



2018 Third Quarter Financial Results

October 31, 2018
NYSE: CF

Safe harbor statement

All statements in this communication by CF Industries Holdings, Inc. (together with its subsidiaries, the "Company"), other than those relating to historical facts, are forward-looking statements. Forward-looking statements can generally be identified by their use of terms such as "anticipate," "believe," "could," "estimate," "expect," "intend," "may," "plan," "predict," "project," "will" or "would" and similar terms and phrases, including references to assumptions. Forward-looking statements are not guarantees of future performance and are subject to a number of assumptions, risks and uncertainties, many of which are beyond the Company's control, which could cause actual results to differ materially from such statements. These statements may include, but are not limited to, statements about strategic plans and statements about future financial and operating results. Important factors that could cause actual results to differ materially from those in the forward-looking statements include, among others, the cyclical nature of the Company's business and the agricultural sector; the global commodity nature of the Company's fertilizer products, the impact of global supply and demand on the Company's selling prices, and the intense global competition from other fertilizer producers; conditions in the U.S. and European agricultural industry; the volatility of natural gas prices in North America and Europe; difficulties in securing the supply and delivery of raw materials, increases in their costs or delays or interruptions in their delivery; reliance on third party providers of transportation services and equipment; the significant risks and hazards involved in producing and handling the Company's products against which the Company may not be fully insured; the Company's ability to manage its indebtedness; operating and financial restrictions imposed on the Company by the agreements governing the Company's senior secured indebtedness; risks associated with the Company's incurrence of additional indebtedness; the Company's ability to maintain compliance with covenants under the agreements governing its indebtedness; downgrades of the Company's credit ratings; risks associated with cyber security; weather conditions; risks associated with changes in tax laws and disagreements with taxing authorities; the Company's reliance on a limited number of key facilities; potential liabilities and expenditures related to environmental, health and safety laws and regulations and permitting requirements; future regulatory restrictions and requirements related to greenhouse gas emissions; risks associated with expansions of the Company's business, including unanticipated adverse consequences and the significant resources that could be required; the seasonality of the fertilizer business; the impact of changing market conditions on the Company's forward sales programs; risks involving derivatives and the effectiveness of the Company's risk measurement and hedging activities; risks associated with the operation or management of the strategic venture with CHS Inc. (the "CHS Strategic Venture"), risks and uncertainties relating to the market prices of the fertilizer products that are the subject of the supply agreement with CHS Inc. over the life of the supply agreement and the risk that any challenges related to the CHS Strategic Venture will harm the Company's other business relationships; risks associated with the Company's Point Lisas Nitrogen Limited joint venture; acts of terrorism and regulations to combat terrorism; risks associated with international operations; and deterioration of global market and economic conditions. More detailed information about factors that may affect the Company's performance and could cause actual results to differ materially from those in any forward-looking statements may be found in CF Industries Holdings, Inc.'s filings with the Securities and Exchange Commission, including CF Industries Holdings, Inc.'s most recent annual and quarterly reports on Form 10-K and Form 10-Q, which are available in the Investor Relations section of the Company's website. Forward-looking statements are given only as of the date of this presentation and the Company disclaims any obligation to update or revise the forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

Note regarding non-GAAP financial measures

The company reports its financial results in accordance with U.S. generally accepted accounting principles (GAAP). Management believes that EBITDA and adjusted EBITDA which are non-GAAP financial measures, provide additional meaningful information regarding the company's performance and financial strength. Non-GAAP financial measures should be viewed in addition to, and not as an alternative for, the company's reported results prepared in accordance with GAAP. In addition, because not all companies use identical calculations, EBITDA and adjusted EBITDA included in this presentation may not be comparable to similarly titled measures of other companies. Reconciliations of EBITDA and adjusted EBITDA to the most directly comparable GAAP measures are provided in the tables accompanying this presentation.

EBITDA is defined as net earnings (loss) attributable to common stockholders plus interest expense - net, income taxes, and depreciation and amortization. Other adjustments include the elimination of loan fee amortization that is included in both interest and amortization, and the portion of depreciation that is included in noncontrolling interests. The company has presented EBITDA because management uses the measure to track performance and believes that it is frequently used by securities analysts, investors and other interested parties in the evaluation of companies in the industry.

Adjusted EBITDA is defined as EBITDA adjusted with the selected items included in EBITDA as summarized in the tables accompanying this presentation. The company has presented adjusted EBITDA because management uses adjusted EBITDA, and believes it is useful to investors, as a supplemental financial measure in the comparison of year-over-year performance.

Table of contents

Safe Harbor Statement/Note Regarding Non-GAAP Financial Measures	2-3
Overview of Financial Results	5-7
Global Market Update	8-18
Capital Allocation and Structure	19-22
Appendix	23-28

Cover Page: Rail at Verdigris



Overview of Financial Results

Third quarter and first nine months 2018 results

Financial Overview

- Q3 net earnings of \$30 million; EBITDA⁽¹⁾ of \$308 million and adjusted EBITDA⁽¹⁾ of \$300 million
- Nine month net earnings of \$241 million; EBITDA⁽¹⁾ of \$1,080 million and adjusted EBITDA⁽¹⁾ of \$1,064 million
- CF added \$294 million of cash to the balance sheet during Q3; \$1 billion cash on balance sheet as of September 30, 2018
- Repurchased ~3 million shares through October 31, 2018 for ~\$150 million

Commercial Environment

- Net sales were 20% higher for Q3 and 9% higher for first nine months of 2018 due primarily to higher average selling prices across all segments compared to 2017
- Total sales volume for Q3 and first nine months 2018 slightly lower than 2017
- Higher global nitrogen prices in 2018 driven by higher energy costs in Asia and Europe, continued enforcement of environmental regulations in China
- Cost of sales in the first nine months of 2018 decreased compared to the same period in 2017 driven by lower realized gas costs partially offset by higher costs related to increased turnaround and maintenance activity

Safe and Efficient Operations

- As of September 30, 2018, the 12-month rolling average recordable incident rate was 0.67 incidents per 200,000 work hours
- Compared to 2017, gross ammonia production was 1% lower at 2.5 million tons in Q3 2018, and 3% lower at 7.4 million tons for first nine months 2018 due to increased turnaround and maintenance activity

