

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 March 2021

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

(State or other jurisdiction of incorporation or organization)

23-1274455

(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
0.375% Euro Notes due 2021	APD21B	New York Stock Exchange
1.000% Euro Notes due 2025	APD25	New York Stock Exchange
0.500% Euro Notes due 2028	APD28	New York Stock Exchange
0.800% Euro Notes due 2032	APD32	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, par value \$1 per share, outstanding at 31 March 2021 was 221,314,258.

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
QUARTERLY REPORT ON FORM 10-Q
For the quarterly period ended 31 March 2021

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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,” “future,” “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:

- the duration and impacts of the novel coronavirus (“COVID-19”) global pandemic and efforts to contain its transmission, including the effect of these factors on our business, our customers, economic conditions and markets generally;
- changes in global or regional economic conditions, supply and demand dynamics in the market segments we serve, or in the financial markets that may affect the availability and terms on which we may obtain financing;
- 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;
- our ability to develop, implement, and operate new technologies;
- our ability 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 and extreme weather events, public health crises, acts of war, or terrorism;
- the impact on our business and customers 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;

FORWARD-LOOKING STATEMENTS (CONTINUED)

- 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 fiscal year ended 30 September 2020. 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. Financial Statements

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

	Three Months Ended 31 March		Six Months Ended 31 March	
	2021	2020	2021	2020
<i>(Millions of dollars, except for share and per share data)</i>				
Sales	\$2,502.0	\$2,216.3	\$4,877.2	\$4,471.0
Cost of sales	1,745.5	1,460.1	3,377.9	2,946.7
Facility closure	23.2	—	23.2	—
Selling and administrative	210.3	201.7	413.0	403.4
Research and development	21.1	19.2	44.6	36.9
Gain on exchange with joint venture partner	36.8	—	36.8	—
Company headquarters relocation income (expense)	—	33.8	—	33.8
Other income (expense), net	9.8	8.1	32.3	20.4
Operating Income	548.5	577.2	1,087.6	1,138.2
Equity affiliates' income	69.8	88.2	139.1	146.4
Interest expense	36.1	19.3	72.8	38.0
Other non-operating income (expense), net	16.8	7.1	35.4	16.2
Income From Continuing Operations Before Taxes	599.0	653.2	1,189.3	1,262.8
Income tax provision	121.9	148.5	235.8	269.2
Income From Continuing Operations	477.1	504.7	953.5	993.6
Income (Loss) from discontinued operations, net of tax	—	(14.3)	10.3	(14.3)
Net Income	477.1	490.4	963.8	979.3
Net income attributable to noncontrolling interests of continuing operations	4.0	12.6	8.7	25.9
Net Income Attributable to Air Products	\$473.1	\$477.8	\$955.1	\$953.4
Net Income Attributable to Air Products				
Net income from continuing operations	\$473.1	\$492.1	\$944.8	\$967.7
Net income (loss) from discontinued operations	—	(14.3)	10.3	(14.3)
Net Income Attributable to Air Products	\$473.1	\$477.8	\$955.1	\$953.4
Per Share Data*				
Basic EPS from continuing operations	\$2.13	\$2.22	\$4.26	\$4.38
Basic EPS from discontinued operations	—	(0.06)	0.05	(0.06)
Basic EPS Attributable to Air Products	\$2.13	\$2.16	\$4.31	\$4.31
Diluted EPS from continuing operations	\$2.13	\$2.21	\$4.25	\$4.36
Diluted EPS from discontinued operations	—	(0.06)	0.05	(0.06)
Diluted EPS Attributable to Air Products	\$2.13	\$2.15	\$4.29	\$4.29
Weighted Average Common Shares (in millions)				
Basic	221.6	221.2	221.6	221.0
Diluted	222.5	222.3	222.5	222.2

*Earnings per share ("EPS") is calculated independently for each component and may not sum to total EPS due to rounding.

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 March	
(Millions of dollars)	2021	2020
Net Income	\$477.1	\$490.4
Other Comprehensive Loss, net of tax:		
Translation adjustments, net of tax of \$22.6 and \$11.3	(144.6)	(398.2)
Net gain (loss) on derivatives, net of tax of (\$13.2) and \$6.0	(5.2)	(27.4)
Reclassification adjustments:		
Derivatives, net of tax of \$12.0 and (\$5.0)	36.0	(17.0)
Pension and postretirement benefits, net of tax of \$5.9 and \$6.5	18.3	21.2
Total Other Comprehensive Loss	(95.5)	(421.4)
Comprehensive Income	381.6	69.0
Net Income Attributable to Noncontrolling Interests	4.0	12.6
Other Comprehensive Income (Loss) Attributable to Noncontrolling Interests	15.6	(31.8)
Comprehensive Income Attributable to Air Products	\$362.0	\$88.2

	Six Months Ended 31 March	
(Millions of dollars)	2021	2020
Net Income	\$963.8	\$979.3
Other Comprehensive Income (Loss), net of tax:		
Translation adjustments, net of tax of (\$1.6) and \$0.5	271.1	(134.2)
Net gain (loss) on derivatives, net of tax of (\$10.5) and \$8.6	8.6	(5.3)
Reclassification adjustments:		
Derivatives, net of tax of \$11.2 and (\$5.8)	34.7	(20.6)
Pension and postretirement benefits, net of tax of \$11.8 and \$13.0	36.6	40.9
Total Other Comprehensive Income (Loss)	351.0	(119.2)
Comprehensive Income	1,314.8	860.1
Net Income Attributable to Noncontrolling Interests	8.7	25.9
Other Comprehensive Income (Loss) Attributable to Noncontrolling Interests	35.3	(16.6)
Comprehensive Income Attributable to Air Products	\$1,270.8	\$850.8

The accompanying notes are an integral part of these statements.

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

	31 March 2021	30 September 2020
<i>(Millions of dollars, except for share and per share data)</i>		
Assets		
Current Assets		
Cash and cash items	\$5,786.3	\$5,253.0
Short-term investments	409.2	1,104.9
Trade receivables, net	1,388.9	1,274.8
Inventories	430.3	404.8
Prepaid expenses	206.8	164.5
Other receivables and current assets	545.1	482.9
Total Current Assets	8,766.6	8,684.9
Investment in net assets of and advances to equity affiliates	1,538.2	1,432.2
Plant and equipment, at cost	26,438.5	25,176.2
Less: accumulated depreciation	13,810.2	13,211.5
Plant and equipment, net	12,628.3	11,964.7
Goodwill, net	914.7	891.5
Intangible assets, net	449.1	435.8
Noncurrent lease receivables	789.2	816.3
Other noncurrent assets	1,072.8	943.1
Total Noncurrent Assets	17,392.3	16,483.6
Total Assets	\$26,158.9	\$25,168.5
Liabilities and Equity		
Current Liabilities		
Payables and accrued liabilities	\$2,042.2	\$1,833.2
Accrued income taxes	86.7	105.8
Short-term borrowings	15.4	7.7
Current portion of long-term debt	873.1	470.0
Total Current Liabilities	3,017.4	2,416.7
Long-term debt	6,804.6	7,132.9
Long-term debt – related party	311.3	297.2
Other noncurrent liabilities	1,840.0	1,916.0
Deferred income taxes	1,050.8	962.6
Total Noncurrent Liabilities	10,006.7	10,308.7
Total Liabilities	13,024.1	12,725.4
Commitments and Contingencies - See Note 12		
Air Products Shareholders' Equity		
Common stock (par value \$1 per share; issued 2021 and 2020 - 249,455,584 shares)	249.4	249.4
Capital in excess of par value	1,094.4	1,094.8
Retained earnings	15,200.0	14,875.7
Accumulated other comprehensive loss	(1,824.4)	(2,140.1)
Treasury stock, at cost (2021 - 28,141,326 shares; 2020 - 28,438,125 shares)	(1,993.2)	(2,000.0)
Total Air Products Shareholders' Equity	12,726.2	12,079.8
Noncontrolling Interests	408.6	363.3
Total Equity	13,134.8	12,443.1
Total Liabilities and Equity	\$26,158.9	\$25,168.5

The accompanying notes are an integral part of these statements.

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

	Six Months Ended 31 March	
(Millions of dollars)	2021	2020
Operating Activities		
Net income	\$963.8	\$979.3
Less: Net income attributable to noncontrolling interest of continuing operations	8.7	25.9
Net income attributable to Air Products	955.1	953.4
(Income) Loss from discontinued operations	(10.3)	14.3
Income from continuing operations attributable to Air Products	944.8	967.7
Adjustments to reconcile income to cash provided by operating activities:		
Depreciation and amortization	653.0	583.9
Deferred income taxes	76.1	55.0
Facility closure	23.2	—
Undistributed earnings of equity method investments	(58.7)	(101.6)
Gain on sale of assets and investments	(26.2)	(40.5)
Share-based compensation	22.4	26.9
Noncurrent lease receivables	43.4	47.1
Other adjustments	(6.5)	54.0
Working capital changes that provided (used) cash, excluding effects of acquisitions:		
Trade receivables	(74.8)	(111.9)
Inventories	(25.4)	(16.5)
Other receivables	15.7	(0.7)
Payables and accrued liabilities	135.7	(111.8)
Other working capital	(142.4)	(113.1)
Cash Provided by Operating Activities	1,580.3	1,238.5
Investing Activities		
Additions to plant and equipment, including long-term deposits	(1,227.8)	(930.6)
Investment in and advances to unconsolidated affiliates	(69.8)	(22.7)
Proceeds from sale of assets and investments	14.8	68.0
Purchases of investments	(569.0)	—
Proceeds from investments	1,265.5	177.0
Other investing activities	3.1	1.9
Cash Used for Investing Activities	(583.2)	(706.4)
Financing Activities		
Long-term debt proceeds	92.8	—
Payments on long-term debt	(15.9)	(3.4)
Net increase (decrease) in commercial paper and short-term borrowings	33.6	(33.3)
Dividends paid to shareholders	(592.7)	(511.7)
Proceeds from stock option exercises	4.7	20.2
Other financing activities	(25.7)	(9.6)
Cash Used for Financing Activities	(503.2)	(537.8)
Discontinued Operations		
Cash provided by operating activities	6.7	—
Cash provided by investing activities	—	—
Cash provided by financing activities	—	—
Cash Provided by Discontinued Operations	6.7	—
Effect of Exchange Rate Changes on Cash	32.7	(22.9)
Increase (Decrease) in cash and cash items	533.3	(28.6)
Cash and cash items – Beginning of Year	5,253.0	2,248.7
Cash and Cash Items – End of Period	\$5,786.3	\$2,220.1

The accompanying notes are an integral part of these statements.

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries

CONSOLIDATED STATEMENTS OF EQUITY

(Unaudited)

Six Months Ended
31 March 2021

<i>(Millions of dollars, except for per share data)</i>	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 2020	\$249.4	\$1,094.8	\$14,875.7	(\$2,140.1)	(\$2,000.0)	\$12,079.8	\$363.3	\$12,443.1
Net income	—	—	955.1	—	—	955.1	8.7	963.8
Other comprehensive income (loss)	—	—	—	315.7	—	315.7	35.3	351.0
Dividends on common stock (per share \$2.84)	—	—	(628.5)	—	—	(628.5)	—	(628.5)
Dividends to noncontrolling interests	—	—	—	—	—	—	(3.4)	(3.4)
Share-based compensation	—	22.3	—	—	—	22.3	—	22.3
Issuance of treasury shares for stock option and award plans	—	(21.7)	—	—	6.8	(14.9)	—	(14.9)
Investments by noncontrolling interests	—	—	—	—	—	—	8.7	8.7
Purchase of noncontrolling interests	—	(1.2)	—	—	—	(1.2)	(4.1)	(5.3)
Other equity transactions	—	0.2	(2.3)	—	—	(2.1)	0.1	(2.0)
Balance at 31 March 2021	\$249.4	\$1,094.4	\$15,200.0	(\$1,824.4)	(\$1,993.2)	\$12,726.2	\$408.6	\$13,134.8

Six Months Ended
31 March 2020

<i>(Millions of dollars, except for per share data)</i>	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	—	—	953.4	—	—	953.4	25.9	979.3
Other comprehensive income (loss)	—	—	—	(102.6)	—	(102.6)	(16.6)	(119.2)
Dividends on common stock (per share \$2.50)	—	—	(551.9)	—	—	(551.9)	—	(551.9)
Dividends to noncontrolling interests	—	—	—	—	—	—	(4.4)	(4.4)
Share-based compensation	—	24.6	—	—	—	24.6	—	24.6
Issuance of treasury shares for stock option and award plans	—	(16.2)	—	—	18.4	2.2	—	2.2
Investments by noncontrolling interests	—	—	—	—	—	—	11.9	11.9
Other equity transactions	—	(4.7)	(2.7)	—	—	(7.4)	0.3	(7.1)
Balance at 31 March 2020	\$249.4	\$1,074.6	\$14,537.2	(\$2,478.2)	(\$2,011.1)	\$11,371.9	\$351.8	\$11,723.7

The accompanying notes are an integral part of these statements.

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

Three Months Ended 31 March 2021								
(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 31 December 2020	\$249.4	\$1,083.0	\$15,060.5	(\$1,713.3)	(\$1,996.0)	\$12,683.6	\$388.3	\$13,071.9
Net income	—	—	473.1	—	—	473.1	4.0	477.1
Other comprehensive income (loss)	—	—	—	(111.1)	—	(111.1)	15.6	(95.5)
Dividends on common stock (per share \$1.50)	—	—	(332.0)	—	—	(332.0)	—	(332.0)
Dividends to noncontrolling interests	—	—	—	—	—	—	(3.4)	(3.4)
Share-based compensation	—	12.0	—	—	—	12.0	—	12.0
Issuance of treasury shares for stock option and award plans	—	(0.7)	—	—	2.8	2.1	—	2.1
Investment by noncontrolling interests	—	—	—	—	—	—	4.0	4.0
Other equity transactions	—	0.1	(1.6)	—	—	(1.5)	0.1	(1.4)
Balance at 31 March 2021	\$249.4	\$1,094.4	\$15,200.0	(\$1,824.4)	(\$1,993.2)	\$12,726.2	\$408.6	\$13,134.8

Three Months Ended 31 March 2020								
(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 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
Net income	—	—	477.8	—	—	477.8	12.6	490.4
Other comprehensive income (loss)	—	—	—	(389.6)	—	(389.6)	(31.8)	(421.4)
Dividends on common stock (per share \$1.34)	—	—	(295.9)	—	—	(295.9)	—	(295.9)
Dividends to noncontrolling interests	—	—	—	—	—	—	(3.1)	(3.1)
Share-based compensation	—	10.7	—	—	—	10.7	—	10.7
Issuance of treasury shares for stock option and award plans	—	2.3	—	—	12.3	14.6	—	14.6
Other equity transactions	—	(0.1)	(1.6)	—	—	(1.7)	0.3	(1.4)
Balance at 31 March 2020	\$249.4	\$1,074.6	\$14,537.2	(\$2,478.2)	(\$2,011.1)	\$11,371.9	\$351.8	\$11,723.7

The accompanying notes are an integral part of these statements.

