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 2024

or

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

For the transition period from ______ to ______

Commission File Number 001-04534

AIR PRODUCTS AND CHEMICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**23-1274455**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

1940 Air Products Boulevard
Allentown, Pennsylvania 18106-5500
(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:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $1.00 per share	APD	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
4.000% Euro Notes due 2035	APD35	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 2024 was 222,305,907.

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
QUARTERLY REPORT ON FORM 10-Q
For the quarterly period ended 31 March 2024

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FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q 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 capital expenditures and plans, projects, strategies and objectives for our future operations, including our ability to win new projects and execute the projects in our backlog; and statements regarding our expectations with respect to pending legal claims or disputes. While forward-looking statements are made in good faith and based on assumptions, expectations and projections that management believes are reasonable based on currently available information, actual performance and financial results may differ materially from projections and estimates expressed in the forward-looking statements because of many factors, including, without limitation:

- changes in global or regional economic conditions, inflation, and supply and demand dynamics in the market segments we serve, including demand for technologies and projects to limit the impact of global climate change;
- changes in the financial markets that may affect the availability and terms on which we may obtain financing;
- the ability to implement price increases to offset cost increases;
- disruptions to our supply chain and related distribution delays and cost increases;
- 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, scope changes, cost escalations, contract terminations, customer cancellations, or postponement of projects and sales;
- our ability to safely develop, operate, and manage costs of large-scale and technically complex projects;
- the future financial and operating performance of major customers, joint ventures, and equity affiliates;
- our ability to develop, implement, and operate new technologies and to market products produced utilizing new technologies;
- our ability to execute the projects in our backlog and refresh our pipeline of new projects;
- tariffs, economic sanctions and regulatory activities in jurisdictions in which we and our affiliates and joint ventures operate;
- the impact of environmental, tax, safety, or other legislation, as well as regulations and other public policy initiatives affecting our business and the business of our affiliates and related compliance requirements, including legislation, regulations, or policies intended to address global climate change;
- changes in tax rates and other changes in tax law;
- safety incidents relating to our operations;
- 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 or those of our business partners or service providers;

FORWARD-LOOKING STATEMENTS (CONTINUED)

- catastrophic events, such as natural disasters and extreme weather events, pandemics and other public health crises, acts of war, including Russia's invasion of Ukraine and new and ongoing conflicts in the Middle East, 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;
- asset impairments due to economic conditions or specific events;
- significant fluctuations in inflation, interest rates, and foreign currency exchange rates from those currently anticipated;
- damage to facilities, pipelines or delivery systems, including those we are constructing or that we own or operate for third parties;
- availability and cost of electric power, natural gas, and other 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 2023. 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	
(Millions of U.S. Dollars, except for share and per share data)	2024	2023	2024	2023
Sales	$2,930.2	$3,200.1	$5,927.6	$6,374.8
Cost of sales	1,991.5	2,282.8	4,058.7	4,555.1
Selling and administrative expense	240.6	251.2	479.0	485.6
Research and development expense	25.4	27.2	51.1	51.6
Business and asset actions	57.0	185.6	57.0	185.6
Other income (expense), net	21.5	6.5	22.3	14.9
Operating Income	637.2	459.8	1,304.1	1,111.8
Equity affiliates' income	143.3	165.9	301.7	275.9
Interest expense	59.9	40.9	113.4	82.1
Other non-operating income (expense), net	(9.2)	(13.9)	(24.0)	(14.5)
Income Before Taxes	711.4	570.9	1,468.4	1,291.1
Income tax provision	130.5	121.0	265.9	257.4
Net Income	580.9	449.9	1,202.5	1,033.7
Net income attributable to noncontrolling interests	8.5	10.1	20.8	21.7
Net Income Attributable to Air Products	$572.4	$439.8	$1,181.7	$1,012.0
Per Share Data *(U.S. Dollars per share)*				
Basic earnings per share attributable to Air Products	$2.57	$1.98	$5.31	$4.55
Diluted earnings per share attributable to Air Products	$2.57	$1.97	$5.30	$4.54
Weighted Average Common Shares *(in millions)*				
Basic	222.5	222.3	222.5	222.3
Diluted	222.7	222.7	222.8	222.7

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 U.S. Dollars)	2024	2023
Net Income	$580.9	$449.9
Other Comprehensive (Loss) Income, net of tax:		
Translation adjustments, net of tax of $16.7 and ($10.6)	(223.8)	51.0
Net gain (loss) on derivatives, net of tax of $0.2 and ($0.6)	82.3	(14.6)
Reclassification adjustments:		
Currency translation adjustment	—	(0.3)
Derivatives, net of tax of $10.6 and $1.9	34.8	5.8
Pension and postretirement benefits, net of tax of $4.5 and $4.7	13.6	14.4
Total Other Comprehensive (Loss) Income	(93.1)	56.3
Comprehensive Income	$487.8	$506.2
Net Income Attributable to Noncontrolling Interests	8.5	10.1
Other Comprehensive Income Attributable to Noncontrolling Interests	62.5	1.3
Comprehensive Income Attributable to Air Products	$416.8	$494.8

	Six Months Ended 31 March	
(Millions of U.S. Dollars)	2024	2023
Net Income	$1,202.5	$1,033.7
Other Comprehensive Income, net of tax:		
Translation adjustments, net of tax of ($13.1) and ($48.6)	156.8	560.6
Net (loss) gain on derivatives, net of tax of $5.7 and $37.6	(78.8)	106.4
Pension and postretirement benefits, net of tax of $— and $2.4	—	6.7
Reclassification adjustments:		
Currency translation adjustment	—	(0.3)
Derivatives, net of tax of ($2.2) and ($19.8)	(7.4)	(62.9)
Pension and postretirement benefits, net of tax of $8.7 and $8.4	27.3	26.3
Total Other Comprehensive Income	97.9	636.8
Comprehensive Income	$1,300.4	$1,670.5
Net Income Attributable to Noncontrolling Interests	20.8	21.7
Other Comprehensive (Loss) Income Attributable to Noncontrolling Interests	(75.6)	14.0
Comprehensive Income Attributable to Air Products	$1,355.2	$1,634.8

The accompanying notes are an integral part of these statements.

Air Products and Chemicals, Inc. and Subsidiaries
CONSOLIDATED BALANCE SHEETS
(Unaudited)

(Millions of U.S. Dollars, except for share and per share data)	31 March 2024	30 September 2023
Assets		
Current Assets		
Cash and cash items	$2,535.0	$1,617.0
Short-term investments	102.8	332.2
Trade receivables, net	1,715.8	1,700.4
Inventories	721.2	651.8
Prepaid expenses	263.3	177.0
Other receivables and current assets	719.2	722.1
Total Current Assets	6,057.3	5,200.5
Investment in net assets of and advances to equity affiliates	4,758.9	4,617.8
Plant and equipment, at cost	35,913.2	32,746.3
Less: accumulated depreciation	15,912.7	15,274.2
Plant and equipment, net	20,000.5	17,472.1
Goodwill, net	883.2	861.7
Intangible assets, net	318.4	334.6
Operating lease right-of-use assets, net	998.8	974.0
Noncurrent lease receivables	458.6	494.7
Financing receivables	1,209.6	817.2
Other noncurrent assets	1,236.4	1,229.9
Total Noncurrent Assets	29,864.4	26,802.0
Total Assets[(A)]	$35,921.7	$32,002.5
Liabilities and Equity		
Current Liabilities		
Payables and accrued liabilities	$2,783.0	$2,890.1
Accrued income taxes	156.2	131.2
Short-term borrowings	184.3	259.5
Current portion of long-term debt	937.5	615.0
Total Current Liabilities	4,061.0	3,895.8
Long-term debt	12,344.6	9,280.6
Long-term debt – related party	155.3	150.7
Noncurrent operating lease liabilities	652.1	631.1
Other noncurrent liabilities	1,092.5	1,118.0
Deferred income taxes	1,281.3	1,266.0
Total Noncurrent Liabilities	15,525.8	12,446.4
Total Liabilities[(A)]	19,586.8	16,342.2
Commitments and Contingencies - See Note 12		
Air Products Shareholders' Equity		
Common stock (par value $1 per share; issued 2024 and 2023 - 249,455,584 shares)	249.4	249.4
Capital in excess of par value	1,215.7	1,190.5
Retained earnings	17,690.0	17,289.7
Accumulated other comprehensive loss	(2,275.9)	(2,449.4)
Treasury stock, at cost (2024 - 27,149,677 shares; 2023 - 27,255,739 shares)	(1,965.8)	(1,967.3)
Total Air Products Shareholders' Equity	14,913.4	14,312.9
Noncontrolling Interests[(A)]	1,421.5	1,347.4
Total Equity	16,334.9	15,660.3
Total Liabilities and Equity	$35,921.7	$32,002.5

[(A)] Includes balances associated with a consolidated variable interest entity ("VIE"), including amounts reflected in "Total Assets" that can only be used to settle obligations of the VIE of $3,178.7 and $2,256.8 as of 31 March 2024 and 30 September 2023, respectively, as well as liabilities of the VIE reflected within "Total Liabilities" for which creditors do not have recourse to the general credit of Air Products of $2,499.0 and $1,461.1 as of 31 March 2024 and 30 September 2023, respectively. Refer to Note 3, *Variable Interest Entities*, for additional information regarding the NEOM Green Hydrogen Company joint venture.

The accompanying notes are an integral part of these statements.

Air Products and Chemicals, Inc. and Subsidiaries
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

(Millions of U.S. Dollars)	Six Months Ended 31 March 2024	2023
Operating Activities		
Net income	$1,202.5	$1,033.7
Less: Net income attributable to noncontrolling interests	20.8	21.7
Net income attributable to Air Products	$1,181.7	$1,012.0
Adjustments to reconcile income to cash provided by operating activities:		
Depreciation and amortization	710.0	661.1
Deferred income taxes	6.9	29.0
Business and asset actions	57.0	185.6
Undistributed earnings of equity method investments	(118.2)	(78.1)
Gain on sale of assets and investments	(18.2)	(3.9)
Share-based compensation	28.5	31.2
Noncurrent lease receivables	40.2	39.5
Other adjustments	26.5	70.9
Working capital changes that provided (used) cash, excluding effects of acquisitions:		
Trade receivables	30.9	162.0
Inventories	(72.7)	(112.3)
Other receivables	(31.6)	(63.0)
Payables and accrued liabilities	(301.0)	(451.3)
Other working capital	(111.7)	(124.7)
Cash Provided by Operating Activities	$1,428.3	$1,358.0
Investing Activities		
Additions to plant and equipment, including long-term deposits	(3,114.9)	(1,841.1)
Investment in and advances to unconsolidated affiliates	—	(912.0)
Investment in financing receivables	(392.4)	—
Proceeds from sale of assets and investments	20.2	7.2
Purchases of investments	(136.4)	(290.5)
Proceeds from investments	367.4	611.6
Other investing activities	30.1	(51.2)
Cash Used for Investing Activities	($3,226.0)	($2,476.0)
Financing Activities		
Long-term debt proceeds	3,649.0	1,891.6
Payments on long-term debt	(64.7)	(596.0)
Decrease in commercial paper and short-term borrowings	(131.9)	(16.3)
Dividends paid to shareholders	(777.9)	(719.2)
Proceeds from stock option exercises	5.7	17.1
Investments by noncontrolling interests	142.6	72.8
Other financing activities	(110.3)	(46.6)
Cash Provided by Financing Activities	$2,712.5	$603.4
Effect of Exchange Rate Changes on Cash	3.2	46.0
Increase (Decrease) in cash and cash items	918.0	(468.6)
Cash and cash items – Beginning of year	1,617.0	2,711.0
Cash and Cash Items – End of Period	$2,535.0	$2,242.4

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 2024							
(Millions of U.S. 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 as of 30 September 2023	$249.4	$1,190.5	$17,289.7	($2,449.4)	($1,967.3)	$14,312.9	$1,347.4	$15,660.3
Net income	—	—	1,181.7	—	—	1,181.7	20.8	1,202.5
Other comprehensive income (loss)	—	—	—	173.5	—	173.5	(75.6)	97.9
Dividends on common stock ($3.52 per share)	—	—	(782.5)	—	—	(782.5)	—	(782.5)
Distributions to noncontrolling interests	—	—	—	—	—	—	(13.7)	(13.7)
Share-based compensation	—	29.5	—	—	—	29.5	—	29.5
Issuance of treasury shares for stock option and award plans	—	(4.5)	—	—	1.5	(3.0)	—	(3.0)
Investments by noncontrolling interests	—	—	—	—	—	—	142.6	142.6
Other equity transactions	—	0.2	1.1	—	—	1.3	—	1.3
Balance as of 31 March 2024	$249.4	$1,215.7	$17,690.0	($2,275.9)	($1,965.8)	$14,913.4	$1,421.5	$16,334.9

	Six Months Ended 31 March 2023							
(Millions of U.S. 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[(A)]	Total Equity
Balance as of 30 September 2022	$249.4	$1,141.4	$16,520.3	($2,786.1)	($1,981.0)	$13,144.0	$558.4	$13,702.4
Net income	—	—	1,012.0	—	—	1,012.0	21.7	1,033.7
Other comprehensive income	—	—	—	622.8	—	622.8	14.0	636.8
Dividends on common stock ($3.37 per share)	—	—	(748.5)	—	—	(748.5)	—	(748.5)
Distributions to noncontrolling interests	—	—	—	—	—	—	(5.6)	(5.6)
Share-based compensation	—	29.0	—	—	—	29.0	—	29.0
Issuance of treasury shares for stock option and award plans	—	(7.3)	—	—	8.5	1.2	—	1.2
Investments by noncontrolling interests	—	—	—	—	—	—	72.8	72.8
Other equity transactions[(A)]	—	0.3	(2.5)	—	—	(2.2)	(29.4)	(31.6)
Balance as of 31 March 2023	$249.4	$1,163.4	$16,781.3	($2,163.3)	($1,972.5)	$14,058.3	$631.9	$14,690.2

[(A)] "Other equity transactions" reflects a noncash adjustment recorded during the second quarter of fiscal year 2023 to convert investments attributable to the noncontrolling partner of the NEOM Green Hydrogen Company joint venture to shareholder loans.

