CF Industries Holdings, Inc.

Form 10-Q

May 02, 2019

50000005000000.420.260.50false--12-31Q120190001324404falseLarge Accelerated FilerCF Industries Holdings, Inc.false2000000.300.300.010.010.0150000000500000002338009032230701830.037820.035620.047590.050310.052790.0503 0001324404 2019-01-01 2019-03-31 0001324404 2019-04-29 0001324404 us-gaap:NoncontrollingInterestMember 2019-01-01 2019-03-31 0001324404 2018-01-01 2018-03-31 0001324404 us-gaap:NoncontrollingInterestMember 2018-01-01 2018-03-31 0001324404 us-gaap:RetainedEarningsMember 2019-01-01 2019-03-31 0001324404 us-gaap:RetainedEarningsMember 2018-01-01 2018-03-31 0001324404 2018-12-31 0001324404 2019-03-31 0001324404 us-gaap:NoncontrollingInterestMember 2018-03-31 0001324404 us-gaap:TreasuryStockMember 2018-01-01 2018-03-31 0001324404 us-gaap: Additional PaidInCapital Member 2019-01-01 2019-03-31 0001324404 us-gaap:AccumulatedOtherComprehensiveIncomeMember 2019-01-01 2019-03-31 0001324404 us-gaap:AdditionalPaidInCapitalMember 2018-01-01 2018-03-31 0001324404 us-gaap:TreasuryStockMember 2019-01-01 2019-03-31 0001324404 us-gaap:AccumulatedOtherComprehensiveIncomeMember 2018-12-31 0001324404 us-gaap:AccountingStandardsUpdate201601Member us-gaap:NoncontrollingInterestMember 2017-12-31 0001324404 us-gaap:CommonStockMember 2019-01-01 2019-03-31 0001324404 us-gaap:AccountingStandardsUpdate201601Member us-gaap:ParentMember 2017-12-31 0001324404 us-gaap:AccumulatedOtherComprehensiveIncomeMember 2018-03-31 0001324404 us-gaap:CommonStockMember 2018-01-01 2018-03-31 0001324404 us-gaap:AccountingStandardsUpdate201601Member us-gaap:CommonStockMember 2017-12-31 0001324404 us-gaap:AccumulatedOtherComprehensiveIncomeMember 2018-01-01 2018-03-31 0001324404 us-gaap:ParentMember 2019-01-01 2019-03-31 0001324404 us-gaap:TreasuryStockMember 2018-12-31 0001324404 us-gaap:NoncontrollingInterestMember 2017-12-31 0001324404 us-gaap:AdditionalPaidInCapitalMember 2018-12-31 0001324404 us-gaap:CommonStockMember 2019-03-31 0001324404 us-gaap:AccountingStandardsUpdate201409Member us-gaap:NoncontrollingInterestMember 2017-12-31 0001324404 us-gaap:TreasuryStockMember 2019-03-31 0001324404 us-gaap:ParentMember 2018-01-01 2018-03-31 0001324404 us-gaap:ParentMember 2017-12-31 0001324404 us-gaap:AccountingStandardsUpdate201601Member us-gaap:RetainedEarningsMember 2017-12-31 0001324404 us-gaap:ParentMember 2018-03-31 0001324404 us-gaap:AccountingStandardsUpdate201601Member us-gaap:AccumulatedOtherComprehensiveIncomeMember 2017-12-31 0001324404 us-gaap:AccountingStandardsUpdate201409Member us-gaap:CommonStockMember 2017-12-31 0001324404 us-gaap:RetainedEarningsMember 2019-03-31 0001324404 us-gaap:AdditionalPaidInCapitalMember 2018-03-31 0001324404 us-gaap:AccountingStandardsUpdate201409Member us-gaap:AdditionalPaidInCapitalMember 2017-12-31 0001324404 us-gaap:AccountingStandardsUpdate201409Member us-gaap:TreasuryStockMember 2017-12-31 0001324404 us-gaap:TreasuryStockMember 2017-12-31 0001324404 2017-12-31 0001324404 us-gaap:CommonStockMember 2017-12-31 0001324404 us-gaap:ParentMember 2019-03-31 0001324404 us-gaap:NoncontrollingInterestMember 2019-03-31 0001324404 us-gaap:AccountingStandardsUpdate201409Member us-gaap:ParentMember 2017-12-31 0001324404 us-gaap:RetainedEarningsMember 2017-12-31 0001324404 us-gaap:AccountingStandardsUpdate201601Member us-gaap:TreasuryStockMember 2017-12-31 0001324404 us-gaap:CommonStockMember 2018-03-31 0001324404 us-gaap:AccountingStandardsUpdate201601Member us-gaap:AdditionalPaidInCapitalMember 2017-12-31 0001324404 us-gaap:RetainedEarningsMember 2018-12-31 0001324404 us-gaap:TreasuryStockMember 2018-03-31 0001324404 us-gaap:RetainedEarningsMember 2018-03-31 0001324404 us-gaap:AccountingStandardsUpdate201409Member us-gaap:AccumulatedOtherComprehensiveIncomeMember 2017-12-31 0001324404 2018-03-31 0001324404 us-gaap:AccountingStandardsUpdate201409Member us-gaap:RetainedEarningsMember 2017-12-31 0001324404 us-gaap:AdditionalPaidInCapitalMember 2017-12-31 0001324404 us-gaap:CommonStockMember 2018-12-31 0001324404 us-gaap:ParentMember 2018-12-31 0001324404 us-gaap: AccountingStandardsUpdate201601Member 2017-12-31 0001324404 us-gaap:AccumulatedOtherComprehensiveIncomeMember 2017-12-31 0001324404 us-gaap:AdditionalPaidInCapitalMember 2019-03-31 0001324404 us-gaap:AccountingStandardsUpdate201409Member 2017-12-31 0001324404 us-gaap:NoncontrollingInterestMember 2018-12-31 0001324404

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UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, DC 20549

FORM10-Q

(Mark One)

X QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES

EXCHANGE

	Edgar Filir	ng: CF Industries Hold	lings, Inc Form 10-	-Q			
	ACT OF 1934						
For the							
quarterly	March 31, 2019						
period end	-						
OR							
	TRANSITION						
	REPORT						
	PURSUANT TO						
	SECTION 13						
0	OR 15(d) OF						
U	THE						
	SECURITIES						
	EXCHANGE						
	ACT OF 1934						
For the tra	nsition period from						
	to						
	10						
Commissio	n file						
number 00							
		A DINIGO I					
CF IN	DUSTRIES H	JLDINGS, I	NC.				
(Exact name	e of registrant as specified in	its charter)					
Delaware		20-2697511					
(State or ot	her jurisdiction of	(I.R.S. Employer					
incorporatic	on or organization)	Identification No.)					
4 Parkway	North, Suite 400	60015					
Deerfield, I	llinois						
(Address of	f principal executive offices)	(Zip Code)					
(847) 405-2	400						
(Registrant	's telephone number, includin	ng area code)					
Indicate by	check mark whether the regis	strant (1) has filed all rep	ports required to be file	ed by Section 13 or 15(d) of the			
Securities E	xchange Act of 1934 during	the preceding 12 months	s (or for such shorter p	eriod that the registrant was			
required to	file such reports) and (2) has	been subject to such fil	ing requirements for th	ne past 90 days Yes X No o			
•	· · · · · · · · · · · · · · · · · · ·	U	e 1	· ·			
•							
				preceding 12 months (or for			
		-		1.61 1.1.61			
•	e	U					
-				-			
				-			
Large accel	erated filer Accelerated filer	Non-accelerated filer		0 00			
X	0	0	company o	company o			
If an emergi	ing growth company, indicate	e by check mark if the re	egistrant has elected no	ot to use the extended transition			
period for c	omplying with any new or re	vised financial accounting	ng standards provided	pursuant to Section 13(a) of the			
Exchange A							
	ict. o						
		strant is a shell company	(as defined in Rule 12	2b-2 of the Exchange Act). Yes			
		strant is a shell company	(as defined in Rule 12	2b-2 of the Exchange Act). Yes			
Deerfield, I (Address of (847) 405-2 (Registrant Indicate by Securities E required to f Indicate by submitted p such shorter Indicate by smaller repor- filer," "sma Large accelor X If an emergi	Illinois f principal executive offices) 400 's telephone number, includin check mark whether the regis exchange Act of 1934 during file such reports), and (2) has check mark whether the regis ursuant to Rule 405 of Regul r period that the registrant wa check mark whether the regist orting company, or an emergi ller reporting company," and erated filer Accelerated filer o ing growth company, indicate omplying with any new or re	strant (1) has filed all rep the preceding 12 months been subject to such file strant has submitted elect ation S-T (§232.405 of t s required to submit suc strant is a large acceleration growth company. Se "emerging growth comp Non-accelerated filer o by check mark if the rec	s (or for such shorter p ing requirements for the tronically every Intera- this chapter) during the h files). Yes X No o ted filer, an accelerated e the definitions of "la pany" in Rule 12b-2 of Smaller reporting company o egistrant has elected no	eriod that the registrant was ne past 90 days. Yes X No o active Data File required to be e preceding 12 months (or for d filer, a non-accelerated filer, rge accelerated filer," "acceler f the Exchange Act. Emerging growth company o ot to use the extended transitio			

Title of each classTrading symbol(s)Name of each exchange on which registeredcommon stock, par value \$0.01 per shareCFNew York Stock Exchange

221,077,667 shares of the registrant's common stock, \$0.01 par value per share, were outstanding at April 29, 2019.

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Three months

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PART I—FINANCIAL INFORMATION ITEM 1. FINANCIAL STATEMENTS. CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)

	ended	uns	
	March 31,		
	2019	2018	
	(in millions, except per share amounts)		
Net sales	\$1,001	,	
Cost of sales	781	767	
Gross margin	220	190	
Selling, general and administrative expenses	58	57	
Other operating—net	4	(21)	
Total other operating costs and expenses	62	36	
Equity in earnings of operating affiliate	7	7	
Operating earnings	165	161	
Interest expense	60	60	
Interest income	(4)	(3)	
Other non-operating—net	(1)	(1)	
Earnings before income taxes	110	105	
Income tax (benefit) provision	(8)	17	
Net earnings	118	88	
Less: Net earnings attributable to noncontrolling interests	28	25	
Net earnings attributable to common stockholders	\$90	\$63	
Net earnings per share attributable to common stockholders:			
Basic	\$0.40	\$0.27	
Diluted	\$0.40	\$0.27	
Weighted-average common shares outstanding:			
Basic	223.4	233.9	
Diluted	224.6	234.8	
Dividends declared per common share	\$0.30	\$0.30	

See accompanying Notes to Unaudited Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (Unaudited)

	Three m ended March	
	2019	2018
	(in milli	ons)
Net earnings	\$118	\$88
Other comprehensive income (loss):		
Foreign currency translation adjustment—net of taxes	32	17
Defined benefit plans—net of taxes	(2)	(1)
	30	16
Comprehensive income	148	104
Less: Comprehensive income attributable to noncontrolling interests	28	25
Comprehensive income attributable to common stockholders	\$120	\$79
See accompanying Notes to Unaudited Consolidated Financial Stater	nents.	

