

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

FORM 10-Q

(Mark One)



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

For the quarterly period ended March 31, 2023

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 001-32597

CF INDUSTRIES HOLDINGS, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

4 Parkway North

Deerfield, Illinois

(Address of principal executive offices)

20-2697511

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

60015

(Zip Code)

(Registrant's telephone number, including area code): **(847) 405-2400**

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 \$0.01 per share	CF	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 ☒

194,919,933 shares of the registrant's common stock, par value \$0.01 per share, were outstanding at April 28, 2023.

PART I. **Financial Information**

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CF INDUSTRIES HOLDINGS, INC.

PART I—FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS.

CONSOLIDATED STATEMENTS OF OPERATIONS

(Unaudited)

	Three months ended March 31,	
	2023	2022
	(in millions, except per share amounts)	
Net sales	\$ 2,012	\$ 2,868
Cost of sales	1,149	1,170
Gross margin	863	1,698
Selling, general and administrative expenses	74	64
U.K. operations restructuring	2	—
Transaction costs	13	—
Other operating—net	(35)	2
Total other operating costs and expenses	54	66
Equity in earnings of operating affiliate	17	26
Operating earnings	826	1,658
Interest expense	40	241
Interest income	(30)	(36)
Other non-operating—net	(3)	1
Earnings before income taxes	819	1,452
Income tax provision	169	401
Net earnings	650	1,051
Less: Net earnings attributable to noncontrolling interest	90	168
Net earnings attributable to common stockholders	\$ 560	\$ 883
Net earnings per share attributable to common stockholders:		
Basic	\$ 2.86	\$ 4.23
Diluted	\$ 2.85	\$ 4.21
Weighted-average common shares outstanding:		
Basic	196.2	208.6
Diluted	196.9	209.9
Dividends declared per common share	\$ 0.40	\$ 0.30

See accompanying Notes to Unaudited Consolidated Financial Statements.

CF INDUSTRIES HOLDINGS, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)

	Three months ended March 31,	
	2023	2022
	(in millions)	
Net earnings	\$ 650	\$ 1,051
Other comprehensive income (loss):		
Foreign currency translation adjustment—net of taxes	7	(13)
Defined benefit plans—net of taxes	(1)	4
	<u>6</u>	<u>(9)</u>
Comprehensive income	656	1,042
Less: Comprehensive income attributable to noncontrolling interest	90	168
Comprehensive income attributable to common stockholders	<u>\$ 566</u>	<u>\$ 874</u>

See accompanying Notes to Unaudited Consolidated Financial Statements.

CF INDUSTRIES HOLDINGS, INC.
CONSOLIDATED BALANCE SHEETS

	(Unaudited) March 31, 2023	December 31, 2022
	(in millions, except share and per share amounts)	
Assets		
Current assets:		
Cash and cash equivalents	\$ 2,825	\$ 2,323
Accounts receivable—net	482	582
Inventories	430	474
Prepaid income taxes	69	215
Other current assets	42	79
Total current assets	3,848	3,673
Property, plant and equipment—net	6,294	6,437
Investment in affiliate	81	74
Goodwill	2,089	2,089
Operating lease right-of-use assets	288	254
Other assets	798	786
Total assets	<u>\$ 13,398</u>	<u>\$ 13,313</u>
Liabilities and Equity		
Current liabilities:		
Accounts payable and accrued expenses	\$ 452	\$ 575
Income taxes payable	10	3
Customer advances	284	229
Current operating lease liabilities	104	93
Other current liabilities	12	95
Total current liabilities	862	995
Long-term debt	2,966	2,965
Deferred income taxes	933	958
Operating lease liabilities	182	167
Other liabilities	365	375
Equity:		
Stockholders' equity:		
Preferred stock—\$0.01 par value, 50,000,000 shares authorized	—	—
Common stock—\$0.01 par value, 500,000,000 shares authorized, 2023—196,237,302 shares issued and 2022—195,604,404 shares issued	2	2
Paid-in capital	1,424	1,412
Retained earnings	4,348	3,867
Treasury stock—at cost, 2023—1,319,380 shares and 2022—0 shares	(97)	—
Accumulated other comprehensive loss	(224)	(230)
Total stockholders' equity	5,453	5,051
Noncontrolling interest	2,637	2,802
Total equity	8,090	7,853
Total liabilities and equity	<u>\$ 13,398</u>	<u>\$ 13,313</u>

See accompanying Notes to Unaudited Consolidated Financial Statements.

CF INDUSTRIES HOLDINGS, INC.

CONSOLIDATED STATEMENTS OF EQUITY
(Unaudited)

	Common Stockholders								
	\$0.01 Par Value Common Stock	Treasury Stock	Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity	Noncontrolling Interest	Total Equity	
	(in millions, except per share amounts)								
Balance as of December 31, 2022	\$ 2	\$ —	\$ 1,412	\$ 3,867	\$ (230)	\$ 5,051	\$ 2,802	\$ 7,853	
Net earnings	—	—	—	560	—	560	90	650	
Other comprehensive income	—	—	—	—	6	6	—	6	
Purchases of treasury stock	—	(75)	—	—	—	(75)	—	(75)	
Acquisition of treasury stock under employee stock plans	—	(22)	—	—	—	(22)	—	(22)	
Stock-based compensation expense	—	—	12	—	—	12	—	12	
Dividends and dividend equivalents (\$0.40 per share)	—	—	—	(79)	—	(79)	—	(79)	
Distribution declared to noncontrolling interest	—	—	—	—	—	—	(255)	(255)	
Balance as of March 31, 2023	<u>\$ 2</u>	<u>\$ (97)</u>	<u>\$ 1,424</u>	<u>\$ 4,348</u>	<u>\$ (224)</u>	<u>\$ 5,453</u>	<u>\$ 2,637</u>	<u>\$ 8,090</u>	
Balance as of December 31, 2021	\$ 2	\$ (2)	\$ 1,375	\$ 2,088	\$ (257)	\$ 3,206	\$ 2,830	\$ 6,036	
Net earnings	—	—	—	883	—	883	168	1,051	
Other comprehensive loss	—	—	—	—	(9)	(9)	—	(9)	
Purchases of treasury stock	—	(100)	—	—	—	(100)	—	(100)	
Retirement of treasury stock	—	2	—	—	—	2	—	2	
Acquisition of treasury stock under employee stock plans	—	(23)	—	—	—	(23)	—	(23)	
Issuance of \$0.01 par value common stock under employee stock plans	—	—	97	—	—	97	—	97	
Stock-based compensation expense	—	—	10	—	—	10	—	10	
Dividends and dividend equivalents (\$0.30 per share)	—	—	—	(64)	—	(64)	—	(64)	
Distribution declared to noncontrolling interest	—	—	—	—	—	—	(247)	(247)	
Balance as of March 31, 2022	<u>\$ 2</u>	<u>\$ (123)</u>	<u>\$ 1,482</u>	<u>\$ 2,907</u>	<u>\$ (266)</u>	<u>\$ 4,002</u>	<u>\$ 2,751</u>	<u>\$ 6,753</u>	

See accompanying Notes to Unaudited Consolidated Financial Statements.

CF INDUSTRIES HOLDINGS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Three months ended March 31,	
	2023	2022
	(in millions)	
Operating Activities:		
Net earnings	\$ 650	\$ 1,051
Adjustments to reconcile net earnings to net cash provided by operating activities:		
Depreciation and amortization	206	208
Deferred income taxes	(26)	(2)
Stock-based compensation expense	12	10
Unrealized net gain on natural gas derivatives	(72)	(33)
Gain on sale of emission credits	(35)	—
Undistributed earnings of affiliate—net of taxes	(7)	(2)
Changes in:		
Accounts receivable—net	101	(185)
Inventories	39	(66)
Accrued and prepaid income taxes	153	387
Accounts payable and accrued expenses	(135)	76
Customer advances	55	(102)
Other—net	6	49
Net cash provided by operating activities	947	1,391
Investing Activities:		
Additions to property, plant and equipment	(69)	(63)
Proceeds from sale of property, plant and equipment	—	1
Purchase of emission credits	—	(9)
Proceeds from sale of emission credits	35	9
Net cash used in investing activities	(34)	(62)
Financing Activities:		
Financing fees	—	(4)
Dividends paid	(79)	(64)
Distributions to noncontrolling interest	(255)	(247)
Purchases of treasury stock	(54)	(98)
Proceeds from issuances of common stock under employee stock plans	—	97
Cash paid for shares withheld for taxes	(22)	(23)
Net cash used in financing activities	(410)	(339)
Effect of exchange rate changes on cash and cash equivalents	(1)	(1)
Increase in cash and cash equivalents	502	989
Cash and cash equivalents at beginning of period	2,323	1,628
Cash and cash equivalents at end of period	\$ 2,825	\$ 2,617

See accompanying Notes to Unaudited Consolidated Financial Statements.

NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

1. Background and Basis of Presentation

Our mission is to provide clean energy to feed and fuel the world sustainably. With our employees focused on safe and reliable operations, environmental stewardship, and disciplined capital and corporate management, we are on a path to decarbonize our ammonia production network – the world’s largest – to enable green and blue hydrogen and nitrogen products for energy, fertilizer, emissions abatement and other industrial activities. Our nitrogen manufacturing complexes in the United States, Canada and the United Kingdom, an extensive storage, transportation and distribution network in North America, and logistics capabilities enabling a global reach underpin our strategy to leverage our unique capabilities to accelerate the world’s transition to clean energy. Our principal customers are cooperatives, independent fertilizer distributors, traders, wholesalers and industrial users. Our core product is anhydrous ammonia (ammonia), which contains 82% nitrogen and 18% hydrogen. Our nitrogen products that are upgraded from ammonia are granular urea, urea ammonium nitrate solution (UAN) and ammonium nitrate (AN). Our other nitrogen products include diesel exhaust fluid (DEF), urea liquor, nitric acid and aqua ammonia, which are sold primarily to our industrial customers.

All references to “CF Holdings,” “the Company,” “we,” “us” and “our” refer to CF Industries Holdings, Inc. and its subsidiaries, except where the context makes clear that the reference is only to CF Industries Holdings, Inc. itself and not its subsidiaries. All references to “CF Industries” refer to CF Industries, Inc., a 100% owned subsidiary of CF Industries Holdings, Inc.

The accompanying unaudited interim consolidated financial statements have been prepared on the same basis as our audited consolidated financial statements for the year ended December 31, 2022, in accordance with U.S. generally accepted accounting principles (GAAP) for interim financial reporting. In the opinion of management, these statements reflect all adjustments, consisting only of normal and recurring adjustments, that are necessary for the fair representation of the information for the periods presented. The accompanying unaudited interim consolidated financial statements have been prepared pursuant to the rules and regulations of the Securities and Exchange Commission (SEC). Certain information and disclosures normally included in financial statements prepared in accordance with U.S. GAAP have been condensed or omitted pursuant to such rules and regulations. Operating results for any period presented apply to that period only and are not necessarily indicative of results for any future period.

The accompanying unaudited interim consolidated financial statements should be read in conjunction with our audited consolidated financial statements and related disclosures included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, filed with the SEC on February 23, 2023. The preparation of the unaudited interim consolidated financial statements requires us to make use of estimates and assumptions that may significantly affect the reported amounts of assets and liabilities and disclosure of contingent liabilities at the date of the unaudited consolidated financial statements and the reported revenues and expenses for the periods presented. Such estimates and assumptions are used for, but are not limited to, net realizable value of inventories, environmental remediation liabilities, environmental and litigation contingencies, plant closure and asset retirement obligations, the cost of emission credits required to meet environmental regulations, the cost of customer incentives, useful lives of property and identifiable intangible assets, the evaluation of potential impairments of property, investments, identifiable intangible assets and goodwill, income tax reserves and the assessment of the realizability of deferred tax assets, the determination of the funded status and annual expense of defined benefit pension and other postretirement plans and the valuation of stock-based compensation awards granted to employees.

2. Revenue Recognition

We track our revenue by product and by geography. See Note 14—Segment Disclosures for the revenue of each of our reportable segments, which are Ammonia, Granular Urea, UAN, AN and Other. The following table summarizes our revenue by product and by geography (based on destination of our shipment) for the three months ended March 31, 2023 and 2022:

	Ammonia	Granular Urea	UAN	AN	Other	Total
	(in millions)					
Three months ended March 31, 2023						
North America	\$ 330	\$ 575	\$ 519	\$ 74	\$ 126	\$ 1,624
Europe and other	94	36	148	85	25	388
Total revenue	<u>\$ 424</u>	<u>\$ 611</u>	<u>\$ 667</u>	<u>\$ 159</u>	<u>\$ 151</u>	<u>\$ 2,012</u>
Three months ended March 31, 2022						
North America	\$ 583	\$ 736	\$ 1,013	\$ 83	\$ 153	\$ 2,568
Europe and other	57	29	2	140	72	300
Total revenue	<u>\$ 640</u>	<u>\$ 765</u>	<u>\$ 1,015</u>	<u>\$ 223</u>	<u>\$ 225</u>	<u>\$ 2,868</u>

As of March 31, 2023 and December 31, 2022, we had \$284 million and \$229 million, respectively, in customer advances on our consolidated balance sheets. The revenue recognized during the three months ended March 31, 2023 and 2022 that was included in our customer advances at the beginning of each respective period amounted to approximately \$160 million and \$560 million, respectively.

We offer cash incentives to certain customers generally based on the volume of their purchases over the fertilizer year ending June 30. Our cash incentives do not provide an option to the customer for additional product. The balances of customer incentives accrued as of March 31, 2023 and December 31, 2022 were not material.

We have certain customer contracts with performance obligations under which, if the customer does not take the required amount of product specified in the contract, then the customer is required to make a payment to us, the amount of which payment may vary based upon the terms and conditions of the applicable contract. As of March 31, 2023, excluding contracts with original durations of less than one year, and based on the minimum product tonnage to be sold and current market price estimates, our remaining performance obligations under these contracts were approximately \$1.0 billion. We expect to recognize approximately 34% of these performance obligations as revenue in the remainder of 2023, approximately 33% as revenue during 2024-2026, approximately 15% as revenue during 2027-2029, and the remainder thereafter. Subject to the terms and conditions of the applicable contracts, if the customers do not satisfy their purchase obligations under such contracts, the minimum amount that they would be required to pay to us under such contracts, in the aggregate, was approximately \$280 million as of March 31, 2023. Other than the performance obligations described above, any performance obligations with our customers that were unfulfilled or partially fulfilled at December 31, 2022 will be satisfied in 2023.

3. Net Earnings Per Share

Net earnings per share were computed as follows:

	Three months ended March 31,	
	2023	2022
	(in millions, except per share amounts)	
Net earnings attributable to common stockholders	\$ 560	\$ 883
Basic earnings per common share:		
Weighted-average common shares outstanding	196.2	208.6
Net earnings attributable to common stockholders	\$ 2.86	\$ 4.23
Diluted earnings per common share:		
Weighted-average common shares outstanding	196.2	208.6
Dilutive common shares—stock-based awards	0.7	1.3
Diluted weighted-average common shares outstanding	196.9	209.9
Net earnings attributable to common stockholders	\$ 2.85	\$ 4.21

Diluted earnings per common share is calculated using weighted-average common shares outstanding, including the dilutive effect of stock-based awards as determined under the treasury stock method. In the computation of diluted earnings per common share, potentially dilutive stock-based awards are excluded if the effect of their inclusion is anti-dilutive. Shares for anti-dilutive stock-based awards not included in the computation of diluted earnings per common share were zero in both the three months ended March 31, 2023 and 2022.