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 2024							
(Millions of U.S. 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 as of 31 December 2023	$249.4	$1,200.0	$17,510.0	($2,120.3)	($1,966.1)	$14,873.0	$1,256.1	$16,129.1
Net income	—	—	572.4	—	—	572.4	8.5	580.9
Other comprehensive income	—	—	—	(155.6)	—	(155.6)	62.5	(93.1)
Dividends on common stock ($1.77 per share)	—	—	(393.5)	—	—	(393.5)	—	(393.5)
Distributions to noncontrolling interests	—	—	—	—	—	—	(13.7)	(13.7)
Share-based compensation	—	15.7	—	—	—	15.7	—	15.7
Issuance of treasury shares for stock option and award plans	—	(0.1)	—	—	0.3	0.2	—	0.2
Investments by noncontrolling interests	—	—	—	—	—	—	108.1	108.1
Other equity transactions	—	0.1	1.1	—	—	1.2	—	1.2
Balance as of 31 March 2024	$249.4	$1,215.7	$17,690.0	($2,275.9)	($1,965.8)	$14,913.4	$1,421.5	$16,334.9

	Three Months Ended 31 March 2023							
(Millions of U.S. 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[(A)]	Total Equity
Balance as of 31 December 2022	$249.4	$1,148.4	$16,731.4	($2,218.3)	($1,975.2)	$13,935.7	$581.7	$14,517.4
Net income	—	—	439.8	—	—	439.8	10.1	449.9
Other comprehensive income	—	—	—	55.0	—	55.0	1.3	56.3
Dividends on common stock ($1.75 per share)	—	—	(388.7)	—	—	(388.7)	—	(388.7)
Distributions to noncontrolling interests	—	—	—	—	—	—	(4.8)	(4.8)
Share-based compensation	—	14.8	—	—	—	14.8	—	14.8
Issuance of treasury shares for stock option and award plans	—	0.1	—	—	2.7	2.8	—	2.8
Investments by noncontrolling interests	—	—	—	—	—	—	72.8	72.8
Other equity transactions[(A)]	—	0.1	(1.2)	—	—	(1.1)	(29.2)	(30.3)
Balance as of 31 March 2023	$249.4	$1,163.4	$16,781.3	($2,163.3)	($1,972.5)	$14,058.3	$631.9	$14,690.2

(A) "Other equity transactions" reflects a noncash adjustment recorded during the second quarter of fiscal year 2023 to convert investments attributable to the noncontrolling partner of the NEOM Green Hydrogen Company joint venture to shareholder loans.

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 U.S. Dollars, unless otherwise indicated

1. BASIS OF PRESENTATION AND MAJOR ACCOUNTING POLICIES

As used in this report, unless the context indicates otherwise, the terms “we”, “our”, “us”, the “Company”, "Air Products", or “registrant” include our controlled subsidiaries and affiliates.

Basis of Presentation

The interim consolidated financial statements of Air Products and Chemicals, Inc. and its subsidiaries 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 fairly present 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.

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 2023 (the "2023 Form 10-K"), which was filed with the SEC on 16 November 2023. Results of operations for interim periods are not necessarily indicative of the results of operations for a full year.

Major Accounting Policies

Refer to our 2023 Form 10-K for a description of major accounting policies. There have been no significant changes to these accounting policies during the first six months of fiscal year 2024.

2. NEW ACCOUNTING GUIDANCE

New Accounting Guidance to be Implemented

Climate-Related Disclosures

In March 2024, the SEC issued Release No. 33-11275, “The Enhancement and Standardization of Climate-Related Disclosures for Investors", which includes final rules for providing qualitative and quantitative disclosures regarding certain climate-related topics on an annual basis. As a result of ongoing litigation in the U.S., the SEC issued an order in April 2024 to stay the effectiveness of the rules while judicial review is pending. If the rules are not overturned and take effect on schedule, prospective adoption will be permitted with phased-in compliance beginning with our Annual Report on Form 10-K for the fiscal year ending 30 September 2026. We are evaluating the impact these rules will have on our disclosures.

Reportable Segment Disclosures

In November 2023, the Financial Accounting Standards Board (“FASB”) issued Accounting Standard Update (“ASU”) No. 2023-07, "Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures". The update includes enhanced disclosures about significant segment expenses and identification of the chief operating decision maker. The update will be effective in our Annual Report on Form 10-K for the fiscal year ending 30 September 2025 as well as interim periods thereafter, although early adoption is permitted. The amendments must be applied retrospectively to all prior periods presented. We are evaluating the impact this update will have on our disclosures.

Income Tax Disclosures

In December 2023, the FASB issued ASU 2023-09, “Income Taxes (Topic 740)—Improvements to Income Tax Disclosures” to expand income tax disclosures, primarily through disaggregation requirements for the rate reconciliation and income taxes paid. The update will be effective in our Annual Report on Form 10-K for the fiscal year ending 30 September 2026, although early adoption is permitted. The amendments should be applied on a prospective basis with a retrospective option. We are evaluating the impact this update will have on our disclosures.

3. VARIABLE INTEREST ENTITIES

We are the primary beneficiary of the NEOM Green Hydrogen Company joint venture ("NGHC"), which is a variable interest entity ("VIE") that is consolidated in our Middle East and India segment. We are not the primary beneficiary of any other material VIEs. We account for a VIE for which we have an equity interest and exercise significant influence but are not the primary beneficiary, such as the Jazan Integrated Gasification and Power Company joint venture ("JIGPC"), as an equity method investment. During the first quarter of fiscal year 2024, we determined that World Energy, LLC ("World Energy") is a VIE for which we have no equity interest and are not the primary beneficiary. Our variable interests in NGHC, JIGPC, and World Energy are further discussed below.

NGHC Joint Venture

The NEOM Green Hydrogen Project (the "NEOM project") is a multi-billion dollar green hydrogen-based ammonia production facility that is being constructed in NEOM City, Saudi Arabia. Owned and operated by NGHC, the facility will be powered by renewable energy to produce green ammonia for Air Products as the exclusive offtaker under a long-term take-if-tendered agreement. We intend to transport the green ammonia around the world to be dissociated to produce green hydrogen for transportation and industrial markets.

In May 2023, NGHC finalized the $6.7 billion engineering, procurement, and construction ("EPC") agreement with Air Products named as the main contractor and system integrator for the facility. NGHC secured non-recourse project financing of approximately $6.1 billion, which is expected to fund about 73% of the project and will be drawn over the construction period. At the same time, NGHC secured additional non-recourse credit facilities totaling approximately $500 primarily for working capital needs. Under the financing, the assets of NGHC can only be used to settle obligations of the joint venture, and creditors of NGHC do not have recourse to the general credit of Air Products. Borrowings under the financing are reflected net of unamortized discounts and debt issuance costs primarily within "Long-term debt" on our consolidated balance sheets. Total principal borrowings were $2,482.4 and $1,364.8 as of 31 March 2024 and 30 September 2023, respectively. The amount borrowed as of 31 March 2024 includes additional draws from the facilities that were outstanding as of 30 September 2023 as well as approximately $620 drawn from a 2.00% fixed-rate Saudi Riyal loan facility that matures in November 2040.

Air Products is an equal owner in NGHC with our joint venture partners, ACWA Power and NEOM Company. While we only hold one-third of the voting interests in the joint venture, substantially all the activities of the joint venture involve or are conducted on behalf of Air Products. Since we have disproportionately few voting rights relative to our economic interests in the joint venture, we determined that NGHC is a VIE. In addition, we determined that we are the primary beneficiary of NGHC since we have the power to unilaterally direct certain significant activities, including key design and construction decisions, and we share power with our joint venture partners related to other activities that are significant to the economic performance of NGHC. Therefore, we consolidate NGHC within the Middle East and India segment.

The table below summarizes balances associated with NGHC as reflected on our consolidated balance sheets:

	31 March 2024	30 September 2023
Assets		
Cash and cash items	$174.9	$78.2
Trade receivables, net	4.6	—
Prepaid expenses	30.6	21.4
Other receivables and current assets	203.1	181.6
Total current assets	**$413.2**	**$281.2**
Plant and equipment, net	2,358.5	1,396.1
Operating lease right-of-use assets, net	228.8	228.9
Other noncurrent assets	178.2	350.6
Total noncurrent assets	**$2,765.5**	**$1,975.6**
Total assets	**$3,178.7**	**$2,256.8**
Liabilities		
Payables and accrued liabilities	$174.3	$141.0
Accrued income taxes	2.7	0.6
Short-term borrowings	162.7	—
Total current liabilities	**$339.7**	**$141.6**
Long-term debt	2,114.3	1,274.4
Noncurrent operating lease liabilities	19.5	18.9
Other noncurrent liabilities	11.8	2.1
Deferred income taxes	13.7	24.1
Total noncurrent liabilities	**$2,159.3**	**$1,319.5**
Total liabilities	**$2,499.0**	**$1,461.1**
Equity		
Accumulated other comprehensive income	$46.1	$77.7
Noncontrolling interests	748.1	723.6

JIGPC Joint Venture

JIGPC is a joint venture with Saudi Aramco Power Company (a subsidiary of Aramco), ACWA Power, and Air Products Qudra ("APQ"). JIGPC entered into project financing to purchase power blocks, gasifiers, air separation units, syngas cleanup assets, and utilities to supply electricity, steam, hydrogen, and utilities to Aramco's refinery and terminal complex under a 25-year agreement, which commenced in the first quarter of fiscal year 2022. JIGPC recorded financing receivables upon acquisition of the assets and recognizes financing income over the supply term.

We determined JIGPC is a VIE for which we exercise significant influence but are not the primary beneficiary as we do not have the power to direct the activities that are most significant to its economic performance. Instead, these activities, including plant dispatch, operating and maintenance decisions, budgeting, capital expenditures, and financing, require unanimous approval of the owners or are controlled by the customer. Accordingly, we account for our 55% investment, which includes 4% that is attributable to the noncontrolling partner of APQ, under the equity method within the Middle East and India segment. The carrying value of our investment, including amounts attributable to noncontrolling interests, totaled $2,876.2 and $2,862.2 as of 31 March 2024 and 30 September 2023, respectively. Our loss exposure is limited to our investment in the joint venture.

Our investment primarily consists of shareholder loans that qualify as in-substance common stock in the joint venture. Certain shareholders receive a preferred cash distribution pursuant to the joint venture agreement, which specifies each shareholder's share of income after considering the amount of cash available for distribution. As such, the earnings attributable to Air Products may not be proportionate to our ownership interest in the venture.

World Energy

In November 2023, we finalized an agreement to purchase a sustainable aviation fuel (“SAF”) facility in Paramount, California from World Energy. We determined the acquisition contains an embedded sales-type lease. As a result, we are accounting for the transaction as a financing arrangement and recorded a financing receivable of approximately $300 as of 31 March 2024.

At the time of acquisition, we entered into a Master Project Agreement (“MPA”) containing terms for operation of the acquired facility as well as amended terms for the construction and operation of an SAF expansion project subject to construction at the same location. The MPA includes a tolling arrangement whereby we will receive feedstock from and produce renewable fuels for World Energy over a term that will conclude 15 years after onstream of the expansion project with the option to renew for two five-year terms.

During the first quarter of fiscal year 2024, we determined that World Energy is a VIE and our financing receivable represents a variable interest in World Energy. We are not the primary beneficiary as we do not have control over their key operating decisions, including feedstock supply, production of renewable fuels, and negotiating and executing supply agreements with customers. As of 31 March 2024, our maximum exposure to loss is approximately $2.0 billion. This includes project-related spending of $1.4 billion that is primarily capitalized within “Plant and equipment, net” and approximately $285 for open purchase commitments, both of which relate to the SAF expansion project, as well as approximately $300 for our investment in the financing receivables discussed above.

4. BUSINESS AND ASSET ACTIONS

Our consolidated income statements for the three and six months ended 31 March 2024 and 2023 include charges of $57.0 ($43.8 after tax) and $185.6 ($153.7 attributable to Air Products after tax), respectively, for strategic business and asset actions intended to optimize costs and focus resources on our growth projects. Charges for business and asset actions are not recorded in segment results.

Global Cost Reduction Plan

During the second quarter of fiscal year 2024, we recognized an expense of $57.0 for severance and other postemployment benefits payable to employees identified under a global cost reduction plan. We originated this plan during the third quarter of fiscal year 2023, which resulted in an initial charge of $27.0. In total, approximately 1,100 employees globally are eligible to receive benefits under the plan. We estimated benefits payable according to our ongoing benefit arrangements.

The table below reconciles these charges to the carrying amount of the remaining accrual for unpaid benefits as of 31 March 2024. This balance primarily relates to the additional actions identified during the second quarter of fiscal year 2024. We expect to pay the majority of the remaining benefits over the next twelve months:

Third quarter fiscal year 2023 charge	$27.0
Cash payments	(6.8)
Currency translation adjustment	(0.4)
Amount accrued as of 30 September 2023[A]	$19.8
Second quarter fiscal year 2024 charge	57.0
Cash payments	(16.9)
Amount accrued as of 31 March 2024[A]	$59.9

[A] Reflected within "Payables and accrued liabilities" on our consolidated balance sheets.

Asset Actions

During the second quarter of fiscal year 2023, we recorded a noncash charge of $185.6 to write off assets associated with exited projects that were previously under construction in our Asia and Europe segments. The assets written off included those related to our withdrawal from coal gasification in Indonesia as well as a project in Ukraine that was permanently suspended due to Russia's invasion of the country.

5. REVENUE RECOGNITION

The majority of our revenue is generated from our sale of gas customers within the regional industrial gases 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. We also design and manufacture equipment for air separation, hydrocarbon recovery and purification, natural gas liquefaction, and liquid helium and liquid hydrogen transport and storage. The Corporate and other segment serves our sale of equipment customers.

Disaggregation of Revenue

The tables below present our consolidated sales disaggregated by supply mode for each of our reportable segments for the second quarter and first six months of fiscal years 2024 and 2023. We believe this presentation best depicts the nature, timing, type of customer, and contract terms for our sales.

	Three Months Ended 31 March 2024						
	Americas	Asia	Europe	Middle East and India	Corporate and other	Total	%
On-site	$695.5	$495.9	$194.5	$18.5	$—	$1,404.4	48 %
Merchant	550.3	283.8	473.4	17.2	—	1,324.7	45 %
Sale of equipment	—	—	—	—	201.1	201.1	7 %
Total	$1,245.8	$779.7	$667.9	$35.7	$201.1	$2,930.2	100 %

	Three Months Ended 31 March 2023						
	Americas	Asia	Europe	Middle East and India	Corporate and other	Total	%
On-site	$801.9	$490.3	$259.4	$22.8	$—	$1,574.4	49 %
Merchant	571.2	323.6	493.5	22.0	—	1,410.3	44 %
Sale of equipment	—	—	—	—	215.4	215.4	7 %
Total	$1,373.1	$813.9	$752.9	$44.8	$215.4	$3,200.1	100 %

	Six Months Ended 31 March 2024						
	Americas	Asia	Europe	Middle East and India	Corporate and other	Total	%
On-site	$1,409.6	$999.1	$453.7	$36.0	$—	$2,898.4	48 %
Merchant	1,088.3	574.4	945.4	35.1	—	2,643.2	45 %
Sale of Equipment	—	—	—	—	386.0	386.0	7 %
Total	$2,497.9	$1,573.5	$1,399.1	$71.1	$386.0	$5,927.6	100 %

	Six Months Ended 31 March 2023						
	Americas	Asia	Europe	Middle East and India	Corporate and other	Total	%
On-site	$1,647.7	$948.0	$587.5	$41.6	$—	$3,224.8	51 %
Merchant	1,109.6	643.7	957.3	44.6	—	2,755.2	43 %
Sale of Equipment	—	—	—	—	394.8	394.8	6 %
Total	$2,757.3	$1,591.7	$1,544.8	$86.2	$394.8	$6,374.8	100 %

Interest income associated with financing and lease arrangements accounted for approximately 1% of our total consolidated sales during the three and six months ended 31 March 2024.

Remaining Performance Obligations

As of 31 March 2024, the transaction price allocated to remaining performance obligations is estimated to be approximately $27 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 the next five years and the balance thereafter.

Our remaining performance obligations do not include (1) expected revenue associated with new on-site plants that are not yet on-stream; (2) consideration associated with contracts that have an expected duration of less than one year; and (3) variable consideration for which we recognize revenue at the amount to which we have the right to invoice, including energy cost pass-through to customers.