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)

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1. BASIS OF PRESENTATION AND MAJOR ACCOUNTING POLICIES

Basis of Presentation

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 the interim consolidated financial statements. These notes, unless otherwise indicated, are presented on a continuing operations basis.

To fully understand the basis of presentation, the interim 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 fiscal year ended 30 September 2020 (the "2020 Form 10-K"). Results of operations for interim periods are not necessarily indicative of the results of operations for a full year.

COVID-19 Risks and Uncertainties

The novel strain of coronavirus ("COVID-19"), which was declared a global pandemic by the World Health Organization in March 2020, continues to impact our business operations and results. We are encouraged by signs of improvement in our business. However, there are many unknowns regarding the pandemic, including the ongoing spread and severity of the virus and the pace of vaccine rollouts globally. Given the dynamic nature of these circumstances, uncertainty remains related to how the pandemic may affect our business, results of operations, and overall financial performance.

Major Accounting Policies

Refer to our 2020 Form 10-K for a description of major accounting policies. In fiscal year 2021, accounting policies related to customer credit losses were impacted by the implementation of certain new accounting guidance, as further discussed below and in Note 2, *New Accounting Guidance*. There were no other notable changes to our accounting policies during the first six months of fiscal year 2021.

Credit Losses

We are exposed to credit losses through sales of products and services. When extending credit, we evaluate customer creditworthiness based on a combination of qualitative and quantitative factors that include, but are not limited to, the customer's credit score from external providers, financial condition, and past payment experience.

We assess allowances for credit losses on our trade receivables and lease receivable portfolios. Allowances are evaluated by portfolio on a collective basis where similar characteristics exist. A provision for customer defaults is made on a general formula basis as the risk of some default is expected but cannot yet be associated with specific customers. The assessment of the likelihood of default is based on various factors, including the length of time the receivables are past due, historical experience, existing economic conditions, and forward-looking information. When we identify specific customers with known collectability issues, the assessment for credit losses is performed on an individual basis, considering current and forward-looking information of the customer.

The use of forward-looking information considers economic conditions that may affect the customers' ability to pay. Although we historically have not experienced significant credit losses, our exposure to credit losses may increase if our customers are adversely affected by economic pressures or uncertainty associated with local or global economic recessions, disruption associated with the ongoing COVID-19 pandemic, or other customer-specific factors. We review our reserves for credit losses on a quarterly basis.

Trade receivables comprise amounts owed to us through our operating activities and are presented net of allowances for credit losses.

Changes to the carrying amount of the allowance for credit losses on trade receivables for the six months ended 31 March 2021 are as follows:

Balance at 30 September 2020	\$23.9
Adoption of new credit losses standard	0.5
Provision for credit losses	1.2
Write-offs charged against the allowance	(1.6)
Currency translation and other	2.6
Balance at 31 March 2021	\$26.6

Lease receivables, net, primarily relate to sales-type leases on certain on-site assets which are collected over the contract term. As of 31 March 2021 and 30 September 2020, our lease receivables, net were \$875.7 and \$903.0, respectively. Lease receivables, net, are primarily included within "Noncurrent lease receivables" on our consolidated balance sheets, with the remaining balance in "Other receivables and current assets." The majority of our leases are of high credit quality and were originated prior to fiscal year 2017. Allowances for credit losses on lease receivables were not material as of 31 March 2021 and 30 September 2020, respectively.

2. NEW ACCOUNTING GUIDANCE

Accounting Guidance Implemented in Fiscal Year 2021

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 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 previous guidance, which delayed recognition of a credit loss until it was probable that a loss had been incurred. We adopted this guidance on 1 October 2020 using a modified retrospective approach with an after-tax cumulative-effect adjustment of \$1.3 to retained earnings. Refer to the "Major Accounting Policies – Credit Losses" section of Note 1, *Basis of Presentation and Major Accounting Policies*, for a description of our accounting policy on credit losses.

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. We adopted this guidance prospectively at the beginning of fiscal year 2021. Eligible implementation costs previously capitalized in "Plant and equipment, net" were reclassified to "Other noncurrent assets" on our consolidated balance sheets beginning in fiscal year 2021. This guidance did not have a material impact on our consolidated financial statements upon adoption.

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. We adopted this guidance at the beginning of fiscal year 2021. This guidance did not have a material impact on our consolidated financial statements upon adoption.

New Accounting Guidance to be Implemented

Reference Rate Reform

In March 2020, the FASB issued an update to provide practical expedients and exceptions for applying GAAP to contracts, hedging relationships and other transactions affected by reference rate reform if certain criteria are met. This update is primarily applicable to our contracts and hedging relationships that reference LIBOR. The amendments may be applied to impacted contracts and hedges prospectively through 31 December 2022. To date, we have had no impacts on our hedging relationships related to reference rate reform. We will continue to evaluate the impact this guidance could have on our consolidated financial statements.

3. ACQUISITIONS

Gain on Exchange With Joint Venture Partner

As of 30 September 2020, we held a 50% ownership interest in Tyczka Industrie-Gases GmbH ("TIG"), a joint venture in Germany with the Tyczka Group that is primarily a merchant gases business. We accounted for this arrangement as an equity method investment in our Industrial Gases – EMEA segment.

Effective 23 February 2021 (the "acquisition date"), we agreed with our joint venture partner to separate TIG into two separate businesses. On the acquisition date, we acquired a portion of the business on a 100% basis, and our partner paid us \$10.8 to acquire the rest of the business. The exchange resulted in a gain of \$36.8 (\$27.3 after-tax), which is reflected as "Gain on exchange with joint venture partner" on our consolidated income statements for the three and six months ended 31 March 2021. The gain included \$12.7 from the revaluation of our previously held equity interest in the portion of the business that we retained and \$24.1 from the sale of our equity interest in the remaining business. The gain was not recorded in segment results.

We estimated an acquisition date fair value of \$15.4 for our previously held equity interest in the acquired portion of the business using a market approach, which considered historical earnings and the application of a market-based multiple derived from comparable transactions.

We accounted for the acquisition as a business combination within our Industrial Gases – EMEA segment. As a result of the acquisition, we recognized intangible assets of \$16.7 for customer relationships, goodwill of \$14.5, and plant and equipment of \$10.3. The customer relationships have a weighted-average useful life of approximately 15 years.

The acquired assets were recorded at their estimated fair values based primarily on a preliminary purchase price allocation. We may record adjustments to these assets during the preliminary purchase price allocation period, which could be up to one year from the acquisition date.

We expect the acquisition to allow us to have more control over the business we retained and to serve customers more effectively. The results of this business did not materially impact our consolidated income statements for the periods presented.

4. REVENUE RECOGNITION

The majority of our revenue is generated from our sale of gas customers within the 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 and six months ended 31 March 2021 and 2020. 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 March 2021							
On-site	\$636.7	\$202.3	\$416.0	\$—	\$—	\$1,255.0	50 %
Merchant	419.4	382.3	281.5	—	—	1,083.2	43 %
Sale of Equipment	—	—	—	97.9	65.9	163.8	7 %
Total	\$1,056.1	\$584.6	\$697.5	\$97.9	\$65.9	\$2,502.0	100 %
Three Months Ended 31 March 2020							
On-site	\$516.2	\$160.3	\$425.6	\$—	\$—	\$1,102.1	50 %
Merchant	416.2	332.4	232.5	—	—	981.1	44 %
Sale of Equipment	—	—	—	79.3	53.8	133.1	6 %
Total	\$932.4	\$492.7	\$658.1	\$79.3	\$53.8	\$2,216.3	100 %

	Industrial Gases— Americas	Industrial Gases— EMEA	Industrial Gases— Asia	Industrial Gases— Global	Corporate and other	Total	%
Six Months Ended 31 March 2021							
On-site	\$1,178.0	\$391.0	\$830.9	\$—	\$—	\$2,399.9	49 %
Merchant	811.1	756.6	584.1	—	—	2,151.8	44 %
Sale of Equipment	—	—	—	202.4	123.1	325.5	7 %
Total	\$1,989.1	\$1,147.6	\$1,415.0	\$202.4	\$123.1	\$4,877.2	100 %
Six Months Ended 31 March 2020							
On-site	\$1,050.7	\$331.7	\$843.9	\$—	\$—	\$2,226.3	50 %
Merchant	817.9	659.7	507.0	—	—	1,984.6	44 %
Sale of Equipment	—	—	—	171.9	88.2	260.1	6 %
Total	\$1,868.6	\$991.4	\$1,350.9	\$171.9	\$88.2	\$4,471.0	100 %

Remaining Performance Obligations

As of 31 March 2021, the transaction price allocated to remaining performance obligations is estimated to be approximately \$24 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 our control, including, but not limited to, inflationary price escalations; currency exchange rates; and amended, terminated, or renewed contracts.

Contract Balances

The table below details balances arising from contracts with customers:

	Balance Sheet Location	31 March 2021	30 September 2020
Assets			
Contract assets – current	Other receivables and current assets	\$68.8	\$55.9
Contract fulfillment costs – current	Other receivables and current assets	154.5	109.9
Liabilities			
Contract liabilities – current	Payables and accrued liabilities	413.0	313.8
Contract liabilities – noncurrent	Other noncurrent liabilities	59.4	57.9

Changes to our contract balances primarily relate to our sale of equipment contracts. During the six months ended 31 March 2021, we recognized approximately \$145 in revenue associated with sale of equipment contracts that was included within our contract liabilities as of 30 September 2020.

5. DISCONTINUED OPERATIONS

In the first quarter of fiscal year 2021, we recorded a tax benefit of \$10.3 as a component of discontinued operations. This benefit primarily resulted from the settlement of a state tax appeal related to the gain on the sale of our former Performance Materials Division in fiscal year 2017. The benefit is reflected within "Income from discontinued operations, net of tax" on our consolidated income statement for the six months ended 31 March 2021. Our consolidated statement of cash flows for the six months ended 31 March 2021 includes \$6.7 received as part of the settlement.

In the second quarter of fiscal year 2020, we recorded a pre-tax loss from discontinued operations of \$19.0 (\$14.3 after-tax) to increase our existing environmental liability associated with the sale of our former Amines business in September 2006. Refer to the Pace discussion within Note 12, *Commitments and Contingencies*, for additional information. The loss did not have an impact on our consolidated statement of cash flows for the six months ended 31 March 2020.

6. INVENTORIES

The components of inventories are as follows:

	31 March 2021	30 September 2020
Finished goods	\$143.7	\$134.5
Work in process	25.0	21.3
Raw materials, supplies and other	261.6	249.0
Inventories	\$430.3	\$404.8

7. GOODWILL

Changes to the carrying amount of consolidated goodwill by segment for the six months ended 31 March 2021 are as follows:

	Industrial Gases— Americas	Industrial Gases— EMEA	Industrial Gases— Asia	Industrial Gases— Global	Corporate and other	Total
Goodwill, net at 30 September 2020	\$152.6	\$524.1	\$180.4	\$19.5	\$14.9	\$891.5
Acquisitions ^(A)	—	14.5	—	—	—	14.5
Currency translation and other	4.4	0.9	3.0	0.4	—	8.7
Goodwill, net at 31 March 2021	\$157.0	\$539.5	\$183.4	\$19.9	\$14.9	\$914.7

^(A) We recognized goodwill for expected cost synergies and growth opportunities resulting from a business combination in the second quarter of fiscal year 2021. Refer to Note 3, *Acquisitions*, for additional information. The goodwill recognized is not deductible for tax purposes.

	31 March 2021	30 September 2020
Goodwill, gross	\$1,284.8	\$1,230.2
Accumulated impairment losses ^(B)	(370.1)	(338.7)
Goodwill, net	\$914.7	\$891.5

^(B) 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.

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 and third-party debt. 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 March 2021 is 2.3 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 our business activity and sourcing decisions.

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

	31 March 2021		30 September 2020	
	US\$ Notional	Years Average Maturity	US\$ Notional	Years Average Maturity
Forward Exchange Contracts:				
Cash flow hedges	\$2,985.0	0.4	\$2,842.1	0.5
Net investment hedges	656.4	3.3	636.6	3.8
Not designated	775.7	0.2	1,685.2	0.3
Total Forward Exchange Contracts	\$4,417.1	0.8	\$5,163.9	0.8

The decrease in the notional value of forward exchange contracts that are not designated is primarily due to maturities.

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 €1,303.8 million (\$1,529.1) at 31 March 2021 and €1,288.7 million (\$1,510.8) at 30 September 2020. 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 March 2021, 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.

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

	31 March 2021				30 September 2020			
	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 %	0.6	\$200.0	LIBOR	2.76 %	1.1
Cross currency interest rate swaps (net investment hedge)	\$199.3	4.26 %	3.12 %	2.7	\$201.6	4.27 %	3.12 %	3.2
Cross currency interest rate swaps (cash flow hedge)	\$1,145.9	4.79 %	2.93 %	2.4	\$1,057.9	4.83 %	2.98 %	2.5
Cross currency interest rate swaps (not designated)	\$15.1	5.39 %	3.54 %	2.7	\$12.8	5.39 %	3.54 %	3.2

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 March 2021	30 September 2020	31 March 2021	30 September 2020
Current portion of long-term debt	\$402.8	\$—	\$3.0	\$—
Long-term debt	—	405.4	—	5.7

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

	Balance Sheet Location	31 March 2021	30 September 2020	Balance Sheet Location	31 March 2021	30 September 2020
Derivatives Designated as Hedging Instruments:						
Forward exchange contracts	Other receivables and current assets	\$45.4	\$51.1	Payables and accrued liabilities	\$55.5	\$22.5
Interest rate management contracts	Other receivables and current assets	10.3	14.7	Payables and accrued liabilities	6.5	0.4
Forward exchange contracts	Other noncurrent assets	2.0	0.8	Other noncurrent liabilities	37.2	33.0
Interest rate management contracts	Other noncurrent assets	18.5	44.3	Other noncurrent liabilities	26.4	1.7
Total Derivatives Designated as Hedging Instruments		\$76.2	\$110.9		\$125.6	\$57.6
Derivatives Not Designated as Hedging Instruments:						
Forward exchange contracts	Other receivables and current assets	\$19.6	\$31.7	Payables and accrued liabilities	\$17.1	\$28.0
Forward exchange contracts	Other noncurrent assets	0.1	—	Other noncurrent liabilities	—	—
Interest rate management contracts	Other noncurrent assets	0.1	0.7	Other noncurrent liabilities	—	—
Total Derivatives Not Designated as Hedging Instruments		\$19.8	\$32.4		\$17.1	\$28.0
Total Derivatives		\$96.0	\$143.3		\$142.7	\$85.6

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.