4. Inventories

Inventories consist of the following:

	March 31, 2023	December 31, 2022
	(in millions)	
Finished goods	\$ 393	\$ 437
Raw materials, spare parts and supplies	37	37
Total inventories	\$ 430	\$ 474

5. Property, Plant and Equipment—Net

Property, plant and equipment—net consists of the following:

	March 31, 2023	December 31, 2022
	(in millions)	
Land	\$ 113	\$ 113
Machinery and equipment	12,672	12,633
Buildings and improvements	920	914
Construction in progress	226	203
Property, plant and equipment ⁽¹⁾	13,931	13,863
Less: Accumulated depreciation and amortization	7,637	7,426
Property, plant and equipment—net	\$ 6,294	\$ 6,437

⁽¹⁾ As of March 31, 2023 and December 31, 2022, we had property, plant and equipment that was accrued but unpaid of approximately \$45 million and \$53 million, respectively. As of March 31, 2022 and December 31, 2021, we had property, plant and equipment that was accrued but unpaid of approximately \$22 million and \$35 million, respectively.

Depreciation and amortization related to property, plant and equipment was \$204 million and \$205 million for the three months ended March 31, 2023 and 2022, respectively.

Plant turnarounds—Scheduled inspections, replacements and overhauls of plant machinery and equipment at our continuous process manufacturing facilities during a full plant shutdown are referred to as plant turnarounds. The expenditures related to turnarounds are capitalized in property, plant and equipment when incurred.

Scheduled replacements and overhauls of plant machinery and equipment during a plant turnaround include the dismantling, repair or replacement and installation of various components including piping, valves, motors, turbines, pumps, compressors and heat exchangers and the replacement of catalysts when a full plant shutdown occurs. Scheduled inspections, including required safety inspections which entail the disassembly of various components such as steam boilers, pressure vessels and other equipment requiring safety certifications, are also conducted during full plant shutdowns. Internal employee costs and overhead amounts are not considered turnaround costs and are not capitalized.

The following is a summary of capitalized plant turnaround costs:

	Three months ended March 31,	
	2023	2022
	(in millions)	
Net capitalized turnaround costs as of January 1	\$ 312	\$ 355
Additions	7	5
Depreciation	(31)	(36)
Effect of exchange rate changes	—	(1)
Net capitalized turnaround costs as of March 31	<u>\$ 288</u>	<u>\$ 323</u>

6. Equity Method Investment

We have a 50% ownership interest in Point Lisas Nitrogen Limited (PLNL), which operates an ammonia production facility in the Republic of Trinidad and Tobago. We include our share of the net earnings from this equity method investment as an element of earnings from operations because PLNL provides additional production to our operations and is integrated with our other supply chain and sales activities in the Ammonia segment.

As of March 31, 2023, the total carrying value of our equity method investment in PLNL was \$81 million, \$34 million more than our share of PLNL's book value. The excess is attributable to the purchase accounting impact of our acquisition of the investment in PLNL and reflects the revaluation of property, plant and equipment. The increased basis for property, plant and equipment is being amortized over a remaining period of approximately 10 years. Our equity in earnings of PLNL is different from our ownership interest in income reported by PLNL due to amortization of this basis difference.

We have transactions in the normal course of business with PLNL reflecting our obligation to purchase 50% of the ammonia produced by PLNL at current market prices. Our ammonia purchases from PLNL totaled \$59 million and \$74 million for the three months ended March 31, 2023 and 2022, respectively.

7. Fair Value Measurements

Our cash and cash equivalents and other investments consist of the following:

March 31, 2023				
	Cost Basis	Unrealized Gains	Unrealized Losses	Fair Value
(in millions)				
Cash	\$ 217	\$ —	\$ —	\$ 217
Cash equivalents:				
U.S. and Canadian government obligations	2,314	—	—	2,314
Other debt securities	294	—	—	294
Total cash and cash equivalents	\$ 2,825	\$ —	\$ —	\$ 2,825
Nonqualified employee benefit trusts	16	1	—	17
December 31, 2022				
	Cost Basis	Unrealized Gains	Unrealized Losses	Fair Value
(in millions)				
Cash	\$ 153	\$ —	\$ —	\$ 153
Cash equivalents:				
U.S. and Canadian government obligations	1,902	—	—	1,902
Other debt securities	268	—	—	268
Total cash and cash equivalents	\$ 2,323	\$ —	\$ —	\$ 2,323
Nonqualified employee benefit trusts	16	—	—	16

Under our short-term investment policy, we may invest our cash balances, either directly or through mutual funds, in several types of investment-grade securities, including notes and bonds issued by governmental entities or corporations. Securities issued by governmental entities include those issued directly by the U.S. and Canadian federal governments; those issued by state, local or other governmental entities; and those guaranteed by entities affiliated with governmental entities.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

The following tables present assets and liabilities included in our consolidated balance sheets as of March 31, 2023 and December 31, 2022 that are recognized at fair value on a recurring basis, and indicate the fair value hierarchy utilized to determine such fair value:

March 31, 2023				
	Total Fair Value	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
(in millions)				
Cash equivalents	\$ 2,608	\$ 2,608	\$ —	\$ —
Nonqualified employee benefit trusts	17	17	—	—
Derivative assets	4	—	4	—
Derivative liabilities	(5)	—	(5)	—

CF INDUSTRIES HOLDINGS, INC.

	December 31, 2022			
	Total Fair Value	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	(in millions)			
Cash equivalents	\$ 2,170	\$ 2,170	\$ —	\$ —
Nonqualified employee benefit trusts	16	16	—	—
Derivative assets	12	—	12	—
Derivative liabilities	(85)	—	(85)	—

Cash Equivalents

Cash equivalents include highly liquid investments that are readily convertible to known amounts of cash with original maturities of three months or less. As of March 31, 2023 and December 31, 2022, our cash equivalents consisted primarily of U.S. and Canadian government obligations and money market mutual funds that invest in U.S. government obligations and other investment-grade securities.

Nonqualified Employee Benefit Trusts

We maintain trusts associated with certain nonqualified supplemental pension plans. The fair values of the trust assets are based on daily quoted prices in an active market, which represent the net asset values of the shares held in the trusts, and are included on our consolidated balance sheets in other assets. Debt securities are accounted for as available-for-sale securities, and changes in fair value are reported in other comprehensive income. Changes in the fair value of available-for-sale equity securities in the trust assets are recognized through earnings.

Derivative Instruments

The derivative instruments that we use are primarily natural gas fixed price swaps, basis swaps and options traded in the over-the-counter markets with multi-national commercial banks, other major financial institutions or large energy companies. The natural gas derivative contracts represent anticipated natural gas needs for future periods and settlements are scheduled to coincide with anticipated natural gas purchases during those future periods. The natural gas derivative contracts settle using primarily a NYMEX futures price index. To determine the fair value of these instruments, we use quoted market prices from NYMEX and standard pricing models with inputs derived from or corroborated by observable market data such as forward curves supplied by an industry-recognized independent third party. See Note 11—Derivative Financial Instruments for additional information.

Financial Instruments

The carrying amount and estimated fair value of our financial instruments are as follows:

	March 31, 2023		December 31, 2022	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
	(in millions)			
Long-term debt	\$ 2,966	\$ 2,770	\$ 2,965	\$ 2,764

The fair value of our long-term debt was based on quoted prices for identical or similar liabilities in markets that are not active or valuation models in which all significant inputs and value drivers are observable and, as a result, they are classified as Level 2 inputs.

The carrying amounts of cash and cash equivalents, as well as instruments included in other current assets and other current liabilities that meet the definition of financial instruments, approximate fair values because of their short-term maturities.

Assets and Liabilities Measured at Fair Value on a Nonrecurring Basis

We also have assets and liabilities that may be measured at fair value on a nonrecurring basis; that is, the assets and liabilities are not measured at fair value on an ongoing basis, but are subject to fair value adjustments in certain circumstances, such as when there is evidence of impairment, when there is allocation of purchase price in an acquisition or when a new liability is being established that requires fair value measurement. These include long-lived assets, goodwill and other

intangible assets and investments in unconsolidated subsidiaries, such as equity method investments, which may be written down to fair value as a result of impairment. The fair value measurements related to each of these rely primarily on Company-specific inputs and the Company's assumptions about the use of the assets. Since certain of the Company's assumptions would involve inputs that are not observable, these fair values would reside within Level 3 of the fair value hierarchy.

8. Income Taxes

For the three months ended March 31, 2023, we recorded an income tax provision of \$169 million on pre-tax income of \$819 million, or an effective tax rate of 20.6%, compared to an income tax provision of \$401 million on pre-tax income of \$1.45 billion, or an effective tax rate of 27.6%, for the three months ended March 31, 2022.

Our effective tax rate is impacted by earnings attributable to the noncontrolling interest in CF Industries Nitrogen, LLC (CFN), as our consolidated income tax provision does not include a tax provision on the earnings attributable to the noncontrolling interest. Our effective tax rate for the three months ended March 31, 2023 of 20.6%, which is based on pre-tax income of \$819 million, including \$90 million of earnings attributable to the noncontrolling interest, would be 2.6 percentage points higher if based on pre-tax income exclusive of the \$90 million of earnings attributable to the noncontrolling interest. Our effective tax rate for the three months ended March 31, 2022 of 27.6%, which is based on pre-tax income of \$1.45 billion, including \$168 million of earnings attributable to the noncontrolling interest, would be 3.7 percentage points higher if based on pre-tax income exclusive of the \$168 million of earnings attributable to the noncontrolling interest.

In addition, for the three months ended March 31, 2022, our income tax provision includes \$20 million of income tax benefit due to share-based compensation activity and \$78 million of income tax provision related to the Canada Revenue Agency Competent Authority Matter and certain transfer pricing reserves recorded in the period, as discussed below.

Canada Revenue Agency Competent Authority Matter

In 2016, the Canada Revenue Agency (CRA) and Alberta Tax and Revenue Administration (Alberta TRA) issued Notices of Reassessment for tax years 2006 through 2009 to one of our Canadian affiliates asserting a disallowance of certain patronage deductions. We filed Notices of Objection with respect to the Notices of Reassessment with the CRA and Alberta TRA and posted letters of credit in lieu of paying the additional tax liability assessed. The letters of credit served as security until the matter was resolved, as discussed below. In 2018, the matter, including the related transfer pricing topic regarding the allocation of profits between Canada and the United States, was accepted for consideration under the bilateral settlement provisions of the U.S.-Canada tax treaty (the Treaty) by the United States and Canadian competent authorities, and included tax years 2006 through 2011. In the second quarter of 2021, the Company submitted the transfer pricing aspect of the matter into the arbitration process under the terms of the Treaty.

In February 2022, we were informed that a decision was reached by the arbitration panel for tax years 2006 through 2011. In March 2022, we received further details of the results of the arbitration proceedings and the settlement provisions between the United States and Canadian competent authorities, and we accepted the decision of the arbitration panel. Under the terms of the arbitration decision, additional income for tax years 2006 through 2011 was subject to tax in Canada, resulting in our having additional Canadian tax liability for those tax years.

In the three months ended March 31, 2022, as a result of the impact of these events on our Canadian and U.S. federal and state income taxes, we recognized an income tax provision of \$76 million, reflecting the net impact of \$127 million of accrued income taxes payable to Canada for tax years 2006 through 2011, partially offset by net income tax receivables of approximately \$51 million in the United States, and we accrued net interest of \$99 million, primarily reflecting the impact of estimated interest payable to Canada.

In the second half of 2022, this tax liability and the related interest were assessed and paid, resulting in total payments of \$224 million, which also reflect the impact of changes in foreign currency exchange rates. As a result, the letters of credit we had posted in lieu of paying the additional tax liability assessed by the Notices of Reassessment were cancelled. Due primarily to the availability of additional foreign tax credits to offset in part the increased Canadian tax referenced above, the Company has filed amended tax returns in the United States to request a refund of taxes paid.

Transfer pricing positions

In the first quarter of 2022, as a result of the outcome of the arbitration decision discussed above, we also evaluated our transfer pricing positions between Canada and the United States for open years 2012 and after. Based on this evaluation for the three months ended March 31, 2022, we recorded the following:

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- liabilities for unrecognized tax benefits of approximately \$319 million, with a corresponding income tax provision, and accrued interest of approximately \$91 million related to the liabilities for unrecognized tax benefits, and
- noncurrent income tax receivables of approximately \$329 million, with a corresponding income tax benefit, and accrued interest income of approximately \$28 million related to the noncurrent income tax receivables.

In the three months ended March 31, 2022, the impact on our consolidated statement of operations of the amounts recorded as a result of this evaluation of transfer pricing positions, including a \$12 million deferred income tax provision for other transfer pricing tax effects, was a \$2 million income tax provision and \$63 million of net interest expense before tax (\$69 million after tax).

9. Financing Agreements

Revolving Credit Agreement

We have a senior unsecured revolving credit agreement (the Revolving Credit Agreement), which provides for a revolving credit facility of up to \$750 million with a maturity of December 5, 2024. The Revolving Credit Agreement includes a letter of credit sub-limit of \$125 million. Borrowings under the Revolving Credit Agreement may be used for working capital, capital expenditures, acquisitions, share repurchases and other general corporate purposes.

Borrowings under the Revolving Credit Agreement may be denominated in U.S. dollars, Canadian dollars, euros and British pounds, and bear interest at a per annum rate equal to, at our option, an applicable eurocurrency rate or base rate plus, in either case, a specified margin. We are required to pay an undrawn commitment fee on the undrawn portion of the commitments under the Revolving Credit Agreement and customary letter of credit fees. The specified margin and the amount of the commitment fee depend on CF Holdings' credit rating at the time.

As of March 31, 2023, we had unused borrowing capacity under the Revolving Credit Agreement of \$750 million and no outstanding letters of credit. There were no borrowings outstanding under the Revolving Credit Agreement as of March 31, 2023 or December 31, 2022, or during the three months ended March 31, 2023.

The Revolving Credit Agreement contains representations and warranties and affirmative and negative covenants, including financial covenants. As of March 31, 2023, we were in compliance with all covenants under the Revolving Credit Agreement.

Letters of Credit

In addition to the letters of credit that may be issued under the Revolving Credit Agreement, as described above, we have also entered into a bilateral agreement with capacity to issue up to \$350 million of letters of credit. As of March 31, 2023, approximately \$201 million of letters of credit were outstanding under this agreement.

Senior Notes

Long-term debt presented on our consolidated balance sheets as of March 31, 2023 and December 31, 2022 consisted of the following debt securities issued by CF Industries:

	Effective Interest Rate	March 31, 2023		December 31, 2022	
		Principal	Carrying Amount ⁽¹⁾	Principal	Carrying Amount ⁽¹⁾
		(in millions)			
Public Senior Notes:					
5.150% due March 2034	5.293%	750	741	750	741
4.950% due June 2043	5.040%	750	742	750	742
5.375% due March 2044	5.478%	750	740	750	740
Senior Secured Notes:					
4.500% due December 2026 ⁽²⁾	4.783%	750	743	750	742
Total long-term debt		\$ 3,000	\$ 2,966	\$ 3,000	\$ 2,965

⁽¹⁾ Carrying amount is net of unamortized debt discount and deferred debt issuance costs. Total unamortized debt discount was \$7 million as of both March 31, 2023 and December 31, 2022, and total deferred debt issuance costs were \$27 million and \$28 million as of March 31, 2023 and December 31, 2022, respectively.

⁽²⁾ Effective August 23, 2021, these notes are no longer secured, in accordance with the terms of the applicable indenture.