⁽¹⁾ See appendix for reconciliation of EBITDA and adjusted EBITDA

Financial results - third quarter and first nine months 2018

In millions, except percentages, per MMBtu and EPS	Q3 2018	Q3 2017	First nine months 2018	First nine months 2017
Net sales	\$ 1,040	\$ 870	\$ 3,297	\$ 3,031
Gross margin ⁽¹⁾	173	11	675	291
- As percentage of net sales	16.6%	1.3%	20.5%	9.6%
Net earnings (loss) attributable to common stockholders	30	(87)	241	(107)
Net earnings (loss) per diluted share	0.13	(0.37)	1.03	(0.46)
EBITDA ⁽²⁾	308	139	1,080	632
Adjusted EBITDA ⁽²⁾	300	134	1,064	709
Diluted average shares outstanding	235.2	233.2	234.9	233.2
Natural gas (per MMBtu):				
Natural gas costs in cost of sales ⁽³⁾	\$ 3.16	\$ 3.22	\$ 3.11	\$ 3.41
Realized derivatives loss ⁽⁴⁾	<u>0.03</u>	<u>0.13</u>	<u>0.03</u>	<u>0.05</u>
Cost of natural gas in cost of sales	<u>3.19</u>	<u>3.35</u>	<u>3.14</u>	<u>3.46</u>
Unrealized net mark-to-market (gain) loss on natural gas derivatives	(3)	(7)	(11)	64

(1) Depreciation and amortization was \$233 million and \$667 million for the three and nine months ended September 30, 2018, respectively, and \$226 million and \$648 million for the three and nine months ended September 30, 2017, respectively

(2) See appendix for reconciliation of EBITDA and adjusted EBITDA

(3) Includes the cost of natural gas that is included in cost of sales during the period under the first-in, first-out inventory cost method

(4) 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

Donaldsonville loading dock



Global Market Update

Global market overview

Nitrogen Pricing Dynamics

- Global market fundamentals that drove global nitrogen prices higher during Q3 expected to persist through Q4 and into the first half of 2019
- From Sep 2017 to Sep 2018 price per MMBtu at Dutch TTF hub was 63% higher, Asian LNG spot price was 66% higher and Chinese anthracite coal costs were up 22% y/y; as a result, nitrogen facilities in Europe and Asia curtailed production, tightening global supply

Nitrogen Supply and Demand

- China's role in globally traded urea continued to shrink in Q3 with firm coal prices and environmental restrictions which have limited export volumes to <1 million metric tons through Aug 2018, 72% lower than 2017
- India is expected to tender 1-2 more times before March 2019 to meet urea needs for the current fertilizer year
- Brazilian urea imports in 2019 expected to increase further due to announced, but not yet completed, closure of two Petrobras urea plants
- Outlets for the estimated 3-4 million metric tons of annual Iranian exports appear limited and India did not purchase from Iran in its most recent tender
- Strong North American nitrogen demand driven by expected 4 million corn acre increase in 2019 along with an increase in wheat plantings

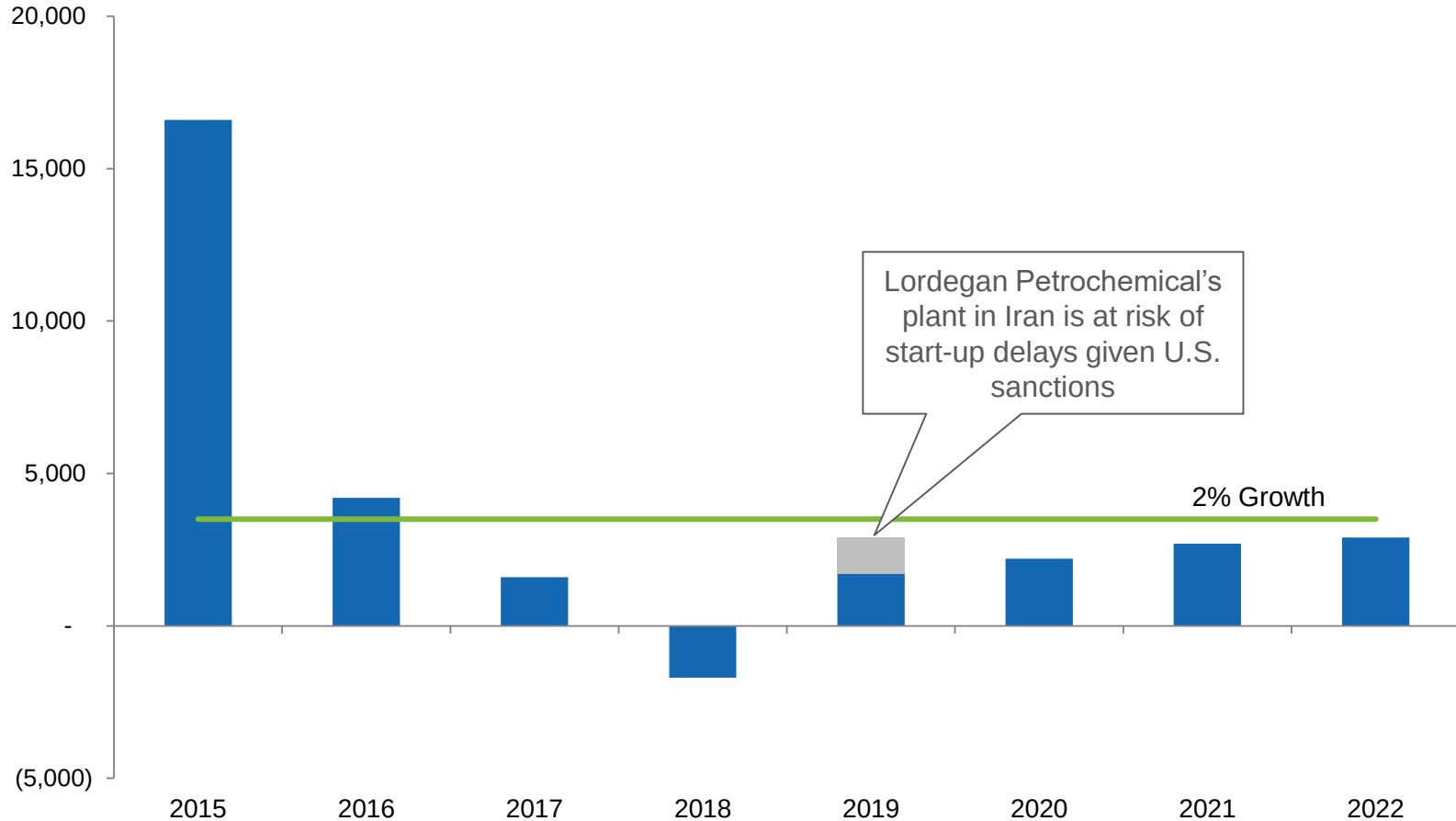
Energy Outlook

- Global energy fundamentals likely to support both higher hydrocarbon prices internationally and continued low North American natural gas prices

