

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

FORM 10-Q

☒ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended 31 December 2019

OR

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

For the transition period from _____ to _____

Commission file number 001-04534



AIR PRODUCTS AND CHEMICALS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware

23-1274455

(State or Other Jurisdiction of Incorporation or Organization)

(I.R.S. Employer Identification No.)

7201 Hamilton Boulevard
Allentown, Pennsylvania 18195-1501
(Address of Principal Executive Offices and Zip Code)

610-481-4911
(Registrant's Telephone Number, Including Area Code)

Not Applicable
(Former Name, Former Address and Former Fiscal Year, if Changed Since Last Report)

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

<u>Title of each class</u>	<u>Trading Symbol(s)</u>	<u>Name of each exchange on which registered</u>
Common Stock, par value \$1.00 per share	APD	New York Stock Exchange
2.000% Euro Notes due 2020	APD20	New York Stock Exchange
0.375% Euro Notes due 2021	APD21B	New York Stock Exchange
1.000% Euro Notes due 2025	APD25	New York Stock Exchange

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

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

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

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

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

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

The number of shares of common stock, \$1 par value per share, outstanding at 31 December 2019 was 220,678,482.

**AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
INDEX**

[PART I. FINANCIAL INFORMATION](#)**[Item 1. Financial Statements \(Unaudited\)](#)**

Consolidated Income Statements – Three Months Ended 31 December 2019 and 2018	4
Consolidated Comprehensive Income Statements – Three Months Ended 31 December 2019 and 2018	5
Consolidated Balance Sheets – 31 December 2019 and 30 September 2019	6
Consolidated Statements of Cash Flows – Three Months Ended 31 December 2019 and 2018	7
Consolidated Statements of Equity – Three Months Ended 31 December 2019 and 2018	8
Notes to Consolidated Financial Statements	9

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations	30
---------------------------------------------------------------------------------------------------------------	----

Item 3. Quantitative and Qualitative Disclosures About Market Risk	46
------------------------------------------------------------------------------------	----

Item 4. Controls and Procedures	46
-------------------------------------------------	----

[PART II. OTHER INFORMATION](#)

Item 5. Other Information	47
-------------------------------------------	----

Item 6. Exhibits	47
----------------------------------	----

Signature	48
---------------------------	----

FORWARD-LOOKING STATEMENTS

This quarterly report contains “forward-looking statements” within the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include all statements that do not relate solely to historical or current facts and can generally be identified by words such as “anticipate,” “believe,” “could,” “estimate,” “expect,” “forecast,” “goal,” “intend,” “may,” “outlook,” “plan,” “positioned,” “possible,” “potential,” “project,” “should,” “target,” “will,” “would,” and similar expressions or variations thereof, or the negative thereof, but these terms are not the exclusive means of identifying such statements. Forward-looking statements are based on management’s expectations and assumptions as of the date of this report and are not guarantees of future performance. You are cautioned not to place undue reliance on our forward-looking statements.

Forward-looking statements may relate to a number of matters, including expectations regarding revenue, margins, expenses, earnings, tax provisions, cash flows, pension obligations, share repurchases or other statements regarding economic conditions or our business outlook; statements regarding plans, projects, strategies and objectives for our future operations, including our ability to win new projects and execute the projects in our backlog; and statements regarding our expectations with respect to pending legal claims or disputes. While forward-looking statements are made in good faith and based on assumptions, expectations and projections that management believes are reasonable based on currently available information, actual performance and financial results may differ materially from projections and estimates expressed in the forward-looking statements because of many factors, including, without limitation:

- changes in global or regional economic conditions, supply and demand dynamics in the market segments we serve, or in the financial markets;
- risks associated with having extensive international operations, including political risks, risks associated with unanticipated government actions and risks of investing in developing markets;
- project delays, contract terminations, customer cancellations, or postponement of projects and sales;
- our ability to develop and operate large scale and technically complex projects, including gasification projects;
- the future financial and operating performance of major customers and joint venture partners;

[Table of Contents](#)

- our ability to develop, implement, and operate new technologies, or to execute the projects in our backlog;
- tariffs, economic sanctions and regulatory activities in jurisdictions in which we and our affiliates and joint ventures operate;
- the impact of environmental, tax or other legislation, as well as regulations affecting our business and related compliance requirements, including legislation or regulations related to global climate change;
- changes in tax rates and other changes in tax law;
- the timing, impact, and other uncertainties relating to acquisitions and divestitures, including our ability to integrate acquisitions and separate divested businesses, respectively;
- risks relating to cybersecurity incidents, including risks from the interruption, failure or compromise of our information systems;
- catastrophic events, such as natural disasters, acts of war, or terrorism;
- the impact of price fluctuations in oil and natural gas and disruptions in markets and the economy due to oil and natural gas price volatility;
- costs and outcomes of legal or regulatory proceedings and investigations;
- asset impairments due to economic conditions or specific events;
- significant fluctuations in interest rates and foreign currency exchange rates from those currently anticipated;
- damage to facilities, pipelines or delivery systems, including those we own or operate for third parties;
- availability and cost of raw materials; and
- the success of productivity and operational improvement programs.

In addition to the foregoing factors, forward-looking statements contained herein are qualified with respect to the risks disclosed elsewhere in this document, including in Item 2, Management's Discussion and Analysis of Financial Condition and Results of Operations and Item 3, Quantitative and Qualitative Disclosures About Market Risk, as well as with respect to the risks described in Item 1A, Risk Factors, to our Annual Report on Form 10-K for the year ended 30 September 2019. Any of these factors, as well as those not currently anticipated by management, could cause our results of operations, financial condition or liquidity to differ materially from what is expressed or implied by any forward-looking statement. Except as required by law, we disclaim any obligation or undertaking to update or revise any forward-looking statements contained herein to reflect any change in assumptions, beliefs, or expectations or any change in events, conditions, or circumstances upon which any such forward-looking statements are based.

PART I. FINANCIAL INFORMATION
Item 1. Consolidated Financial Statements

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED INCOME STATEMENTS
(Unaudited)

	Three Months Ended 31 December	
(Millions of dollars, except for share and per share data)	2019	2018
Sales	\$2,254.7	\$2,224.0
Cost of sales	1,486.6	1,544.0
Facility closure	—	29.0
Selling and administrative	201.7	189.6
Research and development	17.7	15.0
Other income (expense), net	12.3	8.6
Operating Income	561.0	455.0
Equity affiliates' income	58.2	52.9
Interest expense	18.7	37.3
Other non-operating income (expense), net	9.1	18.5
Income Before Taxes	609.6	489.1
Income tax provision	120.7	132.1
Net Income	488.9	357.0
Net income attributable to noncontrolling interests	13.3	9.5
Net Income Attributable to Air Products	\$475.6	\$347.5
Basic Earnings Per Common Share Attributable to Air Products	\$2.15	\$1.58
Diluted Earnings Per Common Share Attributable to Air Products	\$2.14	\$1.57
Weighted Average Common Shares – Basic (in millions)	220.9	219.9
Weighted Average Common Shares – Diluted (in millions)	222.2	221.0

The accompanying notes are an integral part of these statements.

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED COMPREHENSIVE INCOME STATEMENTS
(Unaudited)

	Three Months Ended 31 December	
(Millions of dollars)	2019	2018
Net Income	\$488.9	\$357.0
Other Comprehensive Income (Loss), net of tax:		
Translation adjustments, net of tax of (\$10.8) and \$4.9	264.0	(68.1)
Net gain (loss) on derivatives, net of tax of \$2.6 and (\$0.7)	22.1	(10.3)
Pension and postretirement benefits, net of tax of \$— and (\$0.8)	—	(3.9)
Reclassification adjustments:		
Derivatives, net of tax of (\$0.8) and (\$0.8)	(3.6)	(3.1)
Pension and postretirement benefits, net of tax of \$6.5 and \$5.0	19.7	15.2
Total Other Comprehensive Income (Loss)	302.2	(70.2)
Comprehensive Income	791.1	286.8
Net Income Attributable to Noncontrolling Interests	13.3	9.5
Other Comprehensive Income (Loss) Attributable to Noncontrolling Interests	15.2	(0.9)
Comprehensive Income Attributable to Air Products	\$762.6	\$278.2

The accompanying notes are an integral part of these statements.

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED BALANCE SHEETS
(Unaudited)

	31 December 2019	30 September 2019
(Millions of dollars, except for share and per share data)		
Assets		
Current Assets		
Cash and cash items	\$2,406.1	\$2,248.7
Short-term investments	—	166.0
Trade receivables, net	1,288.6	1,260.2
Inventories	400.6	388.3
Prepaid expenses	98.3	77.4
Other receivables and current assets	526.1	477.7
Total Current Assets	4,719.7	4,618.3
Investment in net assets of and advances to equity affiliates	1,339.9	1,276.2
Plant and equipment, at cost	23,099.8	22,333.7
Less: accumulated depreciation	12,407.6	11,996.1
Plant and equipment, net	10,692.2	10,337.6
Goodwill, net	816.1	797.1
Intangible assets, net	415.9	419.5
Noncurrent lease receivables	883.2	890.0
Other noncurrent assets	784.6	604.1
Total Noncurrent Assets	14,931.9	14,324.5
Total Assets	\$19,651.6	\$18,942.8
Liabilities and Equity		
Current Liabilities		
Payables and accrued liabilities	\$1,630.0	\$1,635.7
Accrued income taxes	113.4	86.6
Short-term borrowings	36.5	58.2
Current portion of long-term debt	39.1	40.4
Total Current Liabilities	1,819.0	1,820.9
Long-term debt	2,937.0	2,907.3
Long-term debt – related party	328.6	320.1
Other noncurrent liabilities	1,826.7	1,712.4
Deferred income taxes	810.5	793.8
Total Noncurrent Liabilities	5,902.8	5,733.6
Total Liabilities	7,721.8	7,554.5
Commitments and Contingencies - See Note 11		
Air Products Shareholders' Equity		
Common stock (par value \$1 per share; issued 2020 and 2019 - 249,455,584 shares)	249.4	249.4
Capital in excess of par value	1,061.7	1,070.9
Retained earnings	14,356.9	14,138.4
Accumulated other comprehensive loss	(2,088.6)	(2,375.6)
Treasury stock, at cost (2020 - 28,777,102 shares; 2019 - 29,040,322 shares)	(2,023.4)	(2,029.5)
Total Air Products Shareholders' Equity	11,556.0	11,053.6
Noncontrolling Interests	373.8	334.7
Total Equity	11,929.8	11,388.3
Total Liabilities and Equity	\$19,651.6	\$18,942.8

The accompanying notes are an integral part of these statements.

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Three Months Ended 31 December	
(Millions of dollars)	2019	2018
Operating Activities		
Net income	\$488.9	\$357.0
Less: Net income attributable to noncontrolling interests	13.3	9.5
Net income attributable to Air Products	475.6	347.5
Adjustments to reconcile income to cash provided by operating activities:		
Depreciation and amortization	289.2	258.0
Deferred income taxes	24.4	(1.0)
Tax reform repatriation	—	46.2
Facility closure	—	29.0
Undistributed (earnings) losses of unconsolidated affiliates	(26.2)	1.0
Gain on sale of assets and investments	(1.1)	(0.7)
Share-based compensation	13.9	9.3
Noncurrent lease receivables	23.5	24.8
Other adjustments	30.8	12.7
Working capital changes that provided (used) cash, excluding effects of acquisitions:		
Trade receivables	0.9	(73.6)
Inventories	(8.4)	(10.4)
Other receivables	1.4	10.3
Payables and accrued liabilities	(115.4)	(55.4)
Other working capital	(41.6)	57.5
Cash Provided by Operating Activities	667.0	655.2
Investing Activities		
Additions to plant and equipment	(447.7)	(403.4)
Investment in and advances to unconsolidated affiliates	(7.1)	—
Proceeds from sale of assets and investments	15.2	1.1
Purchases of investments	—	(5.3)
Proceeds from investments	177.0	178.0
Other investing activities	1.9	3.1
Cash Used for Investing Activities	(260.7)	(226.5)
Financing Activities		
Payments on long-term debt	(2.8)	(2.6)
Net decrease in commercial paper and short-term borrowings	(10.4)	(38.0)
Dividends paid to shareholders	(255.7)	(241.5)
Proceeds from stock option exercises	5.5	4.7
Other financing activities	(6.9)	(12.4)
Cash Used for Financing Activities	(270.3)	(289.8)
Effect of Exchange Rate Changes on Cash	21.4	(6.9)
Increase in cash and cash items	157.4	132.0
Cash and Cash items – Beginning of Year	2,248.7	2,791.3
Cash and Cash Items – End of Period	\$2,406.1	\$2,923.3

The accompanying notes are an integral part of these statements.