CONSOLIDATED BALANCE SHEETS

CONSULIDATED BALANCE SHEE 15		
		December 31, 2018 except share re amounts)
Assets		
Current assets:		
Cash and cash equivalents	\$671	\$682
Accounts receivable—net	264	235
Inventories	446	309
Prepaid income taxes	1	28
Other current assets	30	20
Total current assets	1,412	1,274
Property, plant and equipment—net	8,471	8,623
Investment in affiliate	100	93
Goodwill	2,360	2,353
Operating lease right-of-use assets	285	
Other assets	314	318
Total assets	\$12,942	\$12,661
Liabilities and Equity		
Current liabilities:		
Accounts payable and accrued expenses	\$432	\$ 545
Income taxes payable	3	5
Customer advances	301	149
Current operating lease liabilities	85	
Other current liabilities	5	6
Total current liabilities	826	705
Long-term debt	4,700	4,698
Deferred income taxes	1,135	1,117
Operating lease liabilities	203	
Other liabilities	408	410
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, 2019—223,070,183 shares is and 2018—233,800,903 shares issued	sued	2
Paid-in capital	1,311	1,368
Retained earnings	2,047	2,463
Treasury stock—at cost, 2019—1,546,005 shares and 2018—10,982,408 shares		(504)
Accumulated other comprehensive loss	· · · · · · · · · · · · · · · · · · ·	(371)
Total stockholders' equity	2,955	2,958
Noncontrolling interests	2,715	2,773
Total equity	5,670	5,731
Total liabilities and equity	\$12,942	
See accompanying Notes to Unaudited Consolidated Financial Statements.	ψ12,772	φ1 2 ,001
see accompanying roles to chaudred consolidated i material statements.		

CONSOLIDATED STATEMENTS OF EQUITY (Unaudited)

	Co	mmon S	toc	kholders							
	\$0. Par Va Co Sto	r Treasu lue Stock mmon	ıry	Paid-In Capital	Retained Earnings	Accumulated Other Comprehensiv Loss	Total Stockholde Equity	Noncontrollir rs Interests		otal quity	
					share amo						
Balance as of December 31, 2018	\$2	\$ (504)	\$1,368	\$2,463	\$ (371)	\$ 2,958	\$ 2,773	\$:	5,731	
Net earnings	—				90		90	28	11	18	
Other comprehensive income	—	—			_	30	30		30	0	
Purchases of treasury stock	—	(60)		—		(60	· —	(6	50)
Retirement of treasury stock	—	504		(65)	(439)		—	—	_	_	
Acquisition of treasury stock under employee stock plans	—	(4)				(4	·	(4	1)
Issuance of \$0.01 par value common stock under employee stock plans	—			2	—	—	2		2		
Stock-based compensation expense	—			6			6		6		
Cash dividends (\$0.30 per share)	_				(67)		(67		(6	57)
Distribution declared to noncontrolling interest	—	_			_		_	(86)	(8	36)
Balance as of March 31, 2019	\$2	\$(64)	\$1,311	\$2,047	\$ (341)	\$ 2,955	\$ 2,715	\$2	5,670)
Balance as of December 31, 2017	\$2	\$ <i>—</i>		\$1,397	\$2,443	\$ (263)	\$ 3,579	\$ 3,105	\$	6,684	ł
Adoption of ASU No. 2014-09	—				(1)		(1)	·	(1	l)
Adoption of ASU No. 2016-01	—	_			1	(1)	_	—	_	-	
Net earnings	_				63		63	25	88	8	
Other comprehensive income	—			_	_	16	16		16	6	
Acquisition of treasury stock under employee stock plans	_	(1)				(1)) <u> </u>	(1	l)
Issuance of \$0.01 par value common stock under employee stock plans	—	_		2	_	_	2		2		
Stock-based compensation expense	_			6	_		6		6		
Cash dividends (\$0.30 per share)	_				(70)		(70		(7	70)
Distributions declared to noncontrolling interests	—			_	_	_	_	(59)	(5	59)
Balance as of March 31, 2018	\$2	\$(1)	\$1,405	\$2,436	\$ (248)	\$ 3,594	\$ 3,071	\$	6,665	5
See accompanying Notes to Unaudited Consolida	hat	Finan	cir	1 States	monte						

See accompanying Notes to Unaudited Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS (Unaudited)

Operating Activities	Three months ended March 31, 2019 2018 (in millions)
Operating Activities:	¢110 ¢00
Net earnings	\$118 \$88
Adjustments to reconcile net earnings to net cash provided by operating activities:	100 102
Depreciation and amortization	188 193 14 20
Deferred income taxes	14 29
Stock-based compensation expense	6 6
Unrealized net loss (gain) on natural gas derivatives	2 (3)
Unrealized loss on embedded derivative	1 —
Loss on disposal of property, plant and equipment	1 —
Undistributed earnings of affiliate—net of taxes	(8) (3)
Changes in:	
Accounts receivable—net	(28) 61
Inventories	(101)(97)
Accrued and prepaid income taxes	24 (14)
Accounts payable and accrued expenses	(65) (24)
Customer advances	152 65
Other—net	2 (19)
Net cash provided by operating activities	306 282
Investing Activities:	
Additions to property, plant and equipment	(80) (68)
Proceeds from sale of property, plant and equipment	5 8
Distributions received from unconsolidated affiliate	— 4
Other—net	— 1
Net cash used in investing activities	(75) (55)
Financing Activities:	
Financing fees	— 1
Dividends paid on common stock	(67)(70)
Distributions to noncontrolling interests	(86) (59)
Purchases of treasury stock	(87) —
Issuances of common stock under employee stock plans	2 2
Shares withheld for taxes	(4)(1)
Net cash used in financing activities	(242)(127)
Effect of exchange rate changes on cash and cash equivalents	- 1
(Decrease) increase in cash and cash equivalents	(11) 101
Cash and cash equivalents at beginning of period	682 835
Cash and cash equivalents at end of period	\$671 \$936
See accompanying Notes to Unaudited Consolidated Financial Statements.	ψυτι ψ/30
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NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

1. Background and Basis of Presentation

We are a leading global fertilizer and chemical company. Our 3,000 employees operate world-class manufacturing complexes in Canada, the United Kingdom and the United States. Our principal customers are cooperatives, independent fertilizer distributors, traders, wholesalers, farmers and industrial users. Our principal nitrogen fertilizer products are ammonia, 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, and compound fertilizer products (NPKs), which are solid granular fertilizer products for which the nutrient content is a combination of nitrogen, phosphorus, and potassium. We serve our customers in North America through our production, storage, transportation and distribution network. We also reach a global customer base with exports from our Donaldsonville, Louisiana, plant, the world's largest and most flexible nitrogen complex. Additionally, we move product to international destinations from our Verdigris, Oklahoma, facility, our Yazoo City, Mississippi, facility, our Billingham and Ince facilities in the United Kingdom, and from a joint venture ammonia facility in the Republic of Trinidad and Tobago in which we own a 50 percent interest. 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, 2018, 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 2018 Annual Report on Form 10-K filed with the SEC on February 22, 2019. The preparation of the unaudited interim consolidated financial statements requires us to make use of estimates and assumptions that 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. Significant estimates and assumptions are used for, but are not limited to, net realizable value of inventories, environmental remediation liabilities, environmental and litigation contingencies, the cost of customer incentives, useful lives of property and identifiable intangible assets, the assumptions used in the evaluation of potential impairments of property, investments, identifiable intangible assets and goodwill, income tax and valuation reserves, allowances for doubtful accounts receivable, the measurement of the fair values of investments for which markets are not active, assumptions used in the determination of the funded status and annual expense of defined benefit pension and other postretirement benefit plans and the assumptions used in the valuation of stock-based compensation awards granted to employees.

2. New Accounting Standards

Recently Adopted Pronouncements

On January 1, 2019, we adopted Accounting Standards Update (ASU) No. 2016-02, Leases (Topic 842), which supersedes the lease accounting requirements in ASC Topic 840, Leases. This ASU requires lessees to recognize the rights and obligations resulting from virtually all leases (other than leases that meet the definition of a short-term lease) on their balance sheets as right-of-use assets with corresponding lease liabilities. Extensive quantitative and qualitative disclosures, including significant judgments made by management, are required to provide greater insight into the extent of income and expense recognized and expected to be recognized from existing contracts. We elected the optional transition method provided under ASU No. 2018-11, Leases (Topic 842): Targeted Improvements, which provides the option to adopt ASU No. 2016-02 as of the adoption date with a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. The cumulative effect adjustment we recognized in the opening balance of retained earnings as of January 1, 2019 was not material. In addition, we elected the package of practical expedients permitted under the transition guidance within ASU No. 2016-02, which allows us to carry forward the historical lease determination, lease classification, and assessment of initial direct costs. See Note 13—Leases for additional information.

On January 1, 2019, we adopted ASU No. 2017-12, Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities, which improves the financial reporting of hedging relationships in order to better portray the economic results of an entity's risk management activities in its financial statements. The adoption of this ASU had no effect on our consolidated financial statements.

Recently Issued Pronouncements

In August 2018, the Financial Accounting Standards Board issued ASU No. 2018-15, Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That is a Service Contract. This ASU aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. This ASU does not affect the accounting for the service element of a hosting arrangement that is a service contract. The amendments in this ASU are effective for annual and interim periods beginning after December 15, 2019 and can be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. Early adoption is permitted. We plan to adopt this ASU prospectively and are currently evaluating the impact that our adoption of this ASU will have on our consolidated financial statements.

3. Revenue Recognition

We track our revenue by product and by geography. See Note 17—Segment Disclosures for our revenue by reportable segment, 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, 2019 and 2018:

	Granular Ammonia Urea	UAN	AN	Other	Total
	(in millions)				
Three months ended March 31, 2019					
North America	\$160 \$ 335	\$242	\$46	\$ 59	\$842
Europe and other	27 8	14	81	29	159
Total revenue	\$187 \$ 343	\$256	\$127	\$88	\$1,001
Three months ended March 31, 2018					
North America	\$168 \$ 264	\$246	\$45	\$ 59	\$782
Europe and other	44 —	37	55	39	175
Total revenue	\$212 \$ 264	\$283	\$100	\$98	\$957

As of March 31, 2019 and December 31, 2018, we had \$301 million and \$149 million, respectively, in customer advances on our consolidated balance sheets. The revenue recognized during the three months ended March 31, 2019 and 2018 that was included in our customer advances at the beginning of each respective period amounted to approximately \$85 million and \$65 million, respectively.

We offer cash incentives to certain customers based on the volume of their purchases over a certain period. These incentives do not provide an option to the customer for additional product. The balances of customer incentives accrued at March 31, 2019 and December 31, 2018 were not material.

We have certain customer contracts with performance obligations where 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, which may vary based upon the terms and conditions of the applicable contract. As of March 31, 2019, 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 are approximately \$1.3 billion. We expect to recognize approximately 19% of these performance obligations as revenue in the remainder of 2019, approximately 42% as revenue during 2020 and 2021, approximately 26% as revenue during 2022 and 2023, and the remainder thereafter. If these customers do not fulfill their contractual obligations under such contracts, the legally enforceable minimum amount that they would pay to us under these contracts, in the aggregate, is approximately \$285 million as of March 31, 2019. Other than the performance obligations described above, any performance obligations with our customers that were unfulfilled or partially filled at December 31, 2018 will be satisfied in 2019.