Expected net new capacity additions below historic global demand growth

CF Projected Global Net Urea Capacity Additions⁽¹⁾

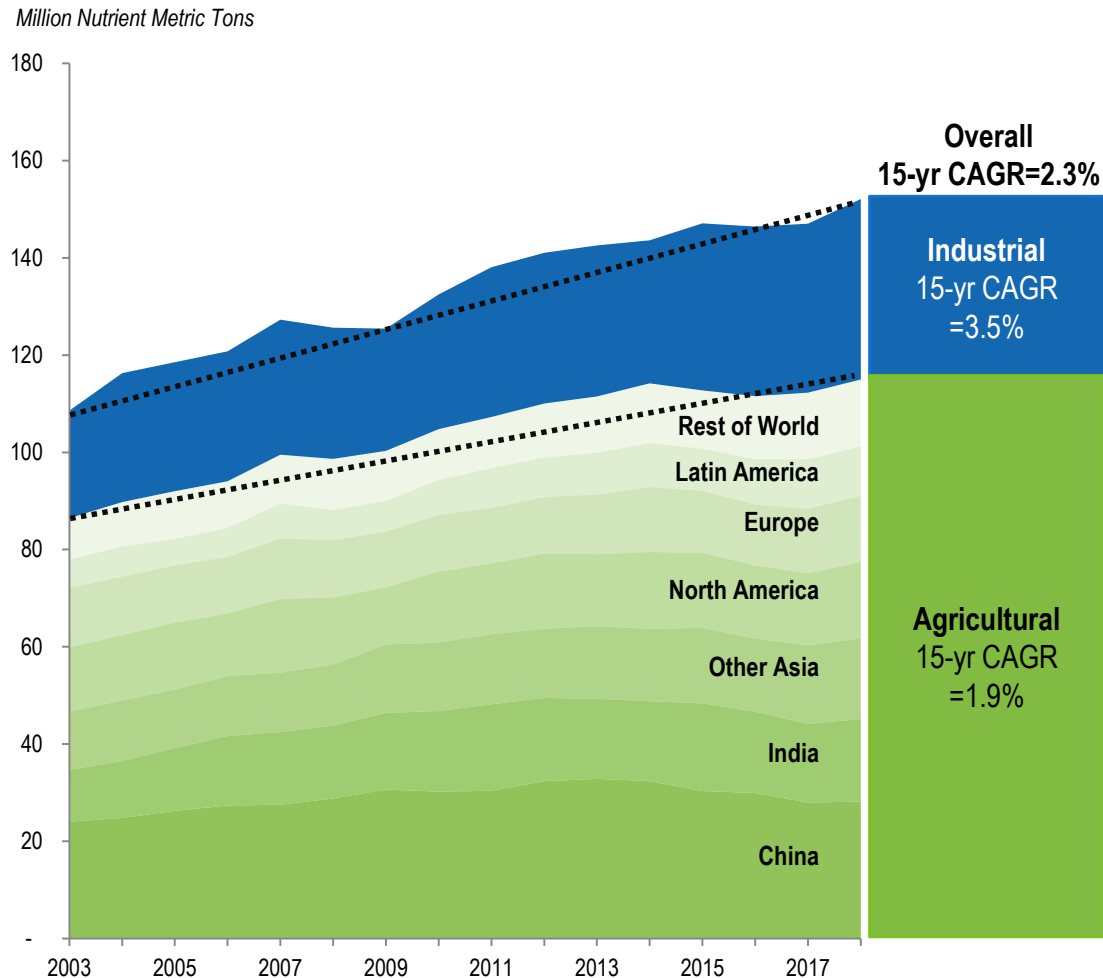
Thousand Product Metric Tons



(1) See appendix for details of the 2018-2022 projected additions and assumed closures

Global nitrogen demand growth

Total Nitrogen Consumption 2003-2018⁽¹⁾



Expected global demand growth driven by:

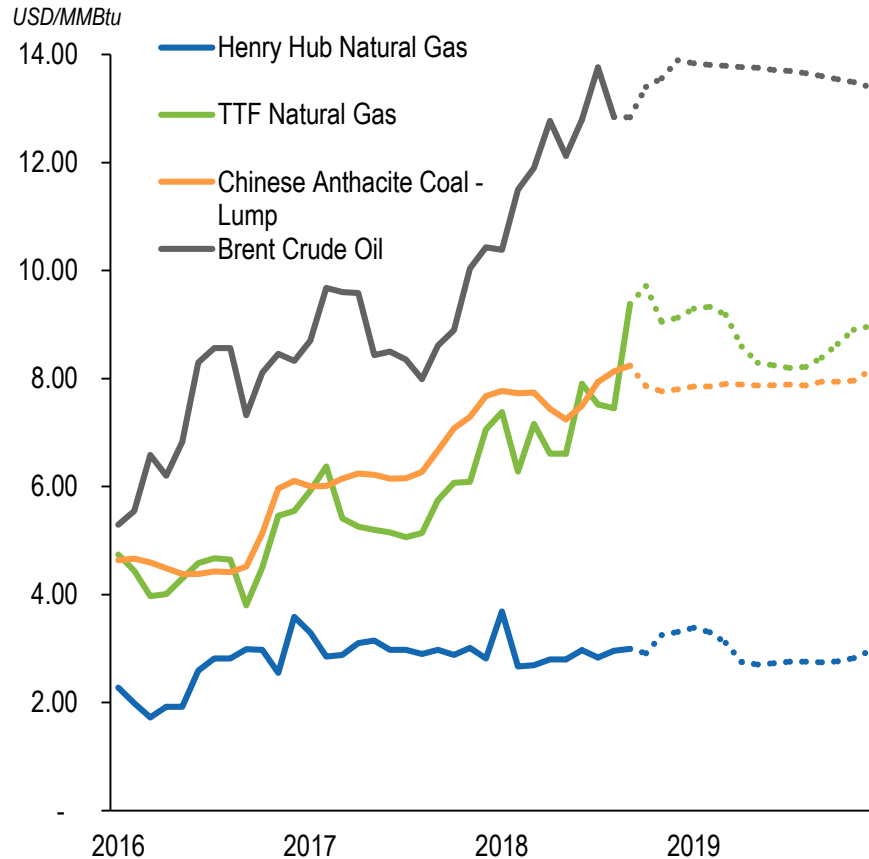
- Global population expected to increase 1% per annum
- Global GDP expected to increase 2-2.5% per annum, increasing personal income
 - BRIC countries expected to increase meat consumption, driving demand for feed grains
 - India and Africa expected to increase vegetable and grain demand
- Industrial growth driven by increased adoption of emission control, industrial intermediates, and recovering mining sector

