 billion remaining authorized under the 2019 program.

Share-based compensation

Refer to Note 23 of the consolidated financial statements of the company for further information regarding share-based compensation plans.

Profit and loss account

Retained profit/loss represents accumulated comprehensive profit/loss for the period since incorporation plus the distributable profit created by the Irish High Court approved capital reduction , and the realized profit arising on the capital reduction approved by the Irish High Court, less dividends paid to shareholders.

On 30 November 2018, the Irish High Court approved the creation of distributable profits of the company, Linde plc through the reduction of the share premium account by $89.816 billion. This resulted in a transfer of reserves from the share premium account to the profit and loss account of the same amount.

Dividends in the current year

On 26 February 2019, the directors of Linde plc declared an interim dividend of $0.875 per share for the first quarter of 2019 (the "Q1 Dividend"). The Q1 Dividend was payable on 22 March 2019 to shareholders of record on 8 March 2019.

On 30 April 2019, the directors of Linde plc declared an interim dividend of $0.875 per share for the first quarter of 2019 (the "Q2 Dividend"). The Q2 Dividend was payable on 17 June 2019 to shareholders of record on 3 June 2019.

On 26 July 2019, the directors of Linde plc declared an interim dividend of $0.875 per share for the first quarter of 2019 (the "Q3 Dividend"). The Q3 Dividend was payable on 17 September 2019 to shareholders of record on 3 September 2019.

On 24 October 2019, the directors of Linde plc declared an interim dividend of $0.875 per share for the fourth quarter of 2019 (the "Q4 Dividend"). The Q4 Dividend was payable on 17 December 2019 to shareholders of record on 03 December 2019.

7. Accruals

Accrued liabilities in 2019 and 2018 consist primarily of share repurchases not yet settled at 31 December 2019 and 31 December 2018 due to the two day settlement period and accruals for accounting and advisory services incurred in connection with the business combination.

8. Amounts owed to group undertakings

On 24 July 2017 the company entered into a cash management agreement with Praxair International Finance UC to finance the company's working capital obligations. The total available amount under the facility was €30,000,000. The cash management agreement was Euro denominated and had a variable interest rate of one month EUR LIBOR plus a 0% spread. The cash management agreement was extended and converted to USD denominated immediately following the closing date of the business combination. The total available amount under the facility is $40,000,000 with a variable interest rate of one month LIBOR. The facility expired 29 October 2019.

On 17 December 2018 the company entered into a USD denominated loan facility agreement with Praxair Inc. for up to a maximum principal amount of $1,000,000,000 with a variable interest rate of three month LIBOR. The facility expires 31 March 2020.

On 27 December 2018, the company entered into a loan with BOC Helex over a principal amount of $456,000,000, and an interest rate of LIBOR plus a 0.25% spread. The loan was repaid in December 2019.

On 1 March 2019, the company entered into a USD denominated loan facility agreement with BOC Helex for up to a maximum principal amount of $5,000,000,000 with a variable interest rate of three month LIBOR plus a 0.875% spread. The facility expires 31 August 2021.

As of 31 December 2019 the total amount (notional and accrued interest) owed to group undertakings under the above facilities was $829 million, of which $17 million is due within one year and $812 million is due outside of one year. As of 31 December 2018 the total amount (notional and accrued interest) owed to group undertakings under the above facilities was $1,074 million, of which $19 million is due within one year and $1,055 million is due outside of one year.

9. Related party transactions

The company is exempt from disclosing related party transactions with entities that are wholly owned within the company it heads.

The disclosure of directors' remuneration is in Note 30 of the consolidated financial statements of the company.

10. Contingent liabilities and other financial commitments

See Notes 20 & 31 in the consolidated financial statements. There were no additional commitments or contingencies required to be disclosed for the company.

11. Auditors' remuneration

In the years ended 31 December 2019 and 2018, $59,000 and $59,000, respectively, was payable for the statutory audit of the company financial statements in 2019 and 2018 to its auditors, PricewaterhouseCoopers, Ireland.

12. Subsequent events

Refer to Note 33 of the consolidated financial statements of the company for subsequent events impacting the consolidated company.

13. Date of approval of the financial statements

The financial statements of Linde plc for the year ended 31 December 2019 were authorized for issue by the Board of Directors on 30 April 2020.

COMBINED NON-FINANCIAL REPORT

Linde plc ("Linde" or the "company") publishes non-financial indicators and qualitative information in this combined non-financial report in accordance with the Irish implementation of the European Directives 2014/95/EU and 2013/34/EU as set out in the European Union (Disclosure of Non-Financial and Diversity Information by certain large undertakings and groups) Regulations 2017, as amended (the “Irish Regulations”).