4. Net Earnings Per Share

Net earnings per share were computed as follows:

	Three months ended March 31,		
	2019	2018	
	(in millions, except per share amounts)		
Net earnings attributable to common stockholders	\$90	\$63	
Basic earnings per common share:			
Weighted-average common shares outstanding	223.4	233.9	
Net earnings attributable to common stockholders	\$0.40	\$0.27	
Diluted earnings per common share:			
Weighted-average common shares outstanding	223.4	233.9	
Dilutive common shares—stock options	1.2	0.9	
Diluted weighted-average shares outstanding	224.6	234.8	
Net earnings attributable to common stockholders	\$0.40	\$0.27	

In the computation of diluted earnings per common share, potentially dilutive stock options are excluded if the effect of their inclusion is anti-dilutive. Shares for anti-dilutive stock options not included in the computation of diluted earnings per common share were 1.5 million and 2.0 million for the three months ended March 31, 2019 and 2018, respectively.

5. Inventories

Inventories consist of the following:

	March 3December 31		
	2019 2018		
	(in millions)		
Finished goods	\$405 \$ 272		
Raw materials, spare parts and supplies	41 37		
Total inventories	\$446 \$ 309		

6. Property, Plant and Equipment-Net

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

	March 31, December 31	
	2019	2018
	(in million	ns)
Land	\$70	\$ 69
Machinery and equipment	12,162	12,127
Buildings and improvements	882	886
Construction in progress	210	225
Property, plant and equipment ⁽¹⁾	13,324	13,307
Less: Accumulated depreciation and amortization	4,853	4,684
Property, plant and equipment-net	\$8,471	\$ 8,623

As of March 31, 2019 and December 31, 2018, we had property, plant and equipment that was accrued but unpaid of approximately

⁽¹⁾ \$26 million and \$48 million, respectively. As of March 31, 2018 and December 31, 2017, we had property, plant and equipment that was accrued but unpaid of \$42 million and \$46 million, respectively.

During the first quarter of 2019, we entered into an agreement to sell our Pine Bend dry bulk storage and logistics facility in Minnesota. As of March 31, 2019, the assets met the criteria to be classified as held for sale and, as a result, we reclassified the carrying value of the assets of \$10 million from property, plant and equipment—net to other current assets on our consolidated balance sheet. See Note 19—Subsequent Event for additional information. Depreciation and amortization related to property, plant and equipment was \$183 million and \$185 million for the three months ended March 31, 2019 and 2018, 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. The following is a summary of capitalized plant turnaround costs:

	Three months ended March 31,		
	2019	2018	
	(in millio	ons)	
Net capitalized turnaround costs:			
Beginning balance	\$252	\$208	
Additions	9	20	
Depreciation	(30)	(28)	
Effect of exchange rate changes	2	1	
Ending balance	\$233	\$201	

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

7. Goodwill and Other Intangible Assets

The following table shows the carrying amount of goodwill by reportable segment as of March 31, 2019 and December 31, 2018:

	Granular Ammonia Urea	UAN	AN	Other	Total
	(in millions)				
Balance as of December 31, 2018	\$586 \$828	\$576	\$292	\$71	\$2,353
Effect of exchange rate changes			6	1	7
Balance as of March 31, 2019	\$586 \$828	\$576	\$298	\$72	\$2,360

All of our identifiable intangible assets have definite lives and are presented in other assets on our consolidated balance sheets at gross carrying amount, net of accumulated amortization, as follows:

	March	31, 2019			Decem	oer 31, 2018		
	Gross Carryin Amoun (in mill		ted ion	Net	Gross Carryii Amoun	Accumulate ng Amortizatio t	ed on	Net
Customer relationships	·	,)	\$89	\$127	\$ (37)	\$90
TerraCair brand					10	(10)	
Trade names	32	(6)	26	30	(5)	25
Total intangible assets	\$161	\$ (46)	\$115	\$167	\$ (52)	\$115

Our intangible assets are being amortized over a weighted-average life of approximately 20 years. Amortization expense of our identifiable intangible assets for each of the three-month periods ended March 31, 2019 and 2018 was \$2 million. The gross carrying amount and accumulated amortization of our intangible assets are also impacted by the effect of exchange rate changes. Total estimated amortization expense for the remainder of 2019 and each of the five succeeding fiscal years is as follows:

	Estimated Amortizatio Expense (in millions	
Remainder of 2019	\$	6
2020	8	
2021	8	
2022	8	
2023	8	
2024	8	

8. 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, 2019, the total carrying value of our equity method investment in PLNL was \$100 million, \$48 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 14 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 \$22 million and \$29 million for the three months ended March 31, 2019 and 2018, respectively.

The Trinidadian tax authority (the Board of Inland Revenue) has issued PLNL a tax assessment with respect to tax years 2011 and 2012 in the aggregate amount of approximately \$12 million, in addition to interest and penalties with respect to tax years 2011 and 2012 in the aggregate amount of approximately \$22 million, for alleged underpayment of withholding taxes on distributions made by PLNL to its owners. Since we own a 50% interest in PLNL, our effective share of any assessment that is determined to be a liability of PLNL would be 50%, which would be reflected as a reduction in our equity in earnings of PLNL. The Board of Inland Revenue has not provided PLNL with the legal or factual basis for the assessment. As a result, PLNL cannot assess the likelihood of the outcome of this matter and we cannot assess the potential foreign tax credit we may be eligible for, if the withholding tax amount was determined to be a liability of PLNL.

9. Fair Value Measurements

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

	March	31, 2019		
	Cost	Unrealized	Unrealized	Fair
	Basis	Gains	Losses	Value
	(in mill			
Cash	\$73	\$ -	-\$ -	-\$73
Cash equivalents:				
U.S. and Canadian government obligations	562			562
Other debt securities	36			36
Total cash and cash equivalents	\$671	\$ -	-\$ -	-\$671
Nonqualified employee benefit trusts	17	2		19
	Decem	ber 31, 2018		
	Decem Cost	·	Unrealized	Fair
		·	Unrealized Losses	Fair Value
	Cost	Unrealized Gains		
Cash	Cost Basis	Unrealized Gains		
Cash Cash equivalents:	Cost Basis (in mill	Unrealized Gains ions)	Losses	Value
	Cost Basis (in mill \$34	Unrealized Gains ions)	Losses	Value
Cash equivalents:	Cost Basis (in mill \$34	Unrealized Gains ions)	Losses	Value -\$34
Cash equivalents: U.S. and Canadian government obligations	Cost Basis (in mill \$34 623	Unrealized Gains ions) \$	Losses	Value -\$34 623

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, 2019 and December 31, 2018 that are recognized at fair value on a recurring basis, and indicate the fair value hierarchy utilized to determine such fair value:

	March 3	1, 2019		
	Total Fair Value	Markets	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	(in millio			
Cash equivalents	\$598	\$ 598	\$ —	\$ —
Nonqualified employee benefit trusts	19	19		
Embedded derivative liability	(22)		(22)	
	Decembe	er 31, 2018	;	
	Decembe Total Fair Value	Quoted Prices in Active Markets	Significant Other Observable	Significant Unobservable Inputs (Level 3)
	Total Fair	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs	Unobservable Inputs
Cash equivalents	Total Fair Value	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs	Unobservable Inputs
Cash equivalents Nonqualified employee benefit trusts	Total Fair Value (in millio \$648	Quoted Prices in Active Markets (Level 1) ons)	Significant Other Observable Inputs (Level 2)	Unobservable Inputs (Level 3)

Cash Equivalents

As of March 31, 2019 and December 31, 2018, 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 represents 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. Changes in the fair value of equity securities in the trust assets are recognized through earnings.

Embedded Derivative Liability

Under the terms of our strategic venture with CHS Inc. (CHS), if our credit rating as determined by two of three specified credit rating agencies is below certain levels, we are required to make a non-refundable yearly payment of \$5 million to CHS. Since our credit ratings were below certain levels in 2016, 2017 and 2018, we made a payment of \$5 million to CHS in the fourth quarter of each year. These payments will continue on a yearly basis until the earlier of the date that our credit rating is upgraded to or above certain levels by two of the three specified credit rating agencies or February 1, 2026. This obligation is recognized on our consolidated balance sheets as an embedded derivative. As of March 31, 2019 and December 31, 2018, the embedded derivative liability of \$22 million and \$21 million, respectively, is included in other current liabilities and other liabilities on our consolidated balance sheets. Included in other operating—net in our consolidated statement of operations for the three months ended March 31, 2019 is a net loss of \$1 million. For the three months ended March 31, 2018, no loss was recognized. The inputs into the fair value measurement include the probability of future upgrades and downgrades of our credit rating based on historical credit rating movements of other public companies and the discount rates to be applied to

potential annual payments based on applicable credit spreads of other public companies at different credit rating

levels. Based on these inputs, our fair value measurement is classified as Level 2. See Note 14—Noncontrolling Interests for additional information regarding our strategic venture with CHS.

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

March 31	, 2019	December	31, 2018
Carrying	Fair	Carrying	Fair
Amount	Value	Amount	Value
(in millior	ıs)		
¢ 4 700	¢ 1 555	¢ 1 600	¢ 1 965

Long-term debt \$4,700 \$4,555 \$4,698 \$4,265

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.

10. Income Taxes

For the three months ended March 31, 2019, we recorded an income tax benefit of \$8 million on pre-tax income of \$110 million, or an effective tax rate of (7.3)%, compared to an income tax provision of \$17 million on pre-tax income of \$105 million, or an effective tax rate of 15.8%, for the three months ended March 31, 2018. For the three months ended March 31, 2019, our income tax benefit includes an incentive tax credit from the State of Louisiana of \$30 million, net of federal income tax, related to certain capital projects at our Donaldsonville, Louisiana complex.

Our effective tax rate is also impacted by earnings attributable to noncontrolling interests in CF Industries Nitrogen, LLC (CFN) and in the first quarter of 2018 by earnings attributable to the noncontrolling interests in Terra Nitrogen Company, L.P. (TNCLP), as our consolidated income tax provision (benefit) does not include a tax provision on the earnings attributable to the noncontrolling interests. Our effective tax rate for the three months ended March 31, 2019 of (7.3)%, which is based on pre-tax income of \$110 million, would be 27.4% exclusive of the earnings attributable to the noncontrolling interests of \$28 million and the incentive tax credit of \$30 million. Our effective tax rate for the three months ended March 31, 2018 of 15.8%, which is based on pre-tax income of \$105 million, would be 20.8% exclusive of the earnings attributable to the noncontrolling interests of \$25 million. See Note 14—Noncontrolling Interests for additional information.

11. Interest Expense

Details of interest expense are as	s follo	ows:	
	Three	;	
months			
	ended		
	Marc		
	2019	-010	
	`	llions)	
Interest on borrowings ⁽¹⁾	\$57	\$57	
Fees on financing agreements ⁽¹⁾	3	3	
Interest on tax liabilities		1	
Interest capitalized		(1)	
Total interest expense	\$60	\$60	

⁽¹⁾ See Note 12—Financing Agreements for additional information.

12. Financing Agreements

Revolving Credit Agreement

We have a senior secured revolving credit agreement (the Revolving Credit Agreement) providing for a revolving credit facility of up to \$750 million with a maturity of September 18, 2020. 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 and general corporate purposes. CF Industries, the borrower under the Revolving Credit Agreement, may also designate as borrowers one or more wholly owned subsidiaries that are organized in the United States or any state thereof or the District of Columbia.

Borrowings under the Revolving Credit Agreement may be denominated in 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, and the borrowers 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.