(1) 2003-2017 actuals, 2018F. CAGRs calculated as 2018 over 2003 demand

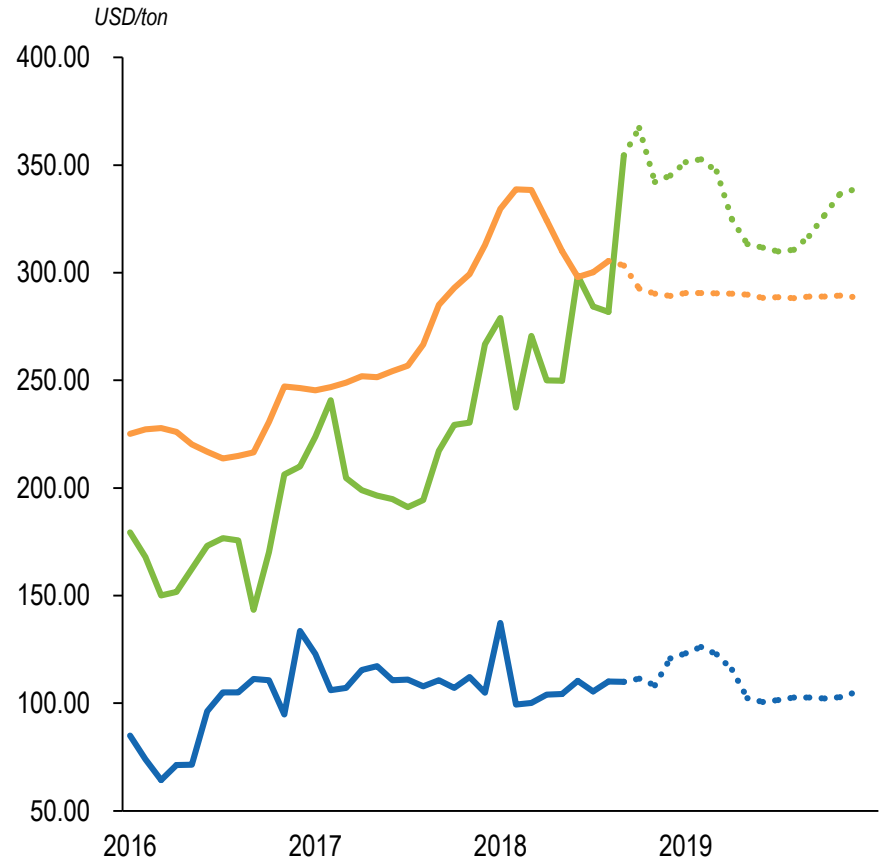
Sources: Fertecon, IFA, AAPFCO, Fertilizers Europe, ANDA, IMF, World Bank, OECD, FAO, CF Industries

Rising energy costs (ex-North America) are increasing CF production cost advantage

Global Energy Price 2016-2019F



Energy Cost per ton of Ammonia* 2016-2019F



* North American production assumed to be 37.2MMBtu per ton of ammonia for feedstock and fuel, European production assume 37.8MMBtu per ton for feedstock and fuel, Chinese production assumed 1.2 tons of coal and 1300 KWH for feedstock and power costs

** 2018 advantage per ton based on settled prices through October and forward curve/projections Nov-Dec, 2019 based on Forward curve and projections

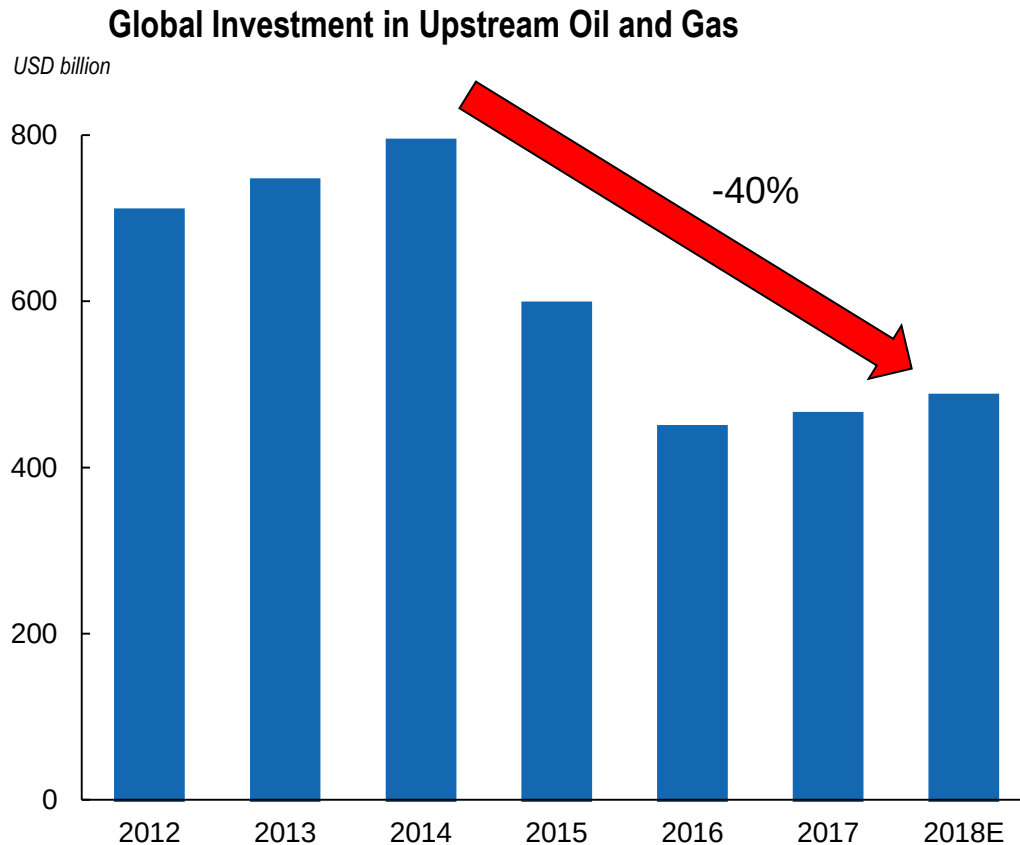
Note: dotted line shows forward price curves

Source: ICE, Bloomberg, SX Coal, WoodMac

North American production advantage per ton of ammonia

	2016	2017	2018P	2019P
TTF	\$ 79	\$ 105	\$ 187	\$ 219
Anthracite**	\$ 133	\$ 157	\$ 206	\$ 180