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED STATEMENTS OF EQUITY
(Unaudited)

Three Months Ended

31 December 2019

(Millions of dollars, except for per share data)	Common Stock	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Air Products Shareholders' Equity	Non- controlling Interests	Total Equity
Balance at 30 September 2019	\$249.4	\$1,070.9	\$14,138.4	(\$2,375.6)	(\$2,029.5)	\$11,053.6	\$334.7	\$11,388.3
Net income	—	—	475.6	—	—	475.6	13.3	488.9
Other comprehensive income (loss)	—	—	—	287.0	—	287.0	15.2	302.2
Dividends on common stock (per share \$1.16)	—	—	(256.0)	—	—	(256.0)	—	(256.0)
Dividends to noncontrolling interests	—	—	—	—	—	—	(1.3)	(1.3)
Share-based compensation	—	13.9	—	—	—	13.9	—	13.9
Issuance of treasury shares for stock option and award plans	—	(18.5)	—	—	6.1	(12.4)	—	(12.4)
Investments by noncontrolling interests	—	—	—	—	—	—	11.9	11.9
Other equity transactions	—	(4.6)	(1.1)	—	—	(5.7)	—	(5.7)
Balance at 31 December 2019	\$249.4	\$1,061.7	\$14,356.9	(\$2,088.6)	(\$2,023.4)	\$11,556.0	\$373.8	\$11,929.8

Three Months Ended

31 December 2018

(Millions of dollars, except for per share data)	Common Stock	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Air Products Shareholders' Equity	Non- controlling Interests	Total Equity
Balance at 30 September 2018	\$249.4	\$1,029.3	\$13,409.9	(\$1,741.9)	(\$2,089.2)	\$10,857.5	\$318.8	\$11,176.3
Net income	—	—	347.5	—	—	347.5	9.5	357.0
Other comprehensive income (loss)	—	—	—	(69.3)	—	(69.3)	(0.9)	(70.2)
Dividends on common stock (per share \$1.10)	—	—	(241.6)	—	—	(241.6)	—	(241.6)
Dividends to noncontrolling interests	—	—	—	—	—	—	(6.9)	(6.9)
Share-based compensation	—	8.9	—	—	—	8.9	—	8.9
Issuance of treasury shares for stock option and award plans	—	(7.6)	—	—	5.6	(2.0)	—	(2.0)
Cumulative change in accounting principle	—	—	(17.1)	—	—	(17.1)	—	(17.1)
Other equity transactions	—	(0.2)	(0.8)	—	—	(1.0)	—	(1.0)
Balance at 31 December 2018	\$249.4	\$1,030.4	\$13,497.9	(\$1,811.2)	(\$2,083.6)	\$10,882.9	\$320.5	\$11,203.4

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

(Millions of dollars unless otherwise indicated, except for share and per share data)

1. Basis of Presentation and Major Accounting Policies	9
2. New Accounting Guidance	10
3. Revenue Recognition	12
4. Cost Reduction Actions	13
5. Inventories	14
6. Goodwill	14
7. Leases	14
8. Financial Instruments	17
9. Fair Value Measurements	22
10. Retirement Benefits	24
11. Commitments and Contingencies	24
12. Share-Based Compensation	26
13. Accumulated Other Comprehensive Loss	27
14. Earnings per Share	28
15. Income Taxes	28
16. Supplemental Information	29
17. Business Segment Information	29

1. BASIS OF PRESENTATION AND MAJOR ACCOUNTING POLICIES

The interim consolidated financial statements of Air Products and Chemicals, Inc. and its subsidiaries ("we," "our," "us," the "Company," "Air Products," or "registrant") included herein have been prepared by us, without audit, pursuant to the rules and regulations of the Securities and Exchange Commission (the "SEC"). Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. generally accepted accounting principles ("GAAP") have been condensed or omitted pursuant to such rules and regulations. In our opinion, the accompanying statements reflect adjustments necessary to present fairly the financial position, results of operations, and cash flows for those periods indicated and contain adequate disclosures to make the information presented not misleading. Adjustments included herein are of a normal, recurring nature unless otherwise disclosed in the notes.

To fully understand the basis of presentation, the consolidated financial statements and related notes included herein should be read in conjunction with the consolidated financial statements and notes thereto included in our Annual Report on Form 10-K for the year ended 30 September 2019 (the "2019 Form 10-K"). Results of operations for interim periods are not necessarily indicative of the results of operations for a full year.

Refer to our 2019 Form 10-K for a description of major accounting policies. In fiscal year 2020, these policies were impacted by the implementation of certain new accounting guidance, including the adoption of Accounting Standards Codification ("ASC") Topic 842, *Leases*, and all related amendments (the "new lease standard"). We adopted the new lease standard as of 1 October 2019 under the modified retrospective approach. Comparative prior year information has not been restated and continues to be reported under the accounting standards in effect for those periods. Our updated lease policy is discussed below.

Other than the adoption of new accounting guidance as discussed in Note 2, *New Accounting Guidance*, and presentation changes discussed below, there were no notable changes to our accounting policies during the first three months of fiscal year 2020.

Leases

As lessee, we recognize a right-of-use ("ROU") asset and lease liability on the balance sheet for all leases with a term in excess of 12 months. We determine if an arrangement contains a lease at inception. The arrangement contains a lease when there is an identifiable asset, we obtain substantially all of the economic benefits from that asset, and we direct how and for what purpose the asset is used during the term of the arrangement. If the initial term of an arrangement is 12 months or less, we have made an accounting election to not assess if these arrangements contain a lease for inclusion on our balance sheet.

ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. ROU assets and lease liabilities are recognized at the commencement date based on the present value of lease payments over the lease term. Since our leases generally do not provide an implicit discount rate, we use our incremental borrowing rates based on the information available at the commencement date in determining the present value of lease payments. To determine the incremental borrowing rate, we consider our unsecured borrowings and published market rates, and then adjust those rates to assume full collateralization and to factor in the individual lease term, geography, and payment structure.

Our lease term includes periods covered by options to extend or terminate the lease when it is reasonably certain that we will exercise an option to extend or not exercise an option to terminate. Lease payments consider our practical expedient to combine amounts for lease and related nonlease components for all classes of underlying assets in which we are lessee. Fixed payments and those associated with escalation clauses based on an index are included in the ROU asset and lease liability at commencement. Variable lease payments are excluded from the ROU assets and lease liabilities and are recognized in the period in which the obligation for those payments is incurred. Our variable lease payments primarily include the impact from escalation clauses that are not fixed. Prepaid lease payments are included in the recognition of ROU assets. Our lease agreements do not contain any material lease incentives, residual value guarantees or restrictions or covenants.

Foreign Currency

As further discussed in Note 2, *New Accounting Guidance*, we adopted new accounting guidance on hedging activities in fiscal year 2020 that changed the income statement presentation of excluded components (foreign currency forward points and currency swap basis differences) of our cash flow hedges of intercompany loans. This activity is now amortized on a straight-line basis within "Other non-operating income (expense), net" instead of being recognized in "Interest expense." In addition, gains and losses from the foreign currency remeasurement of intercompany and third-party financing transactions as well as income tax assets and liabilities and the impact of related hedges are now also reflected within "Other non-operating income (expense), net." All other gains and losses from foreign currency transactions continue to be reflected within "Other income (expense), net" on our consolidated income statements. Comparative prior year information has not been restated.

2. NEW ACCOUNTING GUIDANCE

Accounting Guidance Implemented in Fiscal Year 2020

Leases

In February 2016, the FASB issued lease guidance (the "new lease guidance") that requires lessees to recognize a right-of-use asset and lease liability on the balance sheet for all leases, including operating leases, with a term in excess of 12 months. The guidance also expands the quantitative and qualitative disclosure requirements.

The Company is the lessee under various agreements for real estate, vehicles, aircraft, and other equipment that are accounted for as operating leases.

We adopted this guidance in fiscal year 2020 using a modified retrospective approach with the election to apply the guidance as of 1 October 2019, "the adoption date," instead of the earliest comparative period presented in the consolidated financial statements.

We elected the following practical expedients provided by this guidance:

- The package of practical expedients, which allows us to carry forward the lease population and classification existing as of the adoption date, among other things;
- The land easements practical expedient, which allows us to carry forward our accounting treatment for land easements on agreements existing before the adoption date;
- The hindsight practical expedient, which is used to determine the reasonably certain lease term for existing leases as of the adoption date;
- The component combination practical expedient, which allows us to account for lease and non-lease components associated with that lease as a single component, if certain criteria are met; and
- The short-term leases practical expedient, which allows us to not record the related lease liabilities and right-of-use assets for operating leases in which we are the lessee with a term of 12 months or less.

Adoption of the standard resulted in recognition of lease liabilities and right-of-use assets on our consolidated balance sheets of \$375.3 and \$332.3, respectively. The standard did not materially affect our retained earnings, results of operations or liquidity. Refer to Note 7, *Leases*, for additional information.

Hedging Activities

In August 2017, the FASB issued guidance on hedging activities to expand the related presentation and disclosure requirements, change how companies assess effectiveness, and eliminate the separate measurement and reporting of hedge ineffectiveness. The guidance also enables more hedging strategies to become eligible for hedge accounting.

We adopted the new guidance on 1 October 2019 on a modified retrospective basis. The primary impact of adoption was the presentation in the consolidated income statement of foreign currency forward points and currency swap basis differences ("excluded components"), since these are excluded from the assessment of hedge effectiveness for our hedges of intercompany loans. Historically, the impacts from changes in value of these components were recorded in "Interest expense." Beginning in fiscal year 2020, the excluded components were recognized in "Other non-operating income (expense), net" consistent with the remeasurement of the intercompany loans. In the first quarter of 2020, we recognized \$8.9 in "Other non-operating income (expense), net." In the first quarter of 2019, \$8.3 was recognized in "Interest expense."

In accordance with the transition provisions of the guidance, the separate measurement of ineffectiveness for our cash flow hedging instruments existing as of the date of adoption should be eliminated through a cumulative-effect adjustment within equity. Ineffectiveness recognized for our cash flow hedging instruments existing as of the date of adoption was not material to the consolidated financial statements.

New Accounting Guidance to be Implemented

Credit Losses on Financial Instruments

In June 2016, the FASB issued guidance on the measurement of credit losses, which requires measurement and recognition of expected credit losses for financial assets, including trade receivables and capital lease receivables, held at the reporting date based on historical experience, current conditions, and reasonable and supportable forecasts. The method to determine a loss is different from the existing guidance, which requires a credit loss to be recognized when it is probable. The guidance is effective beginning in fiscal year 2021, with early adoption permitted beginning in fiscal year 2020. We are currently evaluating the impact this guidance will have on our consolidated financial statements.

Fair Value Measurement Disclosures

In August 2018, the FASB issued guidance which modifies the disclosure requirements for fair value measurements. The guidance is effective in fiscal year 2021, with early adoption permitted. Certain amendments must be applied prospectively and other amendments retrospectively. We are currently evaluating the impact this guidance will have on the disclosures in the notes to our consolidated financial statements.

Retirement Benefit Disclosures

In August 2018, the FASB issued guidance which modifies the disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. The guidance is effective in fiscal year 2021, with early adoption permitted, and must be applied on a retrospective basis. We are currently evaluating the impact this guidance will have on the disclosures in the notes to our consolidated financial statements.

Cloud Computing Implementation Costs

In August 2018, the FASB issued guidance which aligns the capitalization requirements for implementation costs incurred in a hosting arrangement that is a service contract with the existing capitalization requirements for implementation costs incurred to develop or obtain internal-use software. The guidance is effective in fiscal year 2021, with early adoption permitted, and may be applied either prospectively or retrospectively. We are currently evaluating the impact this guidance will have on our consolidated financial statements.

Related Party Guidance for Variable Interest Entities

In October 2018, the FASB issued an update which amends the guidance for determining whether a decision-making fee is a variable interest. The amendments require consideration of indirect interests held through related parties under common control on a proportional basis rather than as the equivalent of a direct interest in its entirety as currently required. The guidance is effective in fiscal year 2021, with early adoption permitted. The amendments must be applied retrospectively with a cumulative-effect adjustment to retained earnings at the beginning of the earliest period presented. We are currently evaluating the impact this guidance will have on our consolidated financial statements.

Simplifying the Accounting for Income Taxes

In December 2019, the FASB issued an update to simplify the accounting for income taxes and improve consistent application by clarifying or amending existing guidance. This guidance is effective in fiscal year 2022, with early adoption permitted. We are currently evaluating the impact this guidance will have on our consolidated financial statements. Depending on the provision, application can be made on a prospective, retrospective, or on a modified retrospective basis.

3. REVENUE RECOGNITION

The majority of the Company's revenue is generated from its sale of gas customers within its Industrial Gases regional segments. We distribute gases through either our on-site or merchant supply mode depending on various factors, including the customer's volume requirements and location. The Industrial Gases – Global and the Corporate and other segments serve our sale of equipment customers.

Disaggregation of Revenue

The tables below present our consolidated sales disaggregated by supply mode for each of our reporting segments for the three months ended 31 December 2019 and 2018. We believe this presentation best depicts the nature, timing, type of customer, and contract terms for our sales.

	Industrial Gases— Americas	Industrial Gases— EMEA	Industrial Gases— Asia	Industrial Gases— Global	Corporate and other	Total	%
Three Months Ended 31 December 2019							
On-site	\$534.5	\$171.4	\$418.3	\$—	\$—	\$1,124.2	50%
Merchant	401.7	327.3	274.5	—	—	1,003.5	44%
Sale of Equipment	—	—	—	92.6	34.4	127.0	6%
Total	\$936.2	\$498.7	\$692.8	\$92.6	\$34.4	\$2,254.7	100%

	Industrial Gases— Americas	Industrial Gases— EMEA	Industrial Gases— Asia	Industrial Gases— Global	Corporate and other	Total	%
Three Months Ended 31 December 2018							
On-site	\$596.0	\$222.2	\$381.0	\$—	\$—	\$1,199.2	54%
Merchant	393.2	302.0	245.8	—	—	941.0	42%
Sale of Equipment	—	—	—	68.2	15.6	83.8	4%
Total	\$989.2	\$524.2	\$626.8	\$68.2	\$15.6	\$2,224.0	100%

Remaining Performance Obligations

As of 31 December 2019, the transaction price allocated to remaining performance obligations is estimated to be approximately \$19 billion. This amount includes fixed-charge contract provisions associated with our on-site and sale of equipment supply modes. We estimate that approximately half of this revenue will be recognized over approximately the next five years and the balance thereafter.

Expected revenue associated with new on-site plants that are not yet onstream is excluded from this amount. In addition, this amount excludes consideration associated with contracts having an expected duration of less than one year and variable consideration for which we recognize revenue at the amount to which we have the right to invoice, including pass-through costs related to energy and natural gas.

In the future, actual amounts will differ due to events outside of our control, including but not limited to inflationary price escalations, currency exchange rates, and terminated or renewed contracts.