Under the indentures (including the applicable supplemental indentures) governing the senior notes due 2034, 2043 and 2044 identified in the table above (the Public Senior Notes), each series of Public Senior Notes is guaranteed by CF Holdings. Under the terms of the indenture governing the 4.500% senior secured notes due December 2026 (the 2026 Notes) identified in the table above, the 2026 Notes are guaranteed by CF Holdings.

Interest on the Public Senior Notes and the 2026 Notes is payable semiannually, and the Public Senior Notes and the 2026 Notes are redeemable at our option, in whole at any time or in part from time to time, at specified make-whole redemption prices.

10. Interest Expense

Details of interest expense are as follows:

	Three months ended March 31,	
	2023	2022
	(in millions)	
Interest on borrowings ⁽¹⁾	\$ 37	\$ 42
Fees on financing agreements ⁽¹⁾	2	2
Interest on tax liabilities ⁽²⁾	2	198
Interest capitalized	(1)	(1)
Total interest expense	\$ 40	\$ 241

⁽¹⁾ See Note 9—Financing Agreements for additional information.

⁽²⁾ See Note 8—Income Taxes for additional information.

11. Derivative Financial Instruments

We use derivative financial instruments to reduce our exposure to changes in prices for natural gas that will be purchased in the future. Natural gas is the largest and most volatile component of our manufacturing cost for nitrogen-based products. From time to time, we may also use derivative financial instruments to reduce our exposure to changes in foreign currency exchange rates. The derivatives that we use to reduce our exposure to changes in prices for natural gas are primarily natural gas fixed price swaps, basis swaps and options traded in the over-the-counter markets. These natural gas derivatives settle using primarily a NYMEX futures price index, which represents the basis for fair value at any given time. We enter into natural gas derivative contracts with respect to natural gas to be consumed by us in the future, and settlements of those derivative contracts are scheduled to coincide with our anticipated purchases of natural gas used to manufacture nitrogen products during those future periods. We use natural gas derivatives as an economic hedge of natural gas price risk, but without the application of hedge accounting. As a result, changes in fair value of these contracts are recognized in earnings. As of March 31, 2023, we had natural gas derivative contracts covering certain periods through March 2024.

As of March 31, 2023, our open natural gas derivative contracts consisted of natural gas fixed price swaps, basis swaps and options for 18.9 million MMBtus of natural gas. As of December 31, 2022, we had open natural gas derivative contracts consisting of natural gas fixed price swaps, basis swaps and options for 66.3 million MMBtus of natural gas. For the three months ended March 31, 2023, we used derivatives to cover approximately 69% of our natural gas consumption.

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The effect of derivatives in our consolidated statements of operations is shown in the table below.

	Location	Gain (loss) recognized in income	
		Three months ended	
		March 31,	
		2023	2022
		(in millions)	
Unrealized net gains on natural gas derivatives	Cost of sales	\$ 72	\$ 33
Realized net (losses) gains on natural gas derivatives	Cost of sales	(118)	17
Net derivative (losses) gains		<u>\$ (46)</u>	<u>\$ 50</u>

The fair values of derivatives on our consolidated balance sheets are shown below. As of March 31, 2023 and December 31, 2022, none of our derivative instruments were designated as hedging instruments. See Note 7—Fair Value Measurements for additional information on derivative fair values.

Asset Derivatives			Liability Derivatives		
Balance Sheet Location	March 31, 2023	December 31, 2022	Balance Sheet Location	March 31, 2023	December 31, 2022
	(in millions)			(in millions)	
Natural gas derivatives	Other current assets	\$ 4	Other current liabilities	\$ (5)	\$ (85)

Most of our International Swaps and Derivatives Association (ISDA) agreements contain credit-risk-related contingent features such as cross default provisions. In the event of certain defaults or termination events, our counterparties may request early termination and net settlement of certain derivative trades, or under certain ISDA agreements, may require us to collateralize derivatives in a net liability position. As of March 31, 2023 and December 31, 2022, the aggregate fair value of the derivative instruments with credit-risk-related contingent features in net liability positions was \$1 million and \$73 million, respectively, which also approximates the fair value of the assets that may be needed to settle the obligations if the credit-risk-related contingent features were triggered at the reporting dates. The credit support documents executed in connection with certain of our ISDA agreements generally provide us and our counterparties the right to set off collateral against amounts owing under the ISDA agreements upon the occurrence of a default or a specified termination event. As of March 31, 2023 and December 31, 2022, we had no cash collateral on deposit with counterparties for derivative contracts.

The following table presents amounts relevant to offsetting of our derivative assets and liabilities as of March 31, 2023 and December 31, 2022:

	Amounts presented in consolidated balance sheets ⁽¹⁾	Gross amounts not offset in consolidated balance sheets		Net amount
		Financial instruments	Cash collateral received (pledged)	
	(in millions)			
March 31, 2023				
Total derivative assets	\$ 4	\$ —	\$ —	\$ 4
Total derivative liabilities	(5)	—	—	(5)
Net derivative liabilities	<u>\$ (1)</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (1)</u>
December 31, 2022				
Total derivative assets	\$ 12	\$ —	\$ —	\$ 12
Total derivative liabilities	(85)	—	—	(85)
Net derivative liabilities	<u>\$ (73)</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ (73)</u>

⁽¹⁾ We report the fair values of our derivative assets and liabilities on a gross basis on our consolidated balance sheets. As a result, the gross amounts recognized and net amounts presented are the same.

We do not believe the contractually allowed netting, close-out netting or setoff of amounts owed to, or due from, the counterparties to our ISDA agreements would have a material effect on our financial position.

12. Noncontrolling Interest

We have a strategic venture with CHS Inc. (CHS) under which CHS owns an equity interest in CFN, a subsidiary of CF Holdings, which represents approximately 11% of the membership interests of CFN. We own the remaining membership interests. Under the terms of CFN's limited liability company agreement, each member's interest will reflect, over time, the impact of the profitability of CFN, any member contributions made to CFN and withdrawals and distributions received from CFN. For financial reporting purposes, the assets, liabilities and earnings of the strategic venture are consolidated into our financial statements. CHS' interest in the strategic venture is recorded in noncontrolling interest in our consolidated financial statements.

A reconciliation of the beginning and ending balances of noncontrolling interest and distributions payable to noncontrolling interest in our consolidated balance sheets is provided below.

	2023	2022
	(in millions)	
Noncontrolling interest:		
Balance as of January 1	\$ 2,802	\$ 2,830
Earnings attributable to noncontrolling interest	90	168
Declaration of distributions payable	(255)	(247)
Balance as of March 31	\$ 2,637	\$ 2,751
Distributions payable to noncontrolling interest:		
Balance as of January 1	\$ —	\$ —
Declaration of distributions payable	255	247
Distributions to noncontrolling interest	(255)	(247)
Balance as of March 31	\$ —	\$ —

CHS also receives deliveries pursuant to a supply agreement under which CHS has the right to purchase annually from CFN up to approximately 1.1 million tons of granular urea and 580,000 tons of UAN at market prices. As a result of its equity interest in CFN, CHS is entitled to semi-annual cash distributions from CFN. We are also entitled to semi-annual cash distributions from CFN. The amounts of distributions from CFN to us and CHS are based generally on the profitability of CFN and determined based on the volume of granular urea and UAN sold by CFN to us and CHS pursuant to supply agreements, less a formula driven amount based primarily on the cost of natural gas used to produce the granular urea and UAN, and adjusted for the allocation of items such as operational efficiencies and overhead amounts.

13. Stockholders' Equity

Common Stock

On November 3, 2021, our Board of Directors (the Board) authorized the repurchase of up to \$1.5 billion of CF Holdings common stock through December 31, 2024 (the 2021 Share Repurchase Program). On November 2, 2022, the Board authorized the repurchase of up to \$3 billion of CF Holdings common stock commencing upon completion of the 2021 Share Repurchase Program and effective through December 31, 2025 (the 2022 Share Repurchase Program). Repurchases under these programs may be made from time to time in the open market, through privately negotiated transactions, through block transactions or otherwise. The manner, timing and amount of repurchases will be determined by our management based on the evaluation of market conditions, stock price, and other factors.

In the three months ended March 31, 2023, we repurchased approximately 1.1 million shares under the 2021 Share Repurchase Program for \$75 million, of which \$21 million was accrued and unpaid as of March 31, 2023. As of March 31, 2023, there was approximately \$80 million of authorization remaining under the 2021 Share Repurchase Program.

In the three months ended March 31, 2022, we repurchased approximately 1.3 million shares under the 2021 Share Repurchase Program for \$100 million and we retired 27,962 shares of repurchased stock, including shares repurchased under the share repurchase program that expired on December 31, 2021.

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Accumulated Other Comprehensive Loss

Changes to accumulated other comprehensive loss and the impact on other comprehensive income (loss) are as follows:

	Foreign Currency Translation Adjustment	Unrealized Gain on Derivatives	Defined Benefit Plans	Accumulated Other Comprehensive Income (Loss)
	(in millions)			
Balance as of December 31, 2021	\$ (141)	\$ 4	\$ (120)	\$ (257)
Reclassification to earnings	—	—	1	1
Effect of exchange rate changes and deferred taxes	(13)	—	3	(10)
Balance as of March 31, 2022	<u>\$ (154)</u>	<u>\$ 4</u>	<u>\$ (116)</u>	<u>\$ (266)</u>
Balance as of December 31, 2022	\$ (179)	\$ 3	\$ (54)	\$ (230)
Effect of exchange rate changes and deferred taxes	7	—	(1)	6
Balance as of March 31, 2023	<u>\$ (172)</u>	<u>\$ 3</u>	<u>\$ (55)</u>	<u>\$ (224)</u>

14. Segment Disclosures

Our reportable segments consist of Ammonia, Granular Urea, UAN, AN and Other. These segments are differentiated by products. Our management uses gross margin to evaluate segment performance and allocate resources. Total other operating costs and expenses (consisting primarily of selling, general and administrative expenses and other operating—net) and non-operating expenses (consisting primarily of interest and income taxes) are centrally managed and are not included in the measurement of segment profitability reviewed by management. Segment data for sales, cost of sales and gross margin for the three months ended March 31, 2023 and 2022 are presented in the table below.

	Ammonia	Granular Urea ⁽¹⁾	UAN ⁽¹⁾	AN ⁽¹⁾	Other ⁽¹⁾	Consolidated
	(in millions)					
Three months ended March 31, 2023						
Net sales	\$ 424	\$ 611	\$ 667	\$ 159	\$ 151	\$ 2,012
Cost of sales	280	327	346	104	92	1,149
Gross margin	<u>\$ 144</u>	<u>\$ 284</u>	<u>\$ 321</u>	<u>\$ 55</u>	<u>\$ 59</u>	<u>863</u>
Total other operating costs and expenses						54
Equity in earnings of operating affiliate						17
Operating earnings						<u>\$ 826</u>
Three months ended March 31, 2022						
Net sales	\$ 640	\$ 765	\$ 1,015	\$ 223	\$ 225	\$ 2,868
Cost of sales	280	270	345	171	104	1,170
Gross margin	<u>\$ 360</u>	<u>\$ 495</u>	<u>\$ 670</u>	<u>\$ 52</u>	<u>\$ 121</u>	<u>1,698</u>
Total other operating costs and expense						66
Equity in earnings of operating affiliate						26
Operating earnings						<u>\$ 1,658</u>

⁽¹⁾ The cost of the products that are upgraded into other products is transferred at cost into the upgraded product results.

15. Agreement To Purchase Ammonia Production Facility

On March 20, 2023, we entered into an asset purchase agreement with Dyno Nobel Louisiana Ammonia, LLC (DNLA), a U.S. subsidiary of Australian-based Incitec Pivot Limited (IPL), and IPL. Under the terms of the agreement, we will purchase DNLA's ammonia production complex located in Waggaman, Louisiana for a purchase price of \$1.675 billion, subject to adjustment. The facility has a nameplate capacity of 880,000 tons of ammonia annually. The parties will allocate \$425 million of the purchase price to a long-term ammonia offtake agreement providing for us to supply up to 200,000 tons of ammonia per year to IPL's Dyno Nobel, Inc. subsidiary. We expect to fund the balance of the purchase price, representing the \$1.675 billion purchase price, as adjusted, less \$425 million, with cash on hand.

The consummation of the transaction is subject to the satisfaction or waiver of customary conditions, including, among others, the expiration or early termination of the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended. The agreement includes certain customary termination rights, including the right of either party to terminate the agreement if the closing has not occurred by March 20, 2025. We have agreed to pay a termination fee of \$75 million if the agreement is terminated in certain circumstances and certain regulatory approvals are not obtained.

ITEM 2. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

You should read the following discussion and analysis in conjunction with our annual consolidated financial statements and related notes and our discussion and analysis of financial condition and results of operations that were included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, filed with the Securities and Exchange Commission (SEC) on February 23, 2023, as well as Item 1. Financial Statements in Part I of this Quarterly Report on Form 10-Q. All references to “CF Holdings,” “we,” “us,” “our” and “the Company” refer to CF Industries Holdings, Inc. and its subsidiaries, except where the context makes clear that the reference is to CF Industries Holdings, Inc. only and not its subsidiaries. All references to “CF Industries” refer to CF Industries, Inc., a 100% owned subsidiary of CF Industries Holdings, Inc. References to tons refer to short tons, and references to tonnes refer to metric tons. Notes referenced in this discussion and analysis refer to the notes to our unaudited interim consolidated financial statements in Item 1. Financial Statements in Part I of this Quarterly Report on Form 10-Q. The following is an outline of the discussion and analysis included herein:

- *Overview of CF Holdings*
- *Agreement to Purchase Ammonia Production Facility*
- *Market Conditions*
- *Financial Executive Summary*
- *Items Affecting Comparability of Results*
- *Consolidated Results of Operations*
- *Operating Results by Business Segment*
- *Liquidity and Capital Resources*
- *Critical Accounting Estimates*
- *Forward-Looking Statements*

Overview of CF Holdings**Our Company**

Our mission is to provide clean energy to feed and fuel the world sustainably. With our employees focused on safe and reliable operations, environmental stewardship, and disciplined capital and corporate management, we are on a path to decarbonize our ammonia production network – the world’s largest – to enable green and blue hydrogen and nitrogen products for energy, fertilizer, emissions abatement and other industrial activities. Our nitrogen manufacturing complexes in the United States, Canada and the United Kingdom, an extensive storage, transportation and distribution network in North America, and logistics capabilities enabling a global reach underpin our strategy to leverage our unique capabilities to accelerate the world’s transition to clean energy. Our principal customers are cooperatives, independent fertilizer distributors, traders, wholesalers and industrial users. Our core product is anhydrous ammonia (ammonia), which contains 82% nitrogen and 18% hydrogen. Our nitrogen products that are upgraded from ammonia are granular urea, urea ammonium nitrate solution (UAN) and ammonium nitrate (AN). Our other nitrogen products include diesel exhaust fluid (DEF), urea liquor, nitric acid and aqua ammonia, which are sold primarily to our industrial customers.