From 2016 through 2018, global upstream oil and gas investment down ~40% compared to 2014

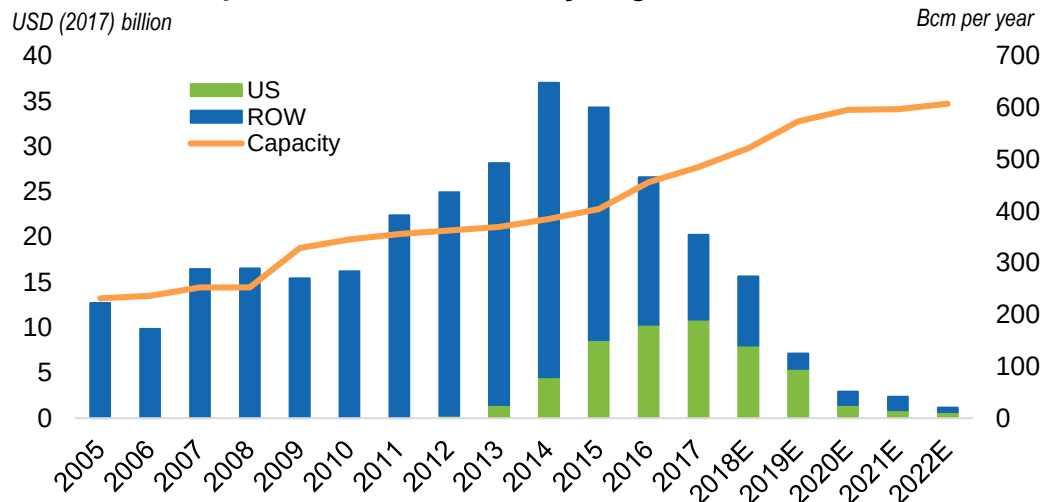


- 2017 exploration discovery volumes 6.8 Bboe, only 25% of 2000-2015 annual average
- 2015-2017 greenfield project resources sanctioned on average 50% lower than 2010-2014
- Brownfield investment increased – offsetting base production decline and raising near-term production (i.e. rate acceleration), however, providing lower future “new” resources for development
- Increased investment in US shale oil driving associated gas production from shale higher, keeping natural gas in North America ~\$3 per MMBtu despite increasing North American gas demand

Source: IEA World Energy Investment report 2018

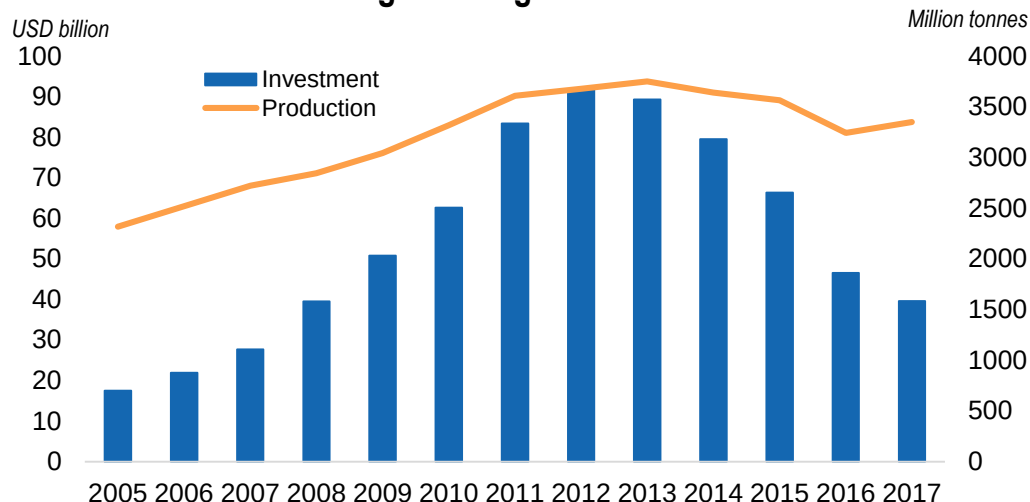
Investment in LNG liquefaction and Chinese coal production is much lower than recent peak levels

World LNG Liquefaction Investment by Region



- LNG liquefaction investment has decreased significantly since 2014, although the market will still need to absorb the capacity increases of recent years
- Significant increases in LNG imports, particularly in China, will likely lead to a tightening supply and demand balance post 2020

Investment in Coal Mining/Washing and Production in China



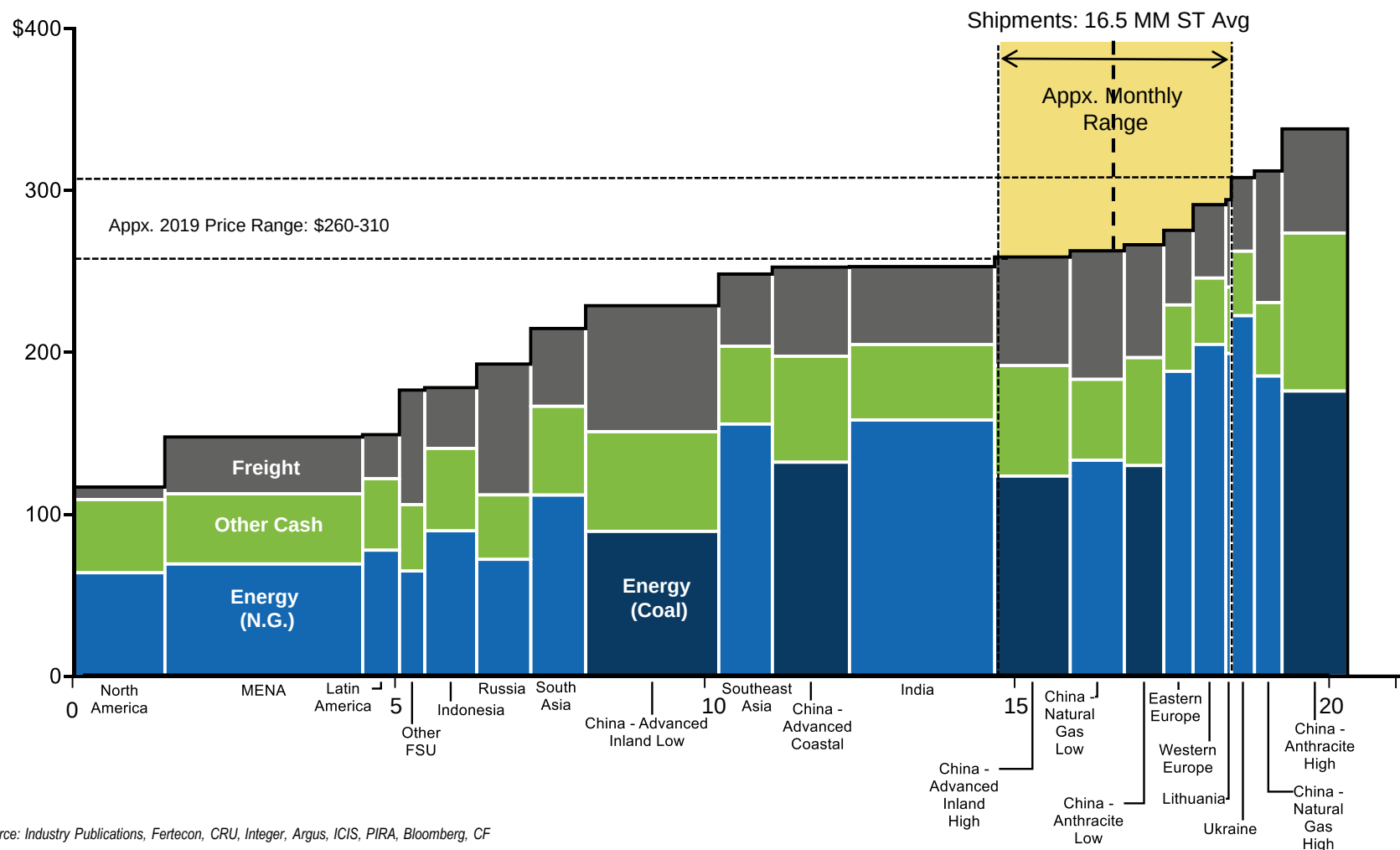
- China has aggressively reduced investment in new coal production
- China's nitrogen industry expected to remain a much smaller participant in the nitrogen export marketplace driven by higher input costs and governmental efforts to burn less coal