The guarantors under the Revolving Credit Agreement are currently comprised of CF Holdings and CF Holdings' wholly owned subsidiaries CF Industries Enterprises, LLC (CFE), CF Industries Sales, LLC (CFS), CF USA Holdings, LLC (CF USA) and CF Industries Distribution Facilities, LLC (CFIDF).

As of March 31, 2019, we had excess 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, 2019 or December 31, 2018, or during the three months ended March 31, 2019.

The Revolving Credit Agreement contains representations and warranties and affirmative and negative covenants, including financial covenants. As of March 31, 2019, we were in compliance with all covenants under the Revolving Credit Agreement.

Letters of Credit

In addition to the letter of credit capacity under the Revolving Credit Agreement, as described above, we have also entered into a bilateral agreement with capacity to issue letters of credit up to \$145 million (reflecting an increase of \$20 million in January 2019). As of March 31, 2019, approximately \$127 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, 2019 and December 31, 2018 consisted of the following Public Senior Notes (unsecured) and Senior Secured Notes issued by CF Industries:

		March 31, 2019		December	31, 2018
	Effective Interest Rate	Principal	Carrying Amount (1)	Principal	Carrying Amount (1)
		(in million	ns)		
Public Senior Notes:					
7.125% due May 2020	7.529%	\$500	\$498	\$500	\$497
3.450% due June 2023	3.562%	750	747	750	747
5.150% due March 2034	5.279%	750	740	750	740
4.950% due June 2043	5.031%	750	742	750	741
5.375% due March 2044	5.465%	750	741	750	741
Senior Secured Notes:					
3.400% due December 2021	3.782%	500	495	500	495
4.500% due December 2026	4.759%	750	737	750	737
Total long-term debt		\$4,750	\$4,700	\$4,750	\$4,698

Carrying amount is net of unamortized debt discount and deferred debt issuance costs. Total unamortized debt discount was \$10 million and

⁽¹⁾ \$11 million as of March 31, 2019 and December 31, 2018, respectively, and total deferred debt issuance costs were \$40 million and

\$41 million as of March 31, 2019 and December 31, 2018, respectively.

Public Senior Notes

Under the indentures (including the applicable supplemental indentures) governing the senior notes due 2020, 2023, 2034, 2043 and 2044 identified in the table above (the Public Senior Notes), each series of Public Senior Notes is guaranteed by CF Holdings and CF Holdings' wholly owned subsidiaries CFE, CFS, CF USA and CFIDF. CFE, CFS, CF USA and CFIDF became subsidiary guarantors of the Public Senior Notes as a result of their becoming guarantors under the Revolving Credit Agreement. Interest on the Public Senior Notes is payable semiannually, and the Public Senior Notes are redeemable at our option, in whole at any time or in part from time to time, at specified make-whole redemption prices.

Senior Secured Notes

On November 21, 2016, CF Industries issued \$500 million aggregate principal amount of 3.400% senior secured notes due 2021 (the 2021 Notes) and \$750 million aggregate principal amount of 4.500% senior secured notes due 2026 (the 2026 Notes, and together with the 2021 Notes, the Senior Secured Notes). CF Holdings and the subsidiary guarantors of the Public Senior Notes are also guarantors of the Senior Secured Notes. Interest on the Senior Secured Notes is payable semiannually on December 1 and June 1, and the Senior Secured Notes are redeemable at our option, in whole at any time or in part from time to time, at specified make-whole redemption prices.

13. Leases

Right-of-use (ROU) assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. ROU assets and lease liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. The discount rate used to calculate the present value represents our secured incremental borrowing rate and is calculated based on the treasury yield curve commensurate with the term of each lease, and a spread representative of our secured borrowing costs. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option.

For operating leases, rental payments, including rent holidays, leasehold incentives, and scheduled rent increases are expensed on a straight-line basis. For finance leases, if any, ROU assets are amortized over the lease term on a straight-line basis and interest expense is recognized using the effective interest method and based on the lease liability at period end. Leasehold improvements are amortized over the shorter of the depreciable lives of the corresponding fixed assets or the lease term including any applicable renewals. We have made an accounting policy election to not include leases with an initial term of 12 months or less on the balance sheet.

We have operating leases for certain property and equipment under various noncancelable agreements, the most significant of which are rail car leases and barge tow charters for the distribution of our products. The rail car leases currently have minimum terms ranging from one to eleven years and the barge tow charter commitments range from one to seven years. Our rail car leases and barge tow charters commonly contain provisions for automatic annual renewal that can extend the lease term unless canceled by either party. We also have operating leases for terminal and warehouse storage for our distribution system, some of which contain minimum throughput requirements. The storage agreements contain minimum terms generally ranging from one to three years and commonly contain provisions for automatic are leases, barge tow charters and terminal and warehouse storage agreements are not reasonably certain to be exercised. For all rail car leases, barge tow charters, and terminal and warehouse storage agreements, we have made an accounting policy election to not separate lease and non-lease components, such as operating costs and maintenance, due to the unavailability of sufficient data. As a result, the non-lease components are included in the ROU assets and lease liabilities on our balance sheet.

The components of lease costs were as follows:

Three
months
ended
March
31, 2019
(in
millions)Operating lease cost\$ 23Short-term lease cost7Total lease cost\$ 30

Supplemental cash flow information related to leases was as follows:

Three months ended March 31, 2019 (in millions) \$ 20 16

Operating cash flows - cash paid for amounts included in the measurement of operating lease liabilities ROU assets obtained in exchange for operating lease obligations Supplemental balance sheet information related to leases was as follows:

	Three months ended March 31, 2019 (in millions)
Operating lease ROU assets	\$ 285
Current operating lease liabilities	\$ 85
Operating lease liabilities	203
Total operating lease liabilities	\$ 288

	Three months ended March 31, 2019	
Operating leases		
Weighted average remaining lease term	5 years	
Weighted average discount rate ⁽¹⁾	4.9 %	

(1) Upon adoption of the new lease standard, discount rates used for existing leases were established at January 1, 2019. See Note 2—New Accounting Standards.

The following table reconciles the undiscounted cash flows for our operating leases to the operating lease liabilities recorded on our consolidated balance sheet as of March 31, 2019.

	Operati lease	ng
	paymen (in millions	
Remainder of 2019	\$ 65	
2020	80	
2021	59	
2022	41	
2023	27	
Thereafter	55	
Total lease payments	327	
Less: imputed interest	(39)
Total operating lease liabilities	288	
Less: Current operating lease liabilities	(85)
Long-term operating lease liabilities	\$ 203	

As of March 31, 2019, we have entered into additional leases that had not yet commenced. These leases have been excluded from total operating lease liabilities and will commence in fiscal years 2019 and 2020 with future minimum payments of \$19 million and lease terms ranging from five to ten years.

As previously disclosed in our <u>2018 Annual Report on Form 10-K</u> and under the previous lease accounting standard, the future minimum lease payments for operating leases having initial or remaining noncancelable lease terms in excess of one year as of December 31, 2018 were as follows:

	Operating
	lease
	payments
	(in
	millions)
2019	\$93
2020	80
2021	59
2022	41
2023	28
Thereafter	62
Total lease payments	\$ 363

14. Noncontrolling Interests

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

6	Three months ended March 31,						
	2019 2018						
	CFN	CFN	TNCLP	Total			
	(in millions)						
Noncontrolling interests:							
Beginning balance	\$2,773	\$2,772	\$333	\$3,105			
Earnings attributable to noncontrolling interests	28	17	8	25			
Declaration of distributions payable	(86)	(49)	(10)	(59)			
Ending balance	\$2,715	\$2,740	\$331	\$3,071			
Distributions payable to noncontrolling interests:							
Beginning balance	\$—	\$—	\$—	\$—			
Declaration of distributions payable	86	49	10	59			
Distributions to noncontrolling interests	(86)	(49)	(10)	(59)			
Ending balance	\$—	\$—	\$—	\$—			

CF Industries Nitrogen, LLC (CFN)

We have a strategic venture with CHS under which they own 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 and any member contributions made to, 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 interests in our consolidated financial statements. 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. Additionally, under the terms of the strategic venture, we recognized an embedded derivative related to our credit rating. See Note 9-Fair Value Measurements for additional information. Terra Nitrogen Company, L.P. (TNCLP)

On February 7, 2018, we announced that, in accordance with the terms of TNCLP's First Amended and Restated Agreement of Limited Partnership (as amended by Amendment No. 1 to the First Amended and Restated Agreement of Limited Partnership), the TNCLP Agreement of Limited Partnership), Terra Nitrogen GP Inc. (TNGP), the sole general partner of TNCLP and an indirect wholly owned subsidiary of CF Holdings, elected to exercise its right to purchase all of the 4,612,562 publicly traded common units of TNCLP (the TNCLP Public Units). On April 2, 2018, TNGP completed its purchase of the TNCLP Public Units (the Purchase) for an aggregate cash purchase price of \$388 million, at which time we recognized a reduction in paid-in capital of \$62 million; a deferred tax liability of \$5 million; and the removal of the TNCLP noncontrolling interests of \$331 million. Upon completion of the Purchase, CF Holdings owned, through its subsidiaries, 100 percent of the general and limited partnership interests of TNCLP.

Prior to April 2, 2018, TNCLP was a master limited partnership that owned a nitrogen fertilizer manufacturing facility in Verdigris, Oklahoma. We owned approximately 75.3% of TNCLP through general and limited partnership interests and outside investors owned the remaining approximately 24.7% of the limited partnership. For financial reporting purposes, the assets, liabilities and earnings of the partnership were consolidated into our financial statements. The outside investors' limited partnership interests in TNCLP were recorded in noncontrolling interests in our consolidated financial statements. The noncontrolling interest represented the noncontrolling unitholders' interest (prior to the Purchase) in the earnings and equity of TNCLP. Affiliates of CF Industries were required to purchase all of TNCLP's fertilizer products at market prices as defined in the Amendment to the General and Administrative Services and Product Offtake Agreement, dated September 28, 2010.

Prior to April 2, 2018, TNCLP made cash distributions to the general and limited partners based on formulas defined within the TNCLP Agreement of Limited Partnership. Cash available for distribution (Available Cash) was defined in the TNCLP Agreement of Limited Partnership generally as all cash receipts less all cash disbursements, less certain reserves (including reserves for future operating and capital needs) established as the general partner determined in its reasonable discretion to be necessary or appropriate. Changes in working capital affected Available Cash, as increases in the amount of cash invested in working capital items (such as increases in receivables or inventory and decreases in accounts payable) reduced Available Cash, while declines in the amount of cash invested in working capital items to the limited partners and general partner varied depending on the extent to which the cumulative distributions exceeded certain target threshold levels set forth in the TNCLP Agreement of Limited Partnership.

15. Stockholders' Equity

Treasury Stock

On August 1, 2018, our Board of Directors (the Board) authorized the repurchase of up to \$500 million of CF Holdings common stock through June 30, 2020 (the 2018 Share Repurchase Program). In 2018, we completed the 2018 Share Repurchase Program with the repurchase of 10.9 million shares for \$500 million, of which \$33 million was accrued and unpaid at December 31, 2018. In February 2019, we retired all 10.9 million shares that were repurchased under the 2018 Share Repurchase Program.