Our principal assets as of March 31, 2023 include:

- five U.S. nitrogen manufacturing facilities located in Donaldsonville, Louisiana (the largest nitrogen complex in the world); Sergeant Bluff, Iowa (our Port Neal complex); Yazoo City, Mississippi; Claremore, Oklahoma (our Verdigris complex); and Woodward, Oklahoma. These facilities are wholly owned directly or indirectly by CF Industries Nitrogen, LLC (CFN), of which we own approximately 89% and CHS Inc. (CHS) owns the remainder (see Note 12—Noncontrolling Interest for additional information on our strategic venture with CHS);
- two Canadian nitrogen manufacturing facilities located in Medicine Hat, Alberta (the largest nitrogen complex in Canada) and Courtright, Ontario;
- a United Kingdom nitrogen manufacturing facility located in Billingham;
- an extensive system of terminals and associated transportation equipment located primarily in the Midwestern United States; and

- a 50% interest in Point Lisas Nitrogen Limited (PLNL), an ammonia production joint venture located in the Republic of Trinidad and Tobago (Trinidad) that we account for under the equity method.

We previously operated a United Kingdom nitrogen manufacturing facility located in Ince. In June 2022, we approved and announced our proposed plan to restructure our U.K. operations, including the permanent closure of our Ince facility. In August 2022, the final restructuring plan was approved, and decommissioning activities were initiated.

Our Commitment to a Clean Energy Economy

We are taking significant steps to support a global hydrogen and clean fuel economy, through the production of green and blue ammonia. Since ammonia is one of the most efficient ways to transport and store hydrogen and is also a fuel in its own right, we believe that the Company, as the world's largest producer of ammonia with an unparalleled manufacturing and distribution network and deep technical expertise, is uniquely positioned to fulfill anticipated demand for hydrogen and ammonia from green and blue sources. Our approach includes green ammonia production, which refers to ammonia produced through a carbon-free process, and blue ammonia production, which relates to ammonia produced by conventional processes but with CO₂ byproduct removed through carbon capture and sequestration (CCS).

In April 2021, we signed an engineering and procurement contract with thyssenkrupp to supply a 20 MW alkaline water electrolysis plant to produce green hydrogen at our Donaldsonville complex. Construction and installation, which is being managed by us, is expected to finish in late 2023, with an estimated total cost of approximately \$100 million. We will integrate the green hydrogen generated by the electrolysis plant into existing ammonia synthesis loops to enable the production of approximately 20,000 tons per year of green ammonia. We believe that the Donaldsonville green ammonia project will be the largest of its kind in North America at the time of its startup.

In July 2022, we and Mitsui & Co., Ltd. (Mitsui) signed a joint development agreement for the companies' proposed plans to construct an export-oriented blue ammonia facility. We and Mitsui continue to progress a front-end engineering and design (FEED) study for the project, and expect to make a final investment decision on the proposed facility in the second half of 2023. Should the companies agree to move forward, the ammonia facility would be constructed at our new Blue Point complex. We own the land for the complex, which is located on the west bank of the Mississippi river in Ascension Parish, Louisiana. Construction and commissioning of a new world-scale ammonia plant typically takes approximately four years from the time construction begins.

In the first quarter of 2023, we signed a memorandum of understanding (MOU) with JERA Co., Inc. (JERA), Japan's largest energy generator, regarding the long-term supply of up to 500,000 tonnes per year of clean ammonia beginning in 2027. The execution of the MOU was the result of a supplier comparison and evaluation process for the procurement of clean ammonia that JERA initiated in February 2022 for the world's first commercial scale ammonia co-firing operations that JERA is developing. The MOU establishes a framework for JERA and us to assess how we would best supply JERA with clean ammonia, which will be required to be produced with at least 60% lower carbon emissions than conventionally produced ammonia, under a long-term offtake agreement. We and JERA expect to evaluate a range of potential supply options, including JERA making an equity investment with us to develop a clean ammonia facility in Louisiana and a supplementary long-term offtake agreement.

In the first quarter of 2023, we signed an MOU with LOTTE CHEMICAL Corporation (LOTTE), a global chemicals company in South Korea. The MOU will guide LOTTE and us in a joint exploration of the development of clean ammonia production in the United States, in addition to the quantification of expected clean ammonia demand in South Korea and long-term clean ammonia offtake volumes into South Korea.

We are also pursuing opportunities to produce blue ammonia from our existing ammonia production network. We are currently executing a project with an estimated cost of \$200 million to construct a CO₂ dehydration and compression facility at our Donaldsonville complex to enable the transport and permanent sequestration of the ammonia process CO₂ byproduct. Engineering activities and procurement of major equipment for the facility are in progress, and modification of the site's existing equipment to allow integration with existing operations has begun. Once the dehydration and compression unit is in service and sequestration is initiated, we expect that the Donaldsonville complex will have the capacity to dehydrate and compress up to 2 million tons per year of CO₂, enabling the production of blue ammonia. In October 2022, we announced that we had entered into a definitive CO₂ offtake agreement with ExxonMobil to transport and permanently sequester CO₂ from Donaldsonville. Start-up for the project is planned for 2025. Under current regulations, the project would be expected to qualify for tax credits under Section 45Q of the Internal Revenue Code, which provides a credit per tonne of CO₂ sequestered.

Agreement to Purchase Ammonia Production Facility

On March 20, 2023, we entered into an asset purchase agreement with Dyno Nobel Louisiana Ammonia, LLC (DNLA), a U.S. subsidiary of Australian-based Incitec Pivot Limited (IPL), and IPL. Under the terms of the agreement, we will purchase DNLA's ammonia production complex located in Waggaman, Louisiana for a purchase price of \$1.675 billion, subject to adjustment. The facility has a nameplate capacity of 880,000 tons of ammonia annually. The parties will allocate \$425 million of the purchase price to a long-term ammonia offtake agreement providing for us to supply up to 200,000 tons of ammonia per year to IPL's Dyno Nobel, Inc. subsidiary. We expect to fund the balance of the purchase price, representing the \$1.675 billion purchase price, as adjusted, less \$425 million, with cash on hand.

The consummation of the transaction is subject to the satisfaction or waiver of customary conditions, including, among others, the expiration or early termination of the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended. The agreement includes certain customary termination rights, including the right of either party to terminate the agreement if the closing has not occurred by March 20, 2025. We have agreed to pay a termination fee of \$75 million if the agreement is terminated in certain circumstances and certain regulatory approvals are not obtained.

Market Conditions

Geopolitical Environment

Changes in the geopolitical environment can have significant effects on our financial results. Russia's invasion of Ukraine in February 2022, and the resulting war between Russia and Ukraine, disrupted global markets for certain commodities, including natural gas, nitrogen fertilizers and certain commodity grains, leading to production curtailments, export reductions and logistical complications involving these commodities. Additionally, energy, financial and transportation sanctions were announced by U.S., Canadian, European and other governments against Russia in response to the war. During 2022 and continuing into 2023, market participants adjusted trade flows and manufacturers adjusted production levels in response to these factors. As of the date of filing of this report, nitrogen fertilizers have largely been explicitly exempted from Russian sanctions by the United States and certain other governments.

As further described below, natural gas is the principal raw material used to produce our nitrogen products. Natural gas is a globally traded commodity that experiences price fluctuations based on supply and demand balances and has been impacted by geopolitical events relating to the war between Russia and Ukraine. European energy markets, which have historically sourced a substantial portion of their natural gas from Russia, were disrupted by Russia's invasion of Ukraine and the subsequent reduction of Russian natural gas supply to Europe during 2022. This led to further increases in natural gas prices and natural gas price volatility, which in turn led to disruptions in manufacturing and distribution activities at other nitrogen manufacturers and suppliers in our industry, resulting in changes in nitrogen product trade flows and reductions in global fertilizer supply. In September 2022, in response to the high prices for natural gas in the United Kingdom, we temporarily idled ammonia production at our Billingham complex and since that time have been importing ammonia from one of our North American manufacturing facilities or from purchases in the open market for upgrade into AN and other nitrogen products at that location.

The geopolitical developments relating to the war in Ukraine also led to some supply chain disruptions for Russian producers of fertilizer, contributing to reduced global nitrogen fertilizer supply. Prior to its February 2022 invasion of Ukraine, Russia in recent years had been a significant supplier of nitrogen fertilizer products to North America and Europe and a leading exporter of nitrogen fertilizer products globally. Since that invasion, the closure of a pipeline historically transporting ammonia from Russia through Ukraine for export has been a large contributor to reduced global exportable ammonia supply. In addition, Russia and Ukraine have been large exporters of commodity grains such as wheat, corn and soybeans. The direct and indirect impacts of the war in Ukraine, and the related uncertainty, resulted in reduced commodity grain supply from Russia and Ukraine, causing increased prices for grains globally. The increase in commodity grain prices in turn supported strong demand for nitrogen fertilizer in 2022. All of these geopolitical developments further contributed to an already tight global supply and demand balance for nitrogen fertilizers. These factors caused changes in global trade flows as both manufacturers and customers reacted to the changing market dynamics. As a result, global nitrogen fertilizer prices remained high and also experienced significant volatility in 2022.

As Russian-sourced natural gas supply declined due to geopolitical factors, European purchasers of natural gas increased imports from the liquified natural gas (LNG) market to build storage levels leading up to the winter 2022/2023 peak demand season. As storage levels of natural gas increased due to the increased LNG imports, in conjunction with a warmer than expected winter in Europe, prices for natural gas first stabilized and then fell as the first quarter of 2023 progressed. As natural gas prices decreased, certain nitrogen producers restarted previously idled production, leading to an increase in global nitrogen production operating rates. The increased nitrogen product supply availability resulting from the increase in operating rates, in

addition to new global production coming on line and an increase in Russian imports into North America, resulted in lower average selling prices in the first quarter of 2023 compared to average selling prices realized in 2022.

Nitrogen Selling Prices

Our nitrogen products are globally traded commodities with selling prices that fluctuate in response to global market conditions, changes in supply and demand, and other cost factors including domestic and local conditions. Intense global competition—reflected in import volumes and prices—strongly influences delivered prices for nitrogen fertilizers. In general, the prevailing global prices for nitrogen products must be at a level to incent the high cost marginal producer to produce product at a breakeven or above price, or else they would cease production and leave a portion of global demand unsatisfied.

In the first quarter of 2023, the average selling price for our products was \$444 per ton, a decrease of 28% compared to \$620 per ton in the first quarter of 2022, reflecting lower average selling prices across all our segments, which drove a decrease in net sales of approximately \$804 million for the first quarter of 2023 compared to the first quarter of 2022. The decrease in average selling prices reflects the impact of an increase in global supply availability as lower global energy costs drove higher global operating rates. In addition, higher average selling prices in 2022 were driven in part by the geopolitical environment experienced in 2022, as described above.

Natural Gas

Natural gas is the principal raw material used to produce our nitrogen products. Natural gas is both a chemical feedstock and a fuel used to produce nitrogen products. Natural gas is a significant cost component of our manufactured nitrogen products, representing approximately 50% of our production costs in both the first three months of 2023 and in the year ended December 31, 2022.

The following table presents the average daily market price of natural gas at the Henry Hub, the most heavily-traded natural gas pricing point in North America, and the National Balancing Point (NBP), the major trading point for natural gas in the United Kingdom:

	Three Months Ended March 31,			
	2023	2022	2023 v. 2022	
Natural gas supplemental data (per MMBtu)				
Average daily market price of natural gas Henry Hub (Louisiana)	\$ 2.68	\$ 4.60	\$ (1.92)	(42)%
Average daily market price of natural gas National Balancing Point (United Kingdom)	\$ 16.20	\$ 30.20	\$ (14.00)	(46)%

Most of our nitrogen manufacturing facilities are located in the United States and Canada. As a result, the price of natural gas in North America directly impacts a substantial portion of our operating expenses. North American natural gas prices were lower on average during the first three months of 2023 than during the first three months of 2022. Warmer-than-normal temperatures in the first quarter of 2023 drove lower heating demand for natural gas, while North American supply remained strong, as there were few weather-related disruptions. In addition, although the higher cost for natural gas outside of North America incentivized liquefaction facilities in the United States to export domestic natural gas during the first quarter of 2023, the ongoing outage at the Freeport LNG facility limited total gas exports, supporting domestic supply. As a result, North American gas withdrawals from storage during the first quarter of 2023 were lower than normal, leading to end-of-quarter storage levels that were 32% higher than one year ago and 20% higher than the five-year average. For the first three weeks of April 2023, the average daily market price of natural gas at the Henry Hub was \$2.11 per MMBtu.

Our Billingham U.K. nitrogen manufacturing facility is subject to fluctuations associated with the price of natural gas in Europe. Russia's invasion of Ukraine in February 2022 disrupted European energy markets and threatened security of supply, driving natural gas prices in Europe upward to unprecedented levels. During the first quarter of 2023, Europe benefited from warmer-than-normal temperatures along with increased LNG imports, which were used to fill local storage capacity, decreasing the risk of natural gas shortage. This resulted in lower natural gas prices in the United Kingdom during the first quarter of 2023, despite lower European natural gas imports from Russia. Throughout the first quarter of 2023, storage levels remained well above historical averages, putting the market in a strong position to refill stocks in preparation for the next winter season and contributing to lower prices. For the three months ended March 31, 2023, the daily closing price at the NBP reached a low of \$11.00 per MMBtu on March 21, 2023 and a high of \$21.51 per MMBtu on two consecutive days in January 2023. For the first three weeks of April 2023, the average daily market price of natural gas at the NBP was \$12.84 per MMBtu.

In the first quarter of 2023, our cost of natural gas used for production, which includes the impact of realized natural gas derivatives, increased 2% to \$6.62 per MMBtu from \$6.48 per MMBtu in the first quarter of 2022. This increase in natural gas costs resulted in a decrease in gross margin of approximately \$28 million compared to the first quarter 2022. The higher cost of

natural gas reflects the impact of losses realized on natural gas derivatives that settled during the first quarter of 2023. In 2022, in response to high North American natural gas prices and continued price volatility, we entered into certain natural gas derivatives in order to reduce our exposure to further natural gas price volatility in the winter of 2022/2023.

Financial Executive Summary

We reported net earnings attributable to common stockholders of \$560 million for the three months ended March 31, 2023 compared to \$883 million for the three months ended March 31, 2022, a decrease in net earnings of \$323 million. The decrease in net earnings for the three months ended March 31, 2023 compared to the three months ended March 31, 2022 reflects a decrease of \$835 million in gross margin to \$863 million for the three months ended March 31, 2023. The decrease in gross margin was due primarily to a decrease of 28% in average selling prices to \$444 per ton in the first quarter of 2023 from \$620 per ton in the first quarter of 2022, which decreased gross margin by \$804 million. Lower gross margin was partially offset by a decrease in interest expense of \$201 million due primarily to interest expense on tax liabilities related to Canadian-U.S. transfer pricing matters in the first quarter of 2022 that did not recur in 2023 and a decrease in the income tax provision of \$232 million due primarily to lower earnings in the first quarter of 2023.

Diluted net earnings per share attributable to common stockholders decreased \$1.36 per share, to \$2.85 per share, in the first quarter of 2023 compared to \$4.21 per share in the first quarter of 2022 due primarily to lower net earnings, partially offset by lower weighted-average common shares outstanding as a result of shares repurchased under our share repurchase program.

Items Affecting Comparability of Results

For the three months ended March 31, 2023 and 2022, we reported net earnings attributable to common stockholders of \$560 million and \$883 million, respectively. In addition to the impact of market conditions discussed above, certain items affected the comparability of our financial results for the three months ended March 31, 2023 and 2022. The following table and related discussion outline these items and their impact on the comparability of our financial results for these periods. The descriptions of items below that refer to amounts in the table refer to the pre-tax amounts unless otherwise noted.