This combined non-financial report forms part of the 2019 Directors' Report. It includes reportable information on Board of Directors (the "Board") diversity and on company social and employee matters; environmental matters; combating bribery and corruption and respect for human rights. Reportable information includes governance, policies, due diligence in implementing these policies and the outcomes of these actions, risk identification and management, and key performance indicators ("KPIs").

2019 is the first full year of combined data collection and reporting for Linde plc. During 2019, decisions were made on the new Linde plc reporting standards and methodologies for reporting of non-financial KPIs. In addition, Linde's sustainable development strategy, related KPIs and 10-year targets have been defined. Those will be reported in Linde's sustainable development report which will be published in July 2020.

2019 data reflects a full consolidated reporting year, whereas for the periods prior to the business combination on 31 October 2018, historical financial statements of Praxair are considered to be the historical financial statements of the company. In this regard, 2018 data reflected 12 months of Praxair and 2 months of Linde AG.

Business model and strategy

The business model of Linde is described in the "Principal Activities" section of the Directors' Report.

Risk management

Main risks are reported in sections relating to environmental matters; social and employee matters; human rights; and bribery and corruption; as well as action towards their mitigation. In addition, the section “Principal Risks and Uncertainties” describes further risks related to the above matters which could have an adverse financial impact on Linde as well as connected non-financial risks.

Issues relating to non-financial matters are included in the company-wide enterprise risk management system. The company assesses potential risks on a regular basis and defines and implements mitigation actions. This process also incorporates relevant conclusions from its regular dialog with stakeholders, including customers, investors and suppliers.

Governance of non-financial matters

Linde has established five core values: safety, inclusion, accountability, integrity and community. These are the basis of what the company stands for and how it behaves. A code of ethics has been adopted that provides clear instructions on expected behavior and for reporting of concerns about potential non-conformance. This code has been approved by the Linde Board of Directors and is named the “Code of Business Integrity”. This document is made widely available to employees and third parties and is posted on the company’s public website.

It is the view of Linde’s Board that non-financial issues are a component of the company's values, culture and performance expectations, and are a basis on which employees drive financial results. The Board has confirmed the importance of setting non-financial objectives as part of variable compensation to reinforce leadership’s focus on maintaining a culture that supports both short- and long-term sustainable results. It has established non-financial goals with respect to elements such as safety, environmental responsibility, global compliance, productivity and talent management. These measures are described in Linde’s April 2020 Proxy Statement. Annual payout of executive variable compensation will depend on performance in several strategic non-financial areas, including compliance.

Linde’s Board monitors the implementation of its Code of Business Integrity which includes commitments to adhere to high standards for diversity and inclusion; safety, health, care for the environment and quality; human rights, corporate citizenship and the prevention of bribery and corruption. The Audit Committee oversees the company’s compliance with legal and regulatory requirements. The Compensation Committee oversees diversity and inclusion policies, objectives and programs to achieve those objectives. The Nomination & Governance Committee has responsibility to periodically review the company’s guidelines and policies governing its response to important broad public policy issues in the areas of corporate social responsibility and corporate citizenship. Linde leadership develops policies and processes to reinforce these non-financial elements.

For purposes of external reporting, Linde consolidates and reports non-financial issues from its sustainable development function, which is also the central point of contact for stakeholders interested in sustainability-related matters. Sustainability is managed by the global head of Sustainable Development, reporting to the Executive Vice President for Global Functions.

Board diversity

The Board acknowledges the importance of ensuring that it has the mix of perspectives, skills, experience, qualities and competencies that is appropriate to the company's strategies, and its business, market, geographic, and regulatory environments. The Board also recognizes that its effectiveness is dependent on having directors who have the time to focus on the company's issues and who contribute to an open Board culture that encourages frank discussion and the free exchange of information.

Consistent with the Board's Corporate Governance Guidelines, the Nominating and Governance Committee seeks to build and maintain a Board that contains a range of experiences, competencies, and perspectives that is well-suited for advice and counsel to, and oversight of, the company's business and operations. In doing so, the Committee takes into account a variety of factors, including the mix of experiences, competencies, and perspectives (including gender, ethnic and cultural diversity) currently represented on the Board.

The Nomination & Governance Committee assists the Board in its oversight of the selection, qualifications, compensation and performance of Linde's directors and is responsible for evaluating the mix of Board member skills required in connection with filling any vacancy on the Board. It maintains a process to establish and periodically reevaluate criteria for Board membership and selection of new directors including independence standards; and determines as necessary the portfolio of skills, experience, perspective and background required for the effective functioning of the Board considering the company's strategy and its regulatory, geographic and market environments.