Contract Balances

The table below details balances arising from contracts with customers:

	Balance Sheet Location	31 December 2019	30 September 2019
Assets			
Contract assets – current	Other receivables and current assets	\$94.4	\$64.3
Contract fulfillment costs – current	Other receivables and current assets	86.1	64.5
Liabilities			
Contract liabilities – current	Payables and accrued liabilities	284.9	247.4
Contract liabilities – noncurrent	Other noncurrent liabilities	53.3	49.2

Changes to our contract balances primarily relate to our sale of equipment contracts. During the three months ended 31 December 2019, we recognized approximately \$60 in revenue associated with sale of equipment contracts that was included within our contract liabilities as of 30 September 2019.

4. COST REDUCTION ACTIONS

In fiscal year 2019, we recognized an expense of \$25.5 for severance and other benefits associated with the elimination or planned elimination of approximately 300 positions. These actions were taken to drive cost synergies primarily within the Industrial Gases – EMEA and the Industrial Gases – Americas segments. The charge was not recorded in segment results.

Liabilities associated with these actions are reflected on our consolidated balance sheets within "Payables and accrued liabilities." The table below summarizes the carrying amount of the accrual as of 31 December 2019:

2019 Charge	\$25.5
Cash expenditures	(6.9)
Amount reflected in pension liability	(0.3)
Currency translation adjustment	(0.5)
30 September 2019	\$17.8
Cash expenditures	(5.0)
Currency translation adjustment	0.3
31 December 2019	\$13.1

5. INVENTORIES

The components of inventories are as follows:

	31 December 2019	30 September 2019
Finished goods	\$127.0	\$128.8
Work in process	29.8	27.5
Raw materials, supplies and other	243.8	232.0
Inventories	\$400.6	\$388.3

6. GOODWILL

Changes to the carrying amount of consolidated goodwill by segment for the three months ended 31 December 2019 are as follows:

	Industrial Gases— Americas	Industrial Gases— EMEA	Industrial Gases— Asia	Industrial Gases— Global	Corporate and other	Total
Goodwill, net at 30 September 2019	\$156.3	\$432.3	\$178.5	\$19.6	\$10.4	\$797.1
Currency translation and other	(1.7)	19.2	1.3	0.2	—	19.0
Goodwill, net at 31 December 2019	\$154.6	\$451.5	\$179.8	\$19.8	\$10.4	\$816.1

	31 December 2019	30 September 2019
Goodwill, gross	\$1,169.2	\$1,162.2
Accumulated impairment losses ^(A)	(353.1)	(365.1)
Goodwill, net	\$816.1	\$797.1

^(A) Accumulated impairment losses include the impacts of currency translation. These losses are attributable to our Latin America reporting unit ("LASA") within the Industrial Gases – Americas segment.

We review goodwill for impairment annually in the fourth quarter of the fiscal year and whenever events or changes in circumstances indicate that the carrying value of goodwill might not be recoverable.

7. LEASES

As discussed in Note 2, *New Accounting Guidance*, we adopted the new lease guidance in fiscal year 2020 using a modified retrospective approach with the election to apply the guidance as of 1 October 2019. For adoption, we elected the package of practical expedients permitted under the transition guidance to carry forward the historical lease populations as well as their classifications existing as of the adoption date (i.e. contracts having a lease commencement date prior to 1 October 2019). Refer to Note 1, *Basis of Presentation and Major Accounting Policies*, and Note 2, *New Accounting Guidance*, for additional information on our adoption and related policies under the new lease standard.

Lessee Accounting

The Company is the lessee under various agreements for real estate, vehicles, aircraft, and other equipment that are accounted for as operating leases. Our finance leases principally relate to the right to use machinery and equipment and are not material.

The operating lease expense for the three months ended 31 December 2019, which exclude short-term and variable lease expenses, as those expenses are immaterial, was \$19.4.

[Table of Contents](#)

Amounts associated with operating leases, including their presentation on our consolidated balance sheets, as of our most recent balance sheet date and our adoption date are as follows:

	31 December 2019	1 October 2019
Operating lease ROU asset		
Other noncurrent assets	\$318.8	\$332.3
Operating lease liabilities		
Payables and accrued liabilities	67.8	68.6
Other noncurrent liabilities	296.8	306.7
Total Operating Lease Liabilities	\$364.6	\$375.3

The difference between the ROU assets and lease liabilities recorded upon adoption primarily relate to the land lease associated with our former Energy-from-Waste business in which a ROU asset was not recognized.

	31 December 2019
Weighted-average remaining lease term (in years) ^(A)	12.9
Weighted-average discount rate ^(B)	2.1%

^(A) Calculated on the basis of the remaining lease term and the lease liability balance for each lease as of the reporting date.

^(B) Calculated on the basis of the discount rate used to calculate the lease liability for each lease as of the reporting date and the remaining balance of the lease payments for each lease as of the reporting date.

At 31 December 2019, the maturity analysis of lease liabilities, showing the undiscounted cash flows, is as follows:

	Operating Leases
2020 (excluding the three months ended 31 December 2019)	\$57.5
2021	63.4
2022	45.0
2023	36.1
2024	28.9
Thereafter	179.6
Total Undiscounted Lease Payments	\$410.5
Imputed interest	(45.9)
Present Value of Lease Liability Recognized on the Balance Sheet	\$364.6

As previously disclosed in our 2019 Form 10-K, at 30 September 2019, prior to our adoption of the new lease guidance, minimum payments due under leases were as follows:

	Operating Leases
2020	\$75.1
2021	62.6
2022	44.4
2023	35.9
2024	28.6
Thereafter	171.4
Total Undiscounted Lease Payments	\$418.0

The impacts associated with our operating leases on the consolidated statements of cash flows are reflected within "Other adjustments" within operating activities. This includes the non-cash impact from operating lease costs of \$19.4 as well as a use of cash of \$19.0 for payments on amounts included in the measurement of the lease liability. The net impact to operating cash flows from these activities is not material.

Other than the ROU assets established upon adoption, there were no significant non-cash additions during the three months ended 31 December 2019.

[Table of Contents](#)

We have additional operating leases that have not yet commenced as of 31 December 2019, the largest of which commences in the second quarter of 2020 having annual fixed payments in excess of \$1 for almost 40 years.

Lessor Accounting

Historically, certain contracts associated with facilities that are built to provide product to a specific customer were accounted for as leases. As noted above, we elected the package of practical expedients permitted under the transition guidance to carry forward these lease determinations as of 30 September 2019.

In cases where operating lease treatment is appropriate, there is no difference in revenue recognition over the life of the contract as compared to accounting for the contract under a sale of gas agreement. Under the new lease standard, these contracts qualify for a practical expedient available to lessors to combine the lease and non-lease components and account for the combined component in accordance with the accounting treatment for the predominant component. We elected to apply this practical expedient and have accounted for the combined component as product sales under the revenue standard as we control the operations and maintenance of the assets that provide the supply of gas to our customers.

In cases where sales-type lease treatment is appropriate, revenue and expense are recognized up front for the sale of equipment component of the contract as compared to revenue recognition over the life of the arrangement under contracts not qualifying as sales-type leases. Additionally, a portion of the revenue representing interest income from the financing component of the lease receivable is reflected as sales over the life of the contract. During the three months ended 31 December 2019, we recognized interest income of \$18.5 on our lease receivables. As we control the operations and maintenance of the assets that provide the supply of gas to our customers, we do not expect new arrangements to qualify as leases.

Our contracts generally do not have the option to extend or terminate the lease, or provide the customer the right to purchase the asset at the end of the contract term. Instead, renewal of such contracts requires negotiation of mutually agreed upon terms by both parties. Unless the customer terminates within the required notice period, the contract will go into evergreen. Given the long-term duration of our contracts, there is no assumed residual value for the assets at the end of the lease term.

Lease receivables, net, primarily relate to sales-type leases and are mostly included within "Noncurrent lease receivables" on our consolidated balance sheets, with the remaining balance in "Other receivables and current assets."

Lease payments collected during the three months ended 31 December 2019 were \$42.0. These payments reduced the lease receivable balance by \$23.5 in fiscal year 2020.

At 31 December 2019, minimum lease payments expected to be collected, which reconciles to the total undiscounted minimum lease payments reflected in the table below, were as follows:

2020 (excluding the three months ended 31 December 2019)	\$122.9
2021	159.2
2022	148.3
2023	142.0
2024	135.8
Thereafter	730.2
Total	\$1,438.4
Unearned interest income	(463.6)
Lease Receivables, net	\$974.8

[Table of Contents](#)

As previously disclosed in our 2019 Form 10-K, at 30 September 2019, prior to our adoption of the new lease guidance, minimum lease payments expected to be collected were as follows:

2020	\$162.5
2021	156.9
2022	145.7
2023	139.4
2024	133.2
Thereafter	715.5
Total	\$1,453.2
Unearned interest income	(472.3)
Lease Receivables, net	\$980.9

Other than lease payments received during the first three months of fiscal year 2020 and the impact of currency, there have been no changes to our minimum lease payments expected to be collected since those disclosed as of 30 September 2019 in our 2019 Form 10-K.

8. FINANCIAL INSTRUMENTS

Currency Price Risk Management

Our earnings, cash flows, and financial position are exposed to foreign currency risk from foreign currency-denominated transactions and net investments in foreign operations. It is our policy to seek to minimize our cash flow volatility from changes in currency exchange rates. This is accomplished by identifying and evaluating the risk that our cash flows will change in value due to changes in exchange rates and by executing strategies necessary to manage such exposures. Our objective is to maintain economically balanced currency risk management strategies that provide adequate downside protection.

Forward Exchange Contracts

We enter into forward exchange contracts to reduce the cash flow exposure to foreign currency fluctuations associated with highly anticipated cash flows and certain firm commitments, such as the purchase of plant and equipment. We also enter into forward exchange contracts to hedge the cash flow exposure on intercompany loans. This portfolio of forward exchange contracts consists primarily of Euros and U.S. Dollars. The maximum remaining term of any forward exchange contract currently outstanding and designated as a cash flow hedge at 31 December 2019 is 1.9 years.

Forward exchange contracts are also used to hedge the value of investments in certain foreign subsidiaries and affiliates by creating a liability in a currency in which we have a net equity position. The primary currency pair in this portfolio of forward exchange contracts is Euros and U.S. Dollars.

We also utilize forward exchange contracts that are not designated as hedges. These contracts are used to economically hedge foreign currency-denominated monetary assets and liabilities, primarily working capital. The primary objective of these forward exchange contracts is to protect the value of foreign currency-denominated monetary assets and liabilities from the effects of volatility in foreign exchange rates that might occur prior to their receipt or settlement. This portfolio of forward exchange contracts consists of many different foreign currency pairs, with a profile that changes from time to time depending on business activity and sourcing decisions.

The table below summarizes our outstanding currency price risk management instruments:

	31 December 2019		30 September 2019	
	US\$ Notional	Years Average Maturity	US\$ Notional	Years Average Maturity
Forward Exchange Contracts:				
Cash flow hedges	\$2,659.3	0.5	\$2,418.2	0.5
Net investment hedges	836.2	0.7	830.8	0.9
Not designated	887.6	0.6	1,053.5	0.6
Total Forward Exchange Contracts	\$4,383.1	0.6	\$4,302.5	0.6

We also use foreign currency-denominated debt to hedge the foreign currency exposures of our net investment in certain foreign subsidiaries. The designated foreign currency-denominated debt and related accrued interest was €953.2 million (\$1,068.8) at 31 December 2019 and €951.3 million (\$1,036.9) at 30 September 2019. The designated foreign currency-denominated debt is presented within "Long-term debt" on the consolidated balance sheets.

Debt Portfolio Management

It is our policy to identify, on a continuing basis, the need for debt capital and to evaluate the financial risks inherent in funding the Company with debt capital. Reflecting the result of this ongoing review, our debt portfolio and hedging program are managed with the intent to (1) reduce funding risk with respect to borrowings made by us to preserve our access to debt capital and provide debt capital as required for funding and liquidity purposes, and (2) manage the aggregate interest rate risk and the debt portfolio in accordance with certain debt management parameters.

Interest Rate Management Contracts

We enter into interest rate swaps to change the fixed/variable interest rate mix of our debt portfolio in order to maintain the percentage of fixed- and variable-rate debt within the parameters set by management. In accordance with these parameters, the agreements are used to manage interest rate risks and costs inherent in our debt portfolio. Our interest rate management portfolio generally consists of fixed-to-floating interest rate swaps (which are designated as fair value hedges), pre-issuance interest rate swaps and treasury locks (which hedge the interest rate risk associated with anticipated fixed-rate debt issuances and are designated as cash flow hedges), and floating-to-fixed interest rate swaps (which are designated as cash flow hedges). As of 31 December 2019, the outstanding interest rate swaps were denominated in U.S. Dollars. The notional amount of the interest rate swap agreements is equal to or less than the designated debt being hedged. When interest rate swaps are used to hedge variable-rate debt, the indices of the swaps and the debt to which they are designated are the same. It is our policy not to enter into any interest rate management contracts which lever a move in interest rates on a greater than one-to-one basis.

Cross Currency Interest Rate Swap Contracts

We enter into cross currency interest rate swap contracts when our risk management function deems necessary. These contracts may entail both the exchange of fixed- and floating-rate interest payments periodically over the life of the agreement and the exchange of one currency for another currency at inception and at a specified future date. The contracts are used to hedge either certain net investments in foreign operations or non-functional currency cash flows related to intercompany loans. The current cross currency interest rate swap portfolio consists of fixed-to-fixed swaps primarily between U.S. Dollars and Chinese Renminbi, U.S. Dollars and Indian Rupee, and U.S. Dollars and Chilean Pesos.