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

Contract Balances

The table below details balances arising from contracts with customers:

	Balance Sheet Location	31 March 2024	30 September 2023
Assets			
Contract assets – current	Other receivables and current assets	$97.2	$124.7
Contract fulfillment costs – current	Other receivables and current assets	109.8	89.0
Liabilities			
Contract liabilities – current	Payables and accrued liabilities	$396.1	$413.0
Contract liabilities – noncurrent	Other noncurrent liabilities	133.1	136.9

During the first six months of fiscal year 2024, we recognized sales of approximately $195 associated with sale of equipment contracts that were included within our current contract liabilities as of 30 September 2023.

6. INVENTORIES

The components of inventories are as follows:

	31 March 2024	30 September 2023
Finished goods	$220.5	$211.6
Work in process	33.3	28.4
Raw materials, supplies, and other	467.4	411.8
Inventories	$721.2	$651.8

7. GOODWILL

Changes to the carrying amount of consolidated goodwill by segment for the six months ended 31 March 2024 are as follows:

	Americas	Asia	Europe	Middle East and India	Corporate and other	Total
Goodwill, net as of 30 September 2023	$146.6	$171.9	$493.5	$15.8	$33.9	$861.7
Currency translation	(3.9)	0.7	24.7	—	—	21.5
Goodwill, net as of 31 March 2024	$142.7	$172.6	$518.2	$15.8	$33.9	$883.2

	31 March 2024	30 September 2023
Goodwill, gross	$1,152.8	$1,158.4
Accumulated impairment losses[(A)]	(269.6)	(296.7)
Goodwill, net	$883.2	$861.7

[(A)] We recorded impairment charges related to the Latin America reporting unit ("LASA") in the Americas segment in fiscal years 2017 and 2014. The balance of accumulated impairment losses fluctuates over time due to currency translation.

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 2024 is 2.6 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 multiple 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 2024		30 September 2023	
	US$ Notional	Years Average Maturity	US$ Notional	Years Average Maturity
Forward Exchange Contracts:				
Cash flow hedges	$4,576.1	0.6	$4,463.2	0.7
Net investment hedges	884.4	2.0	864.0	2.5
Not designated	777.9	0.3	709.4	0.3
Total Forward Exchange Contracts	$6,238.4	0.8	$6,036.6	0.9

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 €1,939.5 million ($2,092.7) at 31 March 2024 and €1,938.6 million ($2,049.7) at 30 September 2023. The designated foreign currency-denominated debt is presented within "Long-term debt" and "Current portion of 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, we manage our debt portfolio and hedging program 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 2024, 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 the U.S. Dollar and each of the Chinese Renminbi, Indian Rupee, and Chilean Peso.

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

	31 March 2024				30 September 2023			
	US$ Notional	Average Pay %	Average Receive %	Years Average Maturity	US$ Notional	Average Pay %	Average Receive %	Years Average Maturity
Interest rate swaps (fair value hedge)	$800.0	SOFR	1.64 %	3.5	$800.0	SOFR	1.64 %	4.0
Interest rate swaps (cash flow hedge)	$1,740.3	2.82 %	SOFR	21.6	$1,182.5	2.82 %	SOFR	22.1
Cross currency interest rate swaps (net investment hedge)	$29.0	5.39 %	3.64 %	0.7	$80.8	4.60 %	3.65 %	0.9
Cross currency interest rate swaps (cash flow hedge)	$449.3	5.02 %	2.82 %	2.3	$598.2	4.89 %	3.22 %	2.2
Cross currency interest rate swaps (not designated)	$22.4	5.39 %	3.64 %	0.7	$44.5	5.39 %	3.54 %	0.2

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

	Carrying amounts of hedged item		Cumulative hedging adjustment, included in carrying amount	
Balance Sheet Location	31 March 2024	30 September 2023	31 March 2024	30 September 2023
Long-term debt	$2,030.2	$2,011.4	($62.6)	($80.5)

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

	Balance Sheet Location	31 March 2024	30 September 2023	Balance Sheet Location	31 March 2024	30 September 2023
Derivatives Designated as Hedging Instruments:						
Forward exchange contracts	Other receivables and current assets	$55.8	$50.2	Payables and accrued liabilities	$66.7	$94.1
Interest rate management contracts	Other receivables and current assets	7.2	13.0	Payables and accrued liabilities	—	—
Forward exchange contracts	Other noncurrent assets	9.0	19.8	Other noncurrent liabilities	16.3	25.7
Interest rate management contracts	Other noncurrent assets	184.4	300.8	Other noncurrent liabilities	65.2	87.0
Total Derivatives Designated as Hedging Instruments		$256.4	$383.8		$148.2	$206.8
Derivatives Not Designated as Hedging Instruments:						
Forward exchange contracts	Other receivables and current assets	$7.3	$6.4	Payables and accrued liabilities	$4.2	$4.6
Interest rate management contracts	Other receivables and current assets	1.4	3.9	Payables and accrued liabilities	—	—
Forward exchange contracts	Other noncurrent assets	0.1	—	Other noncurrent liabilities	0.1	—
Total Derivatives Not Designated as Hedging Instruments		$8.8	$10.3		$4.3	$4.6
Total Derivatives		$265.2	$394.1		$152.5	$211.4

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

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	
	2024	2023	2024	2023
Net Investment Hedging Relationships				
Forward exchange contracts	$31.6	($15.3)	($0.2)	($62.4)
Foreign currency debt	48.2	(35.6)	(41.7)	(150.9)
Cross currency interest rate swaps	0.8	(3.2)	(1.1)	(13.8)
Total Amount Recognized in OCI	80.6	(54.1)	(43.0)	(227.1)
Tax effects	(19.6)	13.3	10.5	55.8
Net Amount Recognized in OCI	$61.0	($40.8)	($32.5)	($171.3)

	Three Months Ended 31 March		Six Months Ended 31 March	
	2024	2023	2024	2023
Derivatives in Cash Flow Hedging Relationships				
Forward exchange contracts	($63.5)	$5.3	$51.6	$194.1
Forward exchange contracts, excluded components	(3.4)	(5.9)	(12.4)	(11.5)
Other[(A)]	149.4	(14.6)	(112.3)	(38.6)
Total Amount Recognized in OCI	82.5	(15.2)	(73.1)	144.0
Tax effects	(0.2)	0.6	(5.7)	(37.6)
Net Amount Recognized in OCI	$82.3	($14.6)	($78.8)	$106.4

[(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 table below summarizes 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	
	2024	2023	2024	2023	2024	2023	2024	2023
Total presented in consolidated income statements that includes effects of hedging below	$2,930.2	$3,200.1	$1,991.5	$2,282.8	$59.9	$40.9	($9.2)	($13.9)
(Gain) Loss Effects of Cash Flow Hedging:								
Forward Exchange Contracts:								
Amount reclassified from OCI into income	($0.4)	$0.1	$0.5	$2.4	$—	$—	$48.3	($6.1)
Amount excluded from effectiveness testing recognized in earnings based on amortization approach	—	—	—	—	—	—	5.3	3.3
Other:								
Amount reclassified from OCI into income	—	—	—	—	1.1	1.3	(9.4)	6.7
Total (Gain) Loss Reclassified from OCI to Income	(0.4)	0.1	0.5	2.4	1.1	1.3	44.2	3.9
Tax effects	0.1	—	(0.1)	(0.6)	(0.4)	(0.6)	(10.2)	(0.7)
Net (Gain) Loss Reclassified from OCI to Income	($0.3)	$0.1	$0.4	$1.8	$0.7	$0.7	$34.0	$3.2
(Gain) Loss Effects of Fair Value Hedging:								
Other:								
Hedged items	$—	$—	$—	$—	($8.2)	$12.8	$—	$—
Derivatives designated as hedging instruments	—	—	—	—	8.2	(12.8)	—	—
Total (Gain) Loss Recognized in Income	$—	$—	$—	$—	$—	$—	$—	$—

	Six Months Ended 31 March							
	Sales		Cost of Sales		Interest Expense		Other Non-Operating Income (Expense), Net	
	2024	2023	2024	2023	2024	2023	2024	2023
Total presented in consolidated income statements that includes effects of hedging below	$5,927.6	$6,374.8	$4,058.7	$4,555.1	$113.4	$82.1	($24.0)	($14.5)
(Gain) Loss Effects of Cash Flow Hedging:								
Forward Exchange Contracts:								
Amount reclassified from OCI into income	($0.1)	$0.1	$1.8	$3.6	$—	$—	($26.6)	($123.9)
Amount excluded from effectiveness testing recognized in earnings based on amortization approach	—	—	—	—	—	—	11.0	5.3
Other:								
Amount reclassified from OCI into income	—	—	—	—	2.4	2.8	1.9	29.4
Total (Gain) Loss Reclassified from OCI to Income	(0.1)	0.1	1.8	3.6	2.4	2.8	(13.7)	(89.2)
Tax effects	—	—	(0.4)	(0.8)	(0.9)	(1.1)	3.5	21.7
Net (Gain) Loss Reclassified from OCI to Income	($0.1)	$0.1	$1.4	$2.8	$1.5	$1.7	($10.2)	($67.5)
(Gain) Loss Effects of Fair Value Hedging:								
Other:								
Hedged items	$—	$—	$—	$—	$17.9	$17.2	$—	$—
Derivatives designated as hedging instruments	—	—	—	—	(17.9)	(17.2)	—	—
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	
	2024	2023	2024	2023
The Effects of Derivatives Not Designated as Hedging Instruments:				
Forward Exchange Contracts	($2.9)	$0.7	$0.3	($1.1)
Other	—	—	(0.7)	0.8
Total (Gain) Loss Recognized in Income	($2.9)	$0.7	($0.4)	($0.3)

	Six Months Ended 31 March			
	Other Income (Expense), Net		Other Non-Operating Income (Expense), Net	
	2024	2023	2024	2023
The Effects of Derivatives Not Designated as Hedging Instruments:				
Forward Exchange Contracts	$0.3	$1.3	($0.9)	($2.7)
Other	—	—	0.1	1.9
Total (Gain) Loss Recognized in Income	$0.3	$1.3	($0.8)	($0.8)

The amount of unrealized gains and losses related to cash flow hedges as of 31 March 2024 that are expected to be reclassified to earnings in the next twelve months is not material.

The cash flows related to derivative contracts are generally 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 $72.2 and $94.2 as of 31 March 2024 and 30 September 2023, 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, Moody's, or Fitch. The collateral that the counterparties would be required to post was $225.5 and $345.0 as of 31 March 2024 and 30 September 2023, 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.

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

	31 March 2024		30 September 2023	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Assets				
Derivatives				
Forward exchange contracts	$72.2	$72.2	$76.4	$76.4
Interest rate management contracts	193.0	193.0	317.7	317.7
Liabilities				
Derivatives				
Forward exchange contracts	$87.3	$87.3	$124.4	$124.4
Interest rate management contracts	65.2	65.2	87.0	87.0
Long-term debt, including current portion and related party	13,437.4	12,936.0	10,046.3	9,173.5

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

	31 March 2024				30 September 2023			
	Total	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3
Assets at Fair Value								
Derivatives								
Forward exchange contracts	$72.2	$—	$72.2	$—	$76.4	$—	$76.4	$—
Interest rate management contracts	193.0	—	193.0	—	317.7	—	317.7	—
Total Assets at Fair Value	$265.2	$—	$265.2	$—	$394.1	$—	$394.1	$—
Liabilities at Fair Value								
Derivatives								
Forward exchange contracts	$87.3	$—	$87.3	$—	$124.4	$—	$124.4	$—
Interest rate management contracts	65.2	—	65.2	—	87.0	—	87.0	—
Total Liabilities at Fair Value	$152.5	$—	$152.5	$—	$211.4	$—	$211.4	$—

10. DEBT

Issuance of Green Senior Notes

In February 2024, we issued green senior notes with an aggregate principal amount of $2.5 billion in a registered public offering. The proceeds from the notes were reduced by deferred financing charges and discounts of approximately $20, which are being amortized through interest expense over the life of the underlying bonds. We intend to use the net proceeds to finance or refinance existing or future projects that are expected to have environmental benefits as defined under our Green Finance Framework.

The interest rate, maturity, and carrying amount as of 31 March 2024 for each of these notes are summarized in the table below:

	Fiscal Year Maturities	31 March 2024
Senior Note 4.600%	2029	$750.0
Senior Note 4.750%	2031	600.0
Senior Note 4.850%	2034	1,150.0
Total		$2,500.0

Credit Facilities

In March 2024, we entered into a five-year $3.0 billion revolving credit agreement maturing 31 March 2029 (the "2024 Credit Agreement") as well as a 364-day $500 revolving credit agreement maturing 27 March 2025 that we have the ability to convert into a term loan maturing 27 March 2026. Both agreements are syndicated facilities that provide a source of liquidity and support our commercial paper program through availability of senior unsecured debt to us and certain of our subsidiaries. As of 31 March 2024, no borrowings were outstanding under either agreement.

Borrowings under both agreements bear interest at quoted market rates plus varying spreads based on our public debt ratings. Each agreement also requires a commitment fee on unused commitments based on our public debt ratings. Pricing terms under the 2024 Credit Agreement are also subject to sustainability-driven adjustments. There are no financial maintenance covenants in either agreement.

The 2024 Credit Agreement replaced our previous $2.75 billion revolving credit agreement (the "2021 Credit Agreement"), which was terminated upon execution of the 2024 Credit Agreement. No borrowings were outstanding under the 2021 Credit Agreement at the time of its termination, and no early termination penalties were incurred.

Related Party Debt

Total debt owed to related parties was $289.8 and $328.3 as of 31 March 2024 and 30 September 2023, respectively, of which $134.6 and $177.6, respectively, was reflected within "Current portion of long-term debt" on our consolidated balance sheets. Our related party debt primarily includes a loan with our joint venture partner, Lu'An Clean Energy Company.

11. RETIREMENT BENEFITS

The components of net periodic cost for our defined benefit pension plans for the three and six months ended 31 March 2024 and 2023 were as follows:

	Pension Benefits					
	2024			2023		
Three Months Ended 31 March	U.S.	International	Total	U.S.	International	Total
Service cost	$2.4	$2.8	$5.2	$2.8	$3.0	$5.8
Non-service cost:						
Interest cost	33.7	15.0	48.7	32.5	14.9	47.4
Expected return on plan assets	(30.0)	(11.9)	(41.9)	(31.8)	(12.2)	(44.0)
Prior service cost amortization	0.3	0.3	0.6	0.3	0.1	0.4
Actuarial loss amortization	14.3	3.2	17.5	15.0	3.0	18.0
Settlements	—	0.2	0.2	0.9	0.2	1.1
Other	—	0.1	0.1	—	0.2	0.2
Net Periodic Cost	$20.7	$9.7	$30.4	$19.7	$9.2	$28.9

	Pension Benefits					
	2024			2023		
Six Months Ended 31 March	U.S.	International	Total	U.S.	International	Total
Service cost	$4.8	$5.6	$10.4	$5.5	$6.3	$11.8
Non-service cost:						
Interest cost	67.4	29.8	97.2	65.0	29.3	94.3
Expected return on plan assets	(60.0)	(23.5)	(83.5)	(63.6)	(24.0)	(87.6)
Prior service cost amortization	0.6	0.5	1.1	0.6	0.1	0.7
Actuarial loss amortization	28.6	6.4	35.0	29.8	6.0	35.8
Settlements	—	0.2	0.2	0.9	0.2	1.1
Curtailments	—	—	—	—	(1.9)	(1.9)
Other	—	0.2	0.2	—	0.5	0.5
Net Periodic Cost	$41.4	$19.2	$60.6	$38.2	$16.5	$54.7

Our service costs are primarily included within "Cost of sales" and "Selling and administrative expense" on our consolidated income statements. The amount of service costs capitalized in the first six months of fiscal years 2024 and 2023 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 2024 and 2023, our cash contributions to funded pension plans and benefit payments under unfunded pension plans were $19.2 and $15.4, respectively. Total contributions for fiscal year 2024 are expected to be approximately $35 to $45. During fiscal year 2023, total contributions were $32.6.