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 March		Six Months Ended 31 March	
	2021	2020	2021	2020
Net Investment Hedging Relationships				
Forward exchange contracts	\$18.6	\$40.5	(\$17.3)	\$31.4
Foreign currency debt	63.5	16.7	(0.7)	(13.2)
Cross currency interest rate swaps	1.9	12.4	(12.3)	8.9
Total Amount Recognized in OCI	84.0	69.6	(30.3)	27.1
Tax effects	(21.2)	(16.8)	7.4	(6.6)
Net Amount Recognized in OCI	\$62.8	\$52.8	(\$22.9)	\$20.5

	Three Months Ended 31 March		Six Months Ended 31 March	
	2021	2020	2021	2020
Derivatives in Cash Flow Hedging Relationships				
Forward exchange contracts	(\$57.3)	(\$10.1)	\$7.4	\$16.2
Forward exchange contracts, excluded components	(4.3)	(2.8)	(7.0)	(7.3)
Other ^(A)	43.2	(8.5)	(2.3)	(5.6)
Total Amount Recognized in OCI	(18.4)	(21.4)	(1.9)	3.3
Tax effects	13.2	(6.0)	10.5	(8.6)
Net Amount Recognized in OCI	(\$5.2)	(\$27.4)	\$8.6	(\$5.3)

^(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. Other also includes the recognition of our share of gains and losses, net of tax, related to interest rate swaps held by our equity affiliates.

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

	Three Months Ended 31 March							
	Sales		Cost of Sales		Interest Expense		Other Non-Operating Income (Expense), Net	
	2021	2020	2021	2020	2021	2020	2021	2020
Total presented in consolidated income statements that includes effects of hedging below	\$2,502.0	\$2,216.3	\$1,745.5	\$1,460.1	\$36.1	\$19.3	\$16.8	\$7.1
(Gain) Loss Effects of Cash Flow Hedging:								
Forward Exchange Contracts:								
Amount reclassified from OCI into income	\$0.1	(\$0.2)	(\$1.8)	(\$0.6)	\$—	\$—	\$54.0	\$5.9
Amount excluded from effectiveness testing recognized in earnings based on amortization approach	—	—	—	—	—	—	2.6	4.1
Other:								
Amount reclassified from OCI into income	—	—	—	—	1.4	1.0	(8.3)	(32.2)
Total (Gain) Loss Reclassified from OCI to Income	0.1	(0.2)	(1.8)	(0.6)	1.4	1.0	48.3	(22.2)
Tax effects	—	—	0.4	0.1	(0.5)	(0.3)	(11.9)	5.2
Net (Gain) Loss Reclassified from OCI to Income	\$0.1	(\$0.2)	(\$1.4)	(\$0.5)	\$0.9	\$0.7	\$36.4	(\$17.0)
(Gain) Loss Effects of Fair Value Hedging:								
Other:								
Hedged items	\$—	\$—	\$—	\$—	(\$1.4)	\$3.5	\$—	\$—
Derivatives designated as hedging instruments	—	—	—	—	1.4	(3.5)	—	—
Total (Gain) Loss Recognized in Income	\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—

	Six Months Ended 31 March							
	Sales		Cost of Sales		Interest Expense		Other Non-Operating Income (Expense), Net	
	2021	2020	2021	2020	2021	2020	2021	2020
Total presented in consolidated income statements that includes effects of hedging below	\$4,877.2	\$4,471.0	\$3,377.9	\$2,946.7	\$72.8	\$38.0	\$35.4	\$16.2
(Gain) Loss Effects of Cash Flow Hedging:								
Forward Exchange Contracts:								
Amount reclassified from OCI into income	\$0.2	(\$0.1)	(\$1.9)	(\$0.8)	\$—	\$—	\$2.4	(\$17.5)
Amount excluded from effectiveness testing recognized in earnings based on amortization approach	—	—	—	—	—	—	5.4	8.6
Other:								
Amount reclassified from OCI into income	—	—	—	—	2.8	2.0	37.0	(18.6)
Total (Gain) Loss Reclassified from OCI to Income	0.2	(0.1)	(1.9)	(0.8)	2.8	2.0	44.8	(27.5)
Tax effects	—	—	0.6	0.2	(1.0)	(0.6)	(10.8)	6.2
Net (Gain) Loss Reclassified from OCI to Income	\$0.2	(\$0.1)	(\$1.3)	(\$0.6)	\$1.8	\$1.4	\$34.0	(\$21.3)
(Gain) Loss Effects of Fair Value Hedging:								
Other:								
Hedged items	\$—	\$—	\$—	\$—	(\$2.7)	\$2.6	\$—	\$—
Derivatives designated as hedging instruments	—	—	—	—	2.7	(2.6)	—	—
Total (Gain) Loss Recognized in Income	\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—

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

	Three Months Ended 31 March			
	Other Income (Expense), Net		Other Non-Operating Income (Expense), Net	
	2021	2020	2021	2020
The Effects of Derivatives Not Designated as Hedging Instruments:				
Forward Exchange Contracts	(\$0.3)	(\$2.4)	(\$0.3)	\$1.2
Other	—	—	(0.1)	—
Total (Gain) Loss Recognized in Income	(\$0.3)	(\$2.4)	(\$0.4)	\$1.2

	Six Months Ended 31 March			
	Other Income (Expense), Net		Other Non-Operating Income (Expense), Net	
	2021	2020	2021	2020
The Effects of Derivatives Not Designated as Hedging Instruments:				
Forward Exchange Contracts	\$2.5	(\$2.2)	(\$1.6)	\$0.6
Other	—	—	0.4	0.4
Total (Gain) Loss Recognized in Income	\$2.5	(\$2.2)	(\$1.2)	\$1.0

The amount of unrealized gains and losses related to cash flow hedges as of 31 March 2021 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 \$76.5 and \$30.0 as of 31 March 2021 and 30 September 2020, 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 \$46.8 and \$76.5 as of 31 March 2021 and 30 September 2020, 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. 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 March 2021		30 September 2020	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Assets				
Derivatives				
Forward exchange contracts	\$67.1	\$67.1	\$83.6	\$83.6
Interest rate management contracts	28.9	28.9	59.7	59.7
Liabilities				
Derivatives				
Forward exchange contracts	\$109.8	\$109.8	\$83.5	\$83.5
Interest rate management contracts	32.9	32.9	2.1	2.1
Long-term debt, including current portion and related party	7,989.0	7,966.0	7,900.1	8,278.4

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 March 2021				30 September 2020			
	Total	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3
Assets at Fair Value								
Derivatives								
Forward exchange contracts	\$67.1	\$—	\$67.1	\$—	\$83.6	\$—	\$83.6	\$—
Interest rate management contracts	28.9	—	28.9	—	59.7	—	59.7	—
Total Assets at Fair Value	\$96.0	\$—	\$96.0	\$—	\$143.3	\$—	\$143.3	\$—
Liabilities at Fair Value								
Derivatives								
Forward exchange contracts	\$109.8	\$—	\$109.8	\$—	\$83.5	\$—	\$83.5	\$—
Interest rate management contracts	32.9	—	32.9	—	2.1	—	2.1	—
Total Liabilities at Fair Value	\$142.7	\$—	\$142.7	\$—	\$85.6	\$—	\$85.6	\$—

10. DEBT

On 31 March 2021, we entered into a five-year \$2,500 revolving credit agreement with a syndicate of banks (the "2021 Credit Agreement"), under which senior unsecured debt is available to us and certain of our subsidiaries. The 2021 Credit Agreement will provide a source of liquidity and support our commercial paper program. The only financial covenant in the 2021 Credit Agreement is a maximum ratio of total debt to capitalization (equal to total debt plus total equity) not to exceed 70%. No borrowings were outstanding under the 2021 Credit Agreement as of 31 March 2021.

The 2021 Credit Agreement replaced our previous five-year \$2,300 revolving credit agreement, which was to have matured on 31 March 2022. No borrowings were outstanding under the previous agreement as of 30 September 2020 or at the time of its termination. No early termination penalties were incurred.

In addition, we have credit facilities available to certain of our foreign subsidiaries totaling \$291.5, of which \$92.1 was borrowed and outstanding as of 31 March 2021.

11. RETIREMENT BENEFITS

The components of net periodic (benefit) cost for our defined benefit pension plans for the three and six months ended 31 March 2021 and 2020 were as follows:

	Pension Benefits			
	2021		2020	
	U.S.	International	U.S.	International
Three Months Ended 31 March				
Service cost	\$5.3	\$5.9	\$5.8	\$5.8
Interest cost	17.3	6.3	22.8	6.2
Expected return on plan assets	(48.7)	(21.0)	(47.2)	(19.4)
Prior service cost amortization	0.3	—	0.3	—
Actuarial loss amortization	19.6	4.8	21.0	4.9
Settlements	—	—	1.5	—
Other	—	0.2	—	0.2
Net Periodic (Benefit) Cost	(\$6.2)	(\$3.8)	\$4.2	(\$2.3)

Six Months Ended 31 March	Pension Benefits			
	2021		2020	
	U.S.	International	U.S.	International
Service cost	\$10.7	\$11.6	\$11.6	\$11.7
Interest cost	34.5	12.4	45.6	12.4
Expected return on plan assets	(97.3)	(41.2)	(94.4)	(38.9)
Prior service cost amortization	0.6	—	0.6	—
Actuarial loss amortization	39.3	9.4	42.0	9.8
Settlements	—	—	1.5	—
Other	—	0.5	—	0.4
Net Periodic (Benefit) Cost	(\$12.2)	(\$7.3)	\$6.9	(\$4.6)

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 six months of fiscal years 2021 and 2020 were not material. The non-service related impacts are presented outside operating income within "Other non-operating income (expense), net."

For the six months ended 31 March 2021 and 2020, our cash contributions to funded pension plans and benefit payments under unfunded pension plans were \$27.7 and \$14.9, respectively. Total contributions for fiscal year 2021 are expected to be approximately \$45 to \$55. During fiscal year 2020, total contributions were \$37.5.

During the three and six months ended 31 March 2021, we recognized actuarial gain amortization of \$0.5 and \$0.9, respectively, for our other postretirement benefits plan. There was no amortization in fiscal year 2020 as the corridor for the plan was not exceeded.

12. COMMITMENTS AND CONTINGENCIES

Litigation

We are involved in various legal proceedings, including commercial, competition, environmental, intellectual property, regulatory, product liability, and insurance matters. 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.

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 \$32 at 31 March 2021) 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 \$32 at 31 March 2021) plus interest accrued thereon until final disposition of the proceedings.

Additionally, Winter Storm Uri, a severe winter weather storm in the U.S. Gulf Coast in February 2021, disrupted our operations and caused power and natural gas prices to spike significantly in Texas. We are currently in the early stages of litigation of a dispute regarding energy management services related to the impact of this unusual event, and other disputes may arise from such power price increases. In addition, there is the potential for legislative or regulatory action that may affect power supply and energy management charges. While it is reasonably possible that we could incur additional costs or realize gains related to power supply and energy management services in Texas during this time period, it is too early to estimate potential losses or gains given significant unknowns resulting from the unusual nature of this event.

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 31 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 March 2021 and 30 September 2020 included an accrual of \$80.8 and \$84.7, 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 \$80 to a reasonably possible upper exposure of \$94 as of 31 March 2021.

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 March 2021, \$41.6 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 recognized a before-tax expense of \$42 in fiscal year 2006 in results from discontinued operations and recorded an environmental accrual of \$42 in continuing operations on the consolidated balance sheets.

During the second quarter of fiscal year 2020, we completed an updated cost review of the environmental remediation status at the Pace facility. The review was completed in conjunction with requirements to maintain financial assurance per the Consent Order issued by the FDEP discussed below. Based on our review, we expect ongoing activities to continue for 30 years. Additionally, we will require near-term spending to install new groundwater recovery wells and piping, in addition to future capital to consider the extended time horizon for remediation at the site. As a result of these changes, we increased our environmental accrual for this site by \$19 in continuing operations on the consolidated balance sheets and recognized a before-tax expense of \$19 in results from discontinued operations in the second quarter of fiscal year 2020. There has been no change to the estimated exposure range related to the Pace facility in fiscal year 2021.

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 corrective action management unit. Several groundwater recovery systems have been installed to contain and remove contamination from groundwater. We completed an extensive assessment of the site to determine the efficacy of existing measures, 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 remediate groundwater. 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, along with the completion of a cost review every 5 years. In the second quarter of fiscal year 2020, we completed an updated cost review which resulted in a change in assumptions regarding future operating costs as discussed above.

Piedmont

At 31 March 2021, \$11.4 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 March 2021, \$11.4 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.

Future Lease Obligations

As of 31 March 2021, operating leases that have not yet commenced are estimated to have lease payments totaling approximately \$250.

13. SHARE-BASED COMPENSATION

We have various share-based compensation programs, which include deferred stock units, stock options, and restricted stock. During the six months ended 31 March 2021, 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. At the annual shareholders meeting held on 28 January 2021, the shareholders approved a new Long-Term Incentive Plan ("LTIP"), which has an authorized pool of 1,500,000 shares available for future grant, plus additional shares underlying awards outstanding on the date the LTIP was adopted but that are not issued. As of 31 March 2021, there were 1,500,434 shares available for future grant under our Long-Term Incentive Plan ("LTIP").

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

	Three Months Ended 31 March		Six Months Ended 31 March	
	2021	2020	2021	2020
Before-tax share-based compensation cost	\$12.9	\$13.5	\$22.4	\$28.9
Income tax benefit	(3.1)	(3.1)	(5.4)	(6.8)
After-tax share-based compensation cost	\$9.8	\$10.4	\$17.0	\$22.1

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 six months of fiscal years 2021 and 2020 was not material.

Deferred Stock Units

During the six months ended 31 March 2021, we granted 77,251 market-based deferred stock units. The market-based deferred stock units are earned over the performance period beginning 1 October 2020 and ending 30 September 2023, conditioned on the level of our 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 \$235.48 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	29.9 %
Risk-free interest rate	0.2 %
Expected dividend yield	2.1 %

In addition, during the six months ended 31 March 2021, we granted 106,564 time-based deferred stock units at a weighted average grant-date fair value of \$282.32.