[Table of Contents](#)

The following table summarizes our outstanding interest rate management contracts and cross currency interest rate swaps:

	31 December 2019				30 September 2019			
	US\$ Notional	Average Pay %	Average Receive %	Years Average Maturity	US\$ Notional	Average Pay %	Average Receive %	Years Average Maturity
Interest rate swaps (fair value hedge)	\$200.0	LIBOR	2.76%	1.8	\$200.0	LIBOR	2.76%	2.1
Cross currency interest rate swaps (net investment hedge)	\$207.8	4.69%	3.31%	3.2	\$216.8	4.80%	3.31%	3.5
Cross currency interest rate swaps (cash flow hedge)	\$1,098.1	4.94%	3.07%	2.1	\$1,129.3	4.92%	3.04%	2.3
Cross currency interest rate swaps (not designated)	\$15.1	5.39%	3.54%	4.0	\$6.1	2.55%	3.72%	4.5

The table below provides the amounts recorded on the consolidated balance sheet related to cumulative basis adjustments for fair value hedges:

Balance Sheet Location	Carrying amounts of hedged item		Cumulative hedging adjustment, included in carrying amount	
	31 December 2019	30 September 2019	31 December 2019	30 September 2019
Long-term debt	\$403.8	\$404.7	\$4.3	\$5.2

The table below summarizes the fair value and balance sheet location of our outstanding derivatives:

	Balance Sheet Location	31 December 2019	30 September 2019	Balance Sheet Location	31 December 2019	30 September 2019
Derivatives Designated as Hedging Instruments:						
Forward exchange contracts	Other receivables and current assets	\$66.0	\$79.0	Payables and accrued liabilities	\$19.6	\$53.8
Interest rate management contracts	Other receivables and current assets	26.7	24.8	Payables and accrued liabilities	0.3	1.1
Forward exchange contracts	Other noncurrent assets	8.7	11.9	Other noncurrent liabilities	0.2	0.7
Interest rate management contracts	Other noncurrent assets	41.8	60.9	Other noncurrent liabilities	—	0.7
Total Derivatives Designated as Hedging Instruments		\$143.2	\$176.6		\$20.1	\$56.3
Derivatives Not Designated as Hedging Instruments:						
Forward exchange contracts	Other receivables and current assets	\$33.0	\$38.7	Payables and accrued liabilities	\$30.6	\$36.3
Forward exchange contracts	Other noncurrent assets	6.5	8.4	Other noncurrent liabilities	17.6	19.8
Interest rate management contracts	Other noncurrent assets	0.4	0.5	Other noncurrent liabilities	—	—
Total Derivatives Not Designated as Hedging Instruments		\$39.9	\$47.6		\$48.2	\$56.1
Total Derivatives		\$183.1	\$224.2		\$68.3	\$112.4

Refer to Note 9, *Fair Value Measurements*, which defines fair value, describes the method for measuring fair value, and provides additional disclosures regarding fair value measurements.

[Table of Contents](#)

The tables below summarize gains (losses) recognized in other comprehensive income during the period related to our net investment and cash flow hedging relationships:

	Three Months Ended 31 December	
	2019	2018
Net Investment Hedging Relationships		
Forward exchange contracts	(\$9.1)	\$15.5
Foreign currency debt	(29.9)	12.6
Cross currency interest rate swaps	(3.5)	0.9
Total Amount Recognized in OCI	(42.5)	29.0
Tax effects	10.2	(7.0)
Net Amount Recognized in OCI	(\$32.3)	\$22.0

	Three Months Ended 31 December	
	2019	2018
Derivatives in Cash Flow Hedging Relationships		
Forward exchange contracts	\$26.3	\$8.9
Forward exchange contracts, excluded components	(4.5)	(3.8)
Other ^(A)	2.9	(16.1)
Total Amount Recognized in OCI	24.7	(11.0)
Tax effects	(2.6)	0.7
Net Amount Recognized in OCI	\$22.1	(\$10.3)

^(A) Other primarily includes interest rate and cross currency interest rate swaps for which excluded components are recognized in "Payables and accrued liabilities" and "Other receivables and current assets" as a component of accrued interest payable and accrued interest receivable, respectively. These excluded components are recorded in "Other Non-operating income (expense), net" over the life of the cross currency interest rate swap.

[Table of Contents](#)

The table below summarizes by contract type the location and amounts recognized in income related to our cash flow and fair value hedging relationships:

	Three Months Ended 31 December									
	Sales		Cost of Sales		Other Income (Expense), Net		Interest Expense		Other Non-Operating Income (Expense), Net	
	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Total Amounts Presented in the Consolidated Income Statement in which the Effects of Cash Flow and Fair Value Hedges are Recorded	\$2,254.7	\$2,224.0	\$1,486.6	\$1,544.0	\$12.3	\$8.6	\$18.7	\$37.3	\$9.1	\$18.5
(Gain) Loss Effects of Cash Flow Hedging:										
Forward Exchange Contracts:										
Amount reclassified from OCI into income ^(A)	\$0.1	\$0.4	(\$0.2)	\$0.2	\$—	(\$11.9)	\$—	\$4.2	(\$23.4)	\$—
Amount excluded from effectiveness testing recognized in earnings based on amortization approach ^(A)	—	—	—	—	—	—	—	—	4.5	—
Other:										
Amount reclassified from OCI into income ^(B)	—	—	—	—	—	2.2	1.0	1.0	13.6	—
Total (Gain) Loss Reclassified from OCI to Income	0.1	0.4	(0.2)	0.2	—	(9.7)	1.0	5.2	(5.3)	—
Tax effects	—	(0.1)	0.1	—	—	2.3	(0.3)	(1.4)	1.0	—
Net (Gain) Loss Reclassified from OCI to Income	\$0.1	\$0.3	(\$0.1)	\$0.2	\$—	(\$7.4)	\$0.7	\$3.8	(\$4.3)	\$—
(Gain) Loss Effects of Fair Value Hedging:										
Other:										
Hedged items	\$—	\$—	\$—	\$—	\$—	\$—	(\$0.9)	\$2.6	\$—	\$—
Derivatives designated as hedging instruments	—	—	—	—	—	—	0.9	(2.6)	—	—
Total (Gain) Loss Recognized in Income	\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—

^(A) Net amount excluded from effectiveness testing recognized in interest expense for FY19, see Note 2, *New Accounting Guidance*, for additional details.

^(B) Other primarily includes interest rate and cross currency interest rate swaps for which excluded components are recognized in "Payables and accrued liabilities" and "Other receivables and current assets" as a component of accrued interest payable and accrued interest receivable, respectively. These excluded components are recorded in "Other Non-operating income (expense), net" over the life of the cross currency interest rate swap.

The table below summarizes by contract type the location and amounts recognized in income related to our derivatives not designated as hedging instruments:

	Three Months Ended 31 December			
	Other Income (Expense), net		Other Non-Operating Income (Expense), net	
	2019	2018	2019	2018
The Effects of Derivatives Not Designated as a Hedging Instruments:				
Forward Exchange Contracts	\$0.2	\$0.1	(\$0.6)	\$—
Other	—	(0.8)	0.4	—
Total (Gain) Loss Recognized in Income	\$0.2	(\$0.7)	(\$0.2)	\$—

The amount of unrealized gains and losses related to cash flow hedges as of 31 December 2019 that are expected to be reclassified to earnings in the next twelve months is not material.

The cash flows related to all derivative contracts are reported in the operating activities section of the consolidated statements of cash flows.

Credit Risk-Related Contingent Features

Certain derivative instruments are executed under agreements that require us to maintain a minimum credit rating with both Standard & Poor's and Moody's. If our credit rating falls below this threshold, the counterparty to the derivative instruments has the right to request full collateralization on the derivatives' net liability position. The net liability position of derivatives with credit risk-related contingent features was \$29.9 and \$30.1 as of 31 December 2019 and 30 September 2019, respectively. Because our current credit rating is above the various pre-established thresholds, no collateral has been posted on these liability positions.

Counterparty Credit Risk Management

We execute financial derivative transactions with counterparties that are highly rated financial institutions, all of which are investment grade at this time. Some of our underlying derivative agreements give us the right to require the institution to post collateral if its credit rating falls below the pre-established thresholds with Standard & Poor's or Moody's. The collateral that the counterparties would be required to post was \$128.2 and \$157.1 as of 31 December 2019 and 30 September 2019, respectively. No financial institution is required to post collateral at this time as all have credit ratings at or above threshold.

9. FAIR VALUE MEASUREMENTS

Fair value is defined as an exit price, or 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.

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

Level 1 — Quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 — Inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the asset or liability.

Level 3 — Inputs that are unobservable for the asset or liability based on our own assumptions about the assumptions market participants would use in pricing the asset or liability.

The methods and assumptions used to measure the fair value of financial instruments are as follows:

Short-term Investments

Short-term investments primarily include time deposits with original maturities greater than three months and less than one year. We estimated the fair value of our short-term investments, which approximates carrying value as of the balance sheet date, using level 2 inputs within the fair value hierarchy. Level 2 measurements were based on current interest rates for similar investments with comparable credit risk and time to maturity.

Derivatives

The fair value of our interest rate management contracts and forward exchange contracts are quantified using the income approach and are based on estimates using standard pricing models. These models consider the value of future cash flows as of the balance sheet date, discounted to a present value using discount factors that match both the time to maturity and currency of the underlying instruments. The computation of the fair values of these instruments is generally performed by the Company. These standard pricing models utilize inputs that are derived from or corroborated by observable market data such as interest rate yield curves as well as currency spot and forward rates; therefore, the fair value of our derivatives is classified as a level 2 measurement. On an ongoing basis, we randomly test a subset of our valuations against valuations received from the transaction's counterparty to validate the accuracy of our standard pricing models. Counterparties to these derivative contracts are highly rated financial institutions.

Refer to Note 8, *Financial Instruments*, for a description of derivative instruments, including details related to the balance sheet line classifications.

Long-term Debt, Including Related Party

The fair value of our debt is based on estimates using standard pricing models that consider the value of future cash flows as of the balance sheet date, discounted to a present value using discount factors that match both the time to maturity and currency of the underlying instruments. These standard valuation models utilize observable market data such as interest rate yield curves and currency spot rates; therefore, the fair value of our debt is classified as a level 2 measurement. We generally perform the computation of the fair value of these instruments.

The carrying values and fair values of financial instruments were as follows:

	31 December 2019		30 September 2019	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Assets				
Derivatives				
Forward exchange contracts	\$114.2	\$114.2	\$138.0	\$138.0
Interest rate management contracts	68.9	68.9	86.2	86.2
Liabilities				
Derivatives				
Forward exchange contracts	\$68.0	\$68.0	\$110.6	\$110.6
Interest rate management contracts	0.3	0.3	1.8	1.8
Long-term debt, including current portion and related party	3,304.7	3,349.9	3,267.8	3,350.9

The carrying amounts reported on the consolidated balance sheets for cash and cash items, short-term investments, trade receivables, payables and accrued liabilities, accrued income taxes, and short-term borrowings approximate fair value due to the short-term nature of these instruments. Accordingly, these items have been excluded from the above table.

The following table summarizes assets and liabilities on the consolidated balance sheets that are measured at fair value on a recurring basis:

	31 December 2019				30 September 2019			
	Total	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3
Assets at Fair Value								
Derivatives								
Forward exchange contracts	\$114.2	\$—	\$114.2	\$—	\$138.0	\$—	\$138.0	\$—
Interest rate management contracts	68.9	—	68.9	—	86.2	—	86.2	—
Total Assets at Fair Value	\$183.1	\$—	\$183.1	\$—	\$224.2	\$—	\$224.2	\$—
Liabilities at Fair Value								
Derivatives								
Forward exchange contracts	\$68.0	\$—	\$68.0	\$—	\$110.6	\$—	\$110.6	\$—
Interest rate management contracts	0.3	—	0.3	—	1.8	—	1.8	—
Total Liabilities at Fair Value	\$68.3	\$—	\$68.3	\$—	\$112.4	\$—	\$112.4	\$—

10. RETIREMENT BENEFITS

The components of net periodic benefit cost for our defined benefit pension plans for the three months ended 31 December 2019 and 2018 were as follows:

Three Months Ended 31 December	Pension Benefits			
	2019		2018	
	U.S.	International	U.S.	International
Service cost	\$5.8	\$5.9	\$5.4	\$4.9
Interest cost	22.8	6.2	28.4	9.0
Expected return on plan assets	(47.2)	(19.5)	(43.1)	(18.9)
Prior service cost amortization	0.3	—	0.3	—
Actuarial loss amortization	21.0	4.9	16.1	2.8
Settlements	—	—	0.8	0.2
Special termination benefits	—	—	0.7	—
Other	—	0.2	—	0.3
Net Periodic (Benefit) Cost	\$2.7	(\$2.3)	\$8.6	(\$1.7)

Our service costs are primarily included within "Cost of sales" and "Selling and administrative" on our consolidated income statements. The amount of service costs capitalized in the first three months of fiscal years 2020 and 2019 were not material. The non-service related costs, including pension settlement losses, are presented outside operating income within "Other non-operating income (expense), net."

For the three months ended 31 December 2019 and 2018, our cash contributions to funded pension plans and benefit payments under unfunded pension plans were \$8.3 and \$19.5, respectively. Total contributions for fiscal year 2020 are expected to be approximately \$30 to \$40. During fiscal year 2019, total contributions were \$40.2.

U.K. Lloyds Pensions Equalization Ruling

On 26 October 2018, the United Kingdom High Court issued a ruling related to the equalization of pension plan participants' benefits for the gender effects of Guaranteed Minimum Pensions. As a result of this ruling, we estimated the impact of retroactively increasing benefits in our U.K. plan in accordance with the High Court ruling. We treated the additional benefits as a prior service cost, which resulted in an increase to our projected benefit obligation and accumulated other comprehensive loss of \$4.7 during the first quarter of fiscal year 2019. We are amortizing this cost over the average remaining life expectancy of the U.K. participants.