During the three and six months ended 31 March 2024, we recognized actuarial gain amortization of $0.2 and $0.3, respectively, for our other postretirement benefits plan. During the three and six months ended 31 March 2023, we recognized actuarial gain amortization of $0.4 and $1.0, respectively, for our other postretirement benefits plan.

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 for which it is reasonably possible, individually or in the aggregate, 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 $36 at 31 March 2024) on Air Products Brasil Ltda. This fine was based on a recommendation by a unit of the Brazilian Ministry of Justice, following an investigation beginning in 2003, which alleged 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. In the event of an adverse final judgment, we estimate the maximum possible loss to be the full amount of the fine of R$179.2 million (approximately $36 at 31 March 2024) plus interest accrued thereon until final disposition of the proceedings.

Additionally, a Texas state court entered final judgment in our favor on 27 March 2024 for litigation involving disputed energy management charges related to Winter Storm Uri, a severe winter weather storm that impacted the U.S. Gulf Coast in February 2021. The judgement is subject to appeal and had no impact on our consolidated financial statements during the second quarter and first six months of fiscal year 2024.

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 environmental laws relating to the designation of certain sites for investigation or remediation. Presently, there are 27 sites on which a final settlement or remediation has not been achieved where we, usually along with others, have been designated a potentially responsible party by environmental authorities or are otherwise engaged in investigation or remediation, including cleanup activity at certain of our 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 2024 and 30 September 2023 included an accrual of $62.2 and $64.5, respectively, primarily as part of other noncurrent liabilities. The environmental liabilities will be paid over a period of up to 26 years. We estimate the exposure for environmental loss contingencies to range from $62 to a reasonably possible upper exposure of $75 as of 31 March 2024.

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 2024, $36.3 of the environmental accrual was related to our facility in Pace, Florida.

In 2006, we sold our Amines business, which included operations at the Pace facility and recognized a liability for retained environmental obligations associated with remediation activities at the facility. 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.

In the first quarter of 2015, we entered into a consent order with the FDEP requiring us to continue our remediation efforts at the Pace facility and complete a cost review every five years. In 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 26 years. 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 fiscal year 2020. There have been no significant changes to the estimated exposure range related to the Pace facility since fiscal year 2020.

We have implemented many of the remedial corrective measures at the Pace facility required under the 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 better suited for groundwater remediation. 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 we completed additional field work during 2021 to support the design of an improved groundwater recovery network. This network targets areas of higher contaminant concentration and avoids areas of high groundwater iron which has proven to be a significant operability issue for the project. The design of the optimized recovery system was initiated in fiscal year 2023, with construction expected to begin in fiscal year 2025. In fiscal year 2025, we expect to connect groundwater recovery wells and ancillary equipment to the existing groundwater recovery system. Further, we expect additional future capital expenditures to consider the extended time horizon for remediation at the site.

Pasadena

At 31 March 2024, $10.4 of the environmental accrual was related to a production facility site in Pasadena, Texas.

During fiscal year 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 continue 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, continuing post closure care for two closed RCRA surface impoundment units, and maintaining engineering controls. Additionally, we have conducted an interim corrective action to treat impacted soils as recommended in the TCEQ 2019 Annual Report. In 2012, we estimated the total exposure at this site to be $13. There have been no significant changes to the estimated exposure.

13. SHARE-BASED COMPENSATION

Our outstanding share-based compensation programs include deferred stock units and stock options. During the six months ended 31 March 2024, 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 and the exercise of stock options. As of 31 March 2024, there were 1.0 million shares available for future grant under our Long-Term Incentive Plan ("LTIP"), which is shareholder approved.

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

	Three Months Ended 31 March		Six Months Ended 31 March	
	2024	2023	2024	2023
Before-tax share-based compensation cost	$14.8	$15.5	$28.4	$32.4
Income tax benefit	(3.6)	(3.9)	(6.9)	(7.9)
After-tax share-based compensation cost	$11.2	$11.6	$21.5	$24.5

Before-tax share-based compensation cost is primarily included in "Selling and administrative expense" on our consolidated income statements. The amount of share-based compensation cost capitalized in the first six months of fiscal years 2024 and 2023 was not material.

Deferred Stock Units

During the six months ended 31 March 2024, we granted 102,120 market-based deferred stock units. The market-based deferred stock units are earned over the performance period beginning 1 October 2023 and ending 30 September 2026, conditioned on the level of our total shareholder return in relation to the S&P 500 Index over the three-year performance period.

The market-based deferred stock units had an estimated grant-date fair value of $302.10 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	25.0 %
Risk-free interest rate	4.3 %
Expected dividend yield	2.6 %

In addition, during the six months ended 31 March 2024, we granted 139,425 time-based deferred stock units at a weighted average grant-date fair value of $272.05.

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 2024:

	Derivatives qualifying as hedges	Foreign currency translation adjustments	Pension and postretirement benefits	Total
Balance at 31 December 2023	$11.9	($1,548.7)	($583.5)	($2,120.3)
Other comprehensive income (loss) before reclassifications	82.3	(223.8)	—	(141.5)
Amounts reclassified from AOCL	34.8	—	13.6	48.4
Net current period other comprehensive income (loss)	117.1	(223.8)	13.6	(93.1)
Amount attributable to noncontrolling interests	75.6	(13.2)	0.1	62.5
Balance at 31 March 2024	$53.4	($1,759.3)	($570.0)	($2,275.9)

	Derivatives qualifying as hedges	Foreign currency translation adjustments	Pension and postretirement benefits	Total
Balance at 30 September 2023	$61.1	($1,913.3)	($597.2)	($2,449.4)
Other comprehensive (loss) income before reclassifications	(78.8)	156.8	—	78.0
Amounts reclassified from AOCL	(7.4)	—	27.3	19.9
Net current period other comprehensive (loss) income	(86.2)	156.8	27.3	97.9
Amount attributable to noncontrolling interests	(78.5)	2.8	0.1	(75.6)
Balance at 31 March 2024	$53.4	($1,759.3)	($570.0)	($2,275.9)

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	
	2024	2023	2024	2023
Loss (Gain) on Cash Flow Hedges, net of tax				
Sales	($0.3)	$0.1	($0.1)	$0.1
Cost of sales	0.4	1.8	1.4	2.8
Interest expense	0.7	0.7	1.5	1.7
Other non-operating income (expense), net	34.0	3.2	(10.2)	(67.5)
Total Loss (Gain) on Cash Flow Hedges, net of tax	$34.8	$5.8	($7.4)	($62.9)
Currency Translation Adjustment				
Business and asset actions	$—	($0.3)	$—	($0.3)
Pension and Postretirement Benefits, net of tax[(A)]	$13.6	$14.4	$27.3	$26.3

[(A)] The components of net periodic benefit/cost reclassified out of AOCL include items such as prior service cost amortization, actuarial loss amortization, settlements, and curtailments 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 table below details the computation of basic and diluted earnings per share ("EPS"):

	Three Months Ended 31 March		Six Months Ended 31 March	
	2024	2023	2024	2023
Numerator				
Net income attributable to Air Products	$572.4	$439.8	$1,181.7	$1,012.0
Denominator *(in millions)*				
Weighted average common shares — Basic	222.5	222.3	222.5	222.3
Effect of dilutive securities				
Employee stock option and other award plans	0.2	0.4	0.3	0.4
Weighted average common shares — Diluted	222.7	222.7	222.8	222.7
Per Share Data *(U.S. Dollars per share)*				
Basic EPS attributable to Air Products	$2.57	$1.98	$5.31	$4.55
Diluted EPS attributable to Air Products	$2.57	$1.97	$5.30	$4.54

Outstanding share-based awards of 0.1 million shares were antidilutive and therefore excluded from the computation of diluted earnings per share for the three and six months ended 31 March 2024. For 2023, there were no antidilutive outstanding share-based awards.

16. SUPPLEMENTAL INFORMATION

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 $75 and $170 for the three and six months ended 31 March 2024, respectively, and $105 and $185 for the three and six months ended 31 March 2023, 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 2024 and 30 September 2023, our consolidated balance sheets included related party trade receivables of approximately $125 and $80, respectively.

Uzbekistan Asset Purchase

On 25 May 2023, we entered into an investment agreement with the Government of the Republic of Uzbekistan and Uzbekneftegaz JSC ("UNG") to purchase a natural gas-to-syngas processing facility in Qashqadaryo Province, Uzbekistan, for $1 billion. Under the agreement, Air Products will acquire, own, and operate the facility and supply all offtake products to UNG under a 15-year on-site contract, with UNG supplying the feedstock natural gas and utilities. Throughout this term, we receive a fixed monthly fee (regardless of whether UNG requires the output) comprised of two components: a plant capacity fee and an operating and maintenance fee.

We are accounting for the transaction as a financing arrangement as we did not obtain accounting control of the facility due to UNG having the unilateral right to reacquire the facility at the end of the contract term. The repurchase price on a discounted basis, which consists of the total monthly plant capacity fees received over the term of the arrangement plus the repurchase option price, exceeds our purchase price. Accordingly, our progress payments of approximately $910, of which $100 was paid during the first quarter of fiscal year 2024, are reflected within "Financing receivables" on our consolidated balance sheet as of 31 March 2024.

Changes in Estimates

Changes in estimates on sale of equipment projects accounted for under the cost incurred input method are recognized as a cumulative adjustment for the inception-to-date effect of such change. We recorded changes to project cost estimates that unfavorably impacted operating income by approximately $35 and $65 for the three and six months ended 31 March 2024, respectively, and approximately $35 and $60 for the three and six months ended 31 March 2023, respectively.

Income Taxes

Our effective tax rate was 18.3% and 18.1% for the three and six months ended 31 March 2024, respectively, and 21.2% and 19.9% for the three and six months ended 31 March 2023, respectively.

Income tax payments, net of refunds, were $321.8 and $327.0 for the six months ended 31 March 2024 and 2023, respectively.

17. BUSINESS SEGMENT INFORMATION

Our reportable segments reflect the manner in which our chief operating decision maker reviews results and allocates resources. Our reportable segments are as follows:

- Americas;
- Asia;
- Europe;
- Middle East and India; and
- Corporate and other

Except for the Corporate and other segment, each reportable segment meets the definition of an operating segment and does not include the aggregation of multiple operating segments. Our Corporate and other segment includes the aggregation of three operating segments that meet the aggregation criteria under GAAP.

Summary by Business Segment

	Americas	Asia	Europe	Middle East and India	Corporate and other	Total
Three Months Ended 31 March 2024						
Sales	$1,245.8	$779.7	$667.9	$35.7	$201.1	$2,930.2 (A)
Operating income (loss)	371.9	203.6	201.0	5.6	(87.9)	694.2 (B)
Depreciation and amortization	174.1	116.4	50.8	6.7	12.8	360.8
Equity affiliates' income	44.2	8.3	11.7	73.9	5.2	143.3
Three Months Ended 31 March 2023						
Sales	$1,373.1	$813.9	$752.9	$44.8	$215.4	$3,200.1 (A)
Operating income (loss)	324.2	233.0	173.2	1.3	(86.3)	645.4 (B)
Depreciation and amortization	161.7	110.0	48.3	6.6	13.0	339.6
Equity affiliates' income	28.1	7.3	29.5	98.9	2.1	165.9

(A) Sales relate to external customers only. All intersegment sales are eliminated in consolidation.

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

	Americas	Asia	Europe	Middle East and India	Corporate and other	Total
Six Months Ended 31 March 2024						
Sales	$2,497.9	$1,573.5	$1,399.1	$71.1	$386.0	$5,927.6 [(A)]
Operating income (loss)	726.3	414.8	398.6	9.5	(188.1)	1,361.1 [(B)]
Depreciation and amortization	343.8	228.2	99.0	13.3	25.7	710.0
Equity affiliates' income	81.3	12.5	32.4	166.8	8.7	301.7
Six Months Ended 31 March 2023						
Sales	$2,757.3	$1,591.7	$1,544.8	$86.2	$394.8	$6,374.8 [(A)]
Operating income (loss)	667.2	468.9	319.0	8.0	(165.7)	1,297.4 [(B)]
Depreciation and amortization	317.7	211.9	92.6	13.2	25.7	661.1
Equity affiliates' income	44.5	14.7	47.2	163.0	6.5	275.9
Total Assets						
31 March 2024	$11,372.6	$7,203.3	$5,113.2	$6,835.9	$5,396.7	$35,921.7
30 September 2023	9,927.5	7,009.6	4,649.8	5,708.4	4,707.2	32,002.5

[(A)] Sales relate to external customers only. All intersegment sales are eliminated in consolidation.

[(B)] Refer to the "Reconciliation to Consolidated Results" section below.

Reconciliation 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	
Operating Income	2024	2023	2024	2023
Total	$694.2	$645.4	$1,361.1	$1,297.4
Business and asset actions	(57.0)	(185.6)	(57.0)	(185.6)
Consolidated Operating Income	$637.2	$459.8	$1,304.1	$1,111.8

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

This Management's Discussion and Analysis contains "forward-looking statements" within the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, including statements about business outlook. These forward-looking statements are based on management's expectations and assumptions as of the date of this Quarterly Report on Form 10-Q and are not guarantees of future performance. Actual performance and financial results may differ materially from projections and estimates expressed in the forward-looking statements because of many factors not anticipated by management, including, without limitation, those described in "*Forward-Looking Statements*" and Item 1A, *Risk Factors*, of our Annual Report on Form 10-K for the fiscal year ended 30 September 2023 (the "2023 Form 10-K"), which was filed with the SEC on 16 November 2023.

This discussion should be read in conjunction with the interim consolidated financial statements and the accompanying notes contained in this Quarterly Report on Form 10-Q. Unless otherwise stated, financial information is presented in millions of U.S. Dollars, except for per share data. Financial information is presented on a continuing operations basis.

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 non-GAAP financial measures are presented under the "*Reconciliations of Non-GAAP Financial Measures*" section beginning on page 52.

Comparisons included in the discussion that follows are for the second quarter and first six months of fiscal year 2024 versus ("vs.") the second quarter and first six months of fiscal year 2023. The disclosures provided in this Quarterly Report on Form 10-Q are complementary to those made in our 2023 Form 10-K.

We manage our operations, assess performance, and report earnings under five reportable segments: Americas, Asia, Europe, Middle East and India, and Corporate and other. The discussion that follows is based on these operations. Refer to Note 17, *Business Segment Information*, to the consolidated financial statements for additional information.