	Three Months Ended March 31,			
	2023		2022	
	Pre-Tax	After-Tax	Pre-Tax	After-Tax
	(in millions)			
Unrealized net mark-to-market gain on natural gas derivatives ⁽¹⁾	\$ (72)	\$ (55)	\$ (33)	\$ (25)
(Gain) loss on foreign currency transactions, including intercompany loans ⁽²⁾	(1)	(1)	6	5
U.K. operations restructuring	2	2	—	—
Transaction costs related to acquisition agreement	13	10	—	—
<i>Canada Revenue Agency Competent Authority Matter and transfer pricing positions:</i>				
Interest expense	—	—	198	196
Interest income	—	—	(36)	(28)
Income tax provision ⁽³⁾	—	—	—	72

⁽¹⁾ Included in cost of sales in our consolidated statements of operations.

⁽²⁾ Included in other operating—net in our consolidated statements of operations.

⁽³⁾ For the three months ended March 31, 2022, the after-tax income tax provision amount of \$72 million reflects an income tax provision of \$78 million, consisting of the \$76 million income tax provision referenced below under “Canada Revenue Agency Competent Authority Matter” and the \$2 million of income tax provision referenced below under “Transfer pricing positions,” net of \$6 million of income tax provision that is reflected in the after-tax interest expense and interest income amounts shown in this table.

Unrealized net mark-to-market gain on natural gas derivatives

Natural gas is the largest and most volatile single component of the manufacturing cost for our nitrogen-based products. At certain times, we have managed the risk of changes in natural gas prices through the use of derivative financial instruments. The derivatives that we use for this purpose are primarily natural gas fixed price swaps, basis swaps and options. We use natural gas derivatives as an economic hedge of natural gas price risk, but without the application of hedge accounting. This can result in volatility in reported earnings due to the unrealized mark-to-market adjustments that occur from changes in the value of the derivatives, which are reflected in cost of sales in our consolidated statements of operations. In the three months ended March 31, 2023 and 2022, we recognized unrealized net mark-to-market gains of \$72 million and \$33 million, respectively.

(Gain) loss on foreign currency transactions, including intercompany loans

In the three months ended March 31, 2023 and 2022, we recognized a (gain) loss on foreign currency transactions of \$(1) million and \$6 million, respectively. Gains and losses on foreign currency transactions consist of foreign currency exchange rate impacts on foreign currency denominated transactions, including the impact of changes in foreign currency exchange rates on intercompany loans that were not permanently invested.

U.K. operations restructuring

In the three months ended March 31, 2023, we incurred restructuring costs of \$2 million related to the permanent closure of our Ince facility.

Transaction costs related to acquisition agreement

On March 20, 2023, we entered into an asset purchase agreement with DNLA and IPL to acquire DNLA's ammonia production complex located in Waggaman, Louisiana, as described above under "Agreement to Purchase Ammonia Production Facility." In the three months ended March 31, 2023, we incurred \$13 million of transaction costs related to the acquisition agreement.

Canada Revenue Agency Competent Authority Matter

In 2016, the Canada Revenue Agency (CRA) and Alberta Tax and Revenue Administration (Alberta TRA) issued Notices of Reassessment for tax years 2006 through 2009 to one of our Canadian affiliates asserting a disallowance of certain patronage deductions. We filed Notices of Objection with respect to the Notices of Reassessment with the CRA and Alberta TRA and posted letters of credit in lieu of paying the additional tax liability assessed. The letters of credit served as security until the matter was resolved. In 2018, the matter, including the related transfer pricing topic regarding the allocation of profits between Canada and the United States, was accepted for consideration under the bilateral settlement provisions of the U.S.-Canada tax treaty (the Treaty) by the United States and Canadian competent authorities, and included tax years 2006 through 2011. In the second quarter of 2021, the Company submitted the transfer pricing aspect of the matter into the arbitration process under the terms of the Treaty.

In February 2022, we were informed that a decision was reached by the arbitration panel for tax years 2006 through 2011. In March 2022, we received further details of the results of the arbitration proceedings and the settlement provisions between the United States and Canadian competent authorities, and we accepted the decision of the arbitration panel. Under the terms of the arbitration decision, additional income for tax years 2006 through 2011 was subject to tax in Canada, resulting in our having additional Canadian tax liability for those tax years. See Note 8—Income Taxes for additional information.

In the three months ended March 31, 2022, as a result of the impact of these events on our Canadian and U.S. federal and state income taxes, we recognized an income tax provision of \$76 million, reflecting the net impact of \$127 million of accrued income taxes payable to Canada for tax years 2006 through 2011, partially offset by net income tax receivables of approximately \$51 million in the United States, and we accrued net interest of \$99 million, primarily reflecting the impact of estimated interest payable to Canada.

Transfer pricing positions

In the first quarter of 2022, as a result of the outcome of the arbitration decision discussed above, we also evaluated our transfer pricing positions between Canada and the United States for open years 2012 and after. Based on this evaluation, we recorded the following:

- liabilities for unrecognized tax benefits of \$319 million, with a corresponding income tax provision, and accrued interest of \$91 million related to the liabilities for unrecognized tax benefits, and
- noncurrent income tax receivables of \$329 million, with a corresponding income tax benefit, and accrued interest income of \$28 million related to the noncurrent income tax receivables.

In the three months ended March 31, 2022, the impact of this evaluation of transfer pricing positions on our consolidated statement of operations, including a \$12 million deferred income tax provision for other transfer pricing tax effects, was a \$2 million income tax provision and \$63 million of net interest expense before tax (\$69 million after tax).

CF INDUSTRIES HOLDINGS, INC.

Consolidated Results of Operations

The following table presents our consolidated results of operations and supplemental data:

	Three Months Ended March 31,			
	2023	2022	2023 v. 2022	
	(in millions, except per share and per MMBtu)			
Net sales	\$ 2,012	\$ 2,868	\$ (856)	(30)%
Cost of sales	1,149	1,170	(21)	(2)%
Gross margin	863	1,698	(835)	(49)%
Gross margin percentage	42.9 %	59.2 %	(16.3)%	
Selling, general and administrative expenses	74	64	10	16 %
U.K. operations restructuring	2	—	2	N/M
Transaction costs	13	—	13	N/M
Other operating—net	(35)	2	(37)	N/M
Total other operating costs and expenses	54	66	(12)	(18)%
Equity in earnings of operating affiliate	17	26	(9)	(35)%
Operating earnings	826	1,658	(832)	(50)%
Interest expense—net	10	205	(195)	(95)%
Other non-operating—net	(3)	1	(4)	N/M
Earnings before income taxes	819	1,452	(633)	(44)%
Income tax provision	169	401	(232)	(58)%
Net earnings	650	1,051	(401)	(38)%
Less: Net earnings attributable to noncontrolling interest	90	168	(78)	(46)%
Net earnings attributable to common stockholders	\$ 560	\$ 883	\$ (323)	(37)%
Diluted net earnings per share attributable to common stockholders	\$ 2.85	\$ 4.21	\$ (1.36)	(32)%
Diluted weighted-average common shares outstanding	196.9	209.9	(13.0)	(6)%
Dividends declared per common share	\$ 0.40	\$ 0.30	\$ 0.10	33 %
Natural gas supplemental data (per MMBtu)				
Natural gas costs in cost of sales ⁽¹⁾	\$ 5.14	\$ 6.70	\$ (1.56)	(23)%
Realized derivatives loss (gain) in cost of sales ⁽²⁾	1.48	(0.22)	1.70	N/M
Cost of natural gas used for production in cost of sales	\$ 6.62	\$ 6.48	\$ 0.14	2 %
Average daily market price of natural gas Henry Hub (Louisiana)	\$ 2.68	\$ 4.60	\$ (1.92)	(42)%
Average daily market price of natural gas National Balancing Point (United Kingdom)	\$ 16.20	\$ 30.20	\$ (14.00)	(46)%
Unrealized net mark-to-market gain on natural gas derivatives	\$ (72)	\$ (33)	\$ (39)	(118)%
Depreciation and amortization	\$ 206	\$ 208	\$ (2)	(1)%
Capital expenditures	\$ 69	\$ 63	\$ 6	10 %
Sales volume by product tons (000s)	4,535	4,624	(89)	(2)%
Production volume by product tons (000s):				
Ammonia ⁽³⁾	2,359	2,613	(254)	(10)%
Granular urea	1,211	1,074	137	13 %
UAN (32%)	1,598	1,865	(267)	(14)%
AN	388	405	(17)	(4)%

N/M—Not Meaningful

⁽¹⁾ Includes the cost of natural gas used for production and related transportation that is included in cost of sales during the period under the first-in, first-out inventory cost method.

⁽²⁾ Includes realized gains and losses on natural gas derivatives settled during the period. Excludes unrealized mark-to-market gains and losses on natural gas derivatives.

⁽³⁾ Gross ammonia production, including amounts subsequently upgraded on-site into granular urea, UAN, or AN.

First Quarter of 2023 Compared to First Quarter of 2022***Net Sales***

Our total net sales decreased \$856 million, or 30%, to \$2.01 billion in the first quarter of 2023 compared to \$2.87 billion in the first quarter of 2022 due to decreases in average selling prices and sales volume.

Our average selling price was \$444 per ton in the first quarter of 2023, or 28% lower compared to \$620 per ton in the first quarter of 2022, due to lower average selling prices across all of our segments, primarily driven by an increase in global supply availability as lower global energy costs drove higher global operating rates.

Our total sales volume of 4.5 million product tons in the first quarter of 2023 was 2% lower compared to 4.6 million product tons in the first quarter of 2022, as lower sales volume in our UAN, Ammonia, AN and Other segments was partially offset by higher sales volume in our Granular Urea segment.

Cost of Sales

Our total cost of sales decreased \$21 million, or 2%, to \$1.15 billion in the first quarter of 2023 from \$1.17 billion in the first quarter of 2022. The decrease in our cost of sales was due primarily to a decrease in sales volume of 2%, which decreased cost of sales by \$30 million, and lower costs for ammonia purchased from PLNL, our joint venture in Trinidad. The factors that decreased cost of sales were partially offset by higher costs for natural gas, including the impact of realized derivatives, which increased cost of sales by \$28 million, and higher costs for imported ammonia for our operations in the United Kingdom. Higher costs for natural gas were due primarily to losses on natural gas derivatives settled in the first quarter of 2023, partially offset by lower costs for natural gas in the United Kingdom as we imported ammonia for upgrading to AN.

Cost of sales also includes the impact of a \$72 million unrealized net mark-to-market gain on natural gas derivatives in the first quarter of 2023 compared to a \$33 million gain in the first quarter of 2022.

Cost of sales averaged \$254 per ton in the first quarter of 2023 compared to \$253 per ton in the first quarter of 2022. The cost of natural gas used for production includes the impact of natural gas derivatives used to reduce the volatility of natural gas prices. The cost of natural gas increased 2% to \$6.62 per MMBtu in the first quarter of 2023 from \$6.48 per MMBtu in the first quarter of 2022. The higher cost of natural gas reflects the impact of losses realized on natural gas derivatives that settled during the first quarter of 2023. In 2022, in response to high North American natural gas prices and continued price volatility, we entered into certain natural gas derivatives in order to reduce our exposure to further natural gas price volatility in the winter of 2022/2023.

Selling, General and Administrative Expenses

Selling, general and administrative expenses increased \$10 million to \$74 million in the first quarter of 2023 as compared to \$64 million in the first quarter of 2022. The increase was due primarily to higher costs related to certain corporate initiatives, including amortization of our recently implemented enterprise resource planning (ERP) system, and higher salaries and incentive compensation.

Transaction Costs

On March 20, 2023, we entered into an asset purchase agreement with DNLA and IPL to acquire DNLA's ammonia production complex located in Waggaman, Louisiana, as described above under "Agreement to Purchase Ammonia Production Facility." In the three months ended March 31, 2023, we incurred \$13 million of transaction costs related to the acquisition agreement.

Other Operating—Net

Other operating—net was \$35 million of income in the first quarter of 2023 compared to \$2 million of expense in the first quarter of 2022. The \$35 million of income in the first quarter of 2023 consists primarily of a gain on sales of emission credits.

Equity in Earnings of Operating Affiliate

Equity in earnings of operating affiliate was \$17 million in the first quarter of 2023 compared to \$26 million in the first quarter of 2022. The decrease was due primarily to a decrease in the operating results of PLNL as a result of lower ammonia selling prices, partially offset by lower natural gas costs.

Interest Expense—Net

Net interest expense was \$10 million in the first quarter of 2023 compared to \$205 million in the first quarter of 2022. The decrease of \$195 million was due primarily to \$162 million of net interest expense recorded in the first quarter of 2022 related to income tax matters, which are described under “Items Affecting Comparability of Results—Canada Revenue Agency Competent Authority Matter” and “Items Affecting Comparability of Results—Transfer pricing positions,” above. In addition, the decrease in net interest expense was due to higher interest income on investments and lower interest expense on borrowings due to the redemption of \$500 million principal amount of 3.450% senior notes due June 2023 in April 2022 prior to their scheduled maturity.

Income Taxes

For the three months ended March 31, 2023, we recorded an income tax provision of \$169 million on pre-tax income of \$819 million, or an effective tax rate of 20.6%, compared to an income tax provision of \$401 million on a pre-tax income of \$1.45 billion, or an effective tax rate of 27.6%, for the three months ended March 31, 2022.

Our effective tax rate is impacted by earnings attributable to the noncontrolling interest in CFN, as our consolidated income tax provision does not include a tax provision on the earnings attributable to the noncontrolling interest. Our effective tax rate for the three months ended March 31, 2023 of 20.6%, which is based on pre-tax income of \$819 million, including \$90 million of earnings attributable to the noncontrolling interest, would be 2.6 percentage points higher, or 23.2%, if based on pre-tax income exclusive of the \$90 million of earnings attributable to the noncontrolling interest. Our effective tax rate for the three months ended March 31, 2022 of 27.6%, which is based on pre-tax income of \$1.45 billion, including \$168 million of earnings attributable to the noncontrolling interest, would be 3.7 percentage points higher, or 31.3%, if based on pre-tax income exclusive of the \$168 million of earnings attributable to the noncontrolling interest. See Note 12—Noncontrolling Interest for additional information.

In addition, for the three months ended March 31, 2022, our income tax provision includes \$20 million of income tax benefit due to share-based compensation activity and \$78 million of income tax provision related to the Canada Revenue Agency Competent Authority Matter and certain transfer pricing reserves recorded in the period, which are described above under “Items Affecting Comparability of Results.”

Net Earnings Attributable to Noncontrolling Interest

Net earnings attributable to noncontrolling interest decreased \$78 million to \$90 million in the first quarter of 2023 compared to \$168 million in the first quarter of 2022 due to lower earnings of CFN driven by lower average selling prices as described above under “Net Sales.”

Diluted Net Earnings Per Share Attributable to Common Stockholders

Net earnings per share attributable to common stockholders decreased \$1.36 to \$2.85 per diluted share in the first quarter of 2023 from \$4.21 per diluted share in the first quarter of 2022. This decrease was due primarily to a decrease in gross margin, driven by lower average selling prices. Lower gross margin was partially offset by a decrease in interest expense due primarily to interest expense on tax liabilities in the first quarter of 2022 related to Canadian-U.S. transfer pricing matters and a decrease in the income tax provision resulting from lower profitability. Additionally, diluted weighted-average common shares outstanding declined 6% from 209.9 million shares for the three months ended March 31, 2022 to 196.9 million shares for the three months ended March 31, 2023, due primarily to repurchases of common shares under our share repurchase program.

CF INDUSTRIES HOLDINGS, INC.