On February 13, 2019, the Board authorized the repurchase of up to \$1 billion of CF Holdings common stock through December 31, 2021 (the 2019 Share Repurchase Program). Repurchases under the 2019 Share Repurchase Program may be made from time to time in the open market, through privately negotiated transactions, 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 first quarter of 2019, we repurchased approximately 1.5 million shares for \$60 million, of which \$6 million was accrued and unpaid at March 31, 2019. At March 31, 2019, we held 1,546,005 shares of treasury stock.

Accumulated Other Comprehensive Income (Loss)

Changes to accumulated other comprehensive income (loss) are as follows:

	Foreign Currency Translation Adjustment (in millions)	Unrealized Gain (Loss) on Derivatives	Defined Benefit Plans	Accumulated Other Comprehensive Income (Loss)
Balance as of December 31, 2017	\$(145) \$ 1	\$ 4	\$(123)	\$ (263)
Adoption of ASU 2016-01	— (1)			(1)
Reclassification to earnings ⁽¹⁾			1	1
Effect of exchange rate changes and deferred taxes	17 —		(2)	15
Balance as of March 31, 2018	\$(128) \$ —	\$ 4	\$(124)	\$ (248)

Balance as of December 31, 2018	\$(250) \$ —	\$ 5	\$(126) \$ (371)
Effect of exchange rate changes and deferred taxes	32 —		(2) 30	
Balance as of March 31, 2019	\$(218) \$ —	\$ 5	\$(128) \$ (341)

(1) Reclassifications out of accumulated other comprehensive income (loss) to earnings during the three months ending March 31, 2019 and 2018 were not material.

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16. Contingencies Litigation

West Fertilizer Co.

On April 17, 2013, there was a fire and explosion at the West Fertilizer Co. fertilizer storage and distribution facility in West, Texas. According to published reports, 15 people were killed and approximately 200 people were injured in the incident, and the fire and explosion damaged or destroyed a number of homes and buildings around the facility. Various subsidiaries of CF Industries Holdings, Inc. (the CF Entities) were named as defendants along with other companies in lawsuits filed in 2013, 2014 and 2015 in the District Court of McLennan County, Texas by the City of West, individual residents of the County and other parties seeking recovery for damages allegedly sustained as a result of the explosion. The cases were consolidated for discovery and pretrial proceedings in the District Court of McLennan County under the caption "In re: West Explosion Cases." The two-year statute of limitations expired on April 17, 2015. As of that date, over 400 plaintiffs had filed claims, including at least 9 entities, 325 individuals, and 80 insurance companies. Plaintiffs allege various theories of negligence, strict liability, and breach of warranty under Texas law. Although we do not own or operate the facility or directly sell our products to West Fertilizer Co., products that the CF Entities manufactured and sold to others were delivered to the facility and may have been stored at the West facility at the time of the incident.

The Court granted in part and denied in part the CF Entities' Motions for Summary Judgment in August 2015. Over two hundred cases have been resolved pursuant to confidential settlements that have been or we expect will be fully funded by insurance. The remaining cases are in various stages of discovery and pre-trial proceedings. The next group of cases was reset for trial beginning on July 23, 2019. We believe we have strong legal and factual defenses and intend to continue defending the CF Entities vigorously in the pending lawsuits. The Company cannot provide a range of reasonably possible loss due to the lack of damages discovery for many of the remaining claims and the uncertain nature of this litigation, including uncertainties around the potential allocation of responsibility by a jury to other defendants or responsible third parties. The recognition of a potential loss in the future in the West Fertilizer Co. litigation could negatively affect our results in the period of recognition. However, based upon currently available information, including available insurance coverage, we do not believe that this litigation will have a material adverse effect on our consolidated financial position, results of operations or cash flows.

Other Litigation

From time to time, we are subject to ordinary, routine legal proceedings related to the usual conduct of our business, including proceedings regarding public utility and transportation rates, environmental matters, taxes and permits relating to the operations of our various plants and facilities. Based on the information available as of the date of this filing, we believe that the ultimate outcome of these routine matters will not have a material adverse effect on our consolidated financial position, results of operations or cash flows.

Environmental

From time to time, we receive notices from governmental agencies or third parties alleging that we are a potentially responsible party at certain cleanup sites under CERCLA or other environmental cleanup laws. In 2011, we received a notice from the Idaho Department of Environmental Quality (IDEQ) that alleged that we were a potentially responsible party for the cleanup of a former phosphate mine site we owned in the late 1950s and early 1960s located in Georgetown Canyon, Idaho. The current property owner and a former mining contractor received similar notices for the site. In 2014, we and the current property owner entered into a Consent Order with IDEQ and the U.S. Forest Service to conduct a remedial investigation and feasibility study of the site. In 2015, we and several other parties received a notice that the U.S. Department of the Interior and other trustees intend to undertake a natural resource damage assessment for 17 former phosphate mines in southeast Idaho, one of which is the former Georgetown Canyon mine. We are not able to estimate at this time our potential liability, if any, with respect to the cleanup of the site or a possible claim for natural resource damages. However, based on currently available information, we do not expect the remedial or financial obligations to which we may be subject involving this or other cleanup sites will have

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a material adverse effect on our consolidated financial position, results of operations or cash flows.

17. 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 of selling, general and administrative expenses and other operating—net) and non-operating expenses (interest and income taxes) are centrally managed and are not included in the measurement of segment profitability reviewed by management.

Our assets, with the exception of goodwill, are not monitored by or reported to our chief operating decision maker by segment; therefore, we do not present total assets by segment. Goodwill by segment is presented in Note 7—Goodwill and Other Intangible Assets.

Segment data for sales, cost of sales and gross margin for the three months ended March 31, 2019 and 2018 are presented in the tables below.

	Ammo	Granular nia Urea ⁽¹⁾	UAN ⁽¹⁾	AN ⁽¹⁾	Other ⁽¹⁾	Consolidated
	(in mill	ions)				
Three months ended March 31, 2019						
Net sales	\$187	\$ 343	\$256	\$127	\$88	\$ 1,001
Cost of sales	166	228	195	114	78	781
Gross margin	\$21	\$ 115	\$61	\$13	\$ 10	220
Total other operating costs and expenses						62
Equity in earnings of operating affiliate						7
Operating earnings						\$ 165
Three months ended March 31, 2018						
Net sales	\$212	\$ 264	\$283	\$100	\$ 98	\$ 957
Cost of sales	188	189	230	74	86	767
Gross margin	\$24	\$ 75	\$53	\$26	\$ 12	190
Total other operating costs and expenses						36
Equity in earnings of operating affiliate						7
Operating earnings						\$ 161

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

18. Condensed Consolidating Financial Statements

The following condensed consolidating financial information is presented in accordance with SEC Regulation S-X Rule 3-10, *Financial statements of guarantors and issuers of guaranteed securities registered or being registered*, and relates to (i) the senior notes due 2020, 2023, 2034, 2043 and 2044 (described in Note 12—Financing Agreements and referred to in this report as the Public Senior Notes) issued by CF Industries, Inc. (CF Industries), a 100% owned subsidiary of CF Industries Holdings, Inc. (Parent), and guarantees of the Public Senior Notes by Parent and by CFE, CFS, CF USA and CFIDF (the Subsidiary Guarantors), which are 100% owned subsidiaries of Parent, and (ii) debt securities of CF Industries (Other Debt Securities), and guarantees thereof by Parent and the Subsidiary Guarantors, that may be offered and sold from time to time under registration statements that may be filed by Parent, CF Industries and the Subsidiary Guarantors with the SEC.

In the event that a subsidiary of Parent, other than CF Industries, becomes a borrower or a guarantor under the Revolving Credit Agreement (or any renewal, replacement or refinancing thereof), such subsidiary would be required to become a guarantor of the Public Senior Notes, provided that such requirement will no longer apply with respect to the Public Senior Notes due 2023, 2034, 2043 and 2044 following the repayment of the Public Senior Notes due 2020 or the subsidiaries of Parent, other than CF Industries, otherwise becoming no longer subject to such a requirement to guarantee the Public Senior Notes due 2020. The Subsidiary Guarantors became guarantors of the Public Senior Notes as a result of this requirement.

All of the guarantees of the Public Senior Notes are, and we have assumed for purposes of this presentation of condensed consolidating financial information that the guarantees of any Other Debt Securities would be, full and unconditional (as such term is defined in SEC Regulation S-X Rule 3-10(h)) and joint and several. The guarantee of a Subsidiary Guarantor will be automatically released with respect to a series of the Public Senior Notes (1) upon the release, discharge or termination of such Subsidiary Guarantor's guarantee of the Revolving Credit Agreement (or any renewal, replacement or refinancing thereof), (2) upon legal defeasance with respect to the Public Senior Notes of such series or satisfaction and discharge of the indenture with respect to such series of Public Senior Notes or (3) in the case of the Public Senior Notes due 2023, 2034, 2043 and 2044, upon the discharge, termination or release of, or the release of such Subsidiary Guarantor from its obligations under, such Subsidiary Guarantor's guarantee of the Public Senior Notes due 2020, including, without limitation, any such discharge, termination or release as a result of retirement, discharge or legal or covenant defeasance of, or satisfaction and discharge of legal or covenant defeasance of, or satisfaction and discharge or legal or covenant defeasance of, or satisfaction and discharge or legal or covenant defeasance of, or satisfaction and discharge or legal or covenant defeasance of, or satisfaction and discharge of the supplemental indenture governing, the Public Senior Notes due 2020.

For purposes of the presentation of condensed consolidating financial information, the subsidiaries of Parent other than CF Industries and the Subsidiary Guarantors are referred to as the Non-Guarantors.

Presented below are condensed consolidating statements of operations, statements of comprehensive income and statements of cash flows for Parent, CF Industries, the Subsidiary Guarantors and the Non-Guarantors for the three months ended March 31, 2019 and 2018 and condensed consolidating balance sheets for Parent, CF Industries, the Subsidiary Guarantors and the Non-Guarantors as of March 31, 2019 and December 31, 2018. The condensed consolidating financial information presented below is not necessarily indicative of the financial position, results of operations, comprehensive income or cash flows of Parent, CF Industries, the Subsidiary Guarantors on a stand-alone basis.

In these condensed consolidating financial statements, investments in subsidiaries are presented under the equity method, in which our investments are recorded at cost and adjusted for our ownership share of a subsidiary's cumulative results of operations, distributions and other equity changes, and the eliminating entries reflect primarily intercompany transactions such as sales, accounts receivable and accounts payable and the elimination of equity investments and earnings of subsidiaries. As of March 31, 2019, two of our consolidated entities have made elections to be taxed as partnerships for U.S. federal income tax purposes and are included in the Non-Guarantors column. Due to the partnership tax treatment, these subsidiaries do not record taxes on their financial statements. The tax provision pertaining to the income of these partnerships, plus applicable deferred tax balances are reflected on the financial

statements of the parent company owner that is included in the Subsidiary Guarantors column in the following financial information. Liabilities related to benefit plan obligations are reflected on the legal entity that funds the obligation, while the benefit plan expense is included on the legal entity to which the employee provides services.