On 31 December 2019, the Board of Directors of Linde was 75 percent male and 25 percent female, representing a balanced mix of skills, professional and educational backgrounds, including among others mechanical/industrial engineering, economics, law, natural sciences and business administration. See the table at the end of this section: "Indicators Relating to Board Diversity and Employee-Related Matters". Each of the directors has experience as a senior executive of a public company or comparable business organization. Each is serving or has served as a director of one or more public companies and on a variety of board committees. Each has executive management and director oversight experience in most, if not all of the following areas considered critical to the conduct of the company's business. These include: strategy development and implementation; risk assessment and management; financial accounting and reporting; internal controls; corporate finance; capital project evaluation; the evaluation, compensation, motivation and retention of senior executive talent; public policies as they affect global industrial corporations; compliance; corporate governance; productivity management; safety management; project management; sustainable development; and, in most cases, global operations. Many of the directors also bring particular insights into specific end markets and foreign markets that are important to the company. These nominees collectively provide a range of perspectives, experiences and competencies well suited to providing advice and counsel to management and to overseeing the company's business and operations.

Social and Employee-related matters

Occupational Health and Safety

There is inherent operational risk in the management of Linde's production facilities and delivery systems, including storage, vehicle transportation and pipelines. 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 or present safety risks to employees, business partners, communities and the environment.

Safety is a core value for Linde and is always a first priority. Linde continuously works to improve its safety culture and performance worldwide. Linde's worldwide Health, Safety & Environment ("HSE") policy reinforces its ambition of zero incidents causing harm to people, communities or the environment. It asserts that all incidents and injuries are preventable and that each Linde employee is responsible for their own safety and that of others around them. Those policies are widely communicated to employees and third parties and are made available on Linde's public website. Linde is also a signatory of the global chemical industry Responsible Care Global Charter®. Global operations adhere to the guidelines of the Responsible Care® program and to Linde's global safety management system, which is based on best industry standards and practice.

Linde's full Board of Directors has responsibility to review safety and environmental risk at each Board meeting. The Board has established a strategic business objective to maintain best-in-class performance in safety. Annual payout of executive variable compensation will depend on performance in several strategic non-financial areas, including safety. Safety and health issues are managed by the global head of the Safety, Health, Environment & Quality ("SHEQ") function reporting to the Executive Vice President for Global Functions.

Linde’s safety culture is embedded into all operational processes and in transport and distribution. Linde’s strong worldwide safety and health management system ensures that measures are in place to enable process, personnel, product and distribution safety. These measures are communicated to all employees and relevant business partners and contractors, who are regularly trained in the safe handling of Linde’s products and are expected to adhere to the same high standards. Safety performance is monitored continuously in all businesses and reported monthly and on a major event basis to leadership.

During 2019, Linde proceeded to align its safety and environmental standards and procedures for work processes as well as product handling, to enable employees around the world to execute their jobs safely and prevent safety incidents relating to operational processes or products.

Employees

On 31 December 2019, Linde had 79,886 employees (2018: 80,820) in diverse occupations working in more than 100 countries. Personnel expenses in 2019 totaled $5.8 billion (2018: $2.8 billion), of which $4.1 billion (2018: $1.9 billion) related to salaries (including social security contributions) and $221 million (2018: $153 million) to pensions.

The company sources talent from an ever-changing and competitive environment. The ability to source and retain qualified and committed employees is a prerequisite for the company’s success, and represents a general risk for Linde, including in the context of the business combination.

Inclusion is a Linde core value. The company embraces 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, the company can achieve its full promise and potential. Its Code of Business Integrity states that employees must not be discriminated against on the basis of their race, color, religion, gender, gender identity, national origin, age, disability, veteran status, pregnancy, sexual orientation or other protected characteristic.

The Board has established a strategic business objective to maintain world-class standards in talent management. Executive variable compensation will be assessed annually based on performance in several strategic non-financial areas, including talent management. The Compensation Committee assists the Board in its oversight of Linde’s compensation and incentive policies and programs, and management development and succession, particularly in regard to reviewing executive compensation for Linde’s executive officers. The Committee also periodically reviews the company’s diversity policies and objectives, and programs to achieve those objectives. The global head of Human Resources reports to the Chief Executive Officer ("CEO"). A global leader of Diversity and Inclusion reports to the head of Human Resources.

Linde has aligned diversity and inclusion with its business strategies and implemented diversity action planning into business process and performance management. Diversity and inclusion are line management responsibilities and Linde seeks competitive advantage through proactive management of its talent pipeline, procurement and recruiting processes. Linde provides equal employment opportunity, and recruits, hires, promotes and compensates people based solely on their merit and ability.