For information concerning activity with our related parties, refer to Note 16, *Supplemental Information*, to the consolidated financial statements.

SECOND QUARTER 2024 VS. SECOND QUARTER 2023

SECOND QUARTER 2024 IN SUMMARY

- Sales of $2,930.2 decreased 8%, or $269.9, as lower energy cost pass-through to customers of 6%, lower volumes of 2%, and an unfavorable impact from currency of 1% were partially offset by higher pricing of 1%.
- Operating income of $637.2 increased 39%, or $177.4, as lower costs and positive pricing were partially offset by lower volumes and unfavorable currency impacts. Operating margin of 21.7% increased 730 basis points ("bp") due to these factors as well as a positive impact from lower energy cost pass-through to customers.
- Equity affiliates' income of $143.3 decreased 14%, or $22.6, as lower contributions from affiliates in our Europe and Middle East and India segments were partially offset by higher income from affiliates in the Americas segment.
- Net income of $580.9 increased 29%, or $131.0, primarily due to lower costs and positive pricing, partially offset by lower equity affiliates' income, lower volumes, and higher interest expense. Net income margin of 19.8% increased 570 bp due to these factors as well as a positive impact from lower energy cost pass-through to customers.
- Adjusted EBITDA of $1,198.3 increased 4%, or $47.4, and adjusted EBITDA margin of 40.9% increased 490 bp.
- Diluted EPS of $2.57 increased 30%, or $0.60 per share. Diluted EPS for the second quarter of fiscal years 2024 and 2023 included unfavorable impacts from business and asset actions as well as non-service related pension costs. On a non-GAAP basis, adjusted diluted EPS of $2.85 increased 4%, or $0.11 per share. A summary table of changes in diluted EPS is presented below.
- In January 2024, the Board of Directors increased the quarterly dividend to $1.77 per share, representing our 42nd consecutive year of dividend increases.

Changes in Diluted EPS Attributable to Air Products

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

	Three Months Ended 31 March		Increase
	2024	2023	(Decrease)
Diluted EPS	**$2.57**	**$1.97**	**$0.60**
Operating Impacts			
Underlying business			
Volume			(0.07)
Price, net of variable costs			0.16
Other costs			0.12
Currency			(0.03)
Business and asset actions			0.49
Total Operating Impacts			**$0.67**
Other Impacts			
Equity affiliates' income			($0.08)
Interest expense			(0.07)
Other non-operating income/expense, net			0.02
Change in effective tax rate			0.03
Noncontrolling interests			0.03
Total Other Impacts			**($0.07)**
Total Change in Diluted EPS			**$0.60**
% Change from prior year			**30 %**

The table below summarizes the diluted per share impact of our non-GAAP adjustments for the second quarter of fiscal years 2024 and 2023:

	Three Months Ended 31 March		Increase
	2024	2023	(Decrease)
Diluted EPS	**$2.57**	**$1.97**	**$0.60**
Business and asset actions	0.20	0.69	(0.49)
Non-service pension cost, net	0.08	0.08	—
Adjusted Diluted EPS	**$2.85**	**$2.74**	**$0.11**
% Change from prior year			4 %

SECOND QUARTER 2024 RESULTS OF OPERATIONS

Discussion of Second Quarter Consolidated Results

	Three Months Ended 31 March		Change vs. Prior Year	
	2024	2023	$	%/bp
GAAP Measures				
Sales	$2,930.2	$3,200.1	($269.9)	(8 %)
Operating income	637.2	459.8	177.4	39 %
Operating margin	21.7 %	14.4 %		730 bp
Equity affiliates' income	$143.3	$165.9	($22.6)	(14 %)
Net income	580.9	449.9	131.0	29 %
Net income margin	19.8 %	14.1 %		570 bp
Non-GAAP Measures				
Adjusted EBITDA	$1,198.3	$1,150.9	$47.4	4 %
Adjusted EBITDA margin	40.9 %	36.0 %		490 bp

Sales

The table below summarizes the major factors that impacted consolidated sales for the periods presented:

Volume	(2 %)
Price	1 %
Energy cost pass-through to customers	(6 %)
Currency	(1 %)
Total Consolidated Sales Change	(8 %)

Sales of $2,930.2 decreased 8%, or $269.9, as lower energy cost pass-through to customers of 6% driven by lower natural gas prices in the Americas and Europe segments, lower volumes of 2%, and an unfavorable impact from currency of 1% were partially offset by higher pricing of 1%. Volume was down overall primarily due to weaker merchant demand, which was partially offset by higher demand for hydrogen as well as contributions from new on-site assets.

Cost of Sales and Gross Margin

Cost of sales of $1,991.5 decreased 13%, or $291.3, due to lower energy cost pass-through to customers of $201, lower costs associated with sales volumes of $43, lower other costs of $28 driven by lower power costs in our merchant business, and a favorable impact from currency of $19. Gross margin of 32.0% increased 330 bp from 28.7% in the prior year primarily due to lower energy cost pass-through to customers, which favorably impacted margin by approximately 200 bp.

Selling and Administrative Expense

Selling and administrative expense of $240.6 decreased 4%, or $10.6, primarily due to lower incentive compensation. Selling and administrative expense as a percentage of sales increased to 8.2% from 7.8% in the prior year.

Research and Development Expense

Research and development expense of $25.4 decreased 7%, or $1.8. Research and development expense as a percentage of sales increased to 0.9% from 0.8% in the prior year.

Business and Asset Actions

Our consolidated income statements for the three months ended 31 March 2024 and 2023 include charges of $57.0 ($43.8 after tax, or $0.20 per share) and $185.6 ($153.7 attributable to Air Products after tax, or $0.69 per share), respectively, for strategic business and asset actions intended to optimize costs and focus resources on our growth projects. Charges for business and asset actions are not recorded in segment results.

The current year charge of $57.0 was for severance and other postemployment benefits payable to employees identified under a global cost reduction plan that was initiated in June 2023. The prior year charge of $185.6 resulted from the noncash write-off of assets related to our withdrawal from projects in Indonesia and Ukraine.

Other Income (Expense), Net

Other income of $21.5 increased $15.0 primarily due to higher income from the sale of assets.

Operating Income and Operating Margin

Operating income of $637.2 increased 39%, or $177.4, as lower charges for business and asset actions of $129, positive pricing, net of power and fuel costs, of $45, and lower other costs of $32 were partially offset by lower volumes of $20 and an unfavorable impact from currency of $8. The lower costs included favorable non-recurring items such as sales of assets as well as lower incentive compensation and distribution costs, partially offset by the impact of labor inflation. Operating margin of 21.7% increased 730 bp from 14.4% in the prior year due to the factors above as well as lower energy cost pass-through to customers, which positively impacted margin by approximately 150 basis points.

Equity Affiliates' Income

Equity affiliates' income of $143.3 decreased 14%, or $22.6, as lower contributions from affiliates in our Europe and Middle East and India segments were partially offset by higher income from affiliates in the Americas segment.

Interest Expense

	Three Months Ended 31 March	
	2024	2023
Interest incurred	$125.5	$64.1
Less: Capitalized interest	65.6	23.2
Interest expense	$59.9	$40.9

Interest incurred increased 96%, or $61.4, primarily due to a higher debt balance from senior notes that were issued in March 2023 and February 2024 to fund projects under our Green Finance Framework as well as borrowings on financing available for the NEOM Green Hydrogen Project. Capitalized interest increased $42.4 due to a higher carrying value of projects under construction, including the NEOM Green Hydrogen Project.

Other Non-Operating Income (Expense), Net

Other non-operating expense of $9.2 decreased 34%, or $4.7, as higher interest income on cash and cash items and short-term investments was partially offset by higher non-service pension costs.

Net Income and Net Income Margin

Net income of $580.9 increased 29%, or $131.0, primarily due to lower charges for business and asset actions, favorable pricing, and lower other costs, partially offset by lower equity affiliates' income, lower volumes, and higher interest expense. Net income margin of 19.8% increased 570 bp from 14.1% in the prior year due to the factors noted above as well as lower energy cost pass-through to customers, which positively impacted margin by approximately 150 bp.

Adjusted EBITDA and Adjusted EBITDA Margin

Adjusted EBITDA of $1,198.3 increased 4%, or $47.4, as higher pricing and lower costs were partially offset by lower equity affiliates' income. Adjusted EBITDA margin of 40.9% increased 490 bp from 36.0% in the prior year due to the factors noted above as well as lower energy cost pass-through to customers, which positively impacted margin by about 250 bp.

Effective Tax Rate

The effective tax rate equals the income tax provision divided by income before taxes. Equity affiliates' income is primarily included net of income taxes within income before taxes on our consolidated income statements.

Our effective tax rate was 18.3% and 21.2% for the three months ended 31 March 2024 and 2023, respectively. Our current quarter rate was lower primarily due to a discrete tax impact recorded in the prior year from business and asset actions further discussed below as well as earning a greater share of income in jurisdictions with lower tax rates and the impact from equity affiliates' income.

In the prior year, we recognized a charge of $185.6 ($153.7 attributable to Air Products after tax) related to various business and asset actions. Refer to Note 4, *Business and Asset Actions*, for additional information. This charge included certain losses for which we could not recognize an income tax benefit. Therefore, we recorded a valuation allowance of $31.7 against deferred tax assets resulting from the charge. Partially offsetting the valuation allowance cost was a $15.9 income tax benefit from a tax election related to a non-U.S. subsidiary.

Our adjusted effective tax rate, which excludes the impact of the business and asset actions discussed above as well as the non-service components of net periodic cost for our defined benefit pension plans, was 18.9% and 19.7% for the three months ended 31 March 2024 and 2023, respectively. The current quarter rate was lower due to the higher income in jurisdictions with lower tax rates as well as the impact from equity affiliates' income.

Discussion of Second Quarter Results by Business Segment

Americas

	Three Months Ended 31 March		Change vs. Prior Year	
	2024	2023	$	%/bp
Sales	$1,245.8	$1,373.1	($127.3)	(9 %)
Operating income	371.9	324.2	47.7	15 %
Operating margin	29.9 %	23.6 %		630 bp
Equity affiliates' income	$44.2	$28.1	$16.1	57 %
Adjusted EBITDA	590.2	514.0	76.2	15 %
Adjusted EBITDA margin	47.4 %	37.4 %		1,000 bp

The table below summarizes the major factors that impacted sales in the Americas segment for the periods presented:

Volume	1 %
Price	3 %
Energy cost pass-through to customers	(12 %)
Currency	(1 %)
Total Americas Sales Change	(9 %)

Sales of $1,245.8 decreased 9%, or $127.3, due to lower energy cost pass-through to customers of 12% driven by lower natural gas prices in North America and an unfavorable impact from currency of 1%, partially offset higher pricing of 3% and higher volumes of 1%. Volumes improved modestly as higher demand for hydrogen in our on-site business was partially offset by weaker merchant volume.

Operating income of $371.9 increased 15%, or $47.7, primarily due to positive pricing, net of power and fuel costs, of $37 and favorable volumes of $19, partially offset by higher costs of $7. Higher costs for labor inflation were partially offset by lower incentive compensation. Operating margin of 29.9% increased 630 bp from 23.6% in the prior year due to these factors as well as lower energy cost pass-through to customers, which positively impacted margin by approximately 300 basis points.

Equity affiliates' income of $44.2 increased 57%, or $16.1, driven by higher income from an affiliate in Mexico as well as recognition of our share of income from an asset sale.

Asia

	Three Months Ended 31 March		Change vs. Prior Year	
	2024	2023	$	%/bp
Sales	$779.7	$813.9	($34.2)	(4 %)
Operating income	203.6	233.0	(29.4)	(13 %)
Operating margin	26.1 %	28.6 %		(250 bp)
Equity affiliates' income	$8.3	$7.3	$1.0	14 %
Adjusted EBITDA	328.3	350.3	(22.0)	(6 %)
Adjusted EBITDA margin	42.1 %	43.0 %		(90 bp)

The table below summarizes the major factors that impacted sales in the Asia segment for the periods presented:

Volume	(1 %)
Price	— %
Energy cost pass-through to customers	1 %
Currency	(4 %)
Total Asia Sales Change	(4 %)

Sales of $779.7 decreased 4%, or $34.2, due to an unfavorable impact from currency of 4% driven by strengthening of the U.S. Dollar against the Chinese Renminbi and lower volumes of 1%, partially offset by higher energy cost pass-through to customers of 1%. Volumes declined as weak economic growth in China and lower demand for merchant products more than offset higher on-site volumes, which included contributions from several new industrial gas plants. Pricing was flat versus the prior year.

Operating income of $203.6 decreased 13%, or $29.4, primarily due to lower volumes, including unfavorable business mix, of $21 and an unfavorable currency impact of $10, partially offset by lower costs of $5. Lower distribution costs were partially offset by labor inflation. Operating margin of 26.1% decreased 250 bp from 28.6% in the prior year.

Equity affiliates' income of $8.3 increased 14%, or $1.0, driven by higher income from an affiliate in Thailand.

Europe

	Three Months Ended 31 March		Change vs. Prior Year	
	2024	2023	$	%/bp
Sales	$667.9	$752.9	($85.0)	(11 %)
Operating income	201.0	173.2	27.8	16 %
Operating margin	30.1 %	23.0 %		710 bp
Equity affiliates' income	$11.7	$29.5	($17.8)	(60 %)
Adjusted EBITDA	263.5	251.0	12.5	5 %
Adjusted EBITDA margin	39.5 %	33.3 %		620 bp

The table below summarizes the major factors that impacted sales in the Europe segment for the periods presented:

Volume	(6 %)
Price	(1 %)
Energy cost pass-through to customers	(6 %)
Currency	2 %
Total Europe Sales Change	(11 %)

Sales of $667.9 decreased 11%, or $85.0, due to lower energy cost pass-through to customers of 6% driven by lower natural gas prices across the region, lower volumes of 6%, and lower pricing of 1%, partially offset by a favorable impact from currency of 2%. Volumes were lower due to weak merchant demand as well as a planned maintenance outage, which were partially offset by contributions from an on-site facility in Uzbekistan that we acquired in the third quarter of fiscal year 2023. Currency positively impacted sales primarily due to the weakening of the U.S. Dollar against the Euro and the British Pound Sterling.

Operating income of $201.0 increased 16%, or $27.8, primarily due to pricing, net of lower power and fuel costs, of $11, lower other costs of $10, and a favorable currency impact of $4. Other costs were favorable primarily due to higher income from the sale of assets as well as lower distribution costs, partially offset by higher costs for labor inflation. Operating margin of 30.1% increased 710 bp from 23.0% in the prior year due to the factors noted above as well as lower energy cost pass-through to customers, which positively impacted margin by approximately 200 bp, and favorable business mix.

Equity affiliates' income of $11.7 decreased 60%, or $17.8, driven by prior year non-recurring items for our affiliate in Italy.

Middle East and India

	Three Months Ended 31 March		Change vs. Prior Year	
	2024	2023	$	%
Sales	$35.7	$44.8	($9.1)	(20 %)
Operating income	5.6	1.3	4.3	331 %
Equity affiliates' income	73.9	98.9	(25.0)	(25 %)
Adjusted EBITDA	86.2	106.8	(20.6)	(19 %)

Sales of $35.7 decreased 20%, or $9.1, primarily due to lower volumes. Operating income of $5.6 increased $4.3 as lower costs, including planned maintenance, more than offset the lower volumes.