Condensed Consolidating Statement of Operations

	Three months ended March 31, 2019							
	Paren	Industries	Subsidiary Guarantors	Non-Guarantors	Elimination	s Consolidated		
	(in mi	· ·						
Net sales	\$—	\$ 90	\$ 739	\$ 950	\$(778)	\$ 1,001		
Cost of sales		88	716	753	(776)	781		
Gross margin	—	2	23	197	(2)	220		
Selling, general and administrative expenses	1	1	39	19	(2)	58		
Other operating—net	—	1	1	2		4		
Total other operating costs and expenses	1	2	40	21	(2)	62		
Equity in earnings of operating affiliates	—	1		6		7		
Operating (loss) earnings	(1)) 1	(17)	182		165		
Interest expense	—	61	1	1	(3)	60		
Interest expense-mandatorily redeemable preferred sha	ar es -		—	1	(1)			
Interest income	(1)) —	(3)	(4)	4	(4)		
Net earnings of wholly owned subsidiaries	(90)) (137)	(177)		404			
Other non-operating—net	—		—	(1)		(1)		
Earnings before income taxes	90	77	162	185	(404)	110		
Income tax (benefit) provision		(13)	30	(25)		(8)		
Net earnings	90	90	132	210	(404)	118		
Less: Net earnings attributable to noncontrolling interest	ts—			28		28		
Net earnings attributable to common stockholders	\$90	\$ 90	\$ 132	\$ 182	\$ (404)	\$ 90		

Condensed Consolidating Statement of Comprehensive Income

	Three months ended March 31, 2019								
	Parent	CF Industries	Subsidiary Guarantors	Non-Guaranto	rsElimination	s Consolidated			
	(in mill	ions)							
Net earnings	\$90	\$ 90	\$ 132	\$ 210	\$ (404)	\$ 118			
Other comprehensive income	31	31	20	31	(83)	30			
Comprehensive income	121	121	152	241	(487)	148			
Less: Comprehensive income attributable to noncontrolling interests		_		28		28			
Comprehensive income attributable to common stockholders	s\$121	\$ 121	\$ 152	\$ 213	\$ (487)	\$ 120			

Condensed Consolidating Statement of Operations

	Three months ended March 31, 2018									
	Parent	Industries	Subsidi Guarai	•	Non-Guara	ntors	Eliminati	ons	Consolida	ated
	(in mil	,	• • •		* ••• *					
Net sales	\$—	\$ 105	\$ 712	2	\$ 885		\$ (745)	\$ 957	
Cost of sales		90	716		700		(739)	767	
Gross margin	—	15	(4)	185		(6)	190	
Selling, general and administrative expenses	1	1	39		22		(6)	57	
Other operating—net	—	(13	(3)	(5)			(21)
Total other operating costs and expenses	1	(12)	36		17		(6)	36	
Equity in earnings of operating affiliates	—	3			4				7	
Operating (loss) earnings	(1)	30	(40)	172				161	
Interest expense	—	62	4		1		(7)	60	
Interest income	(1)	(2)	(3)	(4)	7		(3)
Net earnings of wholly owned subsidiaries	(63)	(87)	(135)			285			
Other non-operating—net	—				(1)			(1)
Earnings before income taxes	63	57	94		176		(285)	105	
Income tax (benefit) provision		(6)	17		6				17	
Net earnings	63	63	77		170		(285)	88	
Less: Net earnings attributable to noncontrolling interest	s—	_			25				25	
Net earnings attributable to common stockholders	\$63	\$ 63	\$77		\$ 145		\$ (285)	\$ 63	

Condensed Consolidating Statement of Comprehensive Income

Condensed Consolidating Statement of Comprehensive medine									
	Three months ended March 31, 2018								
	Parent ^{CF} Subsidiary Industries Guarantors		CF Subsidiary Non-GuarantorsElim Industries Guarantors			orsEliminations Consolidated			
	(in millions)								
Net earnings	\$63 \$ 63	\$ 77	\$ 170	\$ (285) \$ 88					
Other comprehensive income	15 15	1	15	(30) 16					
Comprehensive income	78 78	78	185	(315) 104					
Less: Comprehensive income attributable to noncontrolling interests			25	— 25					
Comprehensive income attributable to common stockholders	\$78 \$78	\$ 78	\$ 160	\$ (315) \$ 79					

Condensed Consolidating Balance Sheet

Convenseu Consonuating Datance Sheet						
	March 31,				Eliminations	
	Parent	CF Industries	Subsidiary Guarantors	Non- Guarantors	and Reclassification	Consolidated
	(in million	s)			Reclassification	115
Assets						
Current assets:						
Cash and cash equivalents	\$52	\$45	\$237	\$337	\$ —	\$671
Accounts and notes receivable-net	137	506	1,132	805	(2,316) 264
Inventories			253	193		446
Prepaid income taxes				1		1
Other current assets			23	7		30
Total current assets	189	551	1,645	1,343	(2,316) 1,412
Property, plant and equipment—net			106	8,365		8,471
Investments in affiliates	3,610	8,066	6,523	100	(18,199) 100
Goodwill			2,064	296		2,360
Operating lease right-of-use assets			280	5		285
Other assets		4	159	325	(174) 314
Total assets	\$3,799	\$8,621	\$10,777	\$10,434) \$12,942
Liabilities and Equity	+ = ,	+ =,===	+ - 0 , , , , , ,	+ ,	+ (,,) +,-
Current liabilities:						
Accounts and notes payable and accrued expenses	\$844	\$296	\$1,298	\$310	\$ (2,316) \$432
Income taxes payable	~		3		ф (<u>-</u> ,е т е	3
Customer advances			301			301
Current operating lease liabilities			83	2		85
Other current liabilities			5	<i></i>		5
Total current liabilities	844	296	1,690	312	(2,316) 826
Long-term debt		4,700	43	130) 4,700
Dividends payable—mandatorily redeemable preferre		4,700	ч.)	150	(175) 4,700
shares				1	(1) —
Deferred income taxes			979	156		1,135
			200	3		203
Operating lease liabilities Other liabilities		15	200	3 160		203 408
		15	233	100		406
Equity:						
Stockholders' equity:						
Preferred stock						<u> </u>
Common stock	2	1 700		4,964	(4,964) 2
Paid-in capital	1,311	1,799	8,760	1,263) 1,311
Retained earnings	2,047	2,152	(863)	1,015	(2,304) 2,047
Treasury stock	(64)) —				(64)
Accumulated other comprehensive loss				· ,	891	(341)
Total stockholders' equity	2,955	3,610	7,640	6,949	(18,199) 2,955
Noncontrolling interests			. ,	2,723		2,715
Total equity	2,955	3,610	7,632	9,672) 5,670
Total liabilities and equity	\$3,799	\$8,621	\$10,777	\$10,434	\$ (20,689) \$12,942

Condensed Consolidating Balance Sheet

Condensed Consolidating Dalance Sheet						
	December		~		Eliminations	
	Parent	CF Industries	Subsidiary Guarantors	Non- Guarantors	and	Consolidated
	(in million	s)			Reclassification	5
Assets						
Current assets:						
Cash and cash equivalents	\$36	\$27	\$65	\$554	\$ —	\$682
Accounts and notes receivable-net	135	500	1,203	911	(2,514)	235
Inventories	—	4	142	163		309
Prepaid income taxes			24	4		28
Other current assets			15	5		20
Total current assets	171	531	1,449	1,637	(2,514)	1,274
Property, plant and equipment—net			118	8,505		8,623
Investments in affiliates	3,656	8,208	6,857	94	(18,722)	93
Goodwill			2,064	289		2,353
Other assets		4	126	320	(132)	318
Total assets	\$3,827	\$8,743	\$10,614	\$10,845	\$ (21,368)	\$12,661
Liabilities and Equity						
Current liabilities:						
Accounts and notes payable and accrued expenses	\$870	\$374	\$1,429	\$386	\$ (2,514)	\$545
Income taxes payable			5			5
Customer advances			149			149
Other current liabilities			6			6
Total current liabilities	870	374	1,589	386	(2,514)	705
Long-term debt		4,698	43	89	(132)	4,698
Deferred income taxes			960	157		1,117
Other liabilities		15	232	163		410
Equity:						
Stockholders' equity:						
Preferred stock						
Common stock	2			5,363	(5,363)	2
Paid-in capital	1,368	1,799	9,070	1,265	(12,134)	1,368
Retained earnings	2,463	2,229	(995)	965	(2,199)	2,463
Treasury stock	(504)					(504)
Accumulated other comprehensive loss	(372)	(372)	(277)	(324)	974	(371)
Total stockholders' equity	2,957	3,656	7,798	7,269	(18,722)	2,958
Noncontrolling interests			(8)	2,781		2,773
Total equity	2,957	3,656	7,790	10,050	(18,722)	5,731
Total liabilities and equity	\$3,827	\$8,743	\$10,614	\$10,845	\$ (21,368)	\$12,661

Three months ended March 31, 2019

Table of Contents CF INDUSTRIES HOLDINGS, INC.

Condensed Consolidating Statement of Cash Flows

		CF		Subsidi	own	Non				<i>a</i>	
	Pare	nt Indus	trie	s Guaran	tor	s Guaran	tor	s Eliminat	ions	s Consolid	lated
Or senting A stimition	(in m	illions)									
Operating Activities:	¢.00	¢ 00		¢ 120		¢ 010		¢ (404	`	¢ 110	
Net earnings	\$90	\$ 90		\$ 132		\$ 210		\$ (404)	\$ 118	
Adjustments to reconcile net earnings to net cash provided by (used in) operating activities:											
Depreciation and amortization		2		6		180		_		188	
Deferred income taxes		_		18		(4)			14	
Stock-based compensation expense	6	_								6	
Unrealized net loss on natural gas derivatives				2				_		2	
Unrealized loss on embedded derivative				1						1	
Loss on disposal of property, plant and equipment						1				1	
Undistributed earnings of affiliates-net	(90)	(137)	(177)	(8)	404		(8)
Changes in:											
Intercompany accounts receivable/accounts payable-net	—	9		6		(15)	—			
Accounts receivable-net	—	(1)	(22)	(5)	—		(28)
Inventories		4		(114)	9		_		(101)
Accrued and prepaid income taxes	(1)	(12)	34		3		_		24	
Accounts and notes payable and accrued expenses		17		(40)	(42)	_		(65)
Customer advances				152				_		152	
Other—net		—		2				_		2	
Net cash provided by (used in) operating activities	5	(28)			329		_		306	
Investing Activities:											
Additions to property, plant and equipment	—	—		(4)	(76)	—		(80)
Proceeds from sale of property, plant and equipment	—			—		5		—		5	
Distributions received from unconsolidated affiliates	—	225		209		(434)	—			
Net cash provided by (used in) investing activities		225		205		(505)	—		(75)
Financing Activities:											
Long-term debt—net				(39)	39		—			
Short-term debt—net	_	(12)	6		6		_		_	
Dividends paid on common stock	(67)	(167)					167		(67)
Dividends to/from affiliates	167	_		_		_		(167)	_	
Distribution to noncontrolling interest	_	_		_		(86)	_		(86)
Purchases of treasury stock	(87)	-						_		(87)
Issuances of common stock under employee stock plans	2	_		_		_		_		2	
Shares withheld for taxes	(4)	—		_		_		_		(4)
Net cash provided by (used in) financing activities	11	(179)	(33)	(41)	_		(242)
Increase (decrease) in cash and cash equivalents	16	18		172		(217)	—		(11)
Cash and cash equivalents at beginning of period	36	27		65		554				682	
Cash and cash equivalents at end of period	\$52	\$ 45		\$ 237		\$ 337		\$ —		\$ 671	

Three months ended March 31, 2018

Table of Contents CF INDUSTRIES HOLDINGS, INC.