Source: IEA World Energy Investment report 2018, Woodmac

2019 estimated cost curve – based on October 2018 inputs

2019 Monthly Delivered U.S. Gulf Urea Cost Curve

Y-axis: USD/short ton, X-axis: Monthly Production Capacity at 95% Operating Rate, million short tons



Source: Industry Publications, Fertecon, CRU, Integer, Argus, ICIS, PIRA, Bloomberg, CF

2019 cost curve assumptions – as of October 2018

Annual Average Energy Cost			
Location	Source	2018E*	2019F
Gas Prices (\$/Mmbtu)			
Henry Hub	NYMEX	3.03	2.87
TTF	ICE	6.01	8.48
WEU-Russia	Oil Index	5.46	7.69
Oil (\$/Bbl)			
Brent Crude	NYMEX	56	76
China Coal (\$/tonne)			
Thermal	SX Coal /	73	65
Anthracite Powder	Woodmac	116	116
Anthracite		135	170
Exchange Rates			
RMB/USD	Bloomberg Composite	6.82	7.05
USD/EUR	Bloomberg Composite	1.21	1.19
USD/GBP	Bloomberg Composite	1.33	1.32

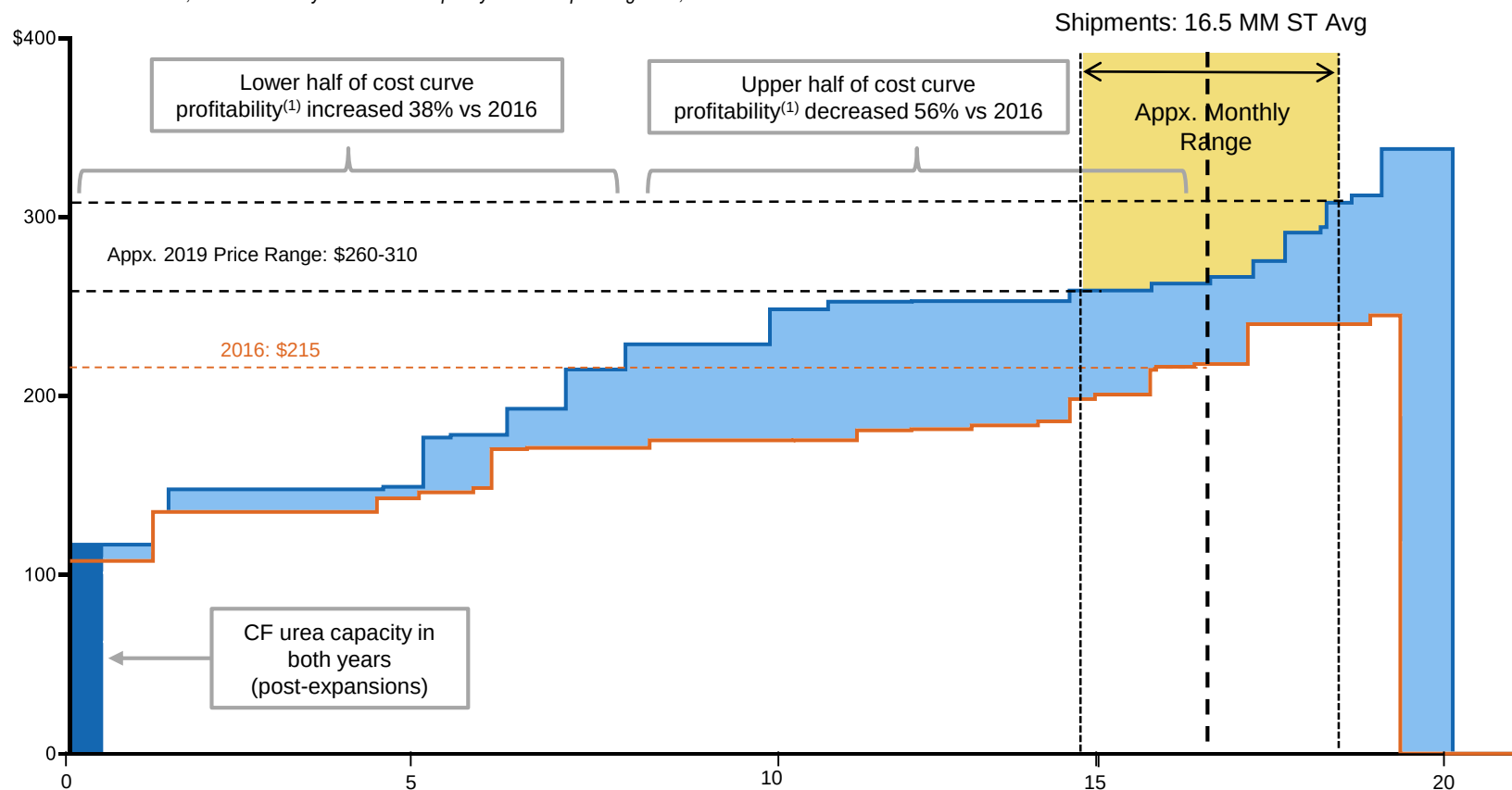
Notes: Market prices updated as of 10/24/2018; Coal prices as of 10/15/2018