Equity affiliates' income of $73.9 decreased 25%, or $25.0, primarily due to higher interest and other operating costs related to the Jazan gasification and power project.

Corporate and other

	Three Months Ended 31 March		Change vs. Prior Year	
	2024	2023	$	%
Sales	$201.1	$215.4	($14.3)	(7 %)
Operating loss	(87.9)	(86.3)	(1.6)	(2 %)
Adjusted EBITDA	(69.9)	(71.2)	1.3	2 %

Sales of $201.1 decreased 7%, or $14.3, and operating loss of $87.9 increased 2%, or $1.6, primarily due to lower non-LNG sale of equipment activity. The negative impact to operating loss was partially offset by lower corporate costs.

FIRST SIX MONTHS 2024 VS. FIRST SIX MONTHS 2023

FIRST SIX MONTHS 2024 IN SUMMARY

- Sales of $5,927.6 decreased 7%, or $447.2, as lower energy cost pass-through to customers of 9% was partially offset by higher pricing of 1% and higher volumes of 1%.
- Operating income of $1,304.1 increased 17%, or $192.3, as lower charges for business and asset actions, positive pricing, and higher volumes were partially offset by higher other costs and unfavorable currency. Operating margin of 22.0% increased 460 bp due to these factors as well as a positive impact from lower energy cost pass-through to customers.
- Equity affiliates' income of $301.7 increased 9%, or $25.8, primarily due to higher income from our affiliate in Mexico.
- Net income of $1,202.5 increased 16%, or $168.8, primarily due to lower charges for business and asset actions, favorable pricing, and higher equity affiliates' income, partially offset by higher interest expense and higher other costs. Net income margin of 20.3% increased 410 bp due to these factors as well as a positive impact from lower energy cost pass-through to customers.
- Adjusted EBITDA of $2,372.8 increased 6%, or $138.4, and adjusted EBITDA margin of 40.0% increased 490 bp.
- Diluted EPS of $5.30 increased 17%, or $0.76 per share. Diluted EPS for the first half of fiscal years 2024 and 2023 included unfavorable impacts from business and asset actions as well as non-service related pension costs. On a non-GAAP basis, adjusted diluted EPS of $5.67 increased 5%, or $0.29 per share. A summary table of changes in diluted EPS is presented below.
- In January 2024, the Board of Directors increased the quarterly dividend to $1.77 per share, representing our 42nd consecutive year of dividend increases.

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		
	2024	2023	Increase (Decrease)
Diluted EPS	**$5.30**	**$4.54**	**$0.76**
Operating Impacts			
Underlying business			
Volume			$0.04
Price, net of variable costs			0.31
Other costs			(0.09)
Currency			(0.03)
Business and asset actions			0.49
Total Operating Impacts			**$0.72**
Other Impacts			
Equity affiliates' income			$0.09
Interest expense			(0.11)
Other non-operating income/expense, net, excluding discrete item below			(0.01)
Non-service pension cost, net			(0.03)
Change in effective tax rate			0.06
Noncontrolling interests			0.03
Total Other Impacts			**$0.03**
Total Change in Diluted EPS			**$0.76**
% Change from prior year			**17 %**

The table below summarizes the diluted per share impact of our non-GAAP adjustments for the first six months of fiscal years 2024 and 2023:

	Six Months Ended 31 March		
	2024	2023	Increase (Decrease)
Diluted EPS	**$5.30**	**$4.54**	**$0.76**
Business and asset actions	0.20	0.69	(0.49)
Non-service pension cost, net	0.17	0.14	0.03
Adjusted Diluted EPS	**$5.67**	**$5.38**	**$0.29**
% Change from prior year			**5 %**

FIRST SIX MONTHS 2024 RESULTS OF OPERATIONS

Discussion of First Six Months Consolidated Results

	Six Months Ended 31 March		Changes	
	2024	2023	$	%/bp
GAAP Measures				
Sales	$5,927.6	$6,374.8	($447.2)	(7 %)
Operating income	1,304.1	1,111.8	192.3	17 %
Operating margin	22.0 %	17.4 %		460 bp
Equity affiliates' income	$301.7	$275.9	$25.8	9 %
Net income	1,202.5	1,033.7	168.8	16 %
Net income margin	20.3 %	16.2 %		410 bp
Non-GAAP Measures				
Adjusted EBITDA	$2,372.8	$2,234.4	$138.4	6 %
Adjusted EBITDA margin	40.0 %	35.1 %		490 bp

Sales

The table below summarizes the major factors that impacted consolidated sales for the periods presented:

Volume	1 %
Price	1 %
Energy cost pass-through to customers	(9 %)
Currency	— %
Total Consolidated Sales Change	(7 %)

Sales of $5,927.6 decreased 7%, or $447.2, as lower energy cost pass-through to customers of 9% driven by lower natural gas prices in the Americas and Europe segments was partially offset by higher volumes of 1% and higher pricing of 1%. Volumes improved modestly as strong demand for hydrogen and contributions from new assets in our on-site business were partially offset by weaker merchant demand. Currency was flat versus the prior year.

Cost of Sales and Gross Margin

Cost of sales of $4,058.7 decreased 11%, or $496.4, due to lower energy cost pass-through to customers of $542, partially offset by higher costs associated with sales volumes of $35 and an unfavorable impact from currency of $11. Other costs were flat as lower power costs in our merchant business across most regions offset labor inflation and higher planned maintenance. Gross margin of 31.5% increased 300 bp from 28.5% in the prior year primarily due to lower energy cost pass-through to customers, which favorably impacted margin by approximately 250 bp.

Selling and Administrative Expense

Selling and administrative expense of $479.0 decreased 1%, or $6.6, as lower incentive compensation was mostly offset by labor inflation. Selling and administrative expense as a percentage of sales increased to 8.1% from 7.6% in the prior year.

Research and Development Expense

Research and development expense of $51.1 decreased 1%, or $0.5. Research and development expense as a percentage of sales increased to 0.9% from 0.8% in the prior year.

Business and Asset Actions

Our consolidated income statements for the six months ended 31 March 2024 and 2023 include charges of $57.0 ($43.8 after tax, or $0.20 per share) and $185.6 ($153.7 attributable to Air Products after tax, or $0.69 per share), respectively, for strategic business and asset actions intended to optimize costs and focus resources on our growth projects. Charges for business and asset actions are not recorded in segment results.

The current year charge of $57.0 was for severance and other postemployment benefits payable to employees identified under a global cost reduction plan that was initiated in June 2023. The prior year charge of $185.6 resulted from the noncash write-off of assets related to our withdrawal from projects in Indonesia and Ukraine.

Other Income (Expense), Net

Other income of $22.3 increased 50%, or $7.4, as higher income from the sale of assets was partially offset by an unfavorable foreign exchange impact from the devaluation of the Argentine peso during the first quarter.

Operating Income and Operating Margin

Operating income of $1,304.1 increased 17%, or $192.3, as lower charges for business and asset actions of $129, positive pricing, net of power and fuel costs, of $86, and higher volumes of $11 were partially offset by higher other costs of $25 and an unfavorable impact from currency of $8. The higher other costs were driven by labor inflation and higher planned maintenance, partially offset by lower incentive compensation as well as higher income from the sale of assets. Operating margin of 22.0% increased 460 bp from 17.4% in the prior year due to the factors noted above as well as lower energy cost pass-through to customers, which positively impacted margin by approximately 150 basis points.

Equity Affiliates' Income

Equity affiliates' income of $301.7 increased 9%, or $25.8, primarily due to higher income from our affiliate in Mexico.

Interest Expense

	Six Months Ended 31 March	
	2024	2023
Interest incurred	$234.1	$120.4
Less: Capitalized interest	120.7	38.3
Interest expense	$113.4	$82.1

Interest incurred increased 94%, or $113.7, primarily due to a higher debt balance from senior notes that were issued in March 2023 and February 2024 to fund projects under our Green Finance Framework as well as borrowings on financing available for the NEOM Green Hydrogen Project. Capitalized interest increased $82.4 due to a higher carrying value of projects under construction, including the NEOM Green Hydrogen Project.

Other Non-Operating Income (Expense), net

Other non-operating expense of $24.0 increased 66%, or $9.5, as higher non-service pension costs were partially offset by higher interest income on cash and cash items and short-term investments.

Net Income and Net Income Margin

Net income of $1,202.5 increased 16%, or $168.8, primarily due to lower charges for business and asset actions, favorable pricing, and higher equity affiliates' income, partially offset by higher interest expense and higher other costs. Net income margin of 20.3% increased 410 bp from 16.2% in the prior year due to these factors as well as lower energy cost pass-through to customers, which positively impacted margin by approximately 150 bp.

Adjusted EBITDA and Adjusted EBITDA Margin

Adjusted EBITDA of $2,372.8 increased 6%, or $138.4, as higher pricing, volumes, and equity affiliates' income were partially offset by higher costs. Adjusted EBITDA margin of 40.0% increased 490 bp from 35.1% in the prior year due to these factors as well as lower energy cost pass-through to customers, which positively impacted margin by approximately 300 bp.

Effective Tax Rate

Our effective tax rate was 18.1% and 19.9% for the six months ended 31 March 2024 and 2023, respectively. Our current quarter rate was lower primarily due to a discrete tax impact recorded in the prior year from business and asset actions further discussed below as well as earning a greater share of income in jurisdictions with lower tax rates and the impact from equity affiliates' income.

In the prior year, we recognized a charge of $185.6 ($153.7 attributable to Air Products after tax) related to various business and asset actions. Refer to Note 4, *Business and Asset Actions*, for additional information. This charge included certain losses for which we could not recognize an income tax benefit. Therefore, we recorded a valuation allowance of $31.7 against deferred tax assets resulting from the charge. Partially offsetting the valuation allowance cost was a $15.9 income tax benefit from a tax election related to a non-U.S. subsidiary.

Our adjusted effective tax rate, which excludes the impact of the business and asset actions discussed above as well as the non-service components of net periodic cost for our defined benefit pension plans, was 18.5% and 19.4% for the six months ended 31 March 2024 and 2023, respectively. The current year rate was lower due to the higher income in jurisdictions with lower tax rates as well as the impact from equity affiliates' income.

Discussion of First Six Months Results by Business Segment

Americas

	Six Months Ended 31 March		Changes	
	2024	2023	$	%/bp
Sales	$2,497.9	$2,757.3	($259.4)	(9 %)
Operating income	726.3	667.2	59.1	9 %
Operating margin	29.1 %	24.2 %		490 bp
Equity affiliates' income	$81.3	$44.5	$36.8	83 %
Adjusted EBITDA	1,151.4	1,029.4	122.0	12 %
Adjusted EBITDA margin	46.1 %	37.3 %		880 bp

The table below summarizes the major factors that impacted sales in the Americas segment for the periods presented:

Volume	2 %
Price	2 %
Energy cost pass-through to customers	(13 %)
Currency	— %
Total Americas Sales Change	(9 %)

Sales of $2,497.9 decreased 9%, or $259.4, as lower energy cost pass-through to customers of 13% driven by lower natural gas prices in North America was partially offset by higher volumes of 2% and higher pricing of 2%. Volumes improved modestly as higher demand for hydrogen in our on-site business was partially offset by weaker merchant volume. Currency was flat versus the prior year.

Operating income of $726.3 increased 9%, or $59.1, primarily due to positive pricing, net of power and fuel costs, of $70 and favorable volumes of $31, partially offset by higher costs of $41. The higher costs were driven by higher planned maintenance and labor inflation, partially offset by lower incentive compensation. Operating margin of 29.1% increased 490 bp from 24.2% in the prior year due to these factors as well as lower energy cost pass-through to customers, which positively impacted margin by about 350 basis points.

Equity affiliates' income of $81.3 increased 83%, or $36.8, driven by higher income from an affiliate in Mexico.

Asia

	Six Months Ended 31 March		Changes	
	2024	2023	$	%/bp
Sales	$1,573.5	$1,591.7	($18.2)	(1 %)
Operating income	414.8	468.9	(54.1)	(12 %)
Operating margin	26.4 %	29.5 %		(310 bp)
Equity affiliates' income	$12.5	$14.7	($2.2)	(15 %)
Adjusted EBITDA	655.5	695.5	(40.0)	(6 %)
Adjusted EBITDA margin	41.7 %	43.7 %		(200 bp)

The table below summarizes the major factors that impacted sales in the Asia segment for the periods presented:

Volume	— %
Price	1 %
Energy cost pass-through to customers	1 %
Currency	(3 %)
Total Asia Sales Change	(1 %)

Sales of $1,573.5 decreased 1%, or $18.2, due to an unfavorable currency impact of 3% driven by strengthening of the U.S. Dollar against the Chinese Renminbi, partially offset by higher pricing of 1% and higher energy cost pass-through to customers of 1%. Overall volumes were flat as higher volumes in our on-site business, including contributions from several new industrial gas plants, were offset by weak economic growth in China and lower demand for merchant products.

Operating income of $414.8 decreased 12%, or $54.1, primarily due to unfavorable business mix of $34, an unfavorable currency impact of $12, and lower pricing, net of power and fuel costs, of $6. The cost impact was relatively flat as lower incentive compensation and distribution costs were mostly offset by labor inflation and higher planned maintenance. Operating margin of 26.4% decreased 310 bp from 29.5% in the prior year primarily due to unfavorable business mix.

Equity affiliates' income of $12.5 decreased 15%, or $2.2, as higher maintenance expense for one of our affiliates in China was partially offset by higher income from an affiliate in Thailand.

Europe

	Six Months Ended 31 March		Changes	
	2024	2023	$	%/bp
Sales	$1,399.1	$1,544.8	($145.7)	(9 %)
Operating income	398.6	319.0	79.6	25 %
Operating margin	28.5 %	20.6 %		790 bp
Equity affiliates' income	$32.4	$47.2	($14.8)	(31 %)
Adjusted EBITDA	530.0	458.8	71.2	16 %
Adjusted EBITDA margin	37.9 %	29.7 %		820 bp

The table below summarizes the major factors that impacted sales in the Europe segment for the periods presented:

Volume	2 %
Price	(2 %)
Energy cost pass-through to customers	(13 %)
Currency	4 %
Total Europe Sales Change	(9 %)

Sales of $1,399.1 decreased 9%, or $145.7, due to lower energy cost pass-through to customers of 13% driven by lower natural gas prices across the region and lower pricing of 2%, partially offset by a favorable impact from currency of 4% and higher volumes of 2%. Currency positively impacted sales primarily due to the weakening of the U.S. Dollar against the Euro. The volume improvement was driven by contribution from an on-site facility in Uzbekistan that we acquired in the third quarter of fiscal year 2023, which was partially offset by lower merchant demand.

Operating income of $398.6 increased 25%, or $79.6, due to higher volumes of $53, pricing, net of lower power and fuel costs, of $24, and a favorable impact from currency of $13, partially offset by higher costs of $10. The higher costs were driven by labor inflation and higher planned maintenance, partially offset by income from the sale of assets and lower distribution costs. Operating margin of 28.5% increased 790 bp from 20.6% in the prior year due to the factors noted above as well as lower energy cost pass-through to customers, which positively impacted margin by about 300 bp.