11. COMMITMENTS AND CONTINGENCIES

Litigation

We are involved in various legal proceedings, including commercial, competition, environmental, intellectual property, regulatory, product liability, and insurance matters. In September 2010, the Brazilian Administrative Council for Economic Defense ("CADE") issued a decision against our Brazilian subsidiary, Air Products Brasil Ltda., and several other Brazilian industrial gas companies for alleged anticompetitive activities. CADE imposed a civil fine of R\$179.2 million (approximately \$45 at 31 December 2019) on Air Products Brasil Ltda. This fine was based on a recommendation by a unit of the Brazilian Ministry of Justice, whose investigation began in 2003, alleging violation of competition laws with respect to the sale of industrial and medical gases. The fines are based on a percentage of our total revenue in Brazil in 2003.

We have denied the allegations made by the authorities and filed an appeal in October 2010 with the Brazilian courts. On 6 May 2014, our appeal was granted and the fine against Air Products Brasil Ltda. was dismissed. CADE has appealed that ruling and the matter remains pending. We, with advice of our outside legal counsel, have assessed the status of this matter and have concluded that, although an adverse final judgment after exhausting all appeals is possible, such a judgment is not probable. As a result, no provision has been made in the consolidated financial statements. We estimate the maximum possible loss to be the full amount of the fine of R\$179.2 million (approximately \$45 at 31 December 2019) plus interest accrued thereon until final disposition of the proceedings.

[Table of Contents](#)

Other than this matter, we do not currently believe there are any legal proceedings, individually or in the aggregate, that are reasonably possible to have a material impact on our financial condition, results of operations, or cash flows.

Environmental

In the normal course of business, we are involved in legal proceedings under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA," the federal Superfund law), Resource Conservation and Recovery Act ("RCRA"), and similar state and foreign environmental laws relating to the designation of certain sites for investigation or remediation. Presently, there are 30 sites on which a final settlement has not been reached where we, along with others, have been designated a potentially responsible party by the Environmental Protection Agency or are otherwise engaged in investigation or remediation, including cleanup activity at certain of our current and former manufacturing sites. We continually monitor these sites for which we have environmental exposure.

Accruals for environmental loss contingencies are recorded when it is probable that a liability has been incurred and the amount of loss can be reasonably estimated. The consolidated balance sheets at 31 December 2019 and 30 September 2019 included an accrual of \$67.1 and \$68.9, respectively, primarily as part of other noncurrent liabilities. The environmental liabilities will be paid over a period of up to 30 years. We estimate the exposure for environmental loss contingencies to range from \$67 to a reasonably possible upper exposure of \$80 as of 31 December 2019.

Actual costs to be incurred at identified sites in future periods may vary from the estimates, given inherent uncertainties in evaluating environmental exposures. Using reasonably possible alternative assumptions of the exposure level could result in an increase to the environmental accrual. Due to the inherent uncertainties related to environmental exposures, a significant increase to the reasonably possible upper exposure level could occur if a new site is designated, the scope of remediation is increased, a different remediation alternative is identified, or a significant increase in our proportionate share occurs. We do not expect that any sum we may have to pay in connection with environmental matters in excess of the amounts recorded or disclosed above would have a material adverse impact on our financial position or results of operations in any one year.

PACE

At 31 December 2019, \$24.1 of the environmental accrual was related to the Pace facility.

In 2006, we sold our Amines business, which included operations at Pace, Florida, and recognized a liability for retained environmental obligations associated with remediation activities at Pace. We are required by the Florida Department of Environmental Protection ("FDEP") and the United States Environmental Protection Agency (USEPA) to continue our remediation efforts. We estimated that it would take a substantial period of time to complete the groundwater remediation, and the costs through completion were estimated to range from \$42 to \$52. As no amount within the range was a better estimate than another, we recognized a before-tax expense of \$42 in fiscal 2006 as a component of income from discontinued operations and recorded an environmental accrual of \$42 in continuing operations on the consolidated balance sheets. There has been no change to the estimated exposure range related to the Pace facility.

We have implemented many of the remedial corrective measures at the Pace facility required under 1995 Consent Orders issued by the FDEP and the USEPA. Contaminated soils have been bioremediated, and the treated soils have been secured in a lined on-site disposal cell. Several groundwater recovery systems have been installed to contain and remove contamination from groundwater. We completed an extensive assessment of the site to determine how well existing measures are working, what additional corrective measures may be needed, and whether newer remediation technologies that were not available in the 1990s might be suitable to more quickly and effectively remove groundwater contaminants. Based on assessment results, we completed a focused feasibility study that has identified alternative approaches that may more effectively remove contaminants. We continue to review alternative remedial approaches with the FDEP and have started additional field work to support the design of an improved groundwater recovery network with the objective of targeting areas of higher contaminant concentration and avoiding areas of high groundwater iron which has proven to be a significant operability issue for the project. In the first quarter of 2015, we entered into a new Consent Order with the FDEP requiring us to continue our remediation efforts at the Pace facility. The costs we are incurring under the new Consent Order are consistent with our previous estimates.

PIEDMONT

At 31 December 2019, \$14.3 of the environmental accrual was related to the Piedmont site.

On 30 June 2008, we sold our Elkton, Maryland, and Piedmont, South Carolina, production facilities and the related North American atmospheric emulsions and global pressure sensitive adhesives businesses. In connection with the sale, we recognized a liability for retained environmental obligations associated with remediation activities at the Piedmont site. This site is under active remediation for contamination caused by an insolvent prior owner.

We are required by the South Carolina Department of Health and Environmental Control ("SCDHEC") to address both contaminated soil and groundwater. Numerous areas of soil contamination have been addressed, and contaminated groundwater is being recovered and treated. The SCDHEC issued its final approval to the site-wide feasibility study on 13 June 2017 and the Record of Decision for the site on 27 June 2018. Field work has started to support the remedial design, and in the fourth quarter of fiscal year 2018, we signed a Consent Agreement Amendment memorializing our obligations to complete the cleanup of the site. We estimate that source area remediation and groundwater recovery and treatment will continue through 2029. Thereafter, we expect this site to go into a state of monitored natural attenuation through 2047.

We recognized a before-tax expense of \$24 in 2008 as a component of income from discontinued operations and recorded an environmental liability of \$24 in continuing operations on the consolidated balance sheets. There have been no significant changes to the estimated exposure.

PASADENA

At 31 December 2019, \$11.7 of the environmental accrual was related to the Pasadena site.

During the fourth quarter of 2012, management committed to permanently shutting down our polyurethane intermediates ("PUI") production facility in Pasadena, Texas. In shutting down and dismantling the facility, we have undertaken certain obligations related to soil and groundwater contaminants. We have been pumping and treating groundwater to control off-site contaminant migration in compliance with regulatory requirements and under the approval of the Texas Commission on Environmental Quality ("TCEQ"). We estimate that the pump and treat system will continue to operate until 2042.

We plan to perform additional work to address other environmental obligations at the site. This additional work includes remediating, as required, impacted soils, investigating groundwater west of the former PUI facility, performing post closure care for two closed RCRA surface impoundment units, and establishing engineering controls. In 2012, we estimated the total exposure at this site to be \$13. There have been no significant changes to the estimated exposure.

12. SHARE-BASED COMPENSATION

We have various share-based compensation programs, which include deferred stock units, stock options, and restricted stock. During the three months ended 31 December 2019, we granted market-based and time-based deferred stock units. Under all programs, the terms of the awards are fixed at the grant date. We issue shares from treasury stock upon the payout of deferred stock units, the exercise of stock options, and the issuance of restricted stock awards. As of 31 December 2019, there were 4,302,632 shares available for future grant under our Long-Term Incentive Plan ("LTIP"), which is shareholder approved.

Share-based compensation cost recognized on the consolidated income statements is summarized below:

	Three Months Ended 31 December	
	2019	2018
Before-tax share-based compensation cost	\$15.4	\$9.3
Income tax benefit	(3.7)	(2.2)
After-tax share-based compensation cost	\$11.7	\$7.1

Before-tax share-based compensation cost is primarily included in "Selling and administrative" on our consolidated income statements. The amount of share-based compensation cost capitalized in the first three months of fiscal years 2020 and 2019 was not material.

Deferred Stock Units

During the three months ended 31 December 2019, we granted 80,215 market-based deferred stock units. The market-based deferred stock units are earned at the end of the performance period beginning 1 October 2019 and ending 30 September 2022, conditioned on the level of the Company's total shareholder return in relation to a defined peer group over the three-year performance period.

The market-based deferred stock units had an estimated grant-date fair value of \$275.19 per unit, which was estimated using a Monte Carlo simulation model. The model utilizes multiple input variables that determine the probability of satisfying the market condition stipulated in the grant and calculates the fair value of the awards. We generally expense the grant-date fair value of these awards on a straight-line basis over the vesting period. The calculation of the fair value of market-based deferred stock units used the following assumptions:

Expected volatility	17.8%
Risk-free interest rate	1.6%
Expected dividend yield	2.4%

In addition, during the three months ended 31 December 2019, we granted 110,253 time-based deferred stock units at a weighted average grant-date fair value of \$229.09.

13. ACCUMULATED OTHER COMPREHENSIVE LOSS

The table below summarizes changes in accumulated other comprehensive loss ("AOCL"), net of tax, attributable to Air Products for the three months ended 31 December 2019:

	Derivatives qualifying as hedges	Foreign currency translation adjustments	Pension and postretirement benefits	Total
Balance at 30 September 2019	(\$61.4)	(\$1,356.9)	(\$957.3)	(\$2,375.6)
Other comprehensive income before reclassifications	22.1	264.0	—	286.1
Amounts reclassified from AOCL	(3.6)	—	19.7	16.1
Net current period other comprehensive income	18.5	264.0	19.7	302.2
Amount attributable to noncontrolling interests	5.6	9.6	—	15.2
Balance at 31 December 2019	(\$48.5)	(\$1,102.5)	(\$937.6)	(\$2,088.6)

[Table of Contents](#)

The table below summarizes the reclassifications out of AOCL and the affected line item on the consolidated income statements:

	Three Months Ended 31 December	
	2019	2018
(Gain) Loss on Cash Flow Hedges, net of tax		
Sales/Cost of sales	\$—	\$0.5
Other income/expense, net	—	(7.4)
Interest expense	0.7	3.8
Other non-operating income (expense), net ^(A)	(4.3)	—
Total (Gain) Loss on Cash Flow Hedges, net of tax	(\$3.6)	(\$3.1)
Pension and Postretirement Benefits, net of tax^(B)	\$19.7	\$15.2

(A) The fiscal year 2020 impact includes amortization of the excluded component and the effective portion of the related hedges.

(B) The components of net periodic benefit cost reclassified out of AOCL include items such as prior service cost amortization, actuarial loss amortization, and settlements and are included in "Other non-operating income (expense), net" on the consolidated income statements. Refer to Note 10, *Retirement Benefits*, for additional information.

14. EARNINGS PER SHARE

The following table sets forth the computation of basic and diluted earnings per share ("EPS"):

	Three Months Ended 31 December	
	2019	2018
Numerator		
Net Income Attributable to Air Products	\$475.6	\$347.5
Denominator (in millions)		
Weighted average common shares — Basic	220.9	219.9
Effect of dilutive securities		
Employee stock option and other award plans	1.3	1.1
Weighted average common shares — Diluted	222.2	221.0
Basic Earnings Per Common Share Attributable to Air Products	\$2.15	\$1.58
Diluted Earnings Per Common Share Attributable to Air Products	\$2.14	\$1.57

For the three months ended 31 December 2019 and 2018, there were no antidilutive outstanding share-based awards.

15. INCOME TAXES

U.S. Tax Cuts and Jobs Act

Our income tax provision for the three months ended 31 December 2018 reflected a discrete net income tax expense of \$40.6 related to impacts from the U.S. Tax Cuts and Jobs Act (the "Tax Act"). The net expense included the reversal of a non-recurring \$56.2 benefit recorded in fiscal year 2018 related to the U.S. taxation of deemed foreign dividends. This was partially offset by a benefit of \$15.6 to finalize our estimates of the impacts of the Tax Act and reduce the total expected costs of the deemed repatriation tax.

Effective Tax Rate

The effective tax rate was 19.8% and 27.0% for the three months ended 31 December 2019 and 2018, respectively.

Cash Paid for Taxes (Net of Cash Refunds)

Income tax payments, net of refunds, were \$66.2 and \$28.7 for the three months ended 31 December 2019 and 2018, respectively.

16. SUPPLEMENTAL INFORMATION**Facility Closure**

In December 2018, one of our customers was subject to a government enforced shutdown due to environmental reasons. As a result, we recognized a charge of \$29.0 during the first quarter of fiscal year 2019 primarily related to the write-off of onsite assets. This charge is reflected as "Facility closure" on our consolidated income statements for the three months ended 31 December 2018 and has not been recorded in segment results.

Related Party Transactions

We have related party sales to some of our equity affiliates and joint venture partners as well as other income primarily from fees charged for use of Air Products' patents and technology. Sales to and other income from related parties totaled approximately \$90 and \$100 for the three months ended 31 December 2019 and 2018, respectively. Sales agreements with related parties include terms that are consistent with those that we believe would have been negotiated at an arm's length with an independent party.

In addition, we completed the formation of Air Products Lu An (Changzhi) Co., Ltd., a 60%-owned JV with Lu'An Clean Energy Company ("Lu'An"), and the JV acquired gasification and syngas clean-up assets from Lu'An during the third quarter of fiscal year 2018. The table below summarizes the liabilities resulting from this acquisition as reflected on our consolidated balance sheets:

	31 December 2019	30 September 2019
Payables and accrued liabilities	\$8.0	\$8.9
Current portion of long-term debt	38.8	37.8
Long-term debt – related party	328.6	320.1

Changes in Estimates

Changes in estimates on projects accounted for under the cost incurred input method are recognized as a cumulative adjustment for the inception-to-date effect of such change. There were no changes in estimates for the three months ended 31 December 2019. Changes in estimates favorably impacted operating income by approximately \$10 for the three months ended 31 December 2018.