14. ACCUMULATED OTHER COMPREHENSIVE LOSS

The tables below summarize changes in accumulated other comprehensive loss ("AOCL"), net of tax, attributable to Air Products for the three and six months ended 31 March 2021:

	Derivatives qualifying as hedges	Foreign currency translation adjustments	Pension and postretirement benefits	Total
Balance at 31 December 2020	(\$46.7)	(\$742.1)	(\$924.5)	(\$1,713.3)
Other comprehensive loss before reclassifications	(5.2)	(144.6)	—	(149.8)
Amounts reclassified from AOCL	36.0	—	18.3	54.3
Net current period other comprehensive income (loss)	30.8	(144.6)	18.3	(95.5)
Amount attributable to noncontrolling interests	18.8	(3.2)	—	15.6
Balance at 31 March 2021	(\$34.7)	(\$883.5)	(\$906.2)	(\$1,824.4)

	Derivatives qualifying as hedges	Foreign currency translation adjustments	Pension and postretirement benefits	Total
Balance at 30 September 2020	(\$54.5)	(\$1,142.8)	(\$942.8)	(\$2,140.1)
Other comprehensive income before reclassifications	8.6	271.1	—	279.7
Amounts reclassified from AOCL	34.7	—	36.6	71.3
Net current period other comprehensive income	43.3	271.1	36.6	351.0
Amount attributable to noncontrolling interests	23.5	11.8	—	35.3
Balance at 31 March 2021	(\$34.7)	(\$883.5)	(\$906.2)	(\$1,824.4)

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

	Three Months Ended 31 March		Six Months Ended 31 March	
	2021	2020	2021	2020
(Gain) Loss on Cash Flow Hedges, net of tax				
Sales	\$0.1	(\$0.2)	\$0.2	(\$0.1)
Cost of sales	(1.4)	(0.5)	(1.3)	(0.6)
Interest expense	0.9	0.7	1.8	1.4
Other non-operating income (expense), net	36.4	(17.0)	34.0	(21.3)
Total (Gain) Loss on Cash Flow Hedges, net of tax	\$36.0	(\$17.0)	\$34.7	(\$20.6)
Pension and Postretirement Benefits, net of tax^(A)	\$18.3	\$21.2	\$36.6	\$40.9

^(A) 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 11, *Retirement Benefits*, for additional information.

15. EARNINGS PER SHARE

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

	Three Months Ended 31 March		Six Months Ended 31 March	
	2021	2020	2021	2020
Numerator				
Net income from continuing operations	\$473.1	\$492.1	\$944.8	\$967.7
Net income (loss) from discontinued operations	—	(14.3)	10.3	(14.3)
Net Income Attributable to Air Products	\$473.1	\$477.8	\$955.1	\$953.4
Denominator (in millions)				
Weighted average common shares — Basic	221.6	221.2	221.6	221.0
Effect of dilutive securities				
Employee stock option and other award plans	0.9	1.1	0.9	1.2
Weighted average common shares — Diluted	222.5	222.3	222.5	222.2
Per Share Data*				
Basic EPS from continuing operations	\$2.13	\$2.22	\$4.26	\$4.38
Basic EPS from discontinued operations	—	(0.06)	0.05	(0.06)
Basic EPS Attributable to Air Products	\$2.13	\$2.16	\$4.31	\$4.31
Diluted EPS from continuing operations	\$2.13	\$2.21	\$4.25	\$4.36
Diluted EPS from discontinued operations	—	(0.06)	0.05	(0.06)
Diluted EPS Attributable to Air Products	\$2.13	\$2.15	\$4.29	\$4.29

*EPS is calculated independently for each component and may not sum to total EPS due to rounding.

For the three and six months ended 31 March 2021 and 2020, there were no antidilutive outstanding share-based awards.

16. INCOME TAXES

India Finance Act 2020

On 27 March 2020, the Indian government passed Finance Act 2020 (the "India Finance Act"), which amended rules regarding the taxation of dividends declared and distributed by Indian companies. Under the India Finance Act, future dividends declared or distributed by an Indian company are no longer subject to dividend distribution tax. Instead, any non-resident recipient is subject to a withholding tax.

Our consolidated income statements for the three and six months ended 31 March 2020 included a net benefit of \$13.5 as a result of the India Finance Act. The net benefit included \$33.8 for our share of accumulated dividend distribution taxes released with respect to INOX Air Products Private Limited ("INOX"), an equity affiliate investment in our Industrial Gases – Asia segment. This benefit was reflected within "Equity affiliates' income" and was not recorded in segment results. In addition, our income tax provision reflected an expense of \$20.3 for estimated withholding taxes that we may incur on future dividends related to INOX.

Effective Tax Rate

Our effective tax rate was 20.4% and 19.8% for the three and six months ended 31 March 2021, respectively. The effective tax rate was 22.7% and 21.3% for the three and six months ended 31 March 2020, respectively.

Cash Paid for Taxes (Net of Cash Refunds)

Income tax payments, net of refunds, were \$223.8 and \$253.5 for the six months ended 31 March 2021 and 2020, respectively. Fiscal year 2021 reflects an income tax refund of \$6.7 that is related to cash provided by discontinued operations.

17. SUPPLEMENTAL INFORMATION

Facility Closure

During the second quarter of fiscal year 2021, we recorded a charge of \$23.2 primarily for a noncash write-down of assets associated with a contract termination in the Industrial Gases – Americas segment. This charge is reflected as "Facility closure" on our consolidated income statements for the three and six months ended 31 March 2021 and was not recorded in segment results.

Company Headquarters Relocation Income (Expense)

In the second quarter of fiscal year 2020, we sold property at our current corporate headquarters located in Trexlertown, Pennsylvania, for net proceeds of \$44.1. The sale was completed in anticipation of relocating our U.S. headquarters and resulted in a gain of \$33.8. This gain is reflected on our consolidated income statements as "Company headquarters relocation income (expense)" for the three and six months ended 31 March 2020. The gain was not recorded in the results of the Corporate and other segment.

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 \$40 and \$90 for the three and six months ended 31 March 2021, respectively, and \$90 and \$180 for the three and six months ended 31 March 2020, 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. As of 31 March 2021 and 30 September 2020, our consolidated balance sheets included related party trade receivables of approximately \$110 and \$95, respectively.

We also have related party debt primarily resulting from the 2018 acquisition of gasification and syngas clean-up assets from our joint venture partner, Lu'An Clean Energy Company, which partially funded the acquisition with a loan to the joint venture. Total related party debt, including the current portion, was \$352.5 and \$338.5 as of 31 March 2021 and 30 September 2020, respectively.

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. Changes in estimates unfavorably impacted operating income in the Industrial Gases – Global segment by approximately \$7 in the second quarter of fiscal year 2021. Our changes in estimates would not have significantly impacted amounts recorded in prior years.

18. 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

Summary by Business Segments

	Industrial Gases – Americas	Industrial Gases – EMEA	Industrial Gases – Asia	Industrial Gases – Global	Corporate and other	Total
Three Months Ended 31 March 2021						
Sales	\$1,056.1	\$584.6	\$697.5	\$97.9	\$65.9	\$2,502.0 ^(A)
Operating income (loss)	263.4	139.6	198.5	(26.1)	(40.5)	534.9 ^(B)
Depreciation and amortization	153.3	57.6	109.7	2.6	6.1	329.3
Equity affiliates' income	32.3	20.3	15.5	1.7	—	69.8 ^(B)
Three Months Ended 31 March 2020						
Sales	\$932.4	\$492.7	\$658.1	\$79.3	\$53.8	\$2,216.3 ^(A)
Operating income (loss)	268.0	124.6	209.1	(19.8)	(38.5)	543.4 ^(B)
Depreciation and amortization	135.5	47.6	104.1	2.4	5.1	294.7
Equity affiliates' income	21.6	13.5	13.8	5.5	—	54.4 ^(B)

^(A) Sales relate 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 reflected as an intersegment sale.

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

	Industrial Gases – Americas	Industrial Gases – EMEA	Industrial Gases – Asia	Industrial Gases – Global	Corporate and other	Total
Six Months Ended 31 March 2021						
Sales	\$1,989.1	\$1,147.6	\$1,415.0	\$202.4	\$123.1	\$4,877.2 ^(A)
Operating income (loss)	489.2	281.1	413.3	(30.7)	(78.9)	1,074.0 ^(B)
Depreciation and amortization	305.1	113.0	217.6	5.2	12.1	653.0
Equity affiliates' income	54.6	45.3	35.4	3.8	—	139.1 ^(B)
Six Months Ended 31 March 2020						
Sales	\$1,868.6	\$991.4	\$1,350.9	\$171.9	\$88.2	\$4,471.0 ^(A)
Operating income (loss)	525.2	245.1	437.6	(16.2)	(87.3)	1,104.4 ^(B)
Depreciation and amortization	267.3	96.0	205.7	4.8	10.1	583.9
Equity affiliates' income	42.2	32.8	30.7	6.9	—	112.6 ^(B)
Total Assets						
31 March 2021	\$6,916.3	\$4,176.4	\$7,279.9	\$451.8	\$7,334.5	\$26,158.9
30 September 2020	6,610.1	3,917.0	6,842.9	397.8	7,400.7	25,168.5

^(A) Sales relate 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 reflected as an intersegment sale.

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

Reconciliations to Consolidated Results

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

	Three Months Ended 31 March		Six Months Ended 31 March	
	2021	2020	2021	2020
Operating Income				
Total	\$534.9	\$543.4	\$1,074.0	\$1,104.4
Facility closure	(23.2)	—	(23.2)	—
Gain on exchange with joint venture partner	36.8	—	36.8	—
Company headquarters relocation income (expense)	—	33.8	—	33.8
Consolidated Operating Income	\$548.5	\$577.2	\$1,087.6	\$1,138.2

The table below reconciles total equity affiliates' income disclosed in the table above to consolidated equity affiliates' income as reflected on our consolidated income statements:

	Three Months Ended 31 March		Six Months Ended 31 March	
	2021	2020	2021	2020
Equity Affiliates' Income				
Total	\$69.8	\$54.4	\$139.1	\$112.6
India Finance Act 2020	—	33.8	—	33.8
Consolidated Equity Affiliates' Income	\$69.8	\$88.2	\$139.1	\$146.4

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

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The discussion that follows should be read in conjunction with the interim 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. Except for net income, which includes the results of discontinued operations, financial information is presented on a continuing operations basis. Comparisons of our results of operations and liquidity and capital resources are for the second quarter and first six months of fiscal years 2021 and 2020. The disclosures provided in this quarterly report are complementary to those made in our 2020 Form 10-K.

The financial measures discussed below are presented in accordance with U.S. generally accepted accounting principles ("GAAP"), except as noted. We present certain financial measures on an "adjusted" or "non-GAAP" 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. For each non-GAAP financial measure, including adjusted diluted earnings per share ("EPS"), adjusted EBITDA, adjusted EBITDA margin, adjusted effective tax rate, and capital expenditures, 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 under "Reconciliations of Non-GAAP Financial Measures" beginning on page 50.

COVID-19 Pandemic

The novel strain of coronavirus ("COVID-19"), which was declared a global pandemic by the World Health Organization in March 2020, continues to impact our business operations and results. The health and safety policies we implemented at the beginning of the pandemic have allowed us to safely maintain plant operations and reliably supply critical products and services to our customers. As this significant health crisis continues, we remain focused on business continuity while prioritizing the health and well-being of our people.

As further discussed below, COVID-19 negatively impacted our results of operations in the first half of fiscal year 2021. Although some countries in which we operate, such as the United States, have made COVID-19 vaccines available to most of the population, other countries in which we operate continue to face challenges with increasing outbreaks, reinstated lockdowns, and travel restrictions. Our on-site business continues to remain stable, and we are encouraged by signs of improvement in our merchant business. However, there are many unknowns regarding the pandemic, including the ongoing spread and severity of the virus and the pace of vaccine rollouts globally. Given the dynamic nature of these circumstances, uncertainty remains related to how the pandemic may affect our business, results of operations, and overall financial performance.

SECOND QUARTER 2021 VS. SECOND QUARTER 2020

SECOND QUARTER 2021 IN SUMMARY

- Sales of \$2,502.0 increased 13%, or \$285.7, due to higher energy and natural gas cost pass-through to customers, favorable currency, and pricing actions. Volumes were flat versus the prior year.
- Operating income of \$548.5 decreased 5%, or \$28.7, and operating margin of 21.9% decreased 410 basis points ("bp").
- Net income of \$477.1 decreased 3%, or \$13.3, and net income margin of 19.1% decreased 300 bp.
- Adjusted EBITDA of \$934.0 increased 5%, or \$41.5, and adjusted EBITDA margin of 37.3% decreased 300 bp.
- Diluted EPS of \$2.13 decreased 4%, or \$0.08 per share, and adjusted diluted EPS of \$2.08 increased 2%, or \$0.04 per share. A summary table of changes in diluted EPS is presented below.
- We increased the quarterly dividend on our common stock to \$1.50 per share, representing a 12% increase from the previous dividend of \$1.34 per share. This is the 39th consecutive year that we have increased our quarterly dividend payment.

Changes in Diluted EPS Attributable to Air Products

The per share impacts presented in the tables below were calculated independently and do not sum to the total change in diluted EPS due to rounding.

	Three Months Ended 31 March		
	2021	2020	Increase (Decrease)
Total Diluted EPS	\$2.13	\$2.15	(\$0.02)
Less: Diluted EPS from loss from discontinued operations	—	(0.06)	0.06
Diluted EPS from continuing operations^(A)	\$2.13	\$2.21	(\$0.08)
Operating Impacts			
Underlying business			
Volume ^(B)			(\$0.19)
Price, net of variable costs			0.09
Other costs			(0.03)
Currency			0.10
Facility closure			(0.08)
Company headquarters relocation income			(0.12)
Gain on exchange with joint venture partner			0.12
Total Operating Impacts			(\$0.11)
Other Impacts			
Equity affiliates' income			\$0.05
Interest expense			(0.06)
Other non-operating income (expense), net			0.03
Change in effective tax rate, excluding discrete item below			0.01
India Finance Act 2020			(0.06)
Noncontrolling interests ^(B)			0.04
Total Other Impacts			\$0.01
Total Change in Diluted EPS From Continuing Operations			(\$0.08)

^(A) Diluted EPS from continuing operations for the second quarter of fiscal year 2021 includes an estimated negative impact of approximately \$0.10-\$0.15 from COVID-19, which affected our sales and costs.

^(B) The negative volume impact on diluted EPS was primarily due to reduced contributions from a 60%-owned joint venture that we consolidate within our Industrial Gases – Asia segment. Refer to the sales discussion below for additional detail. This impact is partially offset by the positive impact of lower net income being attributed to our joint venture partner within "Noncontrolling interests."

	Three Months Ended 31 March		Increase (Decrease)
	2021	2020	
Diluted EPS From Continuing Operations	\$2.13	\$2.21	(\$0.08)
Facility closure	0.08	—	0.08
Gain on exchange with joint venture partner	(0.12)	—	(0.12)
Company headquarters relocation income	—	(0.12)	0.12
India Finance Act 2020	—	(0.06)	0.06
Adjusted Diluted EPS From Continuing Operations	\$2.08	\$2.04	\$0.04

SECOND QUARTER 2021 RESULTS OF OPERATIONS

Discussion of Consolidated Results

	Three Months Ended 31 March		\$ Change	Change
	2021	2020		
GAAP Measures				
Sales	\$2,502.0	\$2,216.3	\$285.7	13 %
Operating income	548.5	577.2	(28.7)	(5 %)
Operating margin	21.9 %	26.0 %		(410) bp
Equity affiliates' income	69.8	88.2	(18.4)	(21 %)
Net income	477.1	490.4	(13.3)	(3 %)
Net income margin	19.1 %	22.1 %		(300) bp
Non-GAAP Measures				
Adjusted EBITDA	\$934.0	\$892.5	\$41.5	5 %
Adjusted EBITDA margin	37.3 %	40.3 %		(300) bp

Sales

Sales % Change from Prior Year

Volume	— %
Price	2 %
Energy and natural gas cost pass-through	7 %
Currency	4 %
Total Consolidated Sales Change	13 %

Sales of \$2,502.0 increased 13%, or \$285.7, due to higher energy and natural gas cost pass-through to customers of 7%, favorable currency impacts of 4%, and positive pricing of 2%. The higher energy and natural gas cost pass-through to customers was primarily attributable to our Industrial Gases – Americas segment, which experienced significantly higher energy prices in the U.S. Gulf Coast largely driven by Winter Storm Uri, a severe winter weather storm. Favorable currency was driven by the appreciation of the Chinese Renminbi, Euro, British Pound Sterling, and South Korean Won against the U.S. Dollar. Continued focus on pricing actions in our merchant businesses resulted in price improvement in each of the three regional segments. Volumes were flat as new plants, acquisitions, and increased sale-of-equipment activities were offset by reduced contributions from the LuAn gasification project, as discussed below, lower merchant demand due to COVID-19, and the impacts of the winter storm. In addition, we estimate that COVID-19 negatively impacted overall sales in the second quarter of fiscal year 2021 by approximately 3%.