Equity affiliates' income of $32.4 decreased 31%, or $14.8, driven by prior year non-recurring items for our affiliate in Italy.

Middle East and India

	Six Months Ended 31 March		Changes	
	2024	2023	$	%
Sales	$71.1	$86.2	($15.1)	(18 %)
Operating income	9.5	8.0	1.5	19 %
Equity affiliates' income	166.8	163.0	3.8	2 %
Adjusted EBITDA	189.6	184.2	5.4	3 %

Sales of $71.1 decreased 18%, or $15.1, primarily due to lower volumes. Despite lower sales, operating income of $9.5 increased 19%, or $1.5, primarily due to lower costs, including planned maintenance.

Equity affiliates' income of $166.8 increased 2%, or $3.8, as a higher contribution from JIGPC's completion of the second phase of the asset purchase in January 2023 was partially offset by higher interest and other operating costs related to the Jazan gasification and power project.

Corporate and other

	Six Months Ended 31 March		Changes	
	2024	2023	$	%
Sales	$386.0	$394.8	($8.8)	(2 %)
Operating loss	(188.1)	(165.7)	(22.4)	(14 %)
Adjusted EBITDA	(153.7)	(133.5)	(20.2)	(15 %)

Sales of $386.0 decreased 2%, or $8.8, and operating loss of $188.1 increased 14%, or $22.4, primarily due to lower non-LNG sale of equipment activity. The negative impact to operating loss was partially offset by lower corporate costs.

RECONCILIATIONS OF NON-GAAP FINANCIAL MEASURES

(Millions of U.S. 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, the 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.

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 exclude the impact of the non-service components of net periodic benefit/cost for our defined benefit pension plans. Non-service related components are recurring, non-operating items that include interest cost, expected returns on plan assets, prior service cost amortization, actuarial loss amortization, as well as special termination benefits, curtailments, and settlements. The net impact of non-service related components is reflected within “Other non-operating income (expense), net” on our consolidated income statements. Adjusting for the impact of non-service pension components provides management and users of our financial statements with a more accurate representation of our underlying business performance because these components are driven by factors that are unrelated to our operations, such as volatility in equity and debt markets. Further, non-service related components are not indicative of our defined benefit plans’ future contribution needs due to the funded status of the plans. We may also exclude 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.

When applicable, the tax impact of 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.

We provide these non-GAAP financial measures to allow investors, potential investors, securities analysts, and others to evaluate the performance of our business in the same manner as our management. We believe these 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. However, we caution readers not to consider these measures in isolation or as a substitute for the most directly comparable measures calculated in accordance with GAAP. 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.

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. Per share impacts are calculated independently and may not sum to total diluted EPS and total adjusted diluted EPS due to rounding.

	Three Months Ended 31 March					
Q2 2024 vs. Q2 2023	Operating Income	Equity Affiliates' Income	Other Non-Operating Income/Expense, Net	Income Tax Provision	Net Income Attributable to Air Products	Diluted EPS
Q2 2024 GAAP	$637.2	$143.3	($9.2)	$130.5	$572.4	$2.57
Q2 2023 GAAP	459.8	165.9	(13.9)	121.0	439.8	1.97
$ Change GAAP						$0.60
% Change GAAP						30 %
Q2 2024 GAAP	$637.2	$143.3	($9.2)	$130.5	$572.4	$2.57
Business and asset actions	57.0	—	—	13.2	43.8	0.20
Non-service pension cost, net	—	—	25.1	6.2	18.9	0.08
Q2 2024 Non-GAAP ("Adjusted")	$694.2	$143.3	$15.9	$149.9	$635.1	$2.85
Q2 2023 GAAP	$459.8	$165.9	($13.9)	$121.0	$439.8	$1.97
Business and asset actions[(A)]	185.6	—	—	26.9	153.7	0.69
Non-service pension cost, net	—	—	22.9	5.7	17.2	0.08
Q2 2023 Non-GAAP ("Adjusted")	$645.4	$165.9	$9.0	$153.6	$610.7	$2.74
$ Change Non-GAAP ("Adjusted")						$0.11
% Change Non-GAAP ("Adjusted")						4 %

(A) Charge includes $5.0 attributable to noncontrolling interests.

	Six Months Ended 31 March					
2024 vs. 2023	Operating Income	Equity Affiliates' Income	Other Non-Operating Income/Expense, Net	Income Tax Provision	Net Income Attributable to Air Products	Diluted EPS
2024 GAAP	$1,304.1	$301.7	($24.0)	$265.9	$1,181.7	$5.30
2023 GAAP	1,111.8	275.9	(14.5)	257.4	1,012.0	4.54
$ Change GAAP						$0.76
% Change GAAP						17 %
2024 GAAP	$1,304.1	$301.7	($24.0)	$265.9	$1,181.7	$5.30
Business and asset actions	57.0	—	—	13.2	43.8	0.20
Non-service pension cost, net	—	—	50.0	12.4	37.6	0.17
2024 Non-GAAP ("Adjusted")	$1,361.1	$301.7	$26.0	$291.5	$1,263.1	$5.67
2023 GAAP	$1,111.8	$275.9	($14.5)	$257.4	$1,012.0	$4.54
Business and asset actions[(A)]	185.6	—	—	26.9	153.7	0.69
Non-service pension cost, net	—	—	42.4	10.6	31.8	0.14
2023 Non-GAAP ("Adjusted")	$1,297.4	$275.9	$27.9	$294.9	$1,197.5	$5.38
$ Change Non-GAAP ("Adjusted")						$0.29
% Change Non-GAAP ("Adjusted")						5 %

(A) Charge includes $5.0 attributable to noncontrolling interests.

ADJUSTED EBITDA AND ADJUSTED EBITDA MARGIN

We define adjusted EBITDA as net income less income 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			
	2024		2023		2024		2023	
	$	Margin	$	Margin	$	Margin	$	Margin
Sales	$2,930.2		$3,200.1		$5,927.6		$6,374.8	
Net income and net income margin	$580.9	19.8 %	$449.9	14.1 %	$1,202.5	20.3 %	$1,033.7	16.2 %
Add: Interest expense	59.9	2.0 %	40.9	1.3 %	113.4	1.9 %	82.1	1.3 %
Less: Other non-operating income (expense), net	(9.2)	(0.3 %)	(13.9)	(0.4 %)	(24.0)	(0.4 %)	(14.5)	(0.2 %)
Add: Income tax provision	130.5	4.5 %	121.0	3.8 %	265.9	4.5 %	257.4	4.0 %
Add: Depreciation and amortization	360.8	12.3 %	339.6	10.6 %	710.0	12.0 %	661.1	10.4 %
Add: Business and asset actions	57.0	1.9 %	185.6	5.8 %	57.0	1.0 %	185.6	2.9 %
Adjusted EBITDA and adjusted EBITDA margin	$1,198.3	40.9 %	$1,150.9	36.0 %	$2,372.8	40.0 %	$2,234.4	35.1 %

	Three Months Ended 31 March	Six Months Ended 31 March
Change GAAP		
Net income $ change	$131.0	$168.8
Net income % change	29%	16%
Net income margin change	570bp	410 bp
Change Non-GAAP		
Adjusted EBITDA $ change	$47.4	$138.4
Adjusted EBITDA % change	4%	6%
Adjusted EBITDA margin change	490bp	490 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 and six months ended 31 March 2024 and 2023:

Americas

	Three Months Ended				Six Months Ended			
	31 March		Change vs. Prior Year		31 March		Change vs. Prior Year	
	2024	2023	$	%/bp	2024	2023	$	%/bp
Sales	$1,245.8	$1,373.1	($127.3)	(9 %)	$2,497.9	$2,757.3	($259.4)	(9 %)
Operating income	$371.9	$324.2	$47.7	15 %	$726.3	$667.2	$59.1	9 %
Operating margin	29.9 %	23.6 %		630 bp	29.1 %	24.2 %		490 bp
Reconciliation of GAAP to Non-GAAP:								
Operating income	$371.9	$324.2			$726.3	$667.2		
Add: Depreciation and amortization	174.1	161.7			343.8	317.7		
Add: Equity affiliates' income	44.2	28.1			81.3	44.5		
Adjusted EBITDA	$590.2	$514.0	$76.2	15 %	$1,151.4	$1,029.4	$122.0	12 %
Adjusted EBITDA margin	47.4 %	37.4 %		1,000 bp	46.1 %	37.3 %		880 bp

Asia

	Three Months Ended				Six Months Ended			
	31 March		Change vs. Prior Year		31 March		Changes vs. Prior Year	
	2024	2023	$	%/bp	2024	2023	$	%/bp
Sales	$779.7	$813.9	($34.2)	(4 %)	$1,573.5	$1,591.7	($18.2)	(1 %)
Operating income	$203.6	$233.0	($29.4)	(13 %)	$414.8	$468.9	($54.1)	(12 %)
Operating margin	26.1 %	28.6 %		(250 bp)	26.4 %	29.5 %		(310 bp)
Reconciliation of GAAP to Non-GAAP:								
Operating income	$203.6	$233.0			$414.8	$468.9		
Add: Depreciation and amortization	116.4	110.0			228.2	211.9		
Add: Equity affiliates' income	8.3	7.3			12.5	14.7		
Adjusted EBITDA	$328.3	$350.3	($22.0)	(6 %)	$655.5	$695.5	($40.0)	(6 %)
Adjusted EBITDA margin	42.1 %	43.0 %		(90 bp)	41.7 %	43.7 %		(200 bp)

Europe

	Three Months Ended				Six Months Ended			
	31 March		Change vs. Prior Year		31 March		Changes vs. Prior Year	
	2024	2023	$	%/bp	2024	2023	$	%/bp
Sales	$667.9	$752.9	($85.0)	(11 %)	$1,399.1	$1,544.8	($145.7)	(9 %)
Operating income	$201.0	$173.2	$27.8	16 %	$398.6	$319.0	$79.6	25 %
Operating margin	30.1 %	23.0 %		710 bp	28.5 %	20.6 %		790 bp
Reconciliation of GAAP to Non-GAAP:								
Operating income	$201.0	$173.2			$398.6	$319.0		
Add: Depreciation and amortization	50.8	48.3			99.0	92.6		
Add: Equity affiliates' income	11.7	29.5			32.4	47.2		
Adjusted EBITDA	$263.5	$251.0	$12.5	5 %	$530.0	$458.8	$71.2	16 %
Adjusted EBITDA margin	39.5 %	33.3 %		620 bp	37.9 %	29.7 %		820 bp

Middle East and India

	Three Months Ended				Six Months Ended			
	31 March		Change vs. Prior Year		31 March		Changes vs. Prior Year	
	2024	2023	$	%/bp	2024	2023	$	%/bp
Sales	$35.7	$44.8	($9.1)	(20 %)	$71.1	$86.2	($15.1)	(18 %)
Operating income	$5.6	$1.3	$4.3	331 %	$9.5	$8.0	$1.5	19 %
Reconciliation of GAAP to Non-GAAP:								
Operating income	$5.6	$1.3			$9.5	$8.0		
Add: Depreciation and amortization	6.7	6.6			13.3	13.2		
Add: Equity affiliates' income	73.9	98.9			166.8	163.0		
Adjusted EBITDA	$86.2	$106.8	($20.6)	(19 %)	$189.6	$184.2	$5.4	3 %

Corporate and other

	Three Months Ended				Six Months Ended			
	31 March		Change vs. Prior Year		31 March		Changes vs. Prior Year	
	2024	2023	$	%/bp	2024	2023	$	%/bp
Sales	$201.1	$215.4	($14.3)	(7 %)	$386.0	$394.8	($8.8)	(2 %)
Operating loss	($87.9)	($86.3)	($1.6)	(2 %)	($188.1)	($165.7)	($22.4)	(14 %)
Reconciliation of GAAP to Non-GAAP:								
Operating loss	($87.9)	($86.3)			($188.1)	($165.7)		
Add: Depreciation and amortization	12.8	13.0			25.7	25.7		
Add: Equity affiliates' income	5.2	2.1			8.7	6.5		
Adjusted EBITDA	($69.9)	($71.2)	$1.3	2 %	($153.7)	($133.5)	($20.2)	(15 %)

ADJUSTED EFFECTIVE TAX RATE

The effective tax rate equals the income tax provision divided by income before taxes. We calculate our adjusted effective tax rate by adjusting the numerator and denominator to exclude the tax and before tax impacts of our non-GAAP adjustments, respectively. The table below presents a reconciliation of the GAAP effective tax rate to our adjusted effective tax rate:

	Three Months Ended 31 March		Six Months Ended 31 March	
	2024	2023	2024	2023
Income tax provision	$130.5	$121.0	$265.9	$257.4
Income before taxes	711.4	570.9	1,468.4	1,291.1
Effective tax rate	18.3 %	21.2 %	18.1 %	19.9 %
Income tax provision	$130.5	$121.0	$265.9	$257.4
Business and asset actions tax impact	13.2	26.9	13.2	26.9
Non-service pension tax impact	6.2	5.7	12.4	10.6
Adjusted income tax provision	$149.9	$153.6	$291.5	$294.9
Income before taxes	$711.4	$570.9	$1,468.4	$1,291.1
Business and asset actions	57.0	185.6	57.0	185.6
Non-service pension cost, net	25.1	22.9	50.0	42.4
Adjusted income before taxes	$793.5	$779.4	$1,575.4	$1,519.1
Adjusted effective tax rate	18.9 %	19.7 %	18.5 %	19.4 %

CAPITAL EXPENDITURES

Capital expenditures is a non-GAAP financial measure that we define as the sum of cash flows for additions to plant and equipment, including long-term deposits, acquisitions (less cash acquired), investment in and advances to unconsolidated affiliates, and investment in financing receivables on our consolidated statements of cash flows. Additionally, we adjust additions to plant and equipment to exclude NEOM Green Hydrogen Company ("NGHC") expenditures funded by the joint venture's non-recourse project financing as well as our partners' equity contributions to arrive at a measure that we believe is more representative of our investment activities. Substantially all the funding we provide to NGHC is limited for use by the venture for capital expenditures.

A reconciliation of cash used for investing activities to our reported capital expenditures is provided below:

	Six Months Ended 31 March	
	2024	2023
Cash used for investing activities	$3,226.0	$2,476.0
Proceeds from sale of assets and investments	20.2	7.2
Purchases of investments	(136.4)	(290.5)
Proceeds from investments	367.4	611.6
Other investing activities	30.1	(51.2)
NGHC expenditures not funded by Air Products' equity[(A)]	(836.2)	(335.3)
Capital expenditures	$2,671.1	$2,417.8

[(A)] Reflects the portion of "Additions to plant and equipment, including long-term deposits" that is associated with NGHC, less our approximate cash investment in the joint venture.

LIQUIDITY AND CAPITAL RESOURCES

We believe we have sufficient cash, cash flows from operations, and funding sources to meet our liquidity needs. As further discussed in the "Cash Flows From Financing Activities" section below, we have the ability to raise capital through a variety of financing activities, including accessing capital or commercial paper markets or drawing upon our credit facilities.

As of 31 March 2024, we had $1,333.0 of foreign cash and cash items compared to total cash and cash items of $2,535.0. 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.