Condensed Consolidating Statement of Cash Flows

	CF Subsidiary Non-					
	Parent Cr Substanty Non- Elimina Industries Guarantors Guarantors	ations Consolidated				
	(in millions)					
Operating Activities:						
Net earnings	\$63 \$ 63 \$ 77 \$ 170 \$ (285	5) \$ 88				
Adjustments to reconcile net earnings to net cash (used in) provided by						
operating activities:	2 5 107	102				
Depreciation and amortization	-2 5 186 $-$	193				
Deferred income taxes	<u> </u>	29				
Stock-based compensation expense	6 — — — —	6				
Unrealized net loss (gain) on natural gas derivatives	1 (4) -	(3)				
Undistributed earnings of affiliates—net	(63) (86) (136) (3) 285	(3)				
Changes in:						
Intercompany accounts receivable/accounts payablenet	(7)(50)63 (6) —					
Accounts receivable—net	— — 64 (3) —	61				
Inventories	— 4 (91) (10) —	(97)				
Accrued and prepaid income taxes	— (7) (13) 6 —	(14)				
Accounts and notes payable and accrued expenses	— 7 (5) (26) —	(24)				
Customer advances	— — 65 — —	65				
Other—net	— (1) 3 (21) —	(19)				
Net cash (used in) provided by operating activities	(1)(68)72 279 —	282				
Investing Activities:						
Additions to property, plant and equipment	— — (3) (65) —	(68)				
Proceeds from sale of property, plant and equipment	8	8				
Distributions received from unconsolidated affiliates	— — 144 (140) —	4				
Investments in consolidated subs - capital contributions	— (31) (415) 446 —					
Other—net	1 _	1				
Net cash (used in) provided by investing activities	— (31) (274) 250 —	(55)				
Financing Activities:						
Long-term debt—net	— — 178 (178) —	—				
Short-term debt—net	70 98 (275) 107 —	—				
Financing fees	_ 1	1				
Dividends paid on common stock	(70) — (49) 49	(70)				
Dividends to/from affiliates	<u> </u>) —				
Distributions to noncontrolling interests	— — (59) —	(59)				
Issuances of common stock under employee stock plans	2	2				
Shares withheld for taxes	(1) — — — —	(1)				
Net cash provided by (used in) financing activities	1 99 (48) (179) —	(127)				
Effect of exchange rate changes on cash and cash equivalents	1 _	1				
(Decrease) increase in cash and cash equivalents	— — (250) 351 —	101				
Cash and cash equivalents at beginning of period	— 15 388 432 —	835				
Cash and cash equivalents at end of period	\$— \$ 15 \$ 138 \$ 783 \$ —	\$ 936				

19. Subsequent Event

During the first quarter of 2019, we entered into an agreement to sell our Pine Bend dry bulk storage and logistics facility in Minnesota. In April of 2019, we completed the sale and received proceeds of \$55 million. See Note 6—Property, Plant and Equipment—Net for additional information.

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, which were included in our 2018 Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 22, 2019, as well as Item 1. Financial Statements, in this 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 only to CF Industries Holdings, Inc. itself and not its subsidiaries. All references to "CF Industries" refer to Short-tons. Notes referenced in this discussion and analysis refer to the notes to our unaudited interim consolidated financial statements that are found in the preceding section: Item 1. Financial Statements. The following is an outline of the discussion and analysis included herein: Overview of CF Holdings

Overview of CF Holdings Our Company Items Affecting Comparability of Results Financial Executive Summary Results of Consolidated Operations First Quarter of 2019 Compared to First Quarter of 2018 Operating Results by Business Segment Liquidity and Capital Resources Off-Balance Sheet Arrangements Critical Accounting Policies and Estimates Recent Accounting Pronouncements Forward-Looking Statements

Overview of CF Holdings

Our Company

We are a leading global fertilizer and chemical company. Our 3,000 employees operate world-class manufacturing complexes in Canada, the United Kingdom and the United States. Our principal customers are cooperatives, independent fertilizer distributors, traders, wholesalers, farmers and industrial users. Our principal nitrogen fertilizer products are ammonia, 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, and compound fertilizer products (NPKs), which are solid granular fertilizer products for which the nutrient content is a combination of nitrogen, phosphorus, and potassium. We serve our customers in North America through our production, storage, transportation and distribution network. We also reach a global customer base with exports from our Donaldsonville, Louisiana, plant, the world's largest and most flexible nitrogen complex. Additionally, we move product to international destinations from our Verdigris, Oklahoma, facility, our Yazoo City, Mississippi, facility, our Billingham and Ince facilities in the United Kingdom, and from a joint venture ammonia facility in the Republic of Trinidad and Tobago in which we own a 50 percent interest. Our principal assets as of March 31, 2019 include:

five U.S. nitrogen fertilizer manufacturing facilities located in Donaldsonville, Louisiana (the largest nitrogen fertilizer complex in the world); Port Neal, Iowa; Yazoo City, Mississippi; Verdigris, Oklahoma; and Woodward, Oklahoma. These facilities are owned by CF Industries Nitrogen, LLC (CFN), of which we own approximately 89% and CHS Inc. (CHS) owns the remainder. See Note 14—Noncontrolling Interests for additional information on our strategic venture with CHS;

two Canadian nitrogen fertilizer manufacturing facilities located in Medicine Hat, Alberta (the largest nitrogen fertilizer complex in Canada) and Courtright, Ontario;

two United Kingdom nitrogen manufacturing facilities located in Billingham and Ince;

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 that we account for under the equity method.

Items Affecting Comparability of Results

Sales Volume

Unfavorable weather conditions impacted the first quarter of 2019. Persistent cold and wet weather across most of North America delayed spring planting activity and fertilizer applications. High water levels impacted shipping and logistics on inland rivers and delayed certain barge shipments. This resulted in delays in certain customers taking delivery of fertilizer and other customers delaying purchases. These factors were primarily responsible for a decline in our first quarter sales volume. Sales volume for the three months ended March 31, 2019 was 4.1 million product tons, a decrease of 5% compared to sales volume of 4.3 million product tons for the three months ended March 31, 2018. This decrease in sales volume resulted in a decrease in net sales of approximately \$18 million. The sales volume of UAN and ammonia were primarily impacted by these weather factors. Partially offsetting these declines were increases in sales volumes of both granular urea and AN due primarily to increases in production of these products. *Selling Prices*

The U.S. Gulf is a major global fertilizer pricing point due to the volume of nitrogen fertilizer that trades there. In 2018, higher energy costs in Asia and Europe, along with continued enforcement of environmental regulations in China, resulted in lower nitrogen production in these regions. In addition, outages impacted the nitrogen supply and demand balance. These factors collectively drove global nitrogen prices higher throughout the latter half of 2018. Upon entering the first quarter of 2019, average selling prices were higher than the first quarter of 2018, driven by the impact of a tighter global nitrogen supply and demand balance experienced throughout late 2018. A large volume of shipments made in the first quarter of 2019 reflected higher selling prices from orders placed in the latter part of 2018 and early 2019. As the first quarter of 2019 progressed and the market became more balanced, selling prices for some nitrogen products decreased.

The average selling price for our products for the three months ended March 31, 2019 was \$245 per ton compared to \$222 per ton for the three months ended March 31, 2018, an increase of 10%, which resulted in an increase in net sales of approximately \$62 million.

Other Items Affecting Comparability

In addition to the impact of market conditions on nitrogen fertilizer selling prices and sales volume, certain items impacted the comparability of our financial results during the three months ended March 31, 2019 and 2018. The following table and related discussion outline these items and how they impacted the comparability of our financial results during these periods. During the three months ended March 31, 2019 and 2018, we reported net earnings attributable to common stockholders of \$90 million and \$63 million, respectively.

	Three Months Ended March 31,			
	2019	2018		
	Pre-Tafter-Tax	Pre-TaxAfter-Tax		
	(in millions)			
Unrealized net mark-to-market loss (gain) on natural gas derivatives ⁽¹⁾	\$2 \$ 1	\$(3) \$ (2)		
Loss (gain) on foreign currency transactions, including intercompany loans ⁽²⁾	2 1	(5)(4)		
Louisiana incentive tax credit ⁽³⁾	— (30)			
Costs related to the acquisition of TNCLP Public Units ⁽⁴⁾		2 1		
Earnings attributable to noncontrolling interests - TNCLP ⁽⁵⁾		8 8		
Loss (gain) on foreign currency transactions, including intercompany loans ⁽²⁾ Louisiana incentive tax credit ⁽³⁾ Costs related to the acquisition of TNCLP Public Units ⁽⁴⁾	(in millions) \$2 \$ 1 2 1	(3) $(2)(5)$ $(4)-2$ 1		

⁽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⁾ Included in income tax (benefit) provision in our consolidated statement of operations.

⁽⁴⁾ Included in selling, general and administrative expenses in our consolidated statement of operations.

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⁽⁵⁾ Included in net earnings attributable to noncontrolling interests in our consolidated statement of operations.

The following describes these items, identified in the table above, that impacted the comparability of our financial results for the three months ended March 31, 2019 and 2018. Descriptions of items below that refer to amounts in the table above refer to the pre-tax amounts.

Unrealized net mark-to-market loss (gain) on natural gas derivatives

Natural gas is typically the largest and most volatile single 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 derivatives that we may use for this purpose are primarily natural gas fixed price swaps, natural gas basis swaps and natural gas 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 is reflected in cost of sales in our consolidated statements of operations. In the three months ended March 31, 2019 and 2018, we recognized unrealized net mark-to-market losses (gains) of \$2 million and \$(3) million, respectively.

Loss (gain) on foreign currency transactions, including intercompany loans

In the three months ended March 31, 2019 and 2018, we recognized losses (gains) of \$2 million and \$(5) million, respectively, from the impact of changes in foreign currency exchange rates on primarily British pound and Canadian dollar denominated intercompany loans that were not permanently invested.

Louisiana incentive tax credit

For the three months ended March 31, 2019, our income tax benefit includes an incentive tax credit from the State of Louisiana of \$30 million, net of federal income tax, related to certain capital projects at our Donaldsonville, Louisiana complex.

Acquisition of the Terra Nitrogen Company, L.P. (TNCLP) Public Units

In the first quarter of 2018, we announced that, in accordance with the terms of TNCLP's First Amended and Restated Agreement of Limited Partnership (as amended by Amendment No. 1 to the First Amended and Restated Agreement of Limited Partnership), the TNCLP Agreement of Limited Partnership), Terra Nitrogen GP Inc. (TNGP), the sole general partner of TNCLP and an indirect wholly owned subsidiary of CF Holdings, elected to exercise its right to purchase all of the 4,612,562 publicly traded common units of TNCLP (the TNCLP Public Units). TNGP completed its purchase of the TNCLP Public Units on April 2, 2018 (the Purchase) for an aggregate cash purchase price of \$388 million. We funded the Purchase with cash on hand. Upon completion of the Purchase, CF Holdings owned, through its subsidiaries, 100 percent of the general and limited partnership interests of TNCLP.

In the three months ended March 31, 2018, we incurred \$2 million of costs for various legal services associated with the acquisition of the TNCLP Public Units. These costs are reflected in selling, general and administrative expenses in our consolidated statement of operations.

Beginning in the second quarter of 2018, as a result of the April 2, 2018 acquisition of the TNCLP Public Units, there are no longer earnings attributable to noncontrolling interests in TNCLP. In the three months ended March 31, 2018, earnings attributable to noncontrolling interests in TNCLP was \$8 million.