Operating Results by Business Segment

Our reportable segments consist of Ammonia, Granular Urea, UAN, AN and Other. These segments are differentiated by products. Our management uses gross margin to evaluate segment performance and allocate resources. Total other operating costs and expenses (consisting primarily of selling, general and administrative expenses and other operating—net) and non-operating expenses (consisting primarily of interest and income taxes), are centrally managed and are not included in the measurement of segment profitability reviewed by management. The following table presents summary operating results by business segment:

	Ammonia	Granular Urea ⁽¹⁾	UAN ⁽¹⁾	AN ⁽¹⁾	Other ⁽¹⁾	Consolidated
	(in millions)					
Three months ended March 31, 2023						
Net sales	\$ 424	\$ 611	\$ 667	\$ 159	\$ 151	\$ 2,012
Cost of sales	280	327	346	104	92	1,149
Gross margin	<u>\$ 144</u>	<u>\$ 284</u>	<u>\$ 321</u>	<u>\$ 55</u>	<u>\$ 59</u>	<u>\$ 863</u>
Gross margin percentage	34.0 %	46.5 %	48.1 %	34.6 %	39.1 %	42.9 %
Three months ended March 31, 2022						
Net sales	\$ 640	\$ 765	\$ 1,015	\$ 223	\$ 225	\$ 2,868
Cost of sales	280	270	345	171	104	1,170
Gross margin	<u>\$ 360</u>	<u>\$ 495</u>	<u>\$ 670</u>	<u>\$ 52</u>	<u>\$ 121</u>	<u>\$ 1,698</u>
Gross margin percentage	56.3 %	64.7 %	66.0 %	23.3 %	53.8 %	59.2 %

⁽¹⁾ The cost of the products that are upgraded into other products is transferred at cost into the upgraded product results.

Ammonia Segment

Our Ammonia segment produces anhydrous ammonia (ammonia), which is the base product that we manufacture, containing 82% nitrogen and 18% hydrogen. The results of our Ammonia segment consist of sales of ammonia to external customers for its nitrogen content as a fertilizer, in emissions control and in other industrial applications. In addition, we upgrade ammonia into other nitrogen products such as granular urea, UAN and AN.

The following table presents summary operating data for our Ammonia segment:

	Three Months Ended March 31,			
	2023	2022	2023 v. 2022	
	(dollars in millions, except per ton amounts)			
Net sales	\$ 424	\$ 640	\$ (216)	(34)%
Cost of sales	280	280	—	— %
Gross margin	<u>\$ 144</u>	<u>\$ 360</u>	<u>\$ (216)</u>	<u>(60)%</u>
Gross margin percentage	34.0 %	56.3 %	(22.3)%	
Sales volume by product tons (000s)	652	727	(75)	(10)%
Sales volume by nutrient tons (000s) ⁽¹⁾	535	596	(61)	(10)%
Average selling price per product ton	\$ 650	\$ 880	\$ (230)	(26)%
Average selling price per nutrient ton ⁽¹⁾	\$ 793	\$ 1,074	\$ (281)	(26)%
Gross margin per product ton	\$ 221	\$ 495	\$ (274)	(55)%
Gross margin per nutrient ton ⁽¹⁾	\$ 269	\$ 604	\$ (335)	(55)%
Depreciation and amortization	\$ 31	\$ 34	\$ (3)	(9)%
Unrealized net mark-to-market gain on natural gas derivatives	\$ (21)	\$ (8)	\$ (13)	(163)%

⁽¹⁾ Ammonia represents 82% nitrogen content. Nutrient tons represent the tons of nitrogen within the product tons.

First Quarter of 2023 Compared to First Quarter of 2022

Net Sales. Net sales in our Ammonia segment decreased by \$216 million, or 34%, to \$424 million in the first quarter of 2023 from \$640 million in the first quarter of 2022 due to a 26% decrease in average selling prices and a 10% decrease in sales volume. Average selling prices decreased to \$650 per ton in the first quarter of 2023 compared to \$880 per ton in the first quarter of 2022 due primarily to an increase in global supply availability as lower global energy costs drove higher global operating rates. Sales volume was lower due primarily to lower demand compared to a robust ammonia sales environment in the first quarter of 2022.

Cost of Sales. Cost of sales in our Ammonia segment averaged \$429 per ton in the first quarter of 2023, an 11% increase from \$385 per ton in the first quarter of 2022. The increase was due primarily to higher realized natural gas costs, including the impact of realized derivatives, partially offset by a lower cost per ton for purchased ammonia from PLNL, our joint venture in Trinidad.

Gross Margin. Gross margin in our Ammonia segment decreased by \$216 million to \$144 million in the first quarter of 2023 from \$360 million in the first quarter of 2022, and our gross margin percentage was 34.0% in the first quarter of 2023 compared to 56.3% in the first quarter of 2022. The decrease in gross margin was due primarily to a 26% decrease in average selling prices, which decreased gross margin by \$144 million, a 10% decrease in sales volume, which decreased gross margin by \$63 million, and an increase in realized natural gas costs, including the impact of realized derivatives, which reduced gross margin by \$47 million. The factors that decreased gross margin were partially offset by a \$25 million net decrease in manufacturing, maintenance and other costs, driven by lower purchased product costs. Gross margin also includes the impact of a \$21 million unrealized net mark-to-market gain on natural gas derivatives in the first quarter of 2023 compared to an \$8 million gain in the first quarter of 2022.

Granular Urea Segment

Our Granular Urea segment produces granular urea, which contains 46% nitrogen. Produced from ammonia and carbon dioxide, it has the highest nitrogen content of any of our solid nitrogen fertilizers. Granular urea is produced at our Donaldsonville, Port Neal and Medicine Hat nitrogen complexes.

The following table presents summary operating data for our Granular Urea segment:

	Three Months Ended March 31,			
	2023	2022	2023 v. 2022	
	(dollars in millions, except per ton amounts)			
Net sales	\$ 611	\$ 765	\$ (154)	(20)%
Cost of sales	327	270	57	21 %
Gross margin	<u>\$ 284</u>	<u>\$ 495</u>	<u>\$ (211)</u>	(43)%
Gross margin percentage	46.5 %	64.7 %	(18.2)%	
Sales volume by product tons (000s)	1,323	1,096	227	21 %
Sales volume by nutrient tons (000s) ⁽¹⁾	608	504	104	21 %
Average selling price per product ton	\$ 462	\$ 698	\$ (236)	(34)%
Average selling price per nutrient ton ⁽¹⁾	\$ 1,005	\$ 1,518	\$ (513)	(34)%
Gross margin per product ton	\$ 215	\$ 452	\$ (237)	(52)%
Gross margin per nutrient ton ⁽¹⁾	\$ 467	\$ 982	\$ (515)	(52)%
Depreciation and amortization	\$ 79	\$ 64	\$ 15	23 %
Unrealized net mark-to-market gain on natural gas derivatives	\$ (20)	\$ (7)	\$ (13)	(186)%

⁽¹⁾ Granular urea represents 46% nitrogen content. Nutrient tons represent the tons of nitrogen within the product tons.

First Quarter of 2023 Compared to First Quarter of 2022

Net Sales. Net sales in our Granular Urea segment decreased \$154 million, or 20%, to \$611 million in the first quarter of 2023 from \$765 million in the first quarter of 2022 due primarily to a 34% decrease in average selling prices, partially offset by a 21% increase in sales volume. Average selling prices decreased to \$462 per ton in the first quarter of 2023 compared to \$698 per ton in the first quarter of 2022 due primarily to an increase in global supply availability as lower global energy costs drove higher global operating rates, and an increase in global supply availability resulting from new global production coming online. Sales volume was higher due primarily to greater supply availability resulting from higher production.

Cost of Sales. Cost of sales in our Granular Urea segment averaged \$247 per ton in the first quarter of 2023 compared to \$246 per ton in the first quarter of 2022, as higher realized natural gas costs, including the impact of realized derivatives, were partially offset by the impact of lower production costs.

Gross Margin. Gross margin in our Granular Urea segment decreased by \$211 million to \$284 million in the first quarter of 2023 from \$495 million in the first quarter of 2022, and our gross margin percentage was 46.5% in the first quarter of 2023 compared to 64.7% in the first quarter of 2022. The decrease in gross margin was due primarily to a 34% decrease in average selling prices, which decreased gross margin by \$313 million, and an increase in realized natural gas costs, including the impact of realized derivatives, which reduced gross margin by \$19 million. The factors that reduced gross margin were partially offset by a 21% increase in sales volume, which increased gross margin by \$104 million, and a \$4 million net decrease in manufacturing, maintenance and other costs. Gross margin also includes the impact of a \$20 million unrealized net mark-to-market gain on natural gas derivatives in the first quarter of 2023 compared to a \$7 million gain in the first quarter of 2022.

UAN Segment

Our UAN segment produces urea ammonium nitrate solution (UAN). UAN, a liquid fertilizer product with a nitrogen content that typically ranges from 28% to 32%, is produced by combining urea and ammonium nitrate. UAN is produced at our Courtright, Donaldsonville, Port Neal, Verdigris, Woodward and Yazoo City nitrogen complexes.

The following table presents summary operating data for our UAN segment:

	Three Months Ended March 31,			
	2023	2022	2023 v. 2022	
	(dollars in millions, except per ton amounts)			
Net sales	\$ 667	\$ 1,015	\$ (348)	(34)%
Cost of sales	346	345	1	— %
Gross margin	<u>\$ 321</u>	<u>\$ 670</u>	<u>\$ (349)</u>	(52)%
Gross margin percentage	48.1 %	66.0 %	(17.9)%	
Sales volume by product tons (000s)	1,662	1,828	(166)	(9)%
Sales volume by nutrient tons (000s) ⁽¹⁾	524	576	(52)	(9)%
Average selling price per product ton	\$ 401	\$ 555	\$ (154)	(28)%
Average selling price per nutrient ton ⁽¹⁾	\$ 1,273	\$ 1,762	\$ (489)	(28)%
Gross margin per product ton	\$ 193	\$ 367	\$ (174)	(47)%
Gross margin per nutrient ton ⁽¹⁾	\$ 613	\$ 1,163	\$ (550)	(47)%
Depreciation and amortization	\$ 66	\$ 70	\$ (4)	(6)%
Unrealized net mark-to-market gain on natural gas derivatives	\$ (21)	\$ (8)	\$ (13)	(163)%

⁽¹⁾ UAN represents between 28% and 32% of nitrogen content. Nutrient tons represent the tons of nitrogen within the product tons.

First Quarter of 2023 Compared to First Quarter of 2022

Net Sales. Net sales in our UAN segment decreased \$348 million, or 34%, to \$667 million in the first quarter of 2023 from \$1.02 billion in the first quarter of 2022 due to a 28% decrease in average selling prices and a 9% decrease in sales volume. Average selling prices decreased to \$401 per ton in the first quarter of 2023 compared to \$555 per ton in the first quarter of 2022 due primarily to an increase in global supply availability as lower global energy costs drove higher global operating rates. Sales volume was lower due primarily to lower supply availability resulting from a decrease in production.

Cost of Sales. Cost of sales in our UAN segment averaged \$208 per ton in the first quarter of 2023, an 11% increase from \$188 per ton in the first quarter of 2022, due primarily to the impact of higher realized natural gas costs, including the impact of realized derivatives, and higher production costs.

Gross Margin. Gross margin in our UAN segment decreased by \$349 million to \$321 million in the first quarter of 2023 from \$670 million in the first quarter of 2022, and our gross margin percentage was 48.1% in the first quarter of 2023 compared to 66.0% in the first quarter of 2022. The decrease in gross margin was due primarily to a 28% decrease in average selling prices, which decreased gross margin by \$259 million, a 9% decrease in sales volume, which decreased gross margin by \$63 million, an increase in realized natural gas costs, including the impact of realized derivatives, which reduced gross margin by \$29 million, and a net increase in manufacturing, maintenance and other costs, which reduced gross margin by \$11 million. Gross margin also includes the impact of a \$21 million unrealized net mark-to-market gain on natural gas derivatives in the first quarter of 2023 compared to an \$8 million gain in the first quarter of 2022.

AN Segment

Our AN segment produces ammonium nitrate (AN). AN, which has a nitrogen content between 29% and 35%, is produced by combining anhydrous ammonia and nitric acid. AN is used as nitrogen fertilizer and is also used by industrial customers for commercial explosives and blasting systems. AN is produced at our Yazoo City and Billingham nitrogen complexes.

The following table presents summary operating data for our AN segment:

	Three Months Ended March 31,			
	2023	2022	2023 v. 2022	
	(dollars in millions, except per ton amounts)			
Net sales	\$ 159	\$ 223	\$ (64)	(29)%
Cost of sales	104	171	(67)	(39)%
Gross margin	<u>\$ 55</u>	<u>\$ 52</u>	<u>\$ 3</u>	6 %
Gross margin percentage	34.6 %	23.3 %	11.3 %	
Sales volume by product tons (000s)	374	428	(54)	(13)%
Sales volume by nutrient tons (000s) ⁽¹⁾	128	146	(18)	(12)%
Average selling price per product ton	\$ 425	\$ 521	\$ (96)	(18)%
Average selling price per nutrient ton ⁽¹⁾	\$ 1,242	\$ 1,527	\$ (285)	(19)%
Gross margin per product ton	\$ 147	\$ 121	\$ 26	21 %
Gross margin per nutrient ton ⁽¹⁾	\$ 430	\$ 356	\$ 74	21 %
Depreciation and amortization	\$ 11	\$ 17	\$ (6)	(35)%
Unrealized net mark-to-market gain on natural gas derivatives	\$ (3)	\$ (6)	\$ 3	50 %

⁽¹⁾ AN represents between 29% and 35% of nitrogen content. Nutrient tons represent the tons of nitrogen within the product tons.

First Quarter of 2023 Compared to First Quarter of 2022

In September 2022, as a result of extremely high and volatile natural gas prices and the lack of a corresponding increase in global nitrogen product market prices, we temporarily idled ammonia production at our Billingham complex. Since that time, we have imported ammonia for upgrade into AN and other nitrogen products at that location.

Net Sales. Net sales in our AN segment decreased \$64 million, or 29%, to \$159 million in the first quarter of 2023 from \$223 million in the first quarter of 2022 due to an 18% decrease in average selling prices and a 13% decrease in sales volume. Average selling prices decreased to \$425 per ton in the first quarter of 2023 compared to \$521 per ton in the first quarter of 2022 due primarily to an increase in global supply availability as lower global energy costs drove higher global operating rates. Sales volume declined due primarily to weak domestic demand in the United Kingdom.

Cost of Sales. Cost of sales in our AN segment averaged \$278 per ton in the first quarter of 2023, a 31% decrease from \$400 per ton in the first quarter of 2022. The decrease was due primarily to lower production costs in the first quarter of 2023 as purchased ammonia was used for upgrading into AN as compared to the higher-cost natural gas used to produce ammonia to upgrade into AN in the first quarter of 2022.

Gross Margin. Gross margin in our AN segment increased \$3 million to \$55 million in the first quarter of 2023 from \$52 million in the first quarter of 2022, and our gross margin percentage was 34.6% in the first quarter of 2023 compared to 23.3% in the first quarter of 2022. The increase in gross margin reflects the following:

- a decrease in realized natural gas costs, due primarily to the idling of the Billingham ammonia plant, which increased gross margin by \$55 million, partially offset by a net increase of \$25 million in manufacturing, maintenance and other costs, driven by the cost for purchased ammonia for upgrade, partially offset by lower production costs;
- favorable location product mix, which increased gross margin by \$2 million;
- a decrease in average selling prices of 18%, which decreased gross margin by \$26 million; and

- the impact of a \$3 million unrealized net mark-to-market gain on natural gas derivatives in the first quarter of 2023 compared to a \$6 million gain in the first quarter of 2022.