Cash Flows From Operations

	Six Months Ended 31 March	
	2024	2023
Net income attributable to Air Products	$1,181.7	$1,012.0
Adjustments to reconcile income to cash provided by operating activities:		
Depreciation and amortization	710.0	661.1
Deferred income taxes	6.9	29.0
Business and asset actions	57.0	185.6
Undistributed earnings of equity method investments	(118.2)	(78.1)
Gain on sale of assets and investments	(18.2)	(3.9)
Share-based compensation	28.5	31.2
Noncurrent lease receivables	40.2	39.5
Other adjustments	26.5	70.9
Changes in working capital accounts	(486.1)	(589.3)
Cash Provided by Operating Activities	$1,428.3	$1,358.0

For the first six months of fiscal year 2024, cash provided by operating activities was $1,428.3. We recorded a charge of $57.0 for the accrual of severance and other postemployment benefits. Refer to Note 4, *Business and Asset Actions,* to the consolidated financial statements for additional information. The working capital accounts were a use of cash of $486.1. A use of cash of $301.0 within "Payables and accrued liabilities" primarily resulted from payments for incentive compensation under the fiscal year 2023 plan, a reduction of customer advances for sale of equipment projects as we recognized revenue, and a reduction of liabilities associated with accrued utilities. The use of cash of $111.7 within "Other working capital" primarily related to the timing of tax payments. The use of cash of $72.7 within "Inventories" primarily related to purchases of helium. The use of cash of $31.6 within "Other receivables" primarily related to the payment of value added taxes incurred in the construction of our larger projects for which we will claim a refund in the near term.

For the first six months of fiscal year 2023, cash provided by operating activities was $1,358.0. Business and asset actions of $185.6 included noncash charges to write-down the full carrying value of assets previously under construction in our Asia and Europe segments. Other adjustments of $70.9 primarily included adjustments for noncash currency impacts of intercompany balances. The working capital accounts were a use of cash of $589.3, primarily driven by $451.3 from payables and accrued liabilities, $124.7 from other working capital, and $112.3 from inventory, partially offset by a source of cash of $162.0 from trade receivables, less allowances. The use of cash within payables and accrued liabilities primarily resulted from the impact of lower prices for the purchase of natural gas, a decrease in value of derivatives that hedge intercompany loans, and payments for incentive compensation under the fiscal year 2022 plan. The use of cash within other working capital primarily relates to the timing of income tax payments. The source of cash within trade receivables includes lower natural gas costs contractually passed through to customers.

Cash Flows From Investing Activities

	Six Months Ended 31 March	
	2024	2023
Additions to plant and equipment, including long-term deposits	$ (3,114.9)	$ (1,841.1)
Investment in and advances to unconsolidated affiliates	—	(912.0)
Investment in financing receivables	(392.4)	—
Proceeds from sale of assets and investments	20.2	7.2
Purchases of investments	(136.4)	(290.5)
Proceeds from investments	367.4	611.6
Other investing activities	30.1	(51.2)
Cash Used for Investing Activities	($3,226.0)	($2,476.0)

For the first six months of fiscal year 2024, cash used for investing activities was $3,226.0. The use of cash primarily resulted from additions to plant and equipment, including long-term deposits, of $3,114.9 and an investment in financing receivables of $392.4. Refer to the "Capital Expenditures" section below for further detail. Proceeds from investments of $367.4 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 $136.4.

For the first six months of fiscal year 2023, cash used for investing activities was $2,476.0. The use of cash primarily resulted from additions to plant and equipment, including long-term deposits, of $1,841.1 as well as investment in and advances to unconsolidated affiliates of $912.0, which primarily included our investment in the second phase of the Jazan gasification and power project. Proceeds from investments of $611.6 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 $290.5.

Capital Expenditures

The components of our capital expenditures are detailed in the table below. Refer to page 57 for a definition of this non-GAAP financial measure as well as a reconciliation to cash used for investing activities.

	Six Months Ended 31 March	
	2024	2023
Additions to plant and equipment, including long-term deposits	$3,114.9	$1,841.1
Investment in and advances to unconsolidated affiliates	—	912.0
Investment in financing receivables	392.4	—
NGHC expenditures not funded by Air Products' equity[A]	(836.2)	(335.3)
Capital Expenditures	$2,671.1	$2,417.8

[A] Reflects the portion of "Additions to plant and equipment, including long-term deposits" that is associated with NGHC, less our approximate cash investment in the joint venture.

Capital expenditures for the first six months of fiscal year 2024 totaled $2,671.1 compared to $2,417.8 for the first six months of fiscal year 2023. The investment in financing receivables of $392.4 primarily reflects payments associated with the purchase of renewable fuel assets from World Energy as well as the purchase of a natural gas-to-syngas processing facility in Uzbekistan. Refer to Note 3, *Variable Interest Entities*, and Note 16, *Supplemental Information*, to the consolidated financial statements, respectively, for additional information.

Outlook for Investing Activities

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.

We continue to expect capital expenditures for fiscal year 2024 to be approximately $5.0 billion to $5.5 billion.

Cash Flows From Financing Activities

	Six Months Ended 31 March	
	2024	2023
Long-term debt proceeds	$ 3,649.0	$ 1,891.6
Payments on long-term debt	(64.7)	(596.0)
Decrease in commercial paper and short-term borrowings	(131.9)	(16.3)
Dividends paid to shareholders	(777.9)	(719.2)
Proceeds from stock option exercises	5.7	17.1
Investments by noncontrolling interests	142.6	72.8
Other financing activities	(110.3)	(46.6)
Cash Provided by Financing Activities	$2,712.5	$603.4

For the first six months of fiscal year 2024, cash provided by financing activities was $2,712.5. The source of cash was primarily driven by long-term debt proceeds of $3,649.0, which was largely attributable to U.S. Dollar-denominated green bonds totaling $2.5 billion that were issued during the second quarter of fiscal year 2024 under our Green Finance Framework as well as borrowings from project financing associated with the NGHC joint venture, partially offset by dividend payments to shareholders of $777.9.

For the first six months of fiscal year 2023, cash provided by financing activities was $603.4. The source of cash was primarily driven by long-term debt proceeds of $1,891.6, which was largely attributable to multi-currency green bonds totaling $1.4 billion that were issued during the second quarter of fiscal year 2023 under our Green Finance Framework. These proceeds were partially offset by dividend payments to shareholders of $719.2 and payments on long-term debt of $596.0.

Financing and Capital Structure

Debt

Total debt increased from $10,305.8 as of 30 September 2023 to $13,621.7 as of 31 March 2024 primarily due to the $2.5 billion issuance of senior notes intended for projects defined under our Green Finance Framework as well as additional borrowings under the project financing associated with the NEOM Green Hydrogen Project as discussed in Note 3, *Variable Interest Entities*, to the consolidated financial statements. Total debt includes related party debt of $289.8 and $328.3 as of 31 March 2024 and 30 September 2023, respectively.

Various debt agreements to which we are a party include financial covenants and other restrictions, including restrictions pertaining to the ability to create property liens and enter into certain sale and leaseback transactions. As of 31 March 2024, we were in compliance with all of the financial and other covenants under our debt agreements.

Credit Facilities
In March 2024, we entered into a five-year $3.0 billion revolving credit agreement maturing 31 March 2029 (the “2024 Credit Agreement”) as well as a 364-day $500 revolving credit agreement maturing 27 March 2025 that we have the ability to convert into a term loan maturing 27 March 2026. Both agreements are syndicated facilities that provide a source of liquidity and support our commercial paper program through availability of senior unsecured debt to us and certain of our subsidiaries. As of 31 March 2024, no borrowings were outstanding under either agreement. The 2024 Credit Agreement replaced our previous $2.75 billion revolving credit agreement (the “2021 Credit Agreement”), which was terminated upon execution of the 2024 Credit Agreement. No borrowings were outstanding under the 2021 Credit Agreement at the time of its termination, and no early termination penalties were incurred.

We also have credit facilities available to certain of our foreign subsidiaries totaling $1,241.6, of which $1,080.7 was borrowed and outstanding as of 31 March 2024. The amount borrowed and outstanding as of 30 September 2023 was $1,041.4.

NEOM Green Hydrogen Project Financing
In May 2023, NGHC secured non-recourse project financing of approximately $6.1 billion, which is expected to fund approximately 73% of the NEOM Green Hydrogen Project and will be drawn over the construction period. At the same time, NGHC secured additional non-recourse credit facilities totaling approximately $500 primarily for working capital needs. As of 31 March 2024, the joint venture had borrowed short- and long-term principal amounts totaling $2.5 billion compared to $1.4 billion as of 30 September 2023. Refer to Note 3, *Variable Interest Entities*, to the consolidated financial statements for additional information.

Dividends

The Board of Directors determines whether to declare cash dividends on our common stock and the timing and amount based on financial condition and other factors it deems relevant. Dividends are paid quarterly, usually during the sixth week after the close of the fiscal quarter. In January 2024, the Board of Directors increased the quarterly dividend to $1.77 per share, representing our 42nd consecutive year of dividend increases. The new dividend was declared on 25 January 2024 and is payable on 13 May 2024 to shareholders of record at the close of business on 1 April 2024.

PENSION BENEFITS

We and certain of our subsidiaries sponsor defined benefit pension plans and defined contribution plans that cover a substantial portion of our worldwide employees. The principal defined benefit pension plans are the U.S. salaried pension plan and the U.K. pension plan. These plans were closed to new participants in 2005, after which defined contribution plans were offered to new employees. The shift to defined contribution plans is expected to continue to reduce volatility of both plan expense and contributions. For additional information, refer to Note 11, *Retirement Benefits*, to the consolidated financial statements.

Net Periodic Cost

The table below summarizes the components of net periodic cost for our U.S. and international defined benefit pension plans:

	Three Months Ended 31 March		Six Months Ended 31 March	
	2024	2023	2024	2023
Service cost	$5.2	$5.8	$10.4	$11.8
Non-service cost	25.1	22.9	50.0	42.4
Other	0.1	0.2	0.2	0.5
Net Periodic Cost	$30.4	$28.9	$60.6	$54.7

Net periodic cost was $30.4 and $60.6 for the three and six months ended 31 March 2024, respectively. Net periodic cost was $28.9 and $54.7 for the three and six months ended 31 March 2023, respectively. The increased costs versus the prior year were primarily attributable to non-service costs, which were driven by lower expected returns on plan assets due to a smaller beginning balance of plan assets and higher interest cost, partially offset by a decrease in actuarial loss amortization. Non-service related components of net periodic cost are reflected within "Other non-operating income (expense), net" on our consolidated income statements.

Service costs result from benefits earned by active employees and are reflected as operating expenses primarily within "Cost of sales" and "Selling and administrative expense" on our consolidated income statements. The amount of service costs capitalized in the first six months of fiscal years 2024 and 2023 was not material.

Company Contributions

Management considers various factors when making pension funding decisions, including tax, cash flow, and regulatory implications. For the six months ended 31 March 2024 and 2023, our cash contributions to funded pension plans and benefit payments for unfunded pension plans were $19.2 and $15.4, respectively.

Total contributions for fiscal year 2024 are expected to be approximately $35 to $45. During fiscal year 2023, total contributions were $32.6.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

A description of our major accounting policies, including those that we consider to be the most critical to understanding our financial statements, is included in our 2023 Form 10-K. There were no changes to our accounting policies during the first six months of fiscal year 2024.

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 as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates reflect our best judgment about current and/or future economic and market conditions and their effect based on information available as of the date of our consolidated financial statements. If conditions change, actual results may differ materially from these estimates.

Judgments and estimates of uncertainties are required to apply 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 about the effects of matters that are inherently uncertain. During the first six months of fiscal year 2024, we recorded changes to project cost estimates on certain sale of equipment projects that are accounted for under the cost incurred input method. Accordingly, we recorded cumulative effect adjustments that unfavorably impacted operating income by approximately $35 and $65 for the three and six months ended 31 March 2024, respectively. There were no other changes to our estimates during the first six months of fiscal year 2024 that had a significant impact on our financial condition, change in financial condition, liquidity, or results of operations.

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 2023 Form 10-K.

Our net financial instrument position increased from a liability of $8,990.8 at 30 September 2023 to a liability of $12,823.3 at 31 March 2024. The increase was primarily due to the issuance of green senior notes as well as additional borrowings under the project financing associated with the NEOM Green Hydrogen Project as discussed in Note 3, *Variable Interest Entities*, to the consolidated financial statements.

Interest Rate Risk

Our debt portfolio as of 31 March 2024, including the effect of currency and interest rate swap agreements, was composed of 86% fixed-rate debt and 14% variable-rate debt. Our debt portfolio as of 30 September 2023, including the effect of currency and interest rate swap agreements, was composed of 80% fixed-rate debt and 20% variable-rate debt. The increase in fixed-rate debt was primarily driven by the issuance of green senior notes during February 2024.

The sensitivity analysis related to the interest rate risk on the fixed portion of our debt portfolio assumes an instantaneous 100 bp parallel move in interest rates from the level at 31 March 2024, with all other variables held constant. A 100 bp increase in market interest rates would result in a decrease of $1,000 and $728 in the net liability position of financial instruments at 31 March 2024 and 30 September 2023, respectively. A 100 bp decrease in market interest rates would result in an increase of $1,155 and $845 in the net liability position of financial instruments at 31 March 2024 and 30 September 2023, respectively.

There were no material changes to the sensitivity analysis related to the variable portion of our debt portfolio since 30 September 2023.

Foreign Currency Exchange Rate Risk

The sensitivity analysis related to foreign currency exchange rates assumes an instantaneous 10% change in the foreign currency exchange rates from their levels at 31 March 2024, 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 $331 and $308 in the net liability position of financial instruments at 31 March 2024 and 30 September 2023, 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 2024. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that, as of 31 March 2024, 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 2024 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings

In March 2024, a Texas state court entered final judgment in our favor in litigation involving disputed energy management charges related to Winter Storm Uri, a severe winter weather storm that impacted the U.S. Gulf Coast in February 2021. The judgment is subject to appeal and had no impact on our consolidated financial statements during the second quarter and first six months of fiscal year 2024.

Item 5. Other Information

None of the Company's directors or Section 16 reporting officers adopted or terminated any Rule 10b5-1 trading arrangement or non-Rule 10b5-1 trading arrangement (as such terms are defined in Item 408 of Regulation S-K) during the second quarter of fiscal year 2024.

Item 6. Exhibits

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

Exhibit No.	Description
(10)	Material Contracts
10.1	5-Year Revolving Credit Agreement dated as of March 28, 2024 for $3,000,000,000.
10.2	364-Day Revolving Credit Agreement dated as of March 28, 2024 for $500,000,000.
10.3	Indenture, dated as of April 30, 2020, between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated herein by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed on April 30, 2020).
10.4	Form of Officer's Certificate setting forth the terms and forms of the Company's 4.600% Notes due 2029, 4.750% Notes due 2031 and 4.850% Notes due 2034 (incorporated herein by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed on February 8, 2024).
10.5	Form of 4.600% Notes due 2029 (included in Exhibit 10.4).
10.6	Form of 4.750% Notes due 2031 (included in Exhibit 10.4).
10.7	Form of 4.850% Notes due 2034 (included in Exhibit 10.4).
(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 32.1 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/ Melissa N. Schaeffer
Melissa N. Schaeffer
Senior Vice President and Chief Financial Officer
(Principal Financial Officer)

Date: 30 April 2024