Financial Executive Summary

We reported net earnings attributable to common stockholders of \$90 million for the three months ended March 31, 2019 compared to \$63 million for the three months ended March 31, 2018, or an increase in net earnings of \$27 million between the periods. Diluted net earnings per share attributable to common stockholders increased \$0.13 per share to \$0.40 in the first quarter of 2019 compared to \$0.27 in the first quarter of 2018. The increase in net earnings of \$27 million was due primarily to the following:

Net sales were \$1.00 billion in the first quarter of 2019, an increase of \$44 million, or 5%, from \$957 million in the first quarter of 2018, reflecting an increase in average selling prices of 10% partially offset by a 5% decline in sales volume.

Gross margin increased by \$30 million in the first quarter of 2019 to \$220 million as compared to \$190 million in the first quarter of 2018. The increase in gross margin was driven by tightening supply and demand conditions in the global nitrogen market, which increased average selling prices. This increase was partially offset by higher realized natural gas costs in the first quarter of 2019 as compared to the first quarter of 2018, higher plant maintenance activity and an increase in shipping costs due to weather related factors. This is more fully described in the section above

titled "Items Affecting Comparability of Results".

In the first quarter of 2019, we recorded an income tax benefit of \$8 million on pre-tax income of \$110 million, compared to an income tax provision of \$17 million on pre-tax income of \$105 million in the first quarter of 2018.

The first quarter of 2019 includes an incentive tax credit from the State of Louisiana of \$30 million, which is more fully described in the section above titled "Items Affecting Comparability of Results".

On February 13, 2019, our Board of Directors (the Board) authorized the repurchase of up to \$1 billion of CF Holdings common stock through December 31, 2021 (the 2019 Share Repurchase Program). Repurchases under the 2019 Share Repurchase Program may be made from time to time in the open market, through privately negotiated transactions, 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 first quarter of 2019, we repurchased approximately 1.5 million shares for \$60 million.

In April of 2019, the European Union Commission published a regulation imposing provisional anti-dumping duties on imports to the European Union of UAN manufactured in Russia, Trinidad and Tobago and the United States. The rate of the provisional anti-dumping duty applicable to imports of UAN manufactured in the United States is 22.6%. The regulation was effective on April 12, 2019 and the provisional anti-dumping duties apply for a period of six months from the effective date, at which time the provisional anti-dumping duties would be finalized, modified or canceled.

Results of Consolidated Operations

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

	Three Mont	hs Ended M	larch 31,		
	2019	2018	2019 v. 201	8	
	(in millions,				
Net sales	\$1,001	\$957	\$44	5	%
Cost of sales	781	767	14	2	%
Gross margin	220	190	30	16	%
Gross margin percentage		19.9 %			
Selling, general and administrative expenses	58	57	1	2	%
Other operating—net	4	(21)	25	N/N	Л
Total other operating costs and expenses	62	36	26	72	%
Equity in earnings of operating affiliate	7	7			%
Operating earnings	165	161	4	2	%
Interest expense—net	56	57	(1)	(2)%
Other non-operating—net	(1)	(1)			%
Earnings before income taxes	110	105	5	5	%
Income tax (benefit) provision	(8)	17	(25)	N/N	Л
Net earnings	118	88	30	34	%
Less: Net earnings attributable to noncontrolling interests	28	25	3	12	%
Net earnings attributable to common stockholders	\$90	\$63	\$27	43	%
Diluted net earnings per share attributable to common stockholders	\$0.40	\$0.27	\$0.13	48	%
Diluted weighted-average common shares outstanding	224.6	234.8	(10.2)	(4)%
Dividends declared per common share	\$0.30	\$0.30	\$—		%
Natural gas supplemental data (per MMBtu)					
Natural gas costs in cost of sales ⁽¹⁾	\$3.70	\$3.32	\$0.38	11	%
Realized derivatives (gain) loss in cost of sales ⁽²⁾	(0.02)	0.01	(0.03)	N/N	Λ
Cost of natural gas in cost of sales	\$3.68	\$3.33	\$0.35	11	%
Average daily market price of natural gas Henry Hub (Louisiana)	\$2.89	\$3.02	\$(0.13)	(4)%
Average daily market price of natural gas National Balancing Point (UK)	\$6.56	\$8.20	\$(1.64))%
Unrealized net mark-to-market loss (gain) on natural gas derivatives	\$2	\$(3)	\$5	N/N	
Depreciation and amortization	\$188	\$193	\$(5)	(3)%
Capital expenditures	\$80	\$68	\$12	18	%
Sales volume by product tons (000s)	4,087	4,303	(216)	(5)%
Production volume by product tons (000s):	,	,	· /	×	,
Ammonia ⁽³⁾	2,567	2,508	59	2	%
Granular urea	1,306	1,151	155	13	%
UAN (32%)	1,637	1,805	(168)	(9)%
AN	482	458	24	5	%
	-			-	

N/M—Not Meaningful

(1) Includes the cost of natural gas 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 2019 Compared to First Quarter of 2018

Net Sales

Our total net sales increased \$44 million, or 5%, to \$1.00 billion in the first quarter of 2019 compared to \$957 million in the first quarter of 2018 due to a 10% increase in average selling prices, which increased net sales by \$62 million, partially offset by lower sales volumes, which decreased net sales by \$18 million.

Average selling prices were \$245 per ton in the first quarter of 2019 compared to \$222 per ton in the first quarter of 2018 due to higher selling prices in our UAN, granular urea and AN segments, driven by the impact of a tighter global nitrogen supply and demand balance, partially offset by lower selling prices in our ammonia segment.

Our total sales volume decreased 5% from the first quarter of 2018 to the first quarter of 2019, due primarily to unfavorable weather including wet conditions and cold temperatures which delayed the spring application season. This impact was partially offset by higher granular urea and AN sales supported by increased production. *Cost of Sales*

Our total cost of sales increased \$14 million, or 2%, from the first quarter of 2018 to the first quarter of 2019. The increase in our cost of sales was due primarily to higher realized natural gas costs, including the impact of realized derivatives, higher costs related to plant maintenance activity and an increase in shipping costs due to cold and wet weather in North America, partially offset by the impact of lower volumes. Cost of sales averaged \$191 per ton in the first quarter of 2019, a 7% increase from \$178 per ton in the same quarter of 2018. Realized natural gas costs, including the impact of realized derivatives, increased 11% from \$3.33 per MMBtu in 2018 to \$3.68 per MMBtu in 2019.

Selling, General and Administrative Expenses

Selling, general and administrative expenses were essentially unchanged at \$58 million in the first quarter of 2019 as compared to \$57 million in the comparable period of 2018.

Other Operating—Net

Other operating—net was \$4 million of expense in the first quarter of 2019 compared to \$21 million of income in the comparable period of 2018. The \$4 million of expense in the first quarter of 2019 was primarily due to foreign currency transaction losses. The income in the first quarter of 2018 was due to the combination of changes in legal reserves, unrealized foreign currency gains pertaining to British pound denominated intercompany loans and a gain due to the recovery of certain precious metals used in the manufacturing process.

Equity in Earnings of Operating Affiliate

Equity in earnings of operating affiliate was unchanged at \$7 million in both the first quarter of 2019 and the first quarter of 2018.

Interest Expense-Net

Net interest expense was essentially unchanged at \$56 million in the first quarter of 2019 compared to \$57 million in the first quarter of 2018.

Income Taxes

For the three months ended March 31, 2019, we recorded an income tax benefit of \$8 million on pre-tax income of \$110 million, or an effective tax rate of (7.3)%, compared to an income tax provision of \$17 million on pre-tax income of \$105 million, or an effective tax rate of 15.8%, for the three months ended March 31, 2018.

For the three months ended March 31, 2019, our income tax benefit includes an incentive tax credit from the State of Louisiana of \$30 million, net of federal income tax, related to certain capital projects at our Donaldsonville, Louisiana complex.

Our effective tax rate is also impacted by earnings attributable to the noncontrolling interests in CFN and in the first quarter of 2018 by earnings attributable to the noncontrolling interests in TNCLP, as our consolidated income tax (benefit) provision does not include a tax provision on the earnings attributable to the noncontrolling interests. Our effective tax rate for the three months ended March 31, 2019 of (7.3)%, which is based on pre-tax income of \$110 million, would be 27.4% exclusive of the earnings attributable to the noncontrolling interests of \$28 million and

the incentive tax credit of \$30 million. Our effective tax rate for the three months ended March 31, 2018 of 15.8%, which is based on pre-tax income of \$105 million,

would be 20.8% exclusive of the earnings attributable to the noncontrolling interests of \$25 million. See Note 10—Income Taxes and Note 14—Noncontrolling Interests for additional information.

Net Earnings Attributable to Noncontrolling Interests

Net earnings attributable to noncontrolling interests increased \$3 million in the first quarter of 2019 compared to the first quarter of 2018 due to higher earnings from CFN driven by higher average selling prices due to the impact of a tighter global nitrogen supply and demand balance, partially offset by the reduction in noncontrolling interests due to the April 2, 2018 purchase of the noncontrolling interests in TNCLP. In the three months ended March 31, 2018, earnings attributable to noncontrolling interests in TNCLP was \$8 million.

Diluted Net Earnings Per Share Attributable to Common Stockholders

Net earnings per share attributable to common stockholders increased \$0.13 to \$0.40 per diluted share in the first quarter of 2019 from \$0.27 per diluted share in the first quarter of 2018. This increase is primarily driven by higher gross margin driven by higher average selling prices due to the impact of a tighter global nitrogen supply and demand balance entering 2019.

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 of selling, general and administrative expenses and other operating—net) and non-operating expenses (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)	Consolida	ated		
(in millions, except percentages)									
Three months ended March 31, 2019									
Net sales	\$187	\$343	\$256	\$127	\$88	\$1,001			
Cost of sales	166	228	195	114	78	781			
Gross margin	\$21	\$115	\$61	\$13	\$10	\$220			
Gross margin percentage	11.2 %	33.5 %	23.8 %	10.2 %	11.4%	22.0	%		
Three months ended March 31, 2018									
Net sales	\$212	\$264	\$283	\$100	\$98	\$957			
Cost of sales	188	189	230	74	86	767			
Gross margin	\$24	\$75	\$53	\$26	\$12	\$190			
Gross margin percentage	11.3 %	28.4 %	18.7 %	26.0 %	12.2%	19.9	%		

⁽¹⁾ The cost of 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 our most concentrated nitrogen fertilizer as it contains 82% nitrogen. The results of our ammonia segment consist of sales of ammonia to external customers. In addition, ammonia is the "basic" nitrogen product that we upgrade into other nitrogen products such as granular urea, UAN and AN. We produce ammonia at all of our nitrogen manufacturing complexes.

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

	Three Months Ended March 31,			
	2019	2018	2019 v. 201	8
	(dollars in millions, except per ton amounts)			
Net sales	\$187	\$212	\$(25)	(12)%
Cost of sales	166	188	(22)	(12)%
Gross margin	\$21	\$24	\$(3)	(13)%
Gross margin percentage	11.2 %	11.3 %	(0.1)%	
Sales volume by product tons (000s)	606	664	(58)	(9)%
Sales volume by nutrient tons $(000s)^{(1)}$	497	544	(47)	(9)%
Average selling price per product ton	\$309	\$319	\$(10)	(3)%
Average selling price per nutrient ton ⁽¹⁾	\$376	\$390	\$(14	