Other Segment

Our Other segment primarily includes the following products:

- diesel exhaust fluid (DEF), an aqueous urea solution typically made with 32.5% or 50% high-purity urea and the remainder deionized water;
- urea liquor, a liquid product that we sell in concentrations of 40%, 50% and 70% urea as a chemical intermediate and
- nitric acid, a nitrogen-based mineral acid that is used in the production of nitrate-based fertilizers, nylon precursors and other specialty chemicals.

The following table presents summary operating data for our Other segment:

	Three Months Ended March 31,			
	2023	2022	2023 v. 2022	
	(dollars in millions, except per ton amounts)			
Net sales	\$ 151	\$ 225	\$ (74)	(33)%
Cost of sales	92	104	(12)	(12)%
Gross margin	<u>\$ 59</u>	<u>\$ 121</u>	<u>\$ (62)</u>	<u>(51)%</u>
Gross margin percentage	39.1 %	53.8 %	(14.7)%	
Sales volume by product tons (000s)	524	545	(21)	(4)%
Sales volume by nutrient tons (000s) ⁽¹⁾	103	104	(1)	(1)%
Average selling price per product ton	\$ 288	\$ 413	\$ (125)	(30)%
Average selling price per nutrient ton ⁽¹⁾	\$ 1,466	\$ 2,163	\$ (697)	(32)%
Gross margin per product ton	\$ 113	\$ 222	\$ (109)	(49)%
Gross margin per nutrient ton ⁽¹⁾	\$ 573	\$ 1,163	\$ (590)	(51)%
Depreciation and amortization	\$ 16	\$ 19	\$ (3)	(16)%
Unrealized net mark-to-market gain on natural gas derivatives	\$ (7)	\$ (4)	\$ (3)	(75)%

⁽¹⁾ Nutrient tons represent the tons of nitrogen within the product tons.

First Quarter of 2023 Compared to First Quarter of 2022

In June 2022, we approved and announced our proposed plan to restructure our U.K. operations, including the planned permanent closure of our Ince facility. In August 2022, the final restructuring plan was approved, and decommissioning activities were initiated. We produced compound fertilizer products (NPKs), which are solid granular fertilizer products for which the nutrient content is a combination of nitrogen, phosphorus and potassium, only at our Ince facility, and closure of this facility resulted in our discontinuation of the NPK product line.

In September 2022, as a result of extremely high and volatile natural gas prices and the lack of a corresponding increase in global nitrogen product market prices, we temporarily idled ammonia production at our Billingham complex. Since that time, we have imported ammonia for upgrade into AN and other nitrogen products at that location.

Net Sales. Net sales in our Other segment decreased by \$74 million, or 33%, to \$151 million in the first quarter of 2023 from \$225 million in the first quarter of 2022 due to a 30% decrease in average selling prices and a 4% decrease in sales volume. The decrease in average selling prices was due primarily to an increase in global supply availability as lower global energy costs drove higher global operating rates. The decrease in sales volume was due primarily to lower nitric acid and NPK sales volumes in the first quarter of 2023, partially offset by higher DEF sales volumes.

Cost of Sales. Cost of sales in our Other segment averaged \$175 per ton in the first quarter of 2023, an 8% decrease from \$191 per ton in the first quarter of 2022, due primarily to the idling of the Billingham ammonia plant and its usage of purchased ammonia for upgrading, and lower other manufacturing costs.

Gross Margin. Gross margin in our Other segment decreased by \$62 million to \$59 million in the first quarter of 2023 from \$121 million in the first quarter of 2022, and our gross margin percentage was 39.1% in the first quarter of 2023 compared to 53.8% in the first quarter of 2022. The decrease in gross margin reflects the following:

- a decrease in average selling prices of 30%, which decreased gross margin by \$62 million;
- a net increase of \$13 million in manufacturing, maintenance and other costs, driven by the cost for purchased ammonia for upgrade, partially offset by lower production costs, which net increase was partially offset by a decrease in realized natural gas costs, due primarily to the idling of the Billingham ammonia plant, which increased gross margin by \$12 million;
- a decrease in sales volume of 4%, which decreased gross margin by \$2 million; and
- the impact of a \$7 million unrealized net mark-to-market gain on natural gas derivatives in the first quarter of 2023 compared to a \$4 million gain in the first quarter of 2022.

Liquidity and Capital Resources

Our primary uses of cash are generally for operating costs, working capital, capital expenditures, debt service, investments, taxes, share repurchases, and dividends. Our working capital requirements are affected by several factors, including demand for our products, selling prices, raw material costs, freight costs and seasonal factors inherent in the business. We may also utilize our cash to fund acquisitions. In addition, we may from time to time seek to retire or purchase our outstanding debt through cash purchases, in open market or privately negotiated transactions or otherwise. Such repurchases, if any, will depend on prevailing market conditions, our liquidity requirements, contractual restrictions and other factors. The amounts involved may be material.

Generally, our primary source of cash is cash from operations, which includes cash generated by customer advances. We may also from time to time access the capital markets or engage in borrowings under our revolving credit agreement.

As of March 31, 2023, our cash and cash equivalents balance was \$2.83 billion, an increase of \$502 million from \$2.32 billion at December 31, 2022. At March 31, 2023, we were in compliance with all applicable covenant requirements under our revolving credit agreement and senior notes, and unused borrowing capacity under our revolving credit agreement was \$750 million.

Cash Equivalents

Cash equivalents include highly liquid investments that are readily convertible to known amounts of cash with original maturities of three months or less. Under our short-term investment policy, we may invest our cash balances, either directly or through mutual funds, in several types of investment-grade securities, including notes and bonds issued by governmental entities or corporations. Securities issued by governmental entities include those issued directly by the U.S. and Canadian federal governments; those issued by state, local or other governmental entities; and those guaranteed by entities affiliated with governmental entities.

Share Repurchase Programs

On November 3, 2021, our Board of Directors (the Board) authorized the repurchase of up to \$1.5 billion of CF Holdings common stock through December 31, 2024 (the 2021 Share Repurchase Program). On November 2, 2022, the Board authorized the repurchase of up to \$3 billion of CF Holdings common stock commencing upon completion of the 2021 Share Repurchase Program and effective through December 31, 2025 (the 2022 Share Repurchase Program). Repurchases under our share repurchase programs may be made from time to time in the open market, through privately negotiated transactions, through block transactions or otherwise. The manner, timing and amount of repurchases will be determined by our management based on the evaluation of market conditions, stock price, and other factors. Shares repurchased, including those repurchased under share repurchase programs, are retired as approved by the Board.

In the three months ended March 31, 2023, we repurchased approximately 1.1 million shares under the 2021 Share Repurchase Program for \$75 million, of which \$21 million was accrued and unpaid as of March 31, 2023. As of March 31, 2023, there was approximately \$80 million of authorization remaining under the 2021 Share Repurchase Program.

Capital Spending

We make capital expenditures to sustain our asset base, increase our capacity or capabilities, improve plant efficiency, comply with various environmental, health and safety requirements, and invest in our clean energy strategy. Capital expenditures totaled \$69 million in the first three months of 2023 compared to \$63 million in the first three months of 2022.

We currently anticipate that capital expenditures for the full year 2023 will be in the range of \$500 to \$550 million, which includes capital expenditures related to green and blue ammonia projects. Planned capital expenditures are generally subject to change due to delays in regulatory approvals or permitting, unanticipated increases in cost, changes in scope and completion time, performance of third parties, delays in the receipt of equipment, adverse weather, defects in materials and workmanship, labor or material shortages, transportation constraints, acceleration or delays in the timing of the work and other unforeseen difficulties.

Agreement to Purchase Ammonia Production Facility

On March 20, 2023, we entered into an asset purchase agreement with DNLA and IPL. Under the terms of the agreement, we will purchase DNLA's ammonia production complex located in Waggaman, Louisiana for a purchase price of \$1.675 billion, subject to adjustment. The facility has a nameplate capacity of 880,000 tons of ammonia annually. The parties will allocate \$425 million of the purchase price to a long-term ammonia offtake agreement providing for us to supply up to

200,000 tons of ammonia per year to IPL's Dyno Nobel, Inc. subsidiary. We expect to fund the balance of the purchase price, representing the \$1.675 billion purchase price, as adjusted, less \$425 million, with cash on hand.

The consummation of the transaction is subject to the satisfaction or waiver of customary conditions, including, among others, the expiration or early termination of the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended. The agreement includes certain customary termination rights, including the right of either party to terminate the agreement if the closing has not occurred by March 20, 2025. We have agreed to pay a termination fee of \$75 million if the agreement is terminated in certain circumstances and certain regulatory approvals are not obtained.

United Kingdom Operations

During the third quarter of 2021, the United Kingdom began experiencing an energy crisis that included a substantial increase in the price of natural gas, which impacted our U.K. operations. On September 15, 2021, we announced the halt of operations at both our Ince and Billingham manufacturing facilities in the United Kingdom due to negative profitability driven by the high cost of natural gas. Shortly thereafter, our Billingham facility resumed operations.

In June 2022, we approved and announced our proposed plan to restructure our U.K. operations, including the permanent closure of our Ince facility and optimization of the remaining manufacturing operations at the Billingham facility. In August 2022, the final restructuring plan was approved, and decommissioning activities were initiated.

In September 2022, as a result of extremely high and volatile natural gas prices and the lack of a corresponding increase in global nitrogen product market prices, we temporarily idled ammonia production at our Billingham complex.

Production of AN and other nitrogen products continues at our Billingham facility using imported ammonia, a portion of which is imported from our other ammonia production sites. There remains uncertainty regarding the future cost of natural gas and electricity, selling prices for the products we produce in the United Kingdom and U.K. government policy, which could necessitate, among other things, additional funding to support the cash needs of our U.K. operations and recognition of further losses and could have a material adverse impact on our results of operations and cash flows.

Debt

Revolving Credit Agreement

We have a senior unsecured revolving credit agreement (the Revolving Credit Agreement), which provides for a revolving credit facility of up to \$750 million with a maturity of December 5, 2024. The Revolving Credit Agreement includes a letter of credit sub-limit of \$125 million. Borrowings under the Revolving Credit Agreement may be used for working capital, capital expenditures, acquisitions, share repurchases and other general corporate purposes. CF Industries is the lead borrower, and CF Holdings is the sole guarantor, under the Revolving Credit Agreement.

Borrowings under the Revolving Credit Agreement may be denominated in U.S. dollars, Canadian dollars, euros and British pounds, and bear interest at a per annum rate equal to an applicable eurocurrency rate or base rate plus, in either case, a specified margin. We are required to pay an undrawn commitment fee on the undrawn portion of the commitments under the Revolving Credit Agreement and customary letter of credit fees. The specified margin and the amount of the commitment fee depend on CF Holdings' credit rating at the time.

As of March 31, 2023, we had unused borrowing capacity under the Revolving Credit Agreement of \$750 million and no outstanding letters of credit. There were no borrowings outstanding under the Revolving Credit Agreement as of March 31, 2023 or December 31, 2022, or during the three months ended March 31, 2023.

The Revolving Credit Agreement contains representations and warranties and affirmative and negative covenants, including financial covenants. As of March 31, 2023, we were in compliance with all covenants under the Revolving Credit Agreement.

Letters of Credit

In addition to the letters of credit that may be issued under the Revolving Credit Agreement, as described above, we have also entered into a bilateral agreement with capacity to issue up to \$350 million of letters of credit. As of March 31, 2023, approximately \$201 million of letters of credit were outstanding under this agreement.

CF INDUSTRIES HOLDINGS, INC.

Senior Notes

Long-term debt presented on our consolidated balance sheets as of March 31, 2023 and December 31, 2022 consisted of the following debt securities issued by CF Industries:

		March 31, 2023		December 31, 2022	
	Effective Interest Rate	Principal	Carrying Amount ⁽¹⁾	Principal	Carrying Amount ⁽¹⁾
		(in millions)			
Public Senior Notes:					
5.150% due March 2034	5.293%	\$ 750	\$ 741	\$ 750	\$ 741
4.950% due June 2043	5.040%	750	742	750	742
5.375% due March 2044	5.478%	750	740	750	740
Senior Secured Notes:					
4.500% due December 2026 ⁽²⁾	4.783%	750	743	750	742
Total long-term debt		\$ 3,000	\$ 2,966	\$ 3,000	\$ 2,965

⁽¹⁾ Carrying amount is net of unamortized debt discount and deferred debt issuance costs. Total unamortized debt discount was \$7 million as of both March 31, 2023 and December 31, 2022, and total deferred debt issuance costs were \$27 million and \$28 million as of March 31, 2023 and December 31, 2022, respectively.

⁽²⁾ Effective August 23, 2021, these notes are no longer secured, in accordance with the terms of the applicable indenture.

Under the terms of the indentures (including the applicable supplemental indentures) governing our senior notes due 2034, 2043 and 2044 identified in the table above (the Public Senior Notes), each series of Public Senior Notes is guaranteed by CF Holdings.

Under the terms of the indenture governing the 4.500% senior secured notes due 2026 (the 2026 Notes), the 2026 Notes are guaranteed by CF Holdings. Until August 23, 2021, the 2026 Notes were guaranteed by CF Holdings and certain subsidiaries of CF Industries. The requirement for subsidiary guarantees of the 2026 Notes was eliminated, and all subsidiary guarantees were automatically released, as a result of an investment grade rating event under the terms of the indenture governing the 2026 Notes on August 23, 2021. Prior to the investment grade rating event, subject to certain exceptions, the obligations under the 2026 Notes and related guarantees were secured by a first priority security interest in collateral consisting of substantially all of the assets of CF Industries, CF Holdings and the subsidiary guarantors. As a result of the investment grade rating event, the liens on the collateral securing the obligations under the 2026 Notes and related guarantees were automatically released on August 23, 2021, and the indenture covenant that had limited dispositions of assets constituting collateral no longer applies.

Interest on the Public Senior Notes and the 2026 Notes is payable semiannually, and the Public Senior Notes and the 2026 Notes are redeemable at our option, in whole at any time or in part from time to time, at specified make-whole redemption prices.

Forward Sales and Customer Advances

We offer our customers the opportunity to purchase products from us on a forward basis at prices and on delivery dates we propose. Therefore, our reported fertilizer selling prices and margins may differ from market spot prices and margins available at the time of shipment.

Customer advances, which typically represent a portion of the contract's value, are received shortly after the contract is executed, with any remaining unpaid amount generally being collected by the time control transfers to the customer, thereby reducing or eliminating the accounts receivable related to such sales. Any cash payments received in advance from customers in connection with forward sales contracts are reflected on our consolidated balance sheets as a current liability until control transfers and revenue is recognized. As of March 31, 2023 and December 31, 2022, we had \$284 million and \$229 million, respectively, in customer advances on our consolidated balance sheets.

While customer advances are generally a significant source of liquidity, the level of forward sales contracts is affected by many factors including current market conditions, our customers' outlook of future market fundamentals and seasonality. During periods of declining prices, customers tend to delay purchasing fertilizer in anticipation that prices in the future will be lower than the current prices. If the level of sales under our forward sales programs were to decrease in the future, our cash received from customer advances would likely decrease and our accounts receivable balances would likely increase.

Additionally, borrowing under the Revolving Credit Agreement could become necessary. Due to the volatility inherent in our business and changing customer expectations, we cannot estimate the amount of future forward sales activity.