Employees receive a competitive salary and variable remuneration components based on merit and depending on their position. Linde has collective bargaining agreements with unions at numerous locations throughout the world. Additional benefits are offered such as occupational pensions and contributions towards health insurance or medical screening, reflecting regional conditions and local competition. Managers’ compensation is based on performance. Senior managers participate directly in the company’s growth in value through the Long Term Incentive Plan of Linde plc. Work-life balance is promoted by providing a range of opportunities that are based on the overall local conditions. Linde also invests in professional development of its employees through formal and on-the-job training.

On 31 December 2019, the total workforce was 27 percent women and 73 percent men.

Indicators Relating to Board Diversity and Employee-Related Matters	Units	2019	2018
Employees of Linde	FTE	79,886	80,820
Proportion of Females			
Board of Directors	%	25	25
Leadership	%	16	14
First management tier below Leadership	%	15	15
Total employees	%	27	28

Community engagement

Community is a core value. Linde is committed to improving the communities where employees live and work. Its charitable contributions, along with employee voluntarism, support initiatives that make important and sustainable contributions to the world. This includes educational investments and research projects related to core business areas and supporting charitable projects in communities and neighborhoods. Charitable contributions are mainly made through the Global Giving Program.

Employee community engagement in all businesses and functions is promoted from the sustainable development department. In 2019, Linde employee volunteers carried out more than 370 community engagement projects benefiting around 300,000 children and students in our communities around the world. In such efforts, Linde teams work in concert with community stakeholders to help address compelling needs.

Environmental matters

Linde's business is resource transformation through resource productivity. Principal operations relate to the production and distribution of atmospheric, process and other industrial gases. Linde's operations are energy intensive. Energy use is mostly electricity for air separation, and natural gas for energy and as a feedstock for making hydrogen. Where Linde's energy is sourced from fossil fuels, these cause direct Scope 1 Greenhouse Gas ("GHG") emissions (principally from steam methane reforming in hydrogen production and from vehicle fuel use in distribution) and indirect Scope 2 GHG emissions (principally from air separation). See "Climate Change" below. Other environmental impacts from waste generation or air emissions are minimal and do not present significant business or social risks. Most water is used for cooling processes and is returned to its source with little change in water quality.

Linde's core value of Community includes a commitment to minimize Linde's environmental impact. Linde's Code of Business Integrity emphasizes that care for the environment is a pre-requisite for business success. In addition to its focus on safety, Linde's worldwide HSE Policy includes a focus on environmental responsibility. Employees are responsible to comply with laws and to strive to ensure that no harm comes from their actions to the environment in which they operate. The policy reiterates that environmental responsibility is a core value at Linde and integral in all activities. Linde's participation in Responsible Care® provides additional policy direction on environmental stewardship.

Linde's full Board of Directors has responsibility to review safety and environmental risk at each Board meeting. The Board has established a strategic business objective to maintain best-in-class performance in environmental responsibility. Annual payout of executive variable compensation will partly depend on performance in this area. Environmental issues are managed by the head of global SHEQ, reporting to the Executive Vice President of Linde's Global Functions.

In addition to its global HSE policy, Linde has aligned its comprehensive environmental standards and work procedures. Linde's strong worldwide environmental management system ensures that measures are in place to enable pollution prevention and control, the responsible management of direct and indirect atmospheric emissions and waste, the protection of natural resources and biodiversity and the management of environmental impacts from transportation or from the use and disposal of products and services. Linde assesses water availability based on local sources and the latest Water Risk Atlas of the World Resource Institute and focuses management effort in areas of high water use that are also considered areas of water stress.

In 2019, Linde received no substantial environmental claims for environmental violations. Environmental protection costs were not significant. Linde anticipates the future annual environmental protection expenditures will be proportionally similar to 2019, 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. 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.

During 2019, new 10-year sustainable development targets were defined and approved by the Management Committee and the Board of Directors. These include several targets in the area of environment and climate change that are provided on Linde's website and will be disclosed in Linde's upcoming sustainable development report.

Risks and Opportunities from 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 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 are regulated 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 the purchase of 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 create 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.

Products that offer environmental and social advantages

Linde innovation provides a competitive advantage to its customers by continuously developing new products and applications, which allow them to improve their productivity, energy efficiency and environmental performance. Linde's products help the company's customers to develop more sustainable processes in many ways - for example by boosting energy efficiency or reducing emissions. Linde's products also contribute positively to the health and wellbeing of our customers. Homecare patients worldwide benefit from our medical gases, devices, services and therapies especially in respiratory care.