As of 31 March 2021, Lu'An Clean Energy Company ("Lu'An"), a long-term onsite customer in Asia with which we have a consolidated joint venture, did not restart its facility following the successful completion of major maintenance work in September 2020. In the first quarter of fiscal year 2021, we agreed with Lu'An to a short-term reduction in charges. This agreement reduced the project's sales contribution in our Industrial Gases – Asia segment in the first half of fiscal year 2021. During the second quarter of fiscal year 2021, Lu'An asked us to restart the facility, and we are in the process of commissioning the plant. We expect the facility to resume operations during this fiscal year.

Cost of Sales and Gross Margin

Total cost of sales of \$1,768.7, including the facility closure discussed below, increased 21%, or \$308.6, due to higher energy and natural gas cost pass-through to customers of \$163, unfavorable currency impacts of \$63, unfavorable volume mix of \$38, the loss from the facility closure of \$23, and higher net operating costs of \$22. The higher energy and natural gas cost-pass through to customers was primarily driven by significantly higher energy prices during the winter storm. Gross margin of 29.3% decreased 480 bp from 34.1% in the prior year, primarily due to the higher energy and natural gas cost pass-through to customers, which contributed to sales but not gross profit, unfavorable volume mix, and the facility closure, partially offset by the impact from our pricing actions.

Facility Closure

During the second quarter of fiscal year 2021, we recorded a charge of \$23.2 (\$17.4 after-tax, or \$0.08 per share) primarily for a noncash write-down of assets associated with a contract termination in the Industrial Gases – Americas segment. This charge is reflected as "Facility closure" on our consolidated income statements for the three months ended 31 March 2021 and was not recorded in segment results.

Selling and Administrative

Selling and administrative expense of \$210.3 increased 4%, or \$8.6, primarily due to the impact of currency fluctuations. Selling and administrative expense as a percentage of sales decreased to 8.4% from 9.1%.

Research and Development

Research and development expense of \$21.1 increased 10%, or \$1.9, primarily due to higher product development costs. Research and development expense as a percentage of sales decreased to 0.8% from 0.9%.

Gain on Exchange with Joint Venture Partner

In the second quarter of fiscal year 2021, we recognized a gain of \$36.8 (\$27.3 after-tax, or \$0.12 per share) on an exchange with the Tyczka Group, a former joint venture partner in our Industrial Gases – EMEA segment. As part of the exchange, we separated our 50/50 joint venture in Germany into two separate businesses so each party could acquire a portion of the business on a 100% basis. The gain included \$12.7 from the revaluation of our previously held equity interest in the portion of the business that we retained and \$24.1 from the sale of our interest in the remaining business. The gain is reflected as "Gain on exchange with joint venture partner" on our consolidated income statements for the three months ended 31 March 2021 and was not recorded in segment results. Refer to Note 3, *Acquisitions*, to the consolidated financial statements for additional information.

Company Headquarters Relocation Income (Expense)

In the second quarter of fiscal year 2020, we sold property at our current corporate headquarters located in Trexlertown, Pennsylvania, in anticipation of relocating our U.S. headquarters. We received net proceeds of \$44.1 and recorded a gain of \$33.8 (\$25.6 after-tax, or \$0.12 per share), which is reflected on our consolidated income statements as "Company headquarters relocation income (expense)" for the three months ended 31 March 2020. The gain was not recorded in results of the Corporate and other segment.

Other Income (Expense), Net

Other income of \$9.8 increased 21%, or \$1.7, primarily due to foreign exchange impacts.

Operating Income and Operating Margin

Operating income of \$548.5 decreased 5%, or \$28.7, as unfavorable volume mix of \$52, prior year income associated with the company headquarters relocation of \$34, a facility closure of \$23, and higher net operating costs of \$9 were partially offset by a gain on an exchange with a joint venture partner of \$37, favorable currency of \$27, and positive pricing, net of power and fuel costs, of \$25.

Operating margin of 21.9% decreased 410 bp from 26.0% in the prior year, primarily due to unfavorable volume mix, higher energy and natural gas cost pass-through to customers, which contributed to sales but not operating income, and the facility closure, partially offset by positive pricing. The positive impact from a gain on an exchange with a joint venture partner was offset by the impact of income associated with the company headquarters relocation in the prior year.

Equity Affiliates' Income

Equity affiliates' income of \$69.8 decreased 21%, or \$18.4. The prior year included a benefit of \$33.8 for the release of our share of accumulated dividend distribution taxes related to an Indian affiliate as a result of the enactment of a tax law in India. Refer to Note 16, *Income Taxes*, to the consolidated financial statements for additional information. The prior year benefit from this tax law was partially offset by higher income from affiliates in India, Italy, Mexico, and Saudi Arabia in fiscal year 2021.

Interest Expense

	Three Months Ended 31 March	
	2021	2020
Interest incurred	\$42.6	\$23.2
Less: Capitalized interest	6.5	3.9
Interest expense	\$36.1	\$19.3

Interest incurred increased 84%, or \$19.4, primarily driven by a higher debt balance due to the issuance of U.S. Dollar- and Euro-denominated fixed-rate notes in the third quarter of fiscal year 2020. Capitalized interest increased 67%, or \$2.6, due to a net increase in the carrying value of projects under construction.

Other Non-Operating Income (Expense), Net

Other non-operating income of \$16.8 increased \$9.7. We recorded higher non-service pension income in 2021 due to lower interest costs and higher total assets, primarily for our U.S. pension plans, partially offset by lower interest income on cash and cash items due to lower interest rates.

Discontinued Operations

During the second quarter of fiscal year 2020, we recorded a pre-tax loss from discontinued operations of \$19.0 (\$14.3 after-tax, or \$0.06 per share) to increase our liability for retained environmental obligations associated with the sale of our former Amines business in September 2006. Refer to the Pace discussion within Note 12, *Commitments and Contingencies*, for additional information.

Net Income and Net Income Margin

Net income of \$477.1 decreased 3%, or \$13.3, primarily due to unfavorable volume mix, a loss from a facility closure, and higher interest expense and net operating costs, partially offset by a gain on an exchange with a joint venture partner, favorable currency, positive pricing, net of power and fuel costs, and higher equity affiliates' income. In addition, the prior year included income associated with the company headquarters relocation and a net benefit from the India Finance Act 2020, partially offset by a loss from discontinued operations.

Net income margin of 19.1% decreased 300 bp from 22.1% in the prior year, primarily due to the unfavorable volume mix and higher energy and natural gas cost pass-through to customers driven by the winter storm.

Adjusted EBITDA and Adjusted EBITDA Margin

Adjusted EBITDA of \$934.0 increased 5%, or \$41.5, primarily due to favorable pricing, currency impacts, and equity affiliates' income, partially offset by unfavorable volume mix. Adjusted EBITDA margin of 37.3% decreased 300 bp from 40.3% in the prior year, primarily due to higher energy and natural gas cost pass-through to customers driven by the winter storm.

Effective Tax Rate

Our effective tax rate was 20.4% and 22.7% for the three months ended 31 March 2021 and 2020, respectively. The prior year rate was higher primarily due to the enactment of a tax law in India ("India Finance Act 2020"), which resulted in additional net income of \$13.5 (\$0.06 per share). This included an increase to equity affiliates' income of \$33.8, partially offset by an increase to our income tax provision of \$20.3 for changes in the future tax costs of repatriated earnings. Refer to Note 16, *Income Taxes*, to the consolidated financial statements for additional information. The adjusted effective tax rate was 20.2% and 20.5% for the three months ended 31 March 2021 and 2020, respectively.

Discussion of Segment Results

Industrial Gases – Americas

	Three Months Ended 31 March		\$ Change	% Change
	2021	2020		
Sales	\$1,056.1	\$932.4	\$123.7	13 %
Operating income	263.4	268.0	(4.6)	(2 %)
Operating margin	24.9 %	28.7 %		(380) bp
Equity affiliates' income	32.3	21.6	10.7	50 %
Adjusted EBITDA	449.0	425.1	23.9	6 %
Adjusted EBITDA margin	42.5 %	45.6 %		(310) bp

Sales % Change from Prior Year

Volume	(6 %)
Price	3 %
Energy and natural gas cost pass-through	15 %
Currency	1 %
Total Industrial Gases – Americas Sales Change	13 %

Sales of \$1,056.1 increased 13%, or \$123.7, as higher energy and natural gas cost pass-through to customers of 15%, positive pricing of 3%, and favorable currency of 1% were partially offset by lower volumes of 6%. Energy and natural gas cost pass-through to customers was significantly higher in the U.S. Gulf Coast due to unusually high power and natural gas prices related to Winter Storm Uri. The pricing improvement was attributable to continued focus on pricing actions in our merchant business. Lower volumes were primarily driven by lower demand due to COVID-19, which began impacting this segment at the end of March 2020, and the winter storm.

Operating income of \$263.4 decreased 2%, or \$4.6, primarily due to lower volumes of \$26, partially offset by higher pricing, net of power and fuel costs, of \$15 and lower net operating costs of \$4. Operating margin of 24.9% decreased 380 bp from 28.7% in the prior year primarily due to the higher energy and natural gas cost pass-through to customers, which negatively impacted margin by approximately 430 bp.

Equity affiliates' income of \$32.3 increased 50%, or \$10.7, primarily driven by higher income from affiliates in Mexico.

Industrial Gases – EMEA

	Three Months Ended 31 March		\$ Change	% Change
	2021	2020		
Sales	\$584.6	\$492.7	\$91.9	19 %
Operating income	139.6	124.6	15.0	12 %
Operating margin	23.9 %	25.3 %		(140) bp
Equity affiliates' income	20.3	13.5	6.8	50 %
Adjusted EBITDA	217.5	185.7	31.8	17 %
Adjusted EBITDA margin	37.2 %	37.7 %		(50) bp
Sales % Change from Prior Year				
Volume				5 %
Price				2 %
Energy and natural gas cost pass-through				3 %
Currency				9 %
Total Industrial Gases – EMEA Sales Change				19 %

Sales of \$584.6 increased 19%, or \$91.9, due to favorable currency of 9%, higher volumes of 5%, higher energy and natural gas cost-pass through to customers of 3%, and positive pricing of 2%. Favorable currency impacts were primarily driven by the appreciation of the Euro and the British Pound Sterling against the U.S. Dollar. The volume improvement was mainly attributable to an acquisition in Israel in July 2020 and contributions from our onsite business. These factors were partially offset by lower packaged gas demand due to COVID-19, which began impacting this segment at the end of March 2020. The pricing improvement was primarily attributable to our merchant business.

Operating income of \$139.6 increased 12%, or \$15.0, primarily due to favorable currency of \$10 and higher pricing, net of power and fuel costs, of \$4. Operating margin of 23.9% decreased 140 bp from 25.3% in the prior year, primarily due to the unfavorable volume mix and the higher energy and natural gas cost pass-through to customers.

Equity affiliates' income of \$20.3 increased 50%, or \$6.8, primarily due to higher income from affiliates in Italy and Saudi Arabia.

Industrial Gases – Asia

	Three Months Ended 31 March		\$ Change	% Change
	2021	2020		
Sales	\$697.5	\$658.1	\$39.4	6 %
Operating income	198.5	209.1	(10.6)	(5 %)
Operating margin	28.5 %	31.8 %		(330) bp
Equity affiliates' income	15.5	13.8	1.7	12 %
Adjusted EBITDA	323.7	327.0	(3.3)	(1 %)
Adjusted EBITDA margin	46.4 %	49.7 %		(330) bp
Sales % Change from Prior Year				
Volume				(2 %)
Price				1 %
Energy and natural gas cost pass-through				— %
Currency				7 %
Total Industrial Gases – Asia Sales Change				6 %

Sales of \$697.5 increased 6%, or \$39.4, as favorable currency of 7% and positive pricing, primarily on our merchant products, of 1% were partially offset by lower volumes of 2%. The favorable currency impact was primarily attributable to the appreciation of the Chinese Renminbi and South Korean Won against the U.S. Dollar. Reduced volume contributions from Lu'An were only partially offset by higher volumes due to new plants and our base merchant business, which recovered quickly after the Lunar New Year slowdown. Energy and natural gas cost pass-through to customers was flat versus the prior year.

Operating income of \$198.5 decreased 5%, or \$10.6, primarily due to lower volumes of \$28, partially offset by favorable currency of \$15 and positive pricing, net of power and fuel costs, of \$5. Operating margin of 28.5% decreased 330 bp from 31.8% in the prior year, primarily due to reduced volume contributions from Lu'An.

Equity affiliates' income of \$15.5 increased 12%, or \$1.7, primarily due to higher income from an affiliate in India.

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 March		\$ Change	% Change
	2021	2020		
Sales	\$97.9	\$79.3	\$18.6	23 %
Operating loss	(26.1)	(19.8)	(6.3)	(32 %)
Adjusted EBITDA	(21.8)	(11.9)	(9.9)	(83 %)

Sales of \$97.9 increased 23%, or \$18.6, due to higher sale of equipment project activity. Despite higher sales, operating loss of \$26.1 increased 32%, or \$6.3, due to higher project costs and product development spending.

Corporate and other

The Corporate and other segment includes our liquefied natural gas ("LNG"), turbo machinery equipment and services, and distribution sale of equipment businesses as well as 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 March		\$ Change	% Change
	2021	2020		
Sales	\$65.9	\$53.8	\$12.1	22 %
Operating loss	(40.5)	(38.5)	(2.0)	(5 %)
Adjusted EBITDA	(34.4)	(33.4)	(1.0)	(3 %)

Sales of \$65.9 increased 22%, or \$12.1, primarily due to higher project activity in our distribution sale of equipment business. Despite higher sales, operating loss of \$40.5 increased 5%, or \$2.0, primarily due to higher corporate costs.