* 2018E represents assumptions from November 2017 forecast cost curve

Global energy price increases since 2016 have increased nitrogen production costs outside North America

2016 and 2019 Monthly Delivered U.S. Gulf Urea Cost Curve

Y-axis: USD/short ton, X-axis: Monthly Production Capacity at 95% Operating Rate, million short tons

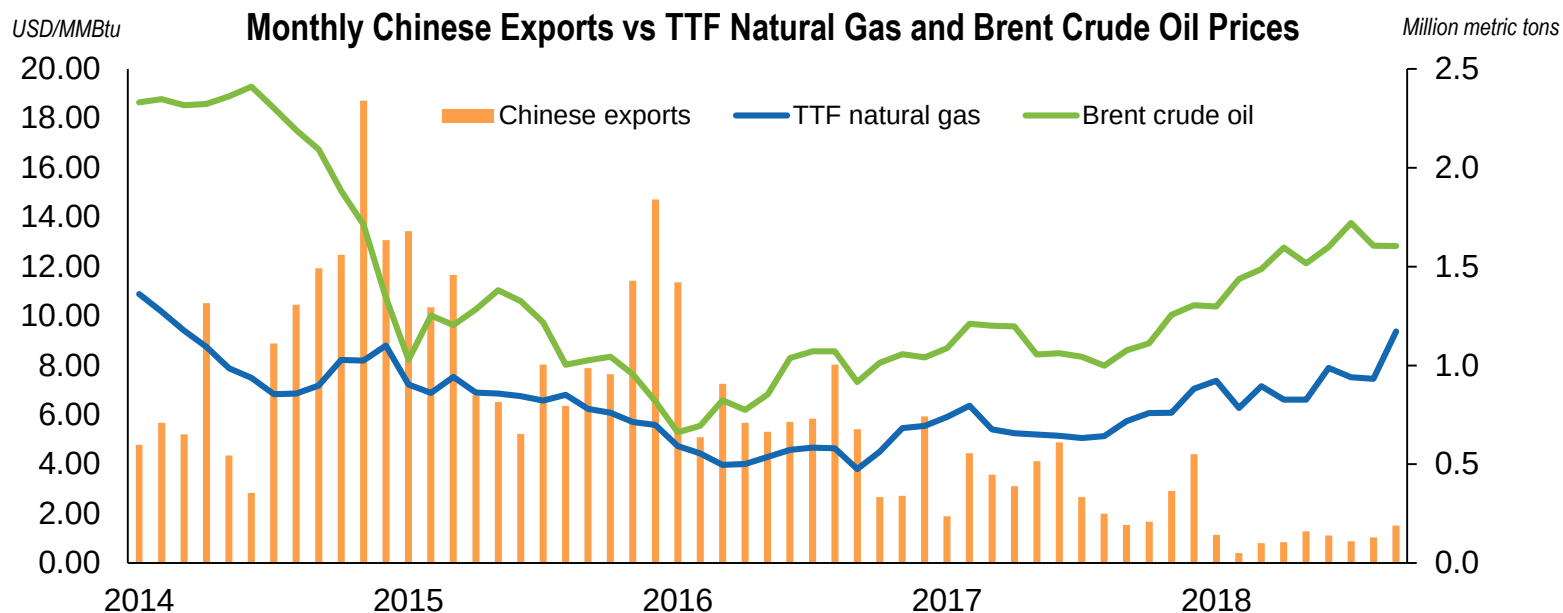


(1) Profitability for delivery to US Gulf calculated as price, based on average monthly demand of 16.3MM st in 2016 and 16.5MM st in 2019, less weighted average cost of lower and upper half of capacity needed to meet average monthly demand

Source: Industry Publications, Fertecon, CRU, Integer, CF

Note: 2016 cost curve published August 2016

Rising global energy costs and reduced Chinese urea exports drive nitrogen price recovery



	2014	2015	2016	2017	2018*	3Q 2018
TTF - \$/MMBtu	8.39	6.60	4.56	5.71	7.37	8.12
Brent - \$/Bbl	99.02	52.35	43.55	54.25	72.18	75.22
Annual Chinese exports – million metric tons	13.6	13.8	8.9	4.6	1.1	0.4
NOLA urea price – USD per short ton	\$350	\$285	\$205	\$210	\$249	\$273

Source: Bloomberg, CapIQ

*2018 data through September 30

Verdigris facility

Capital Allocation and Structure

Capital Allocation

Philosophy remains unchanged

- Pursue growth within our strategic fairway, where returns exceed the risk-adjusted cost of capital
- Consistently return excess cash to shareholders in a timely fashion through dividends and share repurchases

2018 Initiatives

- CF repurchased ~3 million shares through October 31, 2018 for approximately \$150 million
- Committed to repay remaining \$500 million of notes due May 2020 on or before maturity date
- Purchased all publicly traded units of Terra Nitrogen Company, L.P. (previous ticker: TNH) for \$388 million in Q2 2018

Capital Structure & Fixed Charges

- Commitment to investment grade metrics over the long term
- Long-term target gross debt: \$4.0-4.5 billion, laddered maturities, cash interest expense < \$200 million annually
- Target cash on balance sheet: \$300-500 million, which along with \$750 million undrawn revolver provides adequate liquidity
- Dividend: \$1.20 per share annually
- 2018 capex expected to be approximately \$425 million