In 2019, Linde spent a total of $254 million on research and development (2018: $139 million).

Ethics and Integrity

Responsible corporate governance is a key prerequisite for Linde's business success. This means ensuring compliance with the law, rules and regulations and voluntary commitments. Integrity is a company core value. Linde strives continuously to achieve its goals ethically and with the highest integrity. Interaction between management, employees and Linde's business partners is expected to be transparent and respectful, consistent with our Code of Business Integrity.

The Linde Board believes that a strong integrity, ethics and compliance culture is a social obligation to those impacted by the company, necessary for maintaining investor trust and a necessary condition for effective corporate governance. The Board believes further that such culture must be driven by example and emphasis at the top of the organization.

Ethical values and performance are significant factors in the selection of directors, the CEO and members of the leadership team. The Board has established financial incentives for the achievement of compliance results as a key non-financial element in executive variable compensation.

Linde has appointed a Chief Compliance Officer ("CCO") within the department of global Legal and Compliance who reports to the General Counsel, who reports to the CEO. The Audit Committee reviews the company's key compliance risks and compliance program, including that program's design, implementation and effectiveness, with the CCO and the General Counsel.

Linde's Code of Business Integrity affirms its commitment to fairness, transparency and trust as the basis for growth and prosperity for employees, customers, suppliers, markets and our communities. The Board is responsible for monitoring the implementation of the Code of Business Integrity. Its responsibilities include the periodic review of the policy and overseeing management's preventative, reporting, investigation and resolution programs for implementing this policy.

The Code is posted on the company website and is communicated to employees. It provides clear instructions on expected behavior to conform with the Code and for reporting of concerns about potential non-conformance. Employees also receive training and certification to the Code. Subcontractors and other stakeholders are expected to follow this standard.

Linde follows the law and is governed by all local laws wherever it is located. In the event of a conflict between local law and the Code of Business Integrity or company policy, Linde will follow the stricter standard within the framework of the applicable laws.

*Combating corruption and bribe*ry

Linde does not tolerate the use of kickbacks or bribery in any form. Third parties acting on behalf of Linde are prohibited from giving or accepting bribes, directly or indirectly. Linde's Code of Business Integrity prohibits activities that are or may be seen to be corrupt and prohibits any form of bribery. A global compliance program designed to prevent possible policy breaches focuses on information, training sessions and management advice. The global compliance organization helps to identify potential compliance-related risks and to develop measures to mitigate them. Concerns are reported to the Leadership and the Board's Audit Committee.

Linde's commitment to anti-corruption is communicated to employees using different internal channels, including mandatory compliance training using face-to-face and e-learning tools. Employees use the Integrity Hotline to report potential non-compliance issues. Third parties can also use the Integrity Hotline to report potential concerns.

Human rights

Human rights are basic rights inherent to all human beings, regardless of differences such as in race, color, religion, gender, gender identity, national origin, sexual orientation. These include the right to life and freedom, the right to work and education and the right to well-being, among others. Linde has an obligation to comply with the law and be responsible to protect its employees, business operations, the environment, the communities in which it works, its business relationships and its company reputation.

Linde’s Code of Business Integrity and corporate HSE Policy, as well as other corporate and country-level policies, make clear the company’s commitment and management processes to address relevant areas of potential Human Rights concern. These include:

- Safety and health protection; a safe work environment
- The prevention of discrimination and harassment of employees
- Equal opportunity and equal treatment
- Merit-based decisions on recruitment, hiring, promotion and compensation
- Compliance with regulations including on working hours
- The right to privacy
- Freedom of association and freedom of peaceful assembly, including freedom to choose whether to engage in collective bargaining and employees’ participation in works agreements in various countries

Specifically, the Linde Code of Business Integrity makes clear Linde’s commitment to human rights. Linde recognizes every person’s innate humanity and treats everyone with dignity and respect. In supporting the protection and promotion of human rights worldwide, Linde abides by the principles of the International Bill of Human Rights enacted by the United Nations, and does not condone nor engage in discrimination, harassment, violations of privacy, slavery or servitude, restrictions on free assembly or unfair employment practices. We prohibit any form of child labor or forced labor, including human trafficking. Linde commits to adhering to these human rights principles and expect similar standards to be observed by all with whom we conduct business. In addition, Linde issues locally-applicable Human Rights Policies.

Suppliers and other third parties play a critical role in Linde’s ability to operate and provide products and services to its customers. Their actions and practices also reflect on Linde. Therefore, the company chooses suppliers carefully based on merit and a due diligence process. Linde expects suppliers to comply with legal requirements and to act in a manner that is consistent with Linde’s values and the principles outlined in its Code of Business Integrity.