FIRST SIX MONTHS 2021 VS. FIRST SIX MONTHS 2020

FIRST SIX MONTHS 2021 IN SUMMARY

The results below are compared to the first six months of fiscal year 2020:

- Sales of \$4,877.2 increased 9%, or \$406.2, due to higher energy and natural gas cost pass-through to customers, favorable currency, and pricing actions. Volumes were down slightly versus the prior year.
- Operating income of \$1,087.6 decreased 4%, or \$50.6, and operating margin of 22.3% decreased 320 bp.
- Net income of \$963.8 decreased 2%, or \$15.5, and net income margin of 19.8% decreased 210 bp.
- Adjusted EBITDA of \$1,866.1 increased 4%, or \$65.2, and adjusted EBITDA margin of 38.3% decreased 200 bp.
- Diluted EPS of \$4.25 decreased 3%, or \$0.11, and adjusted diluted EPS of \$4.20 increased \$0.02. A summary table of changes in diluted EPS is presented below.
- We increased the quarterly dividend on our common stock to \$1.50 per share, representing a 12% increase from the previous dividend of \$1.34 per share. This is the 39th consecutive year that we have increased our quarterly dividend payment.

Changes in Diluted EPS Attributable to Air Products

The per share impacts presented in the tables below were calculated independently and do not sum to the total change in diluted EPS due to rounding.

	Six Months Ended 31 March		Increase (Decrease)
	2021	2020	
Total Diluted EPS	\$4.29	\$4.29	\$—
Less: Diluted EPS from income (loss) from discontinued operations	0.05	(0.06)	0.11
Diluted EPS From Continuing Operations^(A)	\$4.25	\$4.36	(\$0.11)
Operating Impacts			
Underlying business			
Volume ^(B)			(\$0.44)
Price, net of variable costs			0.26
Other costs			(0.09)
Currency			0.16
Facility closure			(0.08)
Company headquarters relocation income			(0.12)
Gain on exchange with joint venture partner			0.12
Total Operating Impacts			(\$0.19)
Other Impacts			
Equity affiliates' income			0.10
Interest expense			(0.13)
Other non-operating income (expense), net			0.07
Change in effective tax rate, excluding discrete item below			0.02
India Finance Act 2020			(0.06)
Noncontrolling interests ^(B)			0.08
Weighted average diluted shares			(0.01)
Total Other Impacts			\$0.07
Total Change in Diluted EPS From Continuing Operations			(\$0.11)

^(A) Fiscal year 2021 diluted EPS from continuing operations includes an estimated negative impact of approximately \$0.20-\$0.30 from COVID-19, which affected our sales and costs.

^(B) The negative volume impact on diluted EPS was primarily due to reduced contributions from the Lu'An gasification project, which was partially offset by a positive impact from lower net income being attributed to our joint venture partner within "Noncontrolling interests."

	Six Months Ended 31 March		Increase (Decrease)
	2021	2020	
Diluted EPS From Continuing Operations	\$4.25	\$4.36	(\$0.11)
Facility closure	0.08	—	0.08
Gain on exchange with joint venture partner	(0.12)	—	(0.12)
Company headquarters relocation income	—	(0.12)	0.12
India Finance Act 2020	—	(0.06)	0.06
Adjusted Diluted EPS From Continuing Operations	\$4.20	\$4.18	\$0.02

FIRST SIX MONTHS 2021 RESULTS OF OPERATIONS

Discussion of Consolidated Results

	Six Months Ended 31 March			
	2021	2020	\$ Change	Change
GAAP Measures				
Sales	\$4,877.2	\$4,471.0	\$406.2	9 %
Operating income	1,087.6	1,138.2	(50.6)	(4 %)
Operating margin	22.3 %	25.5 %		(320) bp
Equity affiliates' income	139.1	146.4	(7.3)	(5 %)
Net income	963.8	979.3	(15.5)	(2 %)
Net income margin	19.8 %	21.9 %		(210) bp
Non-GAAP Measures				
Adjusted EBITDA	1,866.1	1,800.9	65.2	4 %
Adjusted EBITDA margin	38.3 %	40.3 %		(200) bp

Sales

Sales % Change from Prior Year

Volume	(1 %)
Price	2 %
Energy and natural gas cost pass-through	4 %
Currency	4 %
Total Consolidated Sales Change	9 %

Sales of \$4,877.2 increased 9%, or \$406.2, due to higher energy and natural gas cost pass-through to customers of 4%, favorable currency impacts of 4%, and positive pricing of 2%, partially offset by lower volumes of 1%. The higher energy and natural gas cost pass-through to customers was primarily attributable to our Industrial Gases – Americas segment, which experienced significantly higher energy prices in the U.S. Gulf Coast largely driven by Winter Storm Uri. Favorable currency was driven by the appreciation of the Chinese Renminbi and Euro against the U.S. Dollar. Continued focus on pricing actions in our merchant businesses resulted in price improvement in each of the three regional segments. Volumes declined slightly as new plants, acquisitions, and increased sale-of-equipment activities were more than offset by reduced contributions from the LuAn gasification project in Asia, as discussed in the second quarter results section above, and lower merchant demand due to COVID-19. We estimate that COVID-19 negatively impacted overall year-to-date sales by approximately 3%.

Cost of Sales and Gross Margin

Total cost of sales of \$3,401.1, including the facility closure discussed below, increased 15%, or \$454.4. The increase from the prior year was due to higher energy and natural gas cost pass-through to customers of \$182, unfavorable currency impacts of \$107, unfavorable volume mix of \$94, higher net operating costs of \$48, and the loss from the facility closure of \$23. The higher energy and natural gas cost-pass through to customers was driven by significantly higher energy prices during the winter storm. Gross margin of 30.3% decreased 380 bp from 34.1% in the prior year, primarily due to unfavorable volume mix, higher energy and natural gas cost pass-through to customers, higher net operating costs, and the facility closure, partially offset by the impact from our pricing actions.

Facility Closure

During the second quarter of fiscal year 2021, we recorded a charge of \$23.2 (\$17.4 after-tax, or \$0.08 per share) primarily for a noncash write-down of assets associated with a contract termination in the Industrial Gases – Americas segment. This charge is reflected as "Facility closure" on our consolidated income statements for the six months ended 31 March 2021 and was not recorded in segment results.

Selling and Administrative Expense

Selling and administrative expense of \$413.0 increased 2%, or \$9.6, primarily due to the impact of currency fluctuations and higher spending for business development resources to support our growth strategy, partially offset by lower travel expenses. Selling and administrative expense, as a percentage of sales, decreased to 8.5% from 9.0%.

Research and Development

Research and development expense of \$44.6 increased 21%, or \$7.7, primarily due to higher product development costs. Research and development expense as a percentage of sales increased to 0.9% from 0.8%.

Gain on Exchange with Joint Venture Partner

In the second quarter of fiscal year 2021, we recognized a gain of \$36.8 (\$27.3 after-tax, or \$0.12 per share) on an exchange with the Tyczka Group, a former joint venture partner in our Industrial Gases – EMEA segment. As part of the exchange, we separated our 50/50 joint venture in Germany into two separate businesses so each party could acquire a portion of the business on a 100% basis. The gain included \$12.7 from the revaluation of our previously held equity interest in the portion of the business that we retained and \$24.1 from the sale of our interest in the remaining business. The gain is reflected as "Gain on exchange with joint venture partner" on our consolidated income statements for the six months ended 31 March 2021 and was not recorded in segment results. Refer to Note 3, *Acquisitions*, to the consolidated financial statements for additional information.

Company Headquarters Relocation Income (Expense)

In the second quarter of fiscal year 2020, we sold property at our current corporate headquarters located in Trexlertown, Pennsylvania, in anticipation of relocating our U.S. headquarters. We received net proceeds of \$44.1 and recorded a gain of \$33.8 (\$25.6 after-tax, or \$0.12 per share), which is reflected on our consolidated income statements as "Company headquarters relocation income (expense)" for the six months ended 31 March 2020. The gain was not recorded in the results of the Corporate and other segment.

Other Income (Expense), Net

Other income of \$32.3 increased 58%, or \$11.9, primarily driven by the settlement of a supply contract in the first quarter of fiscal year 2021.

Operating Income and Operating Margin

Operating income of \$1,087.6 decreased 4%, or \$50.6, as unfavorable volume mix of \$123, prior year income associated with the company headquarters relocation of \$34, higher net operating costs of \$25, and a facility closure of \$23 were partially offset by positive pricing, net of power and fuel costs, of \$71, favorable currency of \$46, and a gain on an exchange with a joint venture partner of \$37.

Operating margin of 22.3% decreased 320 bp from 25.5% in the prior year, primarily due to unfavorable volume mix and higher energy and natural gas cost pass-through to customers, which contributed to sales but not operating income, partially offset by positive pricing. The positive impact from a gain on an exchange with a joint venture partner was offset by the impact of income associated with the company headquarters relocation in the prior year.

Equity Affiliates' Income

Equity affiliates' income of \$139.1 decreased 5%, or \$7.3. The prior year included a benefit of \$33.8 for the release of our share of accumulated dividend distribution taxes related to an Indian affiliate as a result of the enactment of the India Finance Act 2020. Refer to Note 16, *Income Taxes*, to the consolidated financial statements for additional information. The prior year benefit from this tax law was partially offset by higher income from affiliates in India, Italy, Mexico, and Saudi Arabia in fiscal year 2021.

Interest Expense

	Six Months Ended 31 March	
	2021	2020
Interest incurred	\$84.9	\$45.6
Less: capitalized interest	12.1	7.6
Interest expense	\$72.8	\$38.0

Interest incurred increased 86%, or \$39.3, primarily driven by a higher debt balance due to the issuance of U.S. Dollar- and Euro-denominated fixed-rate notes in the third quarter of fiscal year 2020. Capitalized interest increased 59%, or \$4.5, due to a net increase in the carrying value of projects under construction.

Other Non-Operating Income (Expense), net

Other non-operating income of \$35.4 increased \$19.2. We recorded higher non-service pension income in 2021 due to lower interest costs and higher total assets, primarily for our U.S. pension plans. The current year also included favorable currency impacts. These factors were partially offset by lower interest income on cash and cash items due to lower interest rates.

Discontinued Operations

During the first quarter of fiscal year 2021, we recorded a tax benefit of \$10.3 (\$0.05 per share) as a component of discontinued operations. This benefit primarily resulted from the settlement of a state tax appeal related to the gain on the sale of our former Performance Materials Division in fiscal year 2017.

During the second quarter of fiscal year 2020, we recorded a pre-tax loss from discontinued operations of \$19.0 (\$14.3 after-tax, or \$0.06 per share) to increase our liability for retained environmental obligations associated with the sale of our former Amines business in September 2006. Refer to the Pace discussion within Note 12, *Commitments and Contingencies*, for additional information.

Net Income and Net Income Margin

Net income of \$963.8, including income from discontinued operations of \$10.3, decreased 2%, or \$15.5, primarily due to unfavorable volume mix and a loss from a facility closure, partially offset by positive pricing, net of power and fuel costs, favorable currency, and a gain on an exchange with a joint venture partner. Additionally, the prior year included income associated with the company headquarters relocation and a net benefit from the India Finance Act 2020, partially offset by a loss from discontinued operations.

Net income margin of 19.8% decreased 210 bp from 21.9% in the prior year, primarily due to the unfavorable volume mix and higher energy and natural gas cost pass-through to customers driven by the winter storm, partially offset by the impact from our pricing actions.

Adjusted EBITDA and Adjusted EBITDA Margin

Adjusted EBITDA of \$1,866.1 increased 4%, or \$65.2, primarily due to favorable pricing and currency impacts, partially offset by unfavorable volume mix. Adjusted EBITDA margin of 38.3% decreased 200 bp from 40.3% in the prior year, primarily due to the unfavorable volume mix and higher energy and natural gas cost pass-through to customers driven by the winter storm, partially offset by the impact from our pricing actions.

Effective Tax Rate

Our effective tax rate was 19.8% and 21.3% for the six months ended 31 March 2021 and 2020, respectively. The prior year rate was higher primarily due to the India Finance Act 2020, which resulted in additional net income of \$13.5 (\$0.06 per share). This included an increase to equity affiliates' income of \$33.8, partially offset by an increase to our income tax provision of \$20.3 for changes in the future tax costs of repatriated earnings. Additionally, the current year includes the favorable impact of an agreement reached with foreign tax authorities that resolved uncertainties related to unrecognized tax benefits.

The adjusted effective tax rate was 19.7% and 20.1% for the six months ended 31 March 2021 and 2020, respectively, primarily due to the impact of the agreement reached with foreign tax authorities that resolved uncertainties related to unrecognized tax benefits.

Segment Analysis

Industrial Gases – Americas

	Six Months Ended 31 March			
	2021	2020	\$ Change	% Change
Sales	\$1,989.1	\$1,868.6	\$120.5	6 %
Operating income	489.2	525.2	(36.0)	(7 %)
Operating margin	24.6 %	28.1 %		(350) bp
Equity affiliates' income	54.6	42.2	12.4	29 %
Adjusted EBITDA	848.9	834.7	14.2	2 %
Adjusted EBITDA margin	42.7 %	44.7 %		(200) bp
Sales % Change from Prior Year				
Volume				(6 %)
Price				3 %
Energy and natural gas cost pass-through				9 %
Currency				— %
Total Industrial Gases – Americas Sales Change				6 %

Sales of \$1,989.1 increased 6%, or \$120.5, as higher energy and natural gas cost pass-through to customers of 9% and positive pricing of 3% were partially offset by lower volumes of 6%. Energy and natural gas cost pass-through to customers was significantly higher in February 2021 due to unusually high power and natural gas prices related to Winter Storm Uri in the U.S. Gulf Coast. The pricing improvement was attributable to continued focus on pricing actions in our merchant business. Lower volumes were primarily driven by lower demand due to COVID-19, which began impacting this segment at the end of March 2020. Currency was flat versus the prior year.

Operating income of \$489.2 decreased 7%, or \$36.0, primarily due to lower volumes of \$59 and higher net operating costs of \$22, partially offset by higher pricing, net of power and fuel costs, of \$42. Operating margin of 24.6% decreased 350 bp from 28.1% in the prior year primarily due to higher energy and natural gas cost pass-through to customers, which negatively impacted margin by approximately 240 bp, and higher net operating costs.

Equity affiliates' income of \$54.6 increased 29%, or \$12.4, primarily driven by higher income from affiliates in Mexico.

Industrial Gases – EMEA

	Six Months Ended 31 March			
	2021	2020	\$ Change	% Change
Sales	\$1,147.6	\$991.4	\$156.2	16 %
Operating income	281.1	245.1	36.0	15 %
Operating margin	24.5 %	24.7 %		(20) bp
Equity affiliates' income	45.3	32.8	12.5	38 %
Adjusted EBITDA	439.4	373.9	65.5	18 %
Adjusted EBITDA margin	38.3 %	37.7 %		60 bp
Sales % Change from Prior Year				
Volume				5 %
Price				3 %
Energy and natural gas cost pass-through				1 %
Currency				7 %
Total Industrial Gases – EMEA Sales Change				16 %

Sales of \$1,147.6 increased 16%, or \$156.2, due to favorable currency impacts of 7%, higher volumes of 5%, positive pricing of 3%, and higher energy and natural gas cost pass-through to customers of 1%. Favorable currency impacts were primarily driven by the appreciation of the Euro against the U.S. Dollar. The volume improvement was mainly attributable to an acquisition in Israel in July 2020 and contributions from our onsite business. These factors were partially offset by lower packaged gas demand due to COVID-19, which began impacting this segment at the end of March 2020. The pricing improvement was primarily attributable to our merchant business.