Under our forward sales programs, a customer may delay delivery of an order due to weather conditions or other factors. These delays generally subject the customer to potential charges for storage or may be grounds for termination of the contract by us. Such a delay in scheduled shipment or termination of a forward sales contract due to a customer's inability or unwillingness to perform may negatively impact our reported sales.

Derivative Financial Instruments

We use derivative financial instruments to reduce our exposure to changes in prices for natural gas that will be purchased in the future. Natural gas is the largest and most volatile component of our manufacturing cost for nitrogen-based products. From time to time, we may also use derivative financial instruments to reduce our exposure to changes in foreign currency exchange rates. Volatility in reported quarterly earnings can result from the unrealized mark-to-market adjustments in the value of the derivatives. As of March 31, 2023, our open natural gas derivative contracts consisted of natural gas fixed price swaps, basis swaps and options for 18.9 million MMBtus of natural gas. As of December 31, 2022, our open natural gas derivative contracts consisted of natural gas fixed price swaps, basis swaps and options for 66.3 million MMBtus of natural gas.

Defined Benefit Pension Plans

We contributed \$7 million to our pension plans in the three months ended March 31, 2023. Over the remainder of 2023, we expect to contribute approximately \$36 million to our pension plans, which would result in our making total contributions of approximately \$43 million to our pension plans for the full year 2023. In addition, in the two-year period from 2024 to 2025, we expect to contribute a total of approximately £30 million (or \$37 million) to our U.K. plans, as agreed with the plans' trustees.

Distribution to Noncontrolling Interest in CFN

On January 31, 2023, the CFN Board of Managers approved semi-annual distribution payments for the distribution period ended December 31, 2022 in accordance with CFN's limited liability company agreement. On January 31, 2023, CFN distributed \$255 million to CHS for the distribution period ended December 31, 2022. The estimate of the partnership distribution earned by CHS, but not yet declared, for the first quarter of 2023 is approximately \$110 million.

Cash Flows

Net cash provided by operating activities during the first three months of 2023 was \$947 million, a decrease of \$444 million compared to \$1.39 billion in the first three months of 2022. The decrease in cash flow from operations was due primarily to lower net earnings, partially offset by changes in net working capital. Net earnings for the first three months of 2023 was \$650 million as compared to \$1.05 billion for the first three months of 2022, a decrease of \$401 million. The decrease in net earnings was due primarily to a decrease in gross margin, driven by lower average selling prices and sales volume. During the first three months of 2023, net changes in working capital increased cash flow from operations by \$213 million, while in the first three months of 2022, net changes in working capital increased cash flow from operations by \$110 million. The increase in cash flow from working capital changes was attributable primarily to higher cash collections from customer advances and lower levels of accounts receivable in the first three months of 2023 as compared to the first three months of 2022.

Net cash used in investing activities was \$34 million in the first three months of 2023 as compared to \$62 million in the first three months of 2022. The decrease was due primarily to an increase in proceeds from the sale of emission credits, as proceeds from the sale of emission credits was \$35 million in the first three months of 2023 compared to \$9 million in the first three months of 2022. Capital expenditures totaled \$69 million during the first three months of 2023 compared to \$63 million in the first three months of 2022.

Net cash used in financing activities was \$410 million in the first three months of 2023 compared to \$339 million in the first three months of 2022. The increase was due primarily to proceeds from issuances of common stock under employee stock plans of \$97 million in the first three months of 2022 that did not recur in the first three months of 2023. In addition, the increase reflects an increase in dividends, as the dividend declared and paid in the first quarter of 2023 was \$0.40 per common share compared to \$0.30 per common share in the first quarter of 2022. Dividends paid on common stock was \$79 million in the first three months of 2023 compared to \$64 million in the first three months of 2022. These factors were partially offset by a decrease in share repurchases. In the first three months of 2023, we paid \$54 million for share repurchases compared to \$98 million for share repurchases in the first three months of 2022. In the first three months of 2023, share repurchases totaled \$75 million, of which \$21 million was accrued and unpaid as of March 31, 2023.

Critical Accounting Estimates

During the first three months of 2023, there were no material changes to our critical accounting estimates as described in Item 7 of our Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Forward-Looking Statements

From time to time, in this Quarterly Report on Form 10-Q as well as in other written reports and oral statements, we make forward-looking statements that are not statements of historical fact and may involve a number of risks and uncertainties. These statements relate to analyses and other information that are based on forecasts of future results and estimates of amounts not yet determinable. These statements may also relate to our prospects, future developments and business strategies. We have used the words “anticipate,” “believe,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “predict,” “project,” “will,” or “would” and similar terms and phrases, including references to assumptions, to identify forward-looking statements in this document. These forward-looking statements are made based on currently available competitive, financial and economic data, our current expectations, estimates, forecasts and projections about the industries and markets in which we operate and management’s beliefs and assumptions concerning future events affecting us. These statements are not guarantees of future performance and are subject to risks, uncertainties and factors relating to our operations and business environment, all of which are difficult to predict and many of which are beyond our control. Therefore, our actual results may differ materially from what is expressed in or implied by any forward-looking statements. We want to caution you not to place undue reliance on any forward-looking statements. We do not undertake any responsibility to release publicly any revisions to these forward-looking statements to take into account events or circumstances that occur after the date of this document. Additionally, we do not undertake any responsibility to provide updates regarding the occurrence of any unanticipated events which may cause actual results to differ from those expressed or implied by the forward-looking statements contained in this document.

Important factors that could cause actual results to differ materially from our expectations are disclosed under “Risk Factors” in Item 1A in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022, filed with the SEC on February 23, 2023. Such factors include, among others:

- the risk that regulatory approvals required for the proposed transactions with Incitec Pivot Limited (IPL) are not obtained or that required approvals delay the transactions or cause the parties to abandon the transactions; the risk that other conditions to the closing of the proposed transactions with IPL are not satisfied; risks and uncertainties arising from the length of time necessary to consummate the proposed transactions with IPL and the possibility that the proposed transactions with IPL may be delayed or may not occur; the risk of obstacles to realization of the benefits of the proposed transactions with IPL;
- the risk that the synergies from the proposed transactions with IPL may not be fully realized or may take longer to realize than expected; the risk that the pendency or completion of the proposed transactions with IPL, including integration of the Waggaman ammonia production complex into the Company’s operations, disrupt current operations or harm relationships with customers, employees and suppliers; the risk that integration of the Waggaman ammonia production complex with the Company’s current operations will be more costly or difficult than expected or may otherwise be unsuccessful; diversion of management time and attention to issues relating to the proposed transactions with IPL; unanticipated costs or liabilities associated with the IPL transactions;
- the cyclical nature of our business and the impact of global supply and demand on our selling prices;
- the global commodity nature of our nitrogen products, the conditions in the international market for nitrogen products, and the intense global competition from other producers;
- conditions in the United States, Europe and other agricultural areas, including the influence of governmental policies and technological developments on the demand for our fertilizer products;
- the volatility of natural gas prices in North America and the United Kingdom;
- weather conditions and the impact of adverse weather events;
- the seasonality of the fertilizer business;
- the impact of changing market conditions on our forward sales programs;
- difficulties in securing the supply and delivery of raw materials, increases in their costs or delays or interruptions in their delivery;
- reliance on third party providers of transportation services and equipment;
- our reliance on a limited number of key facilities;
- risks associated with cybersecurity;
- acts of terrorism and regulations to combat terrorism;
- risks associated with international operations;
- the significant risks and hazards involved in producing and handling our products against which we may not be fully insured;
- our ability to manage our indebtedness and any additional indebtedness that may be incurred;

- our ability to maintain compliance with covenants under our revolving credit agreement and the agreements governing our indebtedness;
- downgrades of our credit ratings;
- risks associated with changes in tax laws and disagreements with taxing authorities;
- risks involving derivatives and the effectiveness of our risk management and hedging activities;
- potential liabilities and expenditures related to environmental, health and safety laws and regulations and permitting requirements;
- regulatory restrictions and requirements related to greenhouse gas emissions;
- the development and growth of the market for green and blue (low-carbon) ammonia and the risks and uncertainties relating to the development and implementation of our green and blue ammonia projects;
- risks associated with expansions of our business, including unanticipated adverse consequences and the significant resources that could be required; and
- risks associated with the operation or management of the CHS strategic venture, risks and uncertainties relating to the market prices of the fertilizer products that are the subject of our supply agreement with CHS over the life of the supply agreement, and the risk that any challenges related to the CHS strategic venture will harm our other business relationships.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

We are exposed to the impact of changes in commodity prices, interest rates and foreign currency exchange rates.

Commodity Prices

Our net sales, cash flows and estimates of future cash flows related to nitrogen-based products are sensitive to changes in selling prices as well as changes in the prices of natural gas and other raw materials unless these costs have been fixed or hedged. A \$1.00 per MMBtu change in the price of natural gas would change the cost to produce a ton of ammonia, granular urea, UAN (32%), and AN by approximately \$32, \$22, \$14 and \$15, respectively.

Natural gas is the largest and most volatile component of the manufacturing cost for nitrogen-based products. At certain times, we have managed the risk of changes in natural gas prices through the use of derivative financial instruments. The derivative instruments that we may use for this purpose are primarily natural gas fixed price swaps, basis swaps and options. These derivatives settle using primarily a NYMEX futures price index, which represents the basis for fair value at any given time. The contracts represent anticipated natural gas needs for future periods and settlements are scheduled to coincide with anticipated natural gas purchases during those future periods. As of March 31, 2023, we had natural gas derivative contracts covering certain periods through March 2024.

As of March 31, 2023 and December 31, 2022, we had open derivative contracts for 18.9 million MMBtus and 66.3 million MMBtus, respectively. A \$1.00 per MMBtu increase in the forward curve prices of natural gas at March 31, 2023 would result in a favorable change in the fair value of these derivative positions of approximately \$17 million, and a \$1.00 per MMBtu decrease in the forward curve prices of natural gas would change their fair value unfavorably by approximately \$17 million.

From time to time, we may purchase nitrogen products on the open market to augment or replace production at our facilities.

Interest Rates

As of March 31, 2023, we had four series of senior notes totaling \$3.00 billion of principal outstanding with maturity dates of December 1, 2026, March 15, 2034, June 1, 2043 and March 15, 2044. The senior notes have fixed interest rates. As of March 31, 2023, the carrying value and fair value of our senior notes was approximately \$2.97 billion and \$2.77 billion, respectively.

Borrowings under the Revolving Credit Agreement bear current market rates of interest and we are subject to interest rate risk on such borrowings. There were no borrowings outstanding under the Revolving Credit Agreement as of March 31, 2023, as of December 31, 2022, or during the three months ended March 31, 2023.

Foreign Currency Exchange Rates

We are directly exposed to changes in the value of the Canadian dollar, the British pound and the euro. We generally do not maintain any exchange rate derivatives or hedges related to these currencies.

ITEM 4. CONTROLS AND PROCEDURES.

(a) *Disclosure Controls and Procedures.* The Company's management, with the participation of the Company's principal executive officer and principal financial officer, has evaluated the effectiveness of the Company's disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act)) as of the end of the period covered by this report. Based on such evaluation, the Company's principal executive officer and principal financial officer have concluded that, as of the end of such period, the Company's disclosure controls and procedures are effective in (i) ensuring that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and (ii) ensuring that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the Company's management, including the Company's principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

(b) *Changes in Internal Control Over Financial Reporting.* Other than changes due to the Company's implementation of the upgrade of its enterprise resource planning (ERP) system for its North American operations to SAP S/4HANA, there have not been any changes in the Company's internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the quarter ended March 31, 2023 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II—OTHER INFORMATION

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS.

The following table sets forth share repurchases, on a trade date basis, for each of the three months of the quarter ended March 31, 2023.

Period	Issuer Purchases of Equity Securities			
	Total number of shares (or units) purchased	Average price paid per share (or unit) ⁽¹⁾	Total number of shares (or units) purchased as part of publicly announced plans or programs ⁽²⁾	Maximum number (or approximate dollar value) of shares (or units) that may yet be purchased under the plans or programs (in thousands) ⁽²⁾
January 1, 2023 - January 31, 2023	108,573 ⁽³⁾	\$ 82.27	—	\$ 3,154,583
February 1, 2023 - February 28, 2023	154,488 ⁽⁴⁾	85.89	—	3,154,583
March 1, 2023 - March 31, 2023	1,056,319	71.00	1,056,319	3,079,583
Total	1,319,380	\$ 73.67	1,056,319	

⁽¹⁾ Average price paid per share of CF Industries Holdings, Inc. (CF Holdings) common stock repurchased under the 2021 Share Repurchase Program, as defined below, is the execution price, excluding commissions paid to brokers and excise taxes.

⁽²⁾ On November 3, 2021, we announced that our Board of Directors (the Board) authorized the repurchase of up to \$1.5 billion of CF Holdings common stock from January 1, 2022 through December 31, 2024 (the 2021 Share Repurchase Program). On November 2, 2022, we announced that the Board authorized the repurchase of up to \$3 billion of CF Holdings common stock commencing upon completion of the 2021 Share Repurchase Program and effective through December 31, 2025. These share repurchase programs are discussed in Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Share Repurchase Programs in Part I of this Quarterly Report on Form 10-Q and in Note 13—Stockholders' Equity, in the notes to the unaudited consolidated financial statements included in Item 1. Financials Statements in Part I of this Quarterly Report on Form 10-Q.

⁽³⁾ Represents shares withheld to pay employee tax obligations upon the lapse of restrictions on restricted stock units.

⁽⁴⁾ Represents shares withheld to pay employee tax obligations upon the lapse of restrictions on both restricted stock units and performance restricted stock units.

ITEM 6. EXHIBITS.

A list of exhibits filed with this Quarterly Report on Form 10-Q (or incorporated by reference to exhibits previously filed or furnished) is provided in the Exhibit Index on page 42 of this report.

EXHIBIT INDEX

Exhibit No.	Description
2.1	Asset Purchase Agreement, dated as of March 20, 2023, by and among Dyno Nobel Louisiana Ammonia, LLC, CF Industries East Point, LLC, and, solely for the purposes of Article X, Incitec Pivot Limited and CF Industries Holdings, Inc. (incorporated by reference to Exhibit 2.1 to CF Industries Holdings, Inc.'s Current Report on Form 8-K filed with the SEC on March 20, 2023)*
31.1	Certification of Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certification of Principal Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1	Certification of Principal Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2	Certification of 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	The following financial information from CF Industries Holdings, Inc.'s Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2023, formatted in Inline XBRL (eXtensible Business Reporting Language): (1) Consolidated Statements of Operations, (2) Consolidated Statements of Comprehensive Income, (3) Consolidated Balance Sheets, (4) Consolidated Statements of Equity, (5) Consolidated Statements of Cash Flows, and (6) Notes to Unaudited Consolidated Financial Statements
104	Cover Page Interactive Data File (included in the Exhibit 101 Inline XBRL Document Set)

* Schedules (or similar attachments) have been omitted pursuant to Item 601(a)(5) of Regulation S-K.

CF INDUSTRIES HOLDINGS, INC.

SIGNATURES

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.

Date: May 2, 2023

CF INDUSTRIES HOLDINGS, INC.

By: /s/ W. ANTHONY WILL

W. Anthony Will
President and Chief Executive Officer
(Principal Executive Officer)

Date: May 2, 2023

By: /s/ CHRISTOPHER D. BOHN

Christopher D. Bohn
Senior Vice President and Chief Financial Officer
(Principal Financial Officer)