17. BUSINESS SEGMENT INFORMATION

Our reporting segments reflect the manner in which our chief operating decision maker reviews results and allocates resources. Except in the Industrial Gases – EMEA and Corporate and other segments, each reporting segment meets the definition of an operating segment and does not include the aggregation of multiple operating segments. Our Industrial Gases – EMEA and Corporate and other segments each include the aggregation of two operating segments that meet the aggregation criteria under GAAP.

Our reporting segments are:

- Industrial Gases – Americas;
- Industrial Gases – EMEA (Europe, Middle East, and Africa);
- Industrial Gases – Asia;
- Industrial Gases – Global; and
- Corporate and other

	Industrial Gases – Americas	Industrial Gases – EMEA	Industrial Gases – Asia	Industrial Gases – Global	Corporate and other	Total
Three Months Ended 31 December 2019						
Sales	\$936.2	\$498.7	\$692.8	\$92.6	\$34.4	\$2,254.7 ^(A)
Operating income (loss)	257.2	120.5	228.5	3.6	(48.8)	561.0 ^(B)
Depreciation and amortization	131.8	48.4	101.6	2.4	5.0	289.2
Equity affiliates' income	20.6	19.3	16.9	1.4	—	58.2
Three Months Ended 31 December 2018						
Sales	\$989.2	\$524.2	\$626.8	\$68.2	\$15.6	\$2,224.0 ^(A)
Operating income (loss)	219.2	105.6	201.8	3.9	(46.5)	484.0 ^(B)
Depreciation and amortization	125.6	46.3	79.9	2.1	4.1	258.0
Equity affiliates' income	22.6	13.7	16.2	0.4	—	52.9
Total Assets						
31 December 2019	\$5,971.3	\$3,509.3	\$6,478.7	\$365.0	\$3,327.3	\$19,651.6
30 September 2019	5,832.2	3,250.8	6,240.6	325.7	3,293.5	18,942.8

^(A) The sales information noted above relates to external customers only. All intersegment sales are eliminated in consolidation. Intersegment sales are generally transacted at market pricing. We generally do not have intersegment sales from our regional industrial gases businesses. Equipment manufactured for our regional industrial gases segments are generally transferred at cost and are not reflect as an intersegment sale.

^(B) Refer to the *Reconciliation to Consolidated Results* section below.

Reconciliation to Consolidated Results

The table below reconciles total operating income in the table above to consolidated operating income as reflected on our consolidated income statements:

	Three Months Ended 31 December	
	2019	2018
Operating Income		
Total	\$561.0	\$484.0
Facility closure	—	(29.0)
Consolidated Operating Income	\$561.0	\$455.0

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

First Quarter 2020 in Summary	31
First Quarter 2020 Results of Operations	33
Reconciliations of Non-GAAP Financial Measures	38
Liquidity and Capital Resources	42
Contractual Obligations	44
Pension Benefits	44
Commitments and Contingencies	45
Off-Balance Sheet Arrangements	45
Related Party Transactions	45
Critical Accounting Policies and Estimates	45
New Accounting Guidance	45

The discussion that follows includes a comparison of our results of operations and liquidity and capital resources for fiscal years 2020 and 2019. The disclosures provided in this quarterly report are complementary to those made in our 2019 Form 10-K.

The following discussion should be read in conjunction with the consolidated financial statements and the accompanying notes contained in this quarterly report. Unless otherwise stated, financial information is presented in millions of dollars, except for per share data.

The financial measures included in the discussion that follows are presented in accordance with U.S. generally accepted accounting principles ("GAAP"), except as noted. We present certain financial measures on a non-GAAP ("adjusted") basis because we believe such measures, when viewed together with financial results computed in accordance with GAAP, provide a more complete understanding of the factors and trends affecting our historical financial performance and projected future results. For each non-GAAP financial measure, including adjusted diluted earnings per share ("EPS"), adjusted EBITDA, adjusted EBITDA margin, and adjusted effective tax rate, we present a reconciliation to the most directly comparable financial measure calculated in accordance with GAAP. These reconciliations and explanations regarding the use of these measures are presented on pages 38-42.

FIRST QUARTER 2020 IN SUMMARY

The results below are compared to the first quarter of fiscal year 2019.

- Sales of \$2,254.7 increased 1%, or \$30.7, as higher volumes of 6% and favorable pricing of 3% were mostly offset by lower energy and natural gas cost pass-through to customers of 5%, the impact of a contract modification to a tolling arrangement in India of 2%, and a negative impact from currency of 1%.
- Operating income of \$561.0 increased 23%, or \$106.0, and operating margin of 24.9% increased 440 basis points ("bp").
- Net income of \$488.9 increased 37%, or \$131.9, and net income margin of 21.7% increased 570 bp.
- Adjusted EBITDA of \$908.4 increased 14%, or \$113.5, and adjusted EBITDA margin of 40.3% increased 460 bp.
- Diluted EPS of \$2.14 increased 36%, or \$0.57 per share. Adjusted diluted EPS of \$2.14 increased 15%, or \$0.28 per share. A summary table of changes in diluted EPS is presented below.

Changes in Diluted EPS Attributable to Air Products

	Three Months Ended 31 December		Increase (Decrease)
	2019	2018	
Diluted EPS	\$2.14	\$1.57	\$0.57
Operating Impacts			
Underlying business			
Volume			\$0.15
Price, net of variable costs			0.25
Other costs			(0.12)
Facility closure			0.10
Total Operating Impacts			\$0.38
Other Impacts			
Equity affiliates' income			\$0.02
Interest expense			0.07
Other non-operating income (expense), net			(0.04)
Change in effective tax rate, excluding discrete items below			(0.02)
Tax reform repatriation			(0.07)
Tax reform adjustment related to deemed foreign dividends			0.26
Noncontrolling interests			(0.02)
Weighted average diluted shares			(0.01)
Total Other Impacts			\$0.19
Total Change in Diluted EPS			\$0.57

	Three Months Ended 31 December		Increase (Decrease)
	2019	2018	
Diluted EPS	\$2.14	\$1.57	\$0.57
Facility closure	—	0.10	(0.10)
Tax reform repatriation	—	(0.07)	0.07
Tax reform adjustment related to deemed foreign dividends	—	0.26	(0.26)
Adjusted Diluted EPS	\$2.14	\$1.86	\$0.28

FIRST QUARTER 2020 RESULTS OF OPERATIONS

Discussion of Consolidated Results

	Three Months Ended 31 December			
	2019	2018	\$ Change	Change
GAAP Measures				
Sales	\$2,254.7	\$2,224.0	\$30.7	1%
Operating income	561.0	455.0	106.0	23%
Operating margin	24.9%	20.5%	—	440 bp
Equity affiliates' income	58.2	52.9	5.3	10%
Net income	488.9	357.0	131.9	37%
Net income margin	21.7%	16.0%	—	570 bp
Non-GAAP Measures				
Adjusted EBITDA	\$908.4	\$794.9	\$113.5	14%
Adjusted EBITDA margin	40.3%	35.7%	—	460 bp

Sales

Sales % Change from Prior Year

Volume	6 %
Price	3 %
Energy and natural gas cost pass-through	(5)%
Currency	(1)%
Other ^(A)	(2)%
Total Consolidated Sales Change	1 %

^(A) Includes the impact from the modification of a hydrogen supply contract to a tolling arrangement in India in December 2018 (the "India contract modification").

Sales of \$2,254.7 increased 1%, or \$30.7, as higher volumes of 6% and favorable pricing of 3% were mostly offset by lower energy and natural gas cost pass-through to customers of 5%, the India contract modification of 2%, and a negative impact from currency of 1%. Both volume and price were higher across the regional segments. The volume growth was driven by modest base business growth, new plants, acquisitions, and a short-term contract in Asia. The pricing improvement was attributable to our merchant business. Unfavorable currency impacts were driven by the Chinese Renminbi and Euro.

Cost of Sales and Gross Margin

Cost of sales of \$1,486.6 decreased 5%, or \$86.4, from total cost of sales of \$1,573.0 in the prior year, which included the facility closure further discussed below. The decrease from the prior year was primarily driven by lower energy and natural gas cost pass-through to customers of \$102, the favorable impact from the India contract modification of \$41, the facility closure of \$29 that occurred in the prior year, and positive currency impacts of \$22, partially offset by higher costs attributable to sales volumes of \$97 and higher other costs of \$10. Gross margin of 34.1% increased 480 bp, primarily due to positive pricing, lower energy and natural gas cost pass-through to customers, the facility closure that occurred in the prior year, and the India contract modification, partially offset by unfavorable net operating costs.

Facility Closure

In December 2018, one of our customers was subject to a government enforced shutdown due to environmental reasons. As a result, we recognized a charge of \$29.0 (\$22.1 after-tax, or \$0.10 per share) during the first quarter of fiscal year 2019 primarily related to the write-off of onsite assets. This charge is reflected as "Facility closure" on our consolidated income statements for the three months ended 31 December 2018.

Selling and Administrative

Selling and administrative expense of \$201.7 increased 6%, or \$12.1, from investing in business development resources to support our growth strategy. Selling and administrative expense as a percentage of sales increased from 8.5% to 8.9%.

Research and Development

Research and development expense of \$17.7 increased 18%, or \$2.7. Research and development expense as a percentage of sales increased from 0.7% to 0.8%.

Other Income (Expense), Net

Other income (expense), net of \$12.3 increased 43%, or \$3.7, primarily due to foreign exchange impacts.

Operating Income and Operating Margin

Operating income of \$561.0 increased 23%, or \$106.0, primarily due to positive pricing, net of power and fuel costs, of \$69, favorable volumes of \$40, and a charge for a facility closure of \$29 in the prior year, partially offset by higher net operating costs of \$30. Operating margin of 24.9% increased 440 bp, primarily due to positive pricing, the prior year facility closure, and lower energy and natural gas cost pass-through to customers, partially offset by unfavorable net operating costs.

Equity Affiliates' Income

Equity affiliates' income of \$58.2 increased 10%, or \$5.3, primarily due to the Jazan Gas Projects Company joint venture.

Interest Expense

	Three Months Ended 31 December	
	2019	2018
Interest incurred	\$22.4	\$40.0
Less: Capitalized interest	3.7	2.7
Interest expense	\$18.7	\$37.3

Interest incurred decreased 44%, or \$17.6. The prior year included \$8.3 of interest expense related to foreign currency forward points and currency swap basis differences of our cash flow hedges of intercompany loans. As discussed in Note 2, *New Accounting Guidance*, to the consolidated financial statements, we adopted new accounting guidance on hedging activities that changed the presentation of these items from "Interest expense, net" to "Other non-operating income (expense), net" in fiscal year 2020. In addition to this presentation change, interest expense decreased due to lower interest expense associated with financing the Lu'An joint venture and a lower average debt balance. Capitalized interest increased 37%, or \$1.0, due to an increase in the carrying value of projects under construction.

Other Non-Operating Income (Expense), Net

Other non-operating income (expense), net, of \$9.1 decreased 51%, or \$9.4, primarily due to the impact of the adoption of the guidance on hedging activities discussed above and lower interest income on cash and cash items, partially offset by higher non-service pension income.

Net Income and Net Income Margin

Net income of \$488.9 increased 37%, or \$131.9, primarily due to positive pricing and higher volumes as well as the impacts from the facility closure and the U.S. Tax Cuts and Jobs Act in the prior year. Net income margin of 21.7% increased 570 bp, primarily due to the factors noted above as well as lower energy pass-through and the India contract modification.

Adjusted EBITDA and Adjusted EBITDA Margin

Adjusted EBITDA of \$908.4 increased 14%, or \$113.5, primarily due to positive pricing and higher volumes. Adjusted EBITDA margin of 40.3% increased 460 bp, primarily due to positive pricing, lower energy pass-through, and the India contract modification. The lower energy pass-through and the India contract modification contributed 230 bp.

Effective Tax Rate

The effective tax rate equals the income tax provision divided by income before taxes. The effective tax rate was 19.8% and 27.0% in the first quarter of fiscal years 2020 and 2019, respectively.

The higher 2019 tax rate reflected a discrete net income tax expense of \$40.6 related to impacts from the U.S. Tax Cuts and Jobs Act (the "Tax Act"). The net expense included the reversal of a non-recurring \$56.2 (\$.26 per share) benefit recorded in 2018 related to the U.S. taxation of deemed foreign dividends. This was partially offset by a benefit of \$15.6 (\$0.07 per share) to finalize our estimates of the impacts of the Tax Act and reduce the total expected costs of the deemed repatriation tax. Additionally, the current year included higher excess tax benefits on share-based compensation in 2020. These impacts were partially offset by beneficial changes in foreign tax law and changes in valuation allowance recorded at various entities in 2019.

The adjusted effective tax rate increased from 19.0% in the first quarter of fiscal year 2019 to 19.8% in the first quarter of fiscal year 2020. This increase was primarily driven by beneficial changes in foreign tax law and changes in valuation allowance recorded at various entities in 2019. This increase was partially offset by higher excess tax benefits on share-based compensation in 2020.

Refer to Note 15, *Income Taxes*, to the consolidated financial statements for additional information.

Segment Analysis

Industrial Gases – Americas

	Three Months Ended 31 December		\$ Change	% Change
	2019	2018		
Sales	\$936.2	\$989.2	(\$53.0)	(5)%
Operating income	257.2	219.2	38.0	17 %
Operating margin	27.5%	22.2%	—	530 bp
Equity affiliates' income	20.6	22.6	(2.0)	(9)%
Adjusted EBITDA	409.6	367.4	42.2	11 %
Adjusted EBITDA margin	43.8%	37.1%	—	670 bp

Sales % Change from Prior Year

Volume	1 %
Price	3 %
Energy and natural gas cost pass-through	(8)%
Currency	(1)%
Total Industrial Gases – Americas Sales Change	(5)%

Sales of \$936.2 decreased 5%, or \$53.0, as lower energy and natural gas cost pass-through of 8% and a negative impact from currency of 1% were only partially offset by positive pricing of 3% and higher volumes of 1%. The pricing improvement was driven by our merchant business.