Operating income of \$281.1 increased 15%, or \$36.0, primarily due to positive pricing, net of power and fuel costs, of \$18 and favorable currency impacts of \$15. Operating margin of 24.5% decreased 20 bp from 24.7% in the prior year, as the margin impact of our pricing actions was mostly offset by the unfavorable volume mix.

Equity affiliates' income of \$45.3 increased 38%, or \$12.5, primarily due to higher income from affiliates in Italy and Saudi Arabia.

Industrial Gases – Asia

	Six Months Ended 31 March			
	2021	2020	\$ Change	% Change
Sales	\$1,415.0	\$1,350.9	\$64.1	5 %
Operating income	413.3	437.6	(24.3)	(6 %)
Operating margin	29.2 %	32.4 %		(320) bp
Equity affiliates' income	35.4	30.7	4.7	15 %
Adjusted EBITDA	666.3	674.0	(7.7)	(1 %)
Adjusted EBITDA margin	47.1 %	49.9 %		(280) bp
Sales % Change from Prior Year				
Volume				(3 %)
Price				1 %
Energy and natural gas cost pass-through				— %
Currency				7 %
Total Industrial Gases – Asia Sales Change				5 %

Sales of \$1,415.0 increased 5%, or \$64.1, as favorable currency of 7% and positive pricing, primarily on our merchant products, of 1% were partially offset by lower volumes of 3%. The favorable currency impact was primarily attributable to the appreciation of the Chinese Renminbi against the U.S. Dollar. Reduced volume contributions from Lu'An were only partially offset by higher volumes from new plants and our base merchant business. Energy and natural gas cost pass-through to customers was flat versus the prior year.

Operating income of \$413.3 decreased 6%, or \$24.3, primarily due to lower volumes of \$61, partially offset by favorable currency of \$29 and positive pricing, net of power and fuel costs, of \$11. Operating margin of 29.2% decreased 320 bp from 32.4% in the prior year primarily due to reduced volume contributions from Lu'An.

Equity affiliates' income of \$35.4 increased 15%, or \$4.7, primarily due to higher income from an affiliate in India.

Industrial Gases – Global

	Six Months Ended 31 March			
	2021	2020	\$ Change	% Change
Sales	\$202.4	\$171.9	\$30.5	18 %
Operating loss	(30.7)	(16.2)	(14.5)	(90 %)
Adjusted EBITDA	(21.7)	(4.5)	(17.2)	(382 %)

Sales of \$202.4 increased 18%, or \$30.5, due to higher sale of equipment project activity. Despite higher sales, operating loss of \$30.7 increased 90%, or \$14.5, due to higher project costs and product development spending, partially offset by income from the settlement of a supply contract in the first quarter of 2021.

Corporate and other

	Six Months Ended 31 March			
	2021	2020	\$ Change	% Change
Sales	\$123.1	\$88.2	\$34.9	40 %
Operating loss	(78.9)	(87.3)	8.4	10 %
Adjusted EBITDA	(66.8)	(77.2)	10.4	13 %

Sales of \$123.1 increased 40%, or \$34.9, primarily due to higher project activity in our LNG and distribution sale of equipment businesses. Operating loss of \$78.9 decreased 10%, or \$8.4, primarily due to the higher project activity, partially offset by higher business development and corporate support costs.

RECONCILIATIONS OF NON-GAAP FINANCIAL MEASURES

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

We present 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, adjusted effective tax rate, and capital expenditures. On a segment basis, these measures include adjusted EBITDA and adjusted EBITDA margin. In addition to these measures, we also present certain supplemental non-GAAP financial measures to help the reader understand the impact that certain disclosed items, or "non-GAAP adjustments," have on the calculation of our adjusted diluted EPS. For each non-GAAP financial measure, we present a reconciliation to the most directly comparable financial measure calculated in accordance with GAAP.

Our non-GAAP financial measures are not meant to be considered in isolation or as a substitute for the most directly comparable measure calculated in accordance with GAAP. We believe these non-GAAP financial measures provide investors, potential investors, securities analysts, and others with useful information to evaluate the performance of our 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 our historical financial performance and projected future results.

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

When applicable, 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 from continuing operations, which we view as a key performance metric. In periods that we have non-GAAP adjustments, we believe it is important for the reader to understand the per share impact of each such adjustment because management does not consider these impacts when evaluating underlying business performance. The per share impact for each non-GAAP adjustment was calculated independently and may not sum to total adjusted diluted EPS due to rounding.

	Three Months Ended 31 March				
	Operating Income	Equity Affiliates' Income	Income Tax Provision	Net Income Attributable to Air Products	Diluted EPS
Q2 2021 vs. Q2 2020					
2021 GAAP	\$548.5	\$69.8	\$121.9	\$473.1	\$2.13
2020 GAAP	577.2	88.2	148.5	492.1	2.21
Change GAAP					(\$0.08)
% Change GAAP					(4 %)
2021 GAAP	\$548.5	\$69.8	\$121.9	\$473.1	\$2.13
Facility closure	23.2	—	5.8	17.4	0.08
Gain on exchange with joint venture partner	(36.8)	—	(9.5)	(27.3)	(0.12)
2021 Non-GAAP ("Adjusted")	\$534.9	\$69.8	\$118.2	\$463.2	\$2.08
2020 GAAP	\$577.2	\$88.2	\$148.5	\$492.1	\$2.21
Company headquarters relocation (income) expense	(33.8)	—	(8.2)	(25.6)	(0.12)
India Finance Act 2020	—	(33.8)	(20.3)	(13.5)	(0.06)
2020 Non-GAAP ("Adjusted")	\$543.4	\$54.4	\$120.0	\$453.0	\$2.04
Change Non-GAAP ("Adjusted")					\$0.04
% Change Non-GAAP ("Adjusted")					2 %

	Six Months Ended 31 March				
	Operating Income	Equity Affiliates' Income	Income Tax Provision	Net Income Attributable to Air Products	Diluted EPS
2021 vs. 2020					
2021 GAAP	\$1,087.6	\$139.1	\$235.8	\$944.8	\$4.25
2020 GAAP	1,138.2	146.4	269.2	967.7	4.36
Change GAAP					(\$0.11)
% Change GAAP					(3 %)
2021 GAAP	\$1,087.6	\$139.1	\$235.8	\$944.8	\$4.25
Facility closure	23.2	—	5.8	17.4	0.08
Gain on exchange with joint venture partner	(36.8)	—	(9.5)	(27.3)	(0.12)
2021 Non-GAAP ("Adjusted")	\$1,074.0	\$139.1	\$232.1	\$934.9	\$4.20
2020 GAAP	\$1,138.2	\$146.4	\$269.2	\$967.7	\$4.36
Company headquarters relocation (income) expense	(33.8)	—	(8.2)	(25.6)	(0.12)
India Finance Act 2020	—	(33.8)	(20.3)	(13.5)	(0.06)
2020 Non-GAAP ("Adjusted")	\$1,104.4	\$112.6	\$240.7	\$928.6	\$4.18
Change Non-GAAP ("Adjusted")					\$0.02
% Change Non-GAAP ("Adjusted")					— %

ADJUSTED EBITDA AND ADJUSTED EBITDA MARGIN

We define adjusted EBITDA as net income less income (loss) from discontinued operations, net of tax, and excluding non-GAAP adjustments, which we do 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. Margins are calculated independently for each period by dividing each line item by consolidated sales for the respective period and may not sum to total margin due to rounding.

The table below presents 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 March				Six Months Ended 31 March			
	2021		2020		2021		2020	
	\$	Margin	\$	Margin	\$	Margin	\$	Margin
Sales	\$2,502.0		\$2,216.3		\$4,877.2		\$4,471.0	
Net income and Net income margin	\$477.1	19.1 %	\$490.4	22.1 %	\$963.8	19.8 %	\$979.3	21.9 %
Less: Income (Loss) from discontinued operations, net of tax	—	— %	(14.3)	(0.6 %)	10.3	0.2 %	(14.3)	(0.3 %)
Add: Interest expense	36.1	1.4 %	19.3	0.9 %	72.8	1.5 %	38.0	0.9 %
Less: Other non-operating income (expense), net	16.8	0.7 %	7.1	0.3 %	35.4	0.7 %	16.2	0.4 %
Add: Income tax provision	121.9	4.9 %	148.5	6.7 %	235.8	4.8 %	269.2	6.0 %
Add: Depreciation and amortization	329.3	13.2 %	294.7	13.3 %	653.0	13.4 %	583.9	13.1 %
Add: Facility closure	23.2	0.9 %	—	— %	23.2	0.5 %	—	— %
Less: Gain on exchange with joint venture partner	36.8	1.5 %	—	— %	36.8	0.8 %	—	— %
Less: Company headquarters relocation income (expense)	—	— %	33.8	1.5 %	—	— %	33.8	0.8 %
Less: India Finance Act 2020 - equity affiliate income impact	—	— %	33.8	1.5 %	—	— %	33.8	0.8 %
Adjusted EBITDA and Adjusted EBITDA margin	\$934.0	37.3 %	\$892.5	40.3 %	\$1,866.1	38.3 %	\$1,800.9	40.3 %
	Q2 2021 vs. Q2 2020				2021 vs. 2020			
Change GAAP								
Net income \$ change	(\$13.3)				(\$15.5)			
Net income % change	(3 %)				(2 %)			
Net income margin change	(300) bp				(210) bp			
Change Non-GAAP								
Adjusted EBITDA \$ change	\$41.5				\$65.2			
Adjusted EBITDA % change	5 %				4 %			
Adjusted EBITDA margin change	(300) bp				(200) bp			

The tables below present sales and 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 March 2021 and 2020:

Sales	Industrial Gases— Americas	Industrial Gases— EMEA	Industrial Gases— Asia	Industrial Gases— Global	Corporate and other	Total
Q2 2021	\$1,056.1	\$584.6	\$697.5	\$97.9	\$65.9	\$2,502.0
Q2 2020	932.4	492.7	658.1	79.3	53.8	2,216.3
	Industrial Gases— Americas	Industrial Gases— EMEA	Industrial Gases— Asia	Industrial Gases— Global	Corporate and other	Total
Q2 2021 GAAP						
Operating income (loss)	\$263.4	\$139.6	\$198.5	(\$26.1)	(\$40.5)	\$534.9 ^(A)
Operating margin	24.9 %	23.9 %	28.5 %			
Q2 2020 GAAP						
Operating income (loss)	\$268.0	\$124.6	\$209.1	(\$19.8)	(\$38.5)	\$543.4 ^(A)
Operating margin	28.7 %	25.3 %	31.8 %			
Q2 2021 vs. Q2 2020 Change GAAP						
Operating income/loss \$ change	(\$4.6)	\$15.0	(\$10.6)	(\$6.3)	(\$2.0)	
Operating income/loss % change	(2 %)	12 %	(5 %)	(32 %)	(5 %)	
Operating margin change	(380) bp	(140) bp	(330) bp			
Q2 2021 Non-GAAP						
Operating income (loss)	\$263.4	\$139.6	\$198.5	(\$26.1)	(\$40.5)	\$534.9 ^(A)
Add: Depreciation and amortization	153.3	57.6	109.7	2.6	6.1	329.3
Add: Equity affiliates' income	32.3	20.3	15.5	1.7	—	69.8 ^(A)
Adjusted EBITDA	\$449.0	\$217.5	\$323.7	(\$21.8)	(\$34.4)	\$934.0
Adjusted EBITDA margin	42.5 %	37.2 %	46.4 %			
Q2 2020 Non-GAAP						
Operating income (loss)	\$268.0	\$124.6	\$209.1	(\$19.8)	(\$38.5)	\$543.4 ^(A)
Add: Depreciation and amortization	135.5	47.6	104.1	2.4	5.1	294.7
Add: Equity affiliates' income	21.6	13.5	13.8	5.5	—	54.4 ^(A)
Adjusted EBITDA	\$425.1	\$185.7	\$327.0	(\$11.9)	(\$33.4)	\$892.5
Adjusted EBITDA margin	45.6 %	37.7 %	49.7 %			
Q2 2021 vs. Q2 2020 Change Non-GAAP						
Adjusted EBITDA \$ change	\$23.9	\$31.8	(\$3.3)	(\$9.9)	(\$1.0)	
Adjusted EBITDA % change	6 %	17 %	(1 %)	(83 %)	(3 %)	
Adjusted EBITDA margin change	(310) bp	(50) bp	(330) bp			

^(A) Refer to the *Reconciliations to Consolidated Results* section below.

The tables below present sales and a reconciliation of operating income and operating margin by segment to adjusted EBITDA and adjusted EBITDA margin by segment for the six months ended 31 March 2021 and 2020:

Sales	Industrial Gases— Americas	Industrial Gases— EMEA	Industrial Gases— Asia	Industrial Gases— Global	Corporate and other	Total
Q2 2021	\$1,989.1	\$1,147.6	\$1,415.0	\$202.4	\$123.1	\$4,877.2
Q2 2020	1,868.6	991.4	1,350.9	171.9	88.2	4,471.0

	Industrial Gases— Americas	Industrial Gases— EMEA	Industrial Gases— Asia	Industrial Gases— Global	Corporate and other	Total
Q2 2021 GAAP						
Operating income (loss)	\$489.2	\$281.1	\$413.3	(\$30.7)	(\$78.9)	\$1,074.0 ^(A)
Operating margin	24.6 %	24.5 %	29.2 %			
Q2 2020 GAAP						
Operating income (loss)	\$525.2	\$245.1	\$437.6	(\$16.2)	(\$87.3)	\$1,104.4 ^(A)
Operating margin	28.1 %	24.7 %	32.4 %			
Q2 2021 vs. Q2 2020 Change GAAP						
Operating income/loss \$ change	(\$36.0)	\$36.0	(\$24.3)	(\$14.5)	\$8.4	
Operating income/loss % change	(7 %)	15 %	(6 %)	(90 %)	10 %	
Operating margin change	(350) bp	(20) bp	(320) bp			
Q2 2021 Non-GAAP						
Operating income (loss)	\$489.2	\$281.1	\$413.3	(\$30.7)	(\$78.9)	\$1,074.0 ^(A)
Add: Depreciation and amortization	305.1	113.0	217.6	5.2	12.1	653.0
Add: Equity affiliates' income	54.6	45.3	35.4	3.8	—	139.1 ^(A)
Adjusted EBITDA	\$848.9	\$439.4	\$666.3	(\$21.7)	(\$66.8)	\$1,866.1
Adjusted EBITDA margin	42.7 %	38.3 %	47.1 %			
Q2 2020 Non-GAAP						
Operating income (loss)	\$525.2	\$245.1	\$437.6	(\$16.2)	(\$87.3)	\$1,104.4 ^(A)
Add: Depreciation and amortization	267.3	96.0	205.7	4.8	10.1	583.9
Add: Equity affiliates' income	42.2	32.8	30.7	6.9	—	112.6 ^(A)
Adjusted EBITDA	\$834.7	\$373.9	\$674.0	(\$4.5)	(\$77.2)	\$1,800.9
Adjusted EBITDA margin	44.7 %	37.7 %	49.9 %			
Q2 2021 vs. Q2 2020 Change Non-GAAP						
Adjusted EBITDA \$ change	\$14.2	\$65.5	(\$7.7)	(\$17.2)	\$10.4	
Adjusted EBITDA % change	2 %	18 %	(1 %)	(382 %)	13 %	
Adjusted EBITDA margin change	(200) bp	60 bp	(280) bp			

^(A) Refer to the *Reconciliations to Consolidated Results* section below.