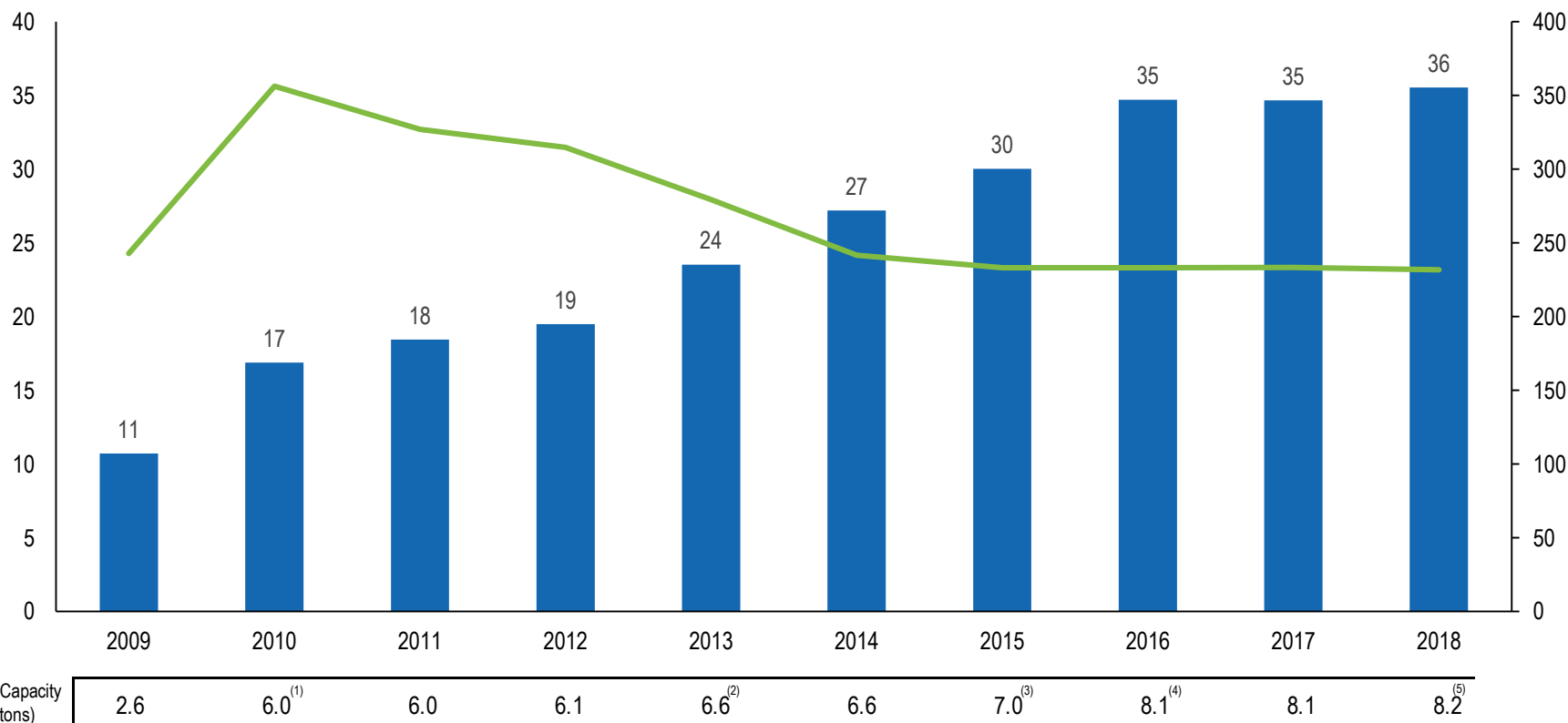
Shareholder nitrogen participation per share continues to grow

CF Industries' Nitrogen Volumes and Shares Outstanding as of Year-end

2009 – 2018 Nitrogen per share CAGR: 14.7%

Annual Nitrogen Equivalent Tons per 1,000 Shares Outstanding

Million shares Outstanding ⁽⁶⁾



All N production numbers based on year end figures per 10-K filings.

(1) Beginning in 2010 includes capacity from Terra Industries acquisition;

(2) Beginning in 2013 includes incremental 34% of Medicine Hat production to reflect CF acquisition of Viterra's interests;

(3) Beginning in 2015 includes incremental 50% interest in CF Fertilisers UK acquired from Yara;

(4) Beginning in 2016 excludes nitrogen equivalent of 1.1 million tons of urea and 0.58 million tons of UAN under CHS supply agreement and includes expansion project capacity at Donaldsonville and Port Neal;

(5) Beginning in 2018 includes incremental 15% of Verdigris production to reflect CF's acquisition of publicly traded TNH units;

(6) Share count based on end of year shares outstanding per 10-K filings. Share count prior to 2015 based on 5-for-1 split-adjusted shares. 2018 share count based on Q3 2018 10-Q basic shares outstanding.

Balanced Approach to Capital Allocation

Capital allocation philosophy balances strategic investments with returning cash to shareholders

Capital Allocation Priorities

- Commitment to investment grade metrics over long term
- Pursue growth within strategic fairway, where returns exceed risk-adjusted cost of capital and investments are cash flow accretive
- Consistently return excess cash to shareholders with historic bias towards share repurchases

Total capital returned to shareholders since 2012 is more than twice net strategic investments

Actions	Cash Returned
Share Repurchases ⁽¹⁾	\$4.5B
Dividends ⁽²⁾	\$1.5B
Total Capital Returned	\$6.0B

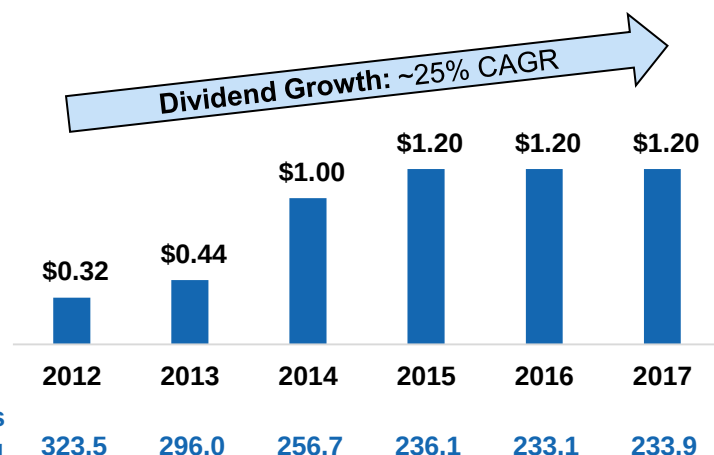
Dividend Trends 2012-2017

- CF has increased dividend per share by almost 4x
- Annual cash outflow for dividends increased less than 3x
- Buybacks reduced shares outstanding by ~30%

Dividend Per Share

Action	Business Growth / (Shrink)
Sales / Divestitures	(\$4.2B)
Acquisitions / Expansions ⁽³⁾	\$7.1B
Net Major Portfolio Investment	\$2.9B

Total Shares Outstanding
(in millions)



Source: Factset, Company filings.

(1) Includes the effect of \$150 million of share repurchases through October 31, 2018

(2) Includes \$70 million in total dividend payments through September 30, 2018

(3) Includes \$388 million for purchase of publicly traded common units of Terra Nitrogen Company, L.P.



Appendix

CF EBITDA sensitivity table

Table illustrates the resiliency of CF Industries' business model across a broad range of industry conditions

EBITDA Sensitivity to Natural Gas and Urea