Operating income of \$257.2 increased 17%, or \$38.0, primarily due to higher pricing, net of power and fuel costs, of \$28 and favorable volumes of \$7.

Operating margin of 27.5% increased 530 bp, primarily due to positive pricing, lower energy and natural gas cost pass-through to customers, and favorable cost performance, including lower maintenance.

Equity affiliates' income of \$20.6 decreased 9%, or \$2.0, primarily due to higher costs.

Industrial Gases – EMEA (Europe, Middle East, and Africa)

	Three Months Ended 31 December			
	2019	2018	\$ Change	% Change
Sales	\$498.7	\$524.2	(\$25.5)	(5)%
Operating income	120.5	105.6	14.9	14%
Operating margin	24.2%	20.1%	—	410 bp
Equity affiliates' income	19.3	13.7	5.6	41%
Adjusted EBITDA	188.2	165.6	22.6	14%
Adjusted EBITDA margin	37.7%	31.6%	—	610 bp

Sales % Change from Prior Year

Volume	6 %
Price	3 %
Energy and natural gas cost pass-through	(4)%
Currency	(2)%
Other ^(A)	(8)%

Total Industrial Gases – EMEA Sales Change (5)%

^(A) Includes the impact from the modification of a hydrogen supply contract to a tolling arrangement in India in December 2018 (the "India contract modification").

Sales of \$498.7 decreased 5%, or \$25.5, as the negative impact from the India contract modification of 8%, lower energy and natural gas cost pass-through to customers of 4%, and unfavorable currency impacts of 2% were only partially offset by favorable volumes of 6% and positive pricing of 3%. Volumes increased primarily due to demand for hydrogen in our Rotterdam pipeline system and from the carbon dioxide business we acquired in the second quarter of fiscal year 2019. The pricing improvement was attributable to our merchant business. The negative currency impact was mainly driven by the Euro.

Operating income of \$120.5 increased 14%, or \$14.9, primarily due to higher pricing, net of power and fuel costs, of \$20 and favorable volumes of \$5, partially offset by higher costs of \$8 and unfavorable currency impacts of \$2. Operating margin of 24.2% increased 410 bp, primarily due to favorable pricing, the impact of the India contract modification, and lower energy and natural gas cost pass-through to customers, partially offset by higher costs. The lower energy and natural gas pass-through and the India contract modification contributed 240 bp.

Equity affiliates' income of \$19.3 increased 41%, or \$5.6, primarily due to the Jazan Gas Projects Company joint venture.

Industrial Gases – Asia

	Three Months Ended 31 December			
	2019	2018	\$ Change	% Change
Sales	\$692.8	\$626.8	\$66.0	11%
Operating income	228.5	201.8	26.7	13%
Operating margin	33.0%	32.2%	—	80 bp
Equity affiliates' income	16.9	16.2	0.7	4%
Adjusted EBITDA	347.0	297.9	49.1	16%
Adjusted EBITDA margin	50.1%	47.5%	—	260 bp

Sales % Change from Prior Year

Volume	9 %
Price	4 %
Energy and natural gas cost pass-through	— %
Currency	(2)%
Total Industrial Gases – Asia Sales Change	11 %

Sales of \$692.8 increased 11%, or \$66.0, as higher volumes of 9% and positive pricing of 4% were partially offset by unfavorable currency impacts of 2%. The volume increase was primarily driven by new plants onstream, base business growth, and a short-term supply contract. Pricing improved across Asia, driven by our merchant business. The unfavorable currency impact was primarily attributable to the Chinese Renminbi. Energy and natural gas cost pass-through to customers was flat versus the prior year.

Operating income of \$228.5 increased 13%, or \$26.7, due to positive pricing, net of power and fuel costs, of \$20 and favorable volumes of \$16, partially offset by higher net operating costs of \$6 and unfavorable currency impacts of \$3. Operating margin of 33.0% increased 80 bp, primarily due to positive pricing, partially offset by higher net operating costs.

Equity affiliates' income of \$16.9 increased 4%, or \$0.7.

Industrial Gases – Global

The Industrial Gases – Global segment includes sales of cryogenic and gas processing equipment for air separation and centralized global costs associated with management of all the Industrial Gases segments.

	Three Months Ended 31 December		\$ Change	% Change
	2019	2018		
Sales	\$92.6	\$68.2	\$24.4	36 %
Operating income	3.6	3.9	(0.3)	(8)%
Adjusted EBITDA	7.4	6.4	1.0	16 %

Sales of \$92.6 increased 36%, or \$24.4. The increase in sales was primarily driven by unusually high other project activity.

Operating income of \$3.6 decreased 8%, or \$0.3, as the current quarter project activity was mostly offset by favorable impacts from the Jazan project in the prior year.

Corporate and other

The Corporate and other segment includes our liquefied natural gas ("LNG"), turbo machinery equipment, and distribution sale of equipment businesses and corporate support functions that benefit all segments. The results of the Corporate and other segment also include income and expense that is not directly associated with the other segments, such as foreign exchange gains and losses.

	Three Months Ended 31 December		\$ Change	% Change
	2019	2018		
Sales	\$34.4	\$15.6	\$18.8	121 %
Operating loss	(48.8)	(46.5)	(2.3)	(5)%
Adjusted EBITDA	(43.8)	(42.4)	(1.4)	(3)%

Sales of \$34.4 increased 121%, or \$18.8, primarily due to higher LNG activity. Operating loss of \$48.8 increased 5%, or \$2.3, primarily due to higher corporate costs, including business development costs to support our growth strategy, partially offset by the higher LNG activity.

RECONCILIATIONS OF NON-GAAP FINANCIAL MEASURES

(Millions of dollars unless otherwise indicated, except for per share data)

The Company presents certain financial measures, other than in accordance with U.S. generally accepted accounting principles ("GAAP"), on an "adjusted" or "non-GAAP" basis. On a consolidated basis, these measures include adjusted diluted earnings per share ("EPS"), adjusted EBITDA, adjusted EBITDA margin, and adjusted effective tax rate. On a segment basis, these measures include adjusted EBITDA and adjusted EBITDA margin. In addition to these measures, which are presented above, we also include certain supplemental non-GAAP financial measures that are presented below to help the reader understand the impact that our non-GAAP adjustments have on the calculation of our adjusted diluted EPS. For each non-GAAP financial measure, we present below a reconciliation to the most directly comparable financial measure calculated in accordance with GAAP.

The Company's non-GAAP measures are not meant to be considered in isolation or as a substitute for the most directly comparable measure calculated in accordance with GAAP. The Company believes these non-GAAP measures provide investors, potential investors, securities analysts, and others with useful information to evaluate the performance of the business because such measures, when viewed together with financial results computed in accordance with GAAP, provide a more complete understanding of the factors and trends affecting the Company's historical financial performance and projected future results.

In many cases, non-GAAP measures are determined by adjusting the most directly comparable GAAP measure to exclude certain disclosed items, or "non-GAAP adjustments," that the Company believes are not representative of underlying business performance. For example, the Company previously excluded certain expenses associated with cost reduction actions, impairment charges, and gains on disclosed transactions. The reader should be aware that the Company may recognize similar losses or gains in the future. Readers should also consider the limitations associated with these non-GAAP measures, including the potential lack of comparability of these measures from one company to another.

The tax impact on our pre-tax non-GAAP adjustments reflects the expected current and deferred income tax impact of our non-GAAP adjustments. These tax impacts are primarily driven by the statutory tax rate of the various relevant jurisdictions and the taxability of the adjustments in those jurisdictions.

ADJUSTED DILUTED EPS

The table below provides a reconciliation to the most directly comparable GAAP measure for each of the major components used to calculate adjusted diluted EPS, which the Company views as a key performance metric. We believe it is important for the reader to understand the per share impact of our non-GAAP adjustments as management does not consider these impacts when evaluating underlying business performance.

There were no non-GAAP adjustments to arrive at the adjusted diluted EPS in the first quarter of fiscal year 2020.

Q1 2020 vs. Q1 2019	Three Months Ended 31 December				
	Operating Income	Equity Affiliates' Income	Income Tax Provision	Net Income Attributable to Air Products	Diluted EPS
2020 GAAP	\$561.0	\$58.2	\$120.7	\$475.6	\$2.14
2019 GAAP	455.0	52.9	132.1	347.5	1.57
Change GAAP				\$128.1	\$0.57
% Change GAAP				37%	36%
2020 GAAP	\$561.0	\$58.2	\$120.7	\$475.6	\$2.14
2020 Non-GAAP Measure ("Adjusted")	\$561.0	\$58.2	\$120.7	\$475.6	\$2.14
2019 GAAP	\$455.0	\$52.9	\$132.1	\$347.5	\$1.57
Facility closure	29.0	—	6.9	22.1	0.10
Tax reform repatriation	—	—	15.6	(15.6)	(0.07)
Tax reform adjustment related to deemed foreign dividends	—	—	(56.2)	56.2	0.26
2019 Non-GAAP Measure ("Adjusted")	\$484.0	\$52.9	\$98.4	\$410.2	\$1.86
Change Non-GAAP Measure ("Adjusted")				\$65.4	\$0.28
% Change Non-GAAP Measure ("Adjusted")				16%	15%

ADJUSTED EBITDA AND ADJUSTED EBITDA MARGIN

We define adjusted EBITDA as net income less income (loss) from discontinued operations, net of tax (when applicable), and excluding certain non-GAAP adjustments, which the Company does not believe to be indicative of underlying business trends, before interest expense, other non-operating income (expense), net, income tax provision, and depreciation and amortization expense. Adjusted EBITDA and adjusted EBITDA margin provide useful metrics for management to assess operating performance. Margin is calculated for each period by dividing each line item by consolidated sales for the respective period.

Below is a presentation of consolidated sales and a reconciliation of net income on a GAAP basis to adjusted EBITDA and net income margin on a GAAP basis to adjusted EBITDA margin:

	Three Months Ended 31 December			
	2019		2018	
	\$	Margin	\$	Margin
Sales	\$2,254.7		\$2,224.0	
Net income and net income margin	\$488.9	21.7%	\$357.0	16.0%
Add: Interest expense	18.7	0.8%	37.3	1.7%
Less: Other non-operating income (expense), net	9.1	0.4%	18.5	0.8%
Add: Income tax provision	120.7	5.4%	132.1	5.9%
Add: Depreciation and amortization	289.2	12.8%	258.0	11.6%
Add: Facility closure	—	—%	29.0	1.3%
Adjusted EBITDA and adjusted EBITDA margin	\$908.4	40.3%	\$794.9	35.7%
Change GAAP				
Net income \$ change		\$131.9		
Net income % change		37%		
Net income margin change		570 bp		
Change Non-GAAP				
Adjusted EBITDA \$ change		\$113.5		
Adjusted EBITDA % change		14%		
Adjusted EBITDA margin change		460 bp		

[Table of Contents](#)

Below is a reconciliation of operating income and operating margin by segment to adjusted EBITDA and adjusted EBITDA margin by segment for the three months ended 31 December 2019 and 2018:

	Industrial Gases— Americas	Industrial Gases— EMEA	Industrial Gases— Asia	Industrial Gases— Global	Corporate and other	Total
GAAP MEASURES						
Three Months Ended 31 December 2019						
Operating income (loss)	\$257.2	\$120.5	\$228.5	\$3.6	(\$48.8)	\$561.0 ^(A)
Operating margin	27.5%	24.2%	33.0%			
Three Months Ended 31 December 2018						
Operating income (loss)	\$219.2	\$105.6	\$201.8	\$3.9	(\$46.5)	\$484.0 ^(A)
Operating margin	22.2%	20.1%	32.2%			
Operating income (loss) change	\$38.0	\$14.9	\$26.7	(\$0.3)	(\$2.3)	
Operating income (loss) % change	17%	14%	13%	(8)%	(5)%	
Operating margin change	530 bp	410 bp	80 bp			
NON-GAAP MEASURES						
Three Months Ended 31 December 2019						
Operating income (loss)	\$257.2	\$120.5	\$228.5	\$3.6	(\$48.8)	\$561.0 ^(A)
Add: Depreciation and amortization	131.8	48.4	101.6	2.4	5.0	289.2
Add: Equity affiliates' income	20.6	19.3	16.9	1.4	—	58.2
Adjusted EBITDA	\$409.6	\$188.2	\$347.0	\$7.4	(\$43.8)	\$908.4
Adjusted EBITDA margin	43.8%	37.7%	50.1%			
Three Months Ended 31 December 2018						
Operating income (loss)	\$219.2	\$105.6	\$201.8	\$3.9	(\$46.5)	\$484.0 ^(A)
Add: Depreciation and amortization	125.6	46.3	79.9	2.1	4.1	258.0
Add: Equity affiliates' income	22.6	13.7	16.2	0.4	—	52.9
Adjusted EBITDA	\$367.4	\$165.6	\$297.9	\$6.4	(\$42.4)	\$794.9
Adjusted EBITDA margin	37.1%	31.6%	47.5%			
Adjusted EBITDA change	\$42.2	\$22.6	\$49.1	\$1.0	(\$1.4)	
Adjusted EBITDA % change	11%	14%	16%	16 %	(3)%	
Adjusted EBITDA margin change	670 bp	610 bp	260 bp			

^(A) The table below reconciles operating income as reflected on our consolidated income statements to total operating income in the table above:

	Three Months Ended 31 December	
	2019	2018
Operating Income		
Consolidated operating income	\$561.0	\$455.0
Facility closure	—	29.0
Total	\$561.0	\$484.0

ADJUSTED EFFECTIVE TAX RATE

The tax impact of our pre-tax non-GAAP adjustments reflects the expected current and deferred income tax expense associated with each adjustment and is primarily dependent upon the statutory tax rate of the various relevant jurisdictions and the taxability of the adjustments in those jurisdictions. For additional discussion on the impact of the U.S. Tax Cuts and Jobs Act, refer to Note 15, *Income Taxes*, to the consolidated financial statements.