Reconciliations to Consolidated Results

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 March		Six Months Ended 31 March	
Operating Income	2021	2020	2021	2020
Consolidated operating income	\$548.5	\$577.2	\$1,087.6	\$1,138.2
Facility closure	23.2	—	23.2	—
Gain on exchange with joint venture partner	(36.8)	—	(36.8)	—
Company headquarters relocation (income) expense	—	(33.8)	—	(33.8)
Total	\$534.9	\$543.4	\$1,074.0	\$1,104.4

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

	Three Months Ended 31 March		Six Months Ended 31 March	
Equity Affiliates' Income	2021	2020	2021	2020
Consolidated equity affiliates' income	\$69.8	\$88.2	\$139.1	\$146.4
India Finance Act 2020	—	(33.8)	—	(33.8)
Total	\$69.8	\$54.4	\$139.1	\$112.6

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.

	Three Months Ended 31 March		Six Months Ended 31 March	
	2021	2020	2021	2020
Income Tax Provision	\$121.9	\$148.5	\$235.8	\$269.2
Income From Continuing Operations Before Taxes	\$599.0	\$653.2	\$1,189.3	\$1,262.8
Effective Tax Rate	20.4 %	22.7 %	19.8 %	21.3 %
Income Tax Provision	\$121.9	\$148.5	\$235.8	\$269.2
Facility closure	5.8	—	5.8	—
Gain on exchange with joint venture partner	(9.5)	—	(9.5)	—
Company headquarters relocation	—	(8.2)	—	(8.2)
India Finance Act 2020	—	(20.3)	—	(20.3)
Adjusted Income Tax Provision	\$118.2	\$120.0	\$232.1	\$240.7
Income From Continuing Operations Before Taxes	\$599.0	\$653.2	\$1,189.3	\$1,262.8
Facility closure	23.2	—	23.2	—
Gain on exchange with joint venture partner	(36.8)	—	(36.8)	—
Company headquarters relocation (income) expense	—	(33.8)	—	(33.8)
India Finance Act 2020 - equity affiliate income impact	—	(33.8)	—	(33.8)
Adjusted Income From Continuing Operations Before Taxes	\$585.4	\$585.6	\$1,175.7	\$1,195.2
Adjusted Effective Tax Rate	20.2 %	20.5 %	19.7 %	20.1 %

CAPITAL EXPENDITURES

We define capital expenditures 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:

	Six Months Ended 31 March	
	2021	2020
Cash used for investing activities	\$583.2	\$706.4
Proceeds from sale of assets and investments	14.8	68.0
Purchases of investments	(569.0)	—
Proceeds from investments	1,265.5	177.0
Other investing activities	3.1	1.9
Capital Expenditures	\$1,297.6	\$953.3

LIQUIDITY AND CAPITAL RESOURCES

Our cash balance and cash flows from operations are our primary sources of liquidity and are generally sufficient to meet our liquidity needs. In addition, we have the flexibility to access capital through a variety of financing activities, including accessing the capital markets, drawing upon our credit facility, or alternatively, accessing the commercial paper markets. At this time, we have not utilized, nor do we expect to access, our credit facility for additional liquidity. In addition, we have considered the impacts of COVID-19 on our liquidity and capital resources and do not expect it to impact our ability to meet future liquidity needs.

As of 31 March 2021, we had \$1,365.8 of foreign cash and cash items compared to total cash and cash items of \$5,786.3. We 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 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.

The table below summarizes our cash flows from operating, investing, and financing activities as reflected on the consolidated statements of cash flows:

	Six Months Ended 31 March	
Cash Provided By (Used For)	2021	2020
Operating activities	\$1,580.3	\$1,238.5
Investing activities	(583.2)	(706.4)
Financing activities	(503.2)	(537.8)

Operating Activities

For the first six months of fiscal year 2021, cash provided by operating activities was \$1,580.3. Income from continuing operations of \$944.8 was adjusted for items including depreciation and amortization, deferred income taxes, a loss for a facility closure, undistributed earnings of equity method investments, gain on sale of assets and investments, share-based compensation, and noncurrent lease receivables. The working capital accounts were a use of cash of \$91.2, primarily driven by \$142.4 from other working capital and \$74.8 from trade receivables, less allowances, partially offset by a \$135.7 source of cash from payables and accrued liabilities. The use within "other working capital" was primarily due to higher tax payments and contract fulfillment costs related to sale of equipment projects. The use of cash within trade receivables, less allowances, primarily resulted from increased sale of equipment project activity. The source within payables and accrued liabilities was primarily due to customer advances on sale of equipment projects and an increase in accrued utilities due to higher costs associated with Winter Storm Uri, a severe weather storm in the U.S. Gulf Coast.

For the first six months of fiscal year 2020, cash provided by operating activities was \$1,238.5 which included income from continuing operations of \$967.7. The working capital accounts were a use of cash of \$354.0, primarily driven by \$113.1 from other working capital, \$111.9 from trade receivables, less allowances, and \$111.8 from payables and accrued liabilities. The use within "Other working capital" was primarily due to higher tax payments and increases in contract assets and contract fulfillment costs associated with revenue generating project activity. The use of cash within "Trade receivables, less allowances" includes progress billings associated with sale of equipment activity. The use of cash within "Payables and accrued liabilities" was primarily driven by a \$56.0 decrease in accrued incentive compensation due to payments on the 2019 annual incentive compensation plan and \$31.5 from the maturity of a forward exchange contract that hedged a foreign currency exposure.

Cash paid for income taxes, net of cash refunds, was \$230.5 and \$253.5 for the six months ended 31 March 2021 and 2020, respectively.

Investing Activities

For the first six months of fiscal year 2021, cash used by investing activities was \$583.2. Capital expenditures for plant and equipment, including long-term deposits, were \$1,227.8. Proceeds from investments of \$1,265.5 resulted from maturities of time deposits and treasury securities with terms greater than three months but less than one year and exceeded purchases of investments of \$569.0.

For the first six months of fiscal year 2020, cash used for investing activities was \$706.4. Capital expenditures for plant and equipment, including long-term deposits were \$930.6. Proceeds from investments of \$177.0 resulted from maturities of time deposits with original terms greater than three months but less than one year. Proceeds from sale of assets and investments of \$68.0 include net proceeds of \$44.1 related to the sale of property at our current corporate headquarters.

Capital expenditures is a non-GAAP measure that we define as cash flows for additions to plant and equipment, including long-term deposits, acquisitions (less cash acquired), and investment in and advances to unconsolidated affiliates. The components of our capital expenditures are detailed in the table below. We present a reconciliation of our capital expenditures to cash used for investing activities on page 56.

	Six Months Ended 31 March	
	2021	2020
Additions to plant and equipment, including long-term deposits	\$1,227.8	\$930.6
Investment in and advances to unconsolidated affiliates	69.8	22.7
Capital Expenditures	\$1,297.6	\$953.3

Capital expenditures for the first six months of fiscal year 2021 totaled \$1,297.6 compared to \$953.3 for the first six months of fiscal year 2020. This increase was primarily driven by higher spending on gasification projects. Additions to plant and equipment also included support capital of a routine, ongoing nature, including expenditures for distribution equipment and facility improvements.

We expect capital expenditures for fiscal year 2021 to be approximately \$2.5 billion. This does not include any future investment in the Jazan gas and power project. 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 six months of fiscal year 2021, cash used for financing activities was \$503.2 and primarily included dividend payments to shareholders of \$592.7, partially offset by long-term debt proceeds of \$92.8.

For the first six months of fiscal year 2020, cash used for financing activities was \$537.8 and primarily included dividend payments to shareholders of \$511.7.

Discontinued Operations

For the first six months of fiscal year 2021, cash provided by operating activities of discontinued operations of \$6.7 resulted from cash received as part of a state tax settlement related to the sale of our former Performance Materials Division in fiscal year 2017.

Financing and Capital Structure

Capital needs for the first six months of fiscal year 2021 were satisfied with cash from operations. Total debt increased from \$7,907.8 as of 30 September 2020 to \$8,004.4 as of 31 March 2021. The current year total debt balance includes \$352.5 of related party debt, primarily associated with the Lu'An joint venture.

On 31 March 2021, we entered into a five-year \$2,500 revolving credit agreement with a syndicate of banks (the "2021 Credit Agreement"), under which senior unsecured debt is available to us and certain of our subsidiaries. The 2021 Credit Agreement will provide a source of liquidity and support our commercial paper program. The only financial covenant in the 2021 Credit Agreement is a maximum ratio of total debt to capitalization (equal to total debt plus total equity) not to exceed 70%. Total debt as of 31 March 2021 and 30 September 2020, expressed as a percentage of total capitalization, was 37.9% and 38.9%, respectively. No borrowings were outstanding under the 2021 Credit Agreement as of 31 March 2021.

The 2021 Credit Agreement replaced our previous five-year \$2,300.0 revolving credit agreement, which was to have matured on 31 March 2022. No borrowings were outstanding under the previous agreement as of 30 September 2020 or at the time of its termination. No early termination penalties were incurred.

Commitments of \$291.5 are maintained by our foreign subsidiaries, \$92.1 of which was borrowed and outstanding as of 31 March 2021.

As of 31 March 2021, 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. We did not purchase any of our outstanding shares during the first six months of fiscal year 2021. As of 31 March 2021, \$485.3 in share repurchase authorization remained.

Dividends

On 28 January 2021, the Board of Directors increased the quarterly dividend on our common stock to \$1.50 per share, representing a 12% increase from the previous dividend of \$1.34 per share. This is the 39th consecutive year that we have increased our quarterly dividend payment. The dividend is payable on 10 May 2021 to shareholders of record as of 1 April 2021.

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.

We entered into additional operating lease commitments in the first half of fiscal year 2021 with lease terms that commence after 31 March 2021. Refer to Note 12, *Commitments and Contingencies*, to the consolidated financial statements for additional information.

There have been no other material changes to our contractual obligations since 30 September 2020.

PENSION BENEFITS

For the six months ended 31 March 2021 and 2020, net periodic pension (benefit) cost was (\$19.5) and \$2.3, respectively. We recognized service-related costs of \$22.8 and \$23.7, respectively, on our consolidated income statements within "Operating income." The non-service related benefits of \$42.3 and \$21.4 were included in "Other non-operating income (expense), net" for the six months ended 31 March 2021 and 2020, respectively. The increase to pension income in fiscal year 2021 from an expense in fiscal year 2020 primarily resulted from lower interest cost and higher total assets. The amount of service costs capitalized in the first six months of fiscal years 2021 and 2020 were not material.

We expect total pension settlement losses of approximately \$0 to \$5 in fiscal year 2021.

Management considers various factors when making pension funding decisions, including tax, cash flow, and regulatory implications. For the six months ended 31 March 2021 and 2020, our cash contributions to funded pension plans and benefit payments for unfunded pension plans were \$27.7 and \$14.9, respectively. Total contributions for fiscal year 2021 are expected to be approximately \$45 to \$55. We do not expect COVID-19 to impact our contribution forecast for fiscal year 2021. During fiscal year 2020, total contributions were \$37.5.

For additional information, refer to Note 11, *Retirement Benefits*, to the consolidated financial statements.

COMMITMENTS AND CONTINGENCIES

Refer to Note 12, *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 2020. 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

See Note 17, *Supplemental Information*, to the consolidated financial statements for information concerning activity with our related parties.

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 2020 Form 10-K.

There have been no changes to our accounting policies or estimates during the first six months of fiscal year 2021 that had a significant impact on our financial condition, change in financial condition, liquidity, or results of operations.

While our results of operations have been negatively affected by COVID-19 as of and for the three and six months ended 31 March 2021, there has been no triggering event that would require interim impairment testing for any of our asset groups, reporting units that contain goodwill, indefinite-lived intangible assets, or equity method investments. We will continue to evaluate the nature and extent of COVID-19 impacts on our business and any impact they may have on management's estimates, particularly those for our Latin America business. The duration and severity of the COVID-19 outbreak and its long-term impact on our business is uncertain.

NEW ACCOUNTING GUIDANCE

See Note 2, *New Accounting Guidance*, 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 2020 Form 10-K.

Our net financial instrument position decreased from a liability of \$8,220.7 at 30 September 2020 to a liability of \$8,012.7 at 31 March 2021. The decrease was primarily due to the effect of higher U.S. Dollar interest rates on the fair value of \$3.8 billion U.S. Dollar-denominated notes issued in fiscal 2020.

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 March 2021, with all other variables held constant. A 100 bp increase in market interest rates would result in a decrease of \$588 and \$711 in the net liability position of financial instruments at 31 March 2021 and 30 September 2020, respectively. A 100 bp decrease in market interest rates would result in an increase of \$691 and \$846 in the net liability position of financial instruments at 31 March 2021 and 30 September 2020.

There were no material changes to the sensitivity analysis related to the variable portion of our debt portfolio since 30 September 2020.

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 March 2021, 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 \$396 and \$360 in the net liability position of financial instruments at 31 March 2021 and 30 September 2020, 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, our management conducted an evaluation of the effectiveness of our disclosure controls and procedures as of 31 March 2021. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that, as of 31 March 2021, our disclosure controls and procedures were effective.

Internal Control Over Financial Reporting

There was no change in our 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 March 2021 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION**Item 6. Exhibits.**

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

Exhibit No.	Description
(10)	Material Contracts
10.1	Revolving Credit Agreement dated as of March 31, 2021 for \$2,500,000,000.
10.2	Amendment No. 6 to the Air Products and Chemicals, Inc. Retirement Savings Plan as amended and restated effective 28 January 2021.
10.3	Amendment No. 7 to the Air Products and Chemicals, Inc. Retirement Savings Plan as amended and restated effective 1 January 2020.
(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)

By:

/s/ M. Scott Crocco

M. Scott Crocco

Executive Vice President and Chief Financial Officer

(Principal Financial Officer)

Date: 10 May 2021