There were no non-GAAP adjustments to arrive at the adjusted effective tax rate in the first quarter of fiscal year 2020.

	Three Months Ended 31 December	
	2019	2018
Income Tax Provision	\$120.7	\$132.1
Income Before Taxes	\$609.6	\$489.1
Effective Tax Rate	19.8%	27.0%
Income Tax Provision	\$120.7	\$132.1
Facility closure	—	6.9
Tax reform repatriation	—	15.6
Tax reform adjustment related to deemed foreign dividends	—	(56.2)
Adjusted Income Tax Provision	\$120.7	\$98.4
Income Before Taxes	\$609.6	\$489.1
Facility closure	—	29.0
Adjusted Income Before Taxes	\$609.6	\$518.1
Adjusted Effective Tax Rate	19.8%	19.0%

LIQUIDITY AND CAPITAL RESOURCES

We have consistent access to commercial paper markets, and our cash balance and cash flows from operations and financing activities are expected to meet liquidity needs for the foreseeable future.

As of 31 December 2019, we had \$1,240.1 of foreign cash and cash items compared to total cash and cash items of \$2,406.1. As a result of the Tax Act, we currently do not expect that a significant portion of the earnings of our foreign subsidiaries and affiliates will be subject to U.S. income tax upon subsequent repatriation to the U.S. Depending on the country in which the subsidiaries and affiliates reside, the repatriation of these earnings may be subject to foreign withholding and other taxes. However, since we have significant current investment plans outside the U.S., it is our intent to permanently reinvest the majority of our foreign cash and cash items that would be subject to additional taxes outside the U.S.

Our cash flows from operating, investing, and financing activities, as reflected on the consolidated statements of cash flows, are summarized in the following table:

Cash provided by (used for)	Three Months Ended 31 December	
	2019	2018
Operating activities	\$667.0	\$655.2
Investing activities	(260.7)	(226.5)
Financing activities	(270.3)	(289.8)

Operating Activities

For the first three months of fiscal year 2020, cash provided by operating activities was \$667.0. Income from continuing operations of \$475.6 was adjusted for items including depreciation and amortization, deferred income taxes, undistributed earnings of unconsolidated affiliates, gains on sale of assets and investments, share-based compensation, and noncurrent lease receivables. The working capital accounts were a use of cash of \$163.1, primarily driven by \$115.4 from payables and accrued liabilities and \$41.6 from other working capital. The use of cash within "Payables and accrued liabilities" was primarily driven by a \$45.2 decrease in accrued incentive compensation due to payments on the 2019 annual incentive compensation plan and \$24.9 from the maturity of a forward exchange contract that hedged a foreign currency exposure. The use of other working capital was primarily due to an increase in contract assets and contract fulfillment costs associated with revenue generating project activity.

For the first three months of fiscal year 2019, cash provided by operating activities was \$655.2 which included income from continuing operations of \$347.5. The final adjustments to our estimates of the impacts of the Tax Act is included within "Tax reform repatriation" and "Deferred income taxes." See Note 15, *Income Taxes*, to the consolidated financial statements for additional information. The working capital accounts were a use of cash of \$71.6, primarily driven by \$73.6 from trade receivables.

Cash paid for income taxes, net of cash refunds, was \$66.2 and \$28.7 for the three months ended 31 December 2019 and 2018, respectively.

Investing Activities

For the first three months of fiscal year 2020, cash used for investing activities was \$260.7. Capital expenditures for plant and equipment were \$447.7. Proceeds from investments of \$177.0 resulted from maturities of time deposits with original terms greater than three months but less than one year.

For the first three months of fiscal year 2019, cash used for investing activities was \$226.5. Capital expenditures for plant and equipment were \$403.4. Proceeds from investments of \$178.0 resulted from maturities of time deposits with original terms greater than three months but less than one year.

Capital expenditures is a non-GAAP measure that we define as cash flows for additions to plant and equipment, acquisitions (less cash acquired), and investment in and advances to unconsolidated affiliates. A reconciliation of cash used for investing activities to our reported capital expenditures is provided below:

	Three Months Ended 31 December	
	2019	2018
Cash used for investing activities	\$260.7	\$226.5
Proceeds from sale of assets and investments	15.2	1.1
Purchases of investments	—	(5.3)
Proceeds from investments	177.0	178.0
Other investing activities	1.9	3.1
Capital Expenditures	\$454.8	\$403.4

The components of our capital expenditures are detailed in the table below:

	Three Months Ended 31 December	
	2019	2018
Additions to plant and equipment	\$447.7	\$403.4
Acquisitions, less cash acquired	—	—
Investment in and advances to unconsolidated affiliates	7.1	—
Capital Expenditures	\$454.8	\$403.4

Capital expenditures in fiscal year 2020 are expected to be approximately \$4 billion to \$4.5 billion, which primarily includes our initial expected equity affiliate investment in the Jazan gas and power project as well as new plants that are currently under construction or expected to start construction. It is not possible, without unreasonable efforts, to reconcile our forecasted capital expenditures to future cash used for investing activities because we are unable to identify the timing or occurrence of our future investment activity, which is driven by our assessment of competing opportunities at the time we enter into transactions. These decisions, either individually or in the aggregate, could have a significant effect on our cash used for investing activities.

Financing Activities

For the first three months of fiscal year 2020, cash used for financing activities was \$270.3 and primarily included dividend payments to shareholders of \$255.7.

For the first three months of fiscal year 2019, cash used for financing activities was \$289.8. This consisted primarily of dividend payments to shareholders of \$241.5 and repayment on short term borrowings of \$38.0.

Financing and Capital Structure

Capital needs for the first three months of fiscal year 2020 were satisfied primarily with cash from operations. Total debt as of 31 December 2019 and 30 September 2019, expressed as a percentage of total capitalization (total debt plus total equity), was 21.9% and 22.6%, respectively. Total debt increased from \$3,326.0 at 30 September 2019 to \$3,341.2 at 31 December 2019. The current year total debt balance includes \$367.4 of related party debt associated with the Lu'An joint venture.

We have a \$2,300.0 revolving credit agreement with a syndicate of banks (the "Credit Agreement") maturing 31 March 2022. Under the Credit Agreement, senior unsecured debt is available to both the Company and certain of its subsidiaries. The Credit Agreement provides a source of liquidity for the Company and supports its commercial paper program. The Company's only financial covenant is a maximum ratio of total debt to total capitalization no greater than 70%. No borrowings were outstanding under the Credit Agreement as of 31 December 2019 or 30 September 2019.

There were no outstanding commitments maintained by our foreign subsidiaries as of 31 December 2019.

As of 31 December 2019, we were in compliance with all of the financial and other covenants under our debt agreements.

On 15 September 2011, the Board of Directors authorized the repurchase of up to \$1,000 of our outstanding common stock. During the first three months of fiscal year 2020, we did not purchase any of our outstanding shares. At 31 December 2019, \$485.3 in share repurchase authorization remained.

Dividends

On 23 January 2019, the Board of Directors declared the second quarter dividend of \$1.34 per share. The dividend is payable on 11 May 2020 to shareholders of record at the close of business on 1 April 2020.

CONTRACTUAL OBLIGATIONS

We are obligated to make future payments under various contracts, such as debt agreements, lease agreements, unconditional purchase obligations, and other long-term obligations. There have been no material changes to our contractual obligations since 30 September 2019.

PENSION BENEFITS

For the three months ended 31 December 2019 and 2018, net periodic pension cost was \$0.4 and \$6.9, respectively. We recognized service-related costs of \$11.9 and \$10.6, respectively, on our consolidated income statements within operating income. The non-service benefits of \$11.5 and \$3.7 were included in "Other non-operating income (expense), net" for the three months ended 31 December 2019 and 2018, respectively. The decrease in pension expense in fiscal year 2020 resulted from lower interest cost and higher expected return on assets, partially offset by higher loss amortization, primarily due to the impact of lower discount rates. The amount of service costs capitalized in the first three months of fiscal years 2020 and 2019 were not material.

For the three months ended 31 December 2018, we recognized pension settlement losses of \$1.0 to accelerate recognition of a portion of actuarial gains and losses deferred in accumulated other comprehensive loss. These losses are included within "Other non-operating income (expense), net" on our consolidated income statements. Pension settlement losses in fiscal year 2019 were primarily associated with the U.S. supplementary pension plan. We expect total pension settlement losses of approximately \$5 to \$10 in fiscal year 2020.

Management considers various factors when making pension funding decisions, including tax, cash flow, and regulatory implications. For the three months ended 31 December 2019 and 2018, our cash contributions to funded pension plans and benefit payments for unfunded pension plans were \$8.3 and \$19.5, respectively. Total contributions for fiscal 2020 are expected to be approximately \$30 to \$40. During fiscal year 2019, total contributions were \$40.2.

Refer to Note 10, *Retirement Benefits*, to the consolidated financial statements for details on pension cost and cash contributions.

COMMITMENTS AND CONTINGENCIES

Refer to Note 11, *Commitments and Contingencies*, to the consolidated financial statements for information concerning our commitments and contingencies, including litigation and environmental matters.

OFF-BALANCE SHEET ARRANGEMENTS

There have been no material changes to off-balance sheet arrangements since 30 September 2019. We are not a primary beneficiary in any material variable interest entity. Our off-balance sheet arrangements are not reasonably likely to have a material impact on financial condition, changes in financial condition, results of operations, or liquidity.

RELATED PARTY TRANSACTIONS

We have related party sales to some of our equity affiliates and joint venture partners as well as other income primarily from fees charged for use of Air Products' patents and technology. Sales to and other income from related parties totaled approximately \$90 and \$100 for the three months ended 31 December 2019 and 2018, respectively. Sales agreements with related parties include terms that are consistent with those that we believe would have been negotiated at an arm's length with an independent party.

In addition, we have related party liabilities with the partner of our Air Products Lu An (Changzhi) Co., Ltd. joint venture. Refer to Note 16, *Supplemental Information*, to the consolidated financial statements for additional information.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Management's Discussion and Analysis of our financial condition and results of operations is based on the consolidated financial statements and accompanying notes that have been prepared in accordance with GAAP. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Judgments and estimates of uncertainties are required in applying our accounting policies in many areas. However, application of policies that management has identified as critical places significant importance on management's judgment, often as the result of the need to make estimates of matters that are inherently uncertain. If actual results were to differ materially from these estimates, the reported results could be materially affected. A description of our major accounting policies, including those identified as critical, is included in our 2019 Form 10-K.

There have been no changes to our accounting policies or estimates during the first three months of fiscal year 2020 that had a significant impact on our financial condition, change in financial condition, liquidity, or results of operations.

NEW ACCOUNTING GUIDANCE

See Note 2, *New Accounting Guidance*, and Note 7, *Leases*, to the consolidated financial statements for information concerning the implementation and impact of new accounting guidance.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Information on our utilization of financial instruments and an analysis of the sensitivity of these instruments to selected changes in market rates and prices is included in our 2019 Form 10-K.

Our net financial instrument position decreased from a liability of \$3,239.1 at 30 September 2019 to a liability of \$3,235.1 at 31 December 2019.

Interest Rate Risk

The sensitivity analysis related to the interest rate risk on the fixed portion of our debt portfolio assumes an instantaneous 100 bp move in interest rates from the level at 31 December 2019, with all other variables held constant. A 100 bp increase in market interest rates would result in a decrease of \$72 and \$75 in the net liability position of financial instruments at 31 December 2019 and 30 September 2019, respectively. A 100 bp decrease in market interest rates would result in an increase of \$76 and \$80 in the net liability position of financial instruments at 31 December 2019 and 30 September 2019.

There were no material changes to the sensitivity analysis related to the variable portion of our debt portfolio since 30 September 2019.

Foreign Currency Exchange Rate Risk

The sensitivity analysis related to foreign currency exchange rates assumes an instantaneous 10% change in foreign currency exchange rates from their levels at 31 December 2019, with all other variables held constant. A 10% strengthening or weakening of the functional currency of an entity versus all other currencies would result in a decrease or increase, respectively, of \$322 and \$326 in the net liability position of financial instruments at 31 December 2019 and 30 September 2019, respectively.

Item 4. Controls and Procedures

Disclosure Controls and Procedures

We maintain a comprehensive set of disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Under the supervision of the Chief Executive Officer and Chief Financial Officer, the Company's management conducted an evaluation of the effectiveness of the Company's disclosure controls and procedures as of 31 December 2019. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that, as of 31 December 2019, the disclosure controls and procedures were effective.

Internal Control Over Financial Reporting

There was no change in the Company's internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the quarter ended 31 December 2019 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II. OTHER INFORMATION

Item 5. Other Information

Not applicable.

Item 6. Exhibits.

(a) Exhibits required by Item 601 of Regulation S-K

Exhibit No.	Description
(3)	Articles of Incorporation and Bylaws.
3.1	Amended and Restated Bylaws of the Company effective 26 November 2019.
(10)	Material Contracts
10.1	Amended and Restated Deferred Compensation Program for Directors effective 7 October 2019.
10.2	Compensation Program for Non-Employee Directors effective 26 November 2019.
(31)	Rule 13a-14(a)/15d-14(a) Certifications
31.1	Certification by the Principal Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification by the Principal Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
(32)	Section 1350 Certifications
32.1	Certification by the Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. †
(101)	Interactive Data Files
101.INS	Inline XBRL Instance Document. The XBRL Instance Document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	Inline XBRL Taxonomy Extension Schema Document.
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.
104	Cover Page Interactive Data File, formatted in Inline XBRL (included in Exhibit 101).

† The certification attached as Exhibit 32 that accompanies this Quarterly Report on Form 10-Q is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Air Products and Chemicals, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Form 10-Q, irrespective of any general incorporation language contained in such filing.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Air Products and Chemicals, Inc.

(Registrant)

Date: 24 January 2020

By:

/s/ M. Scott Crocco

M. Scott Crocco

Executive Vice President and Chief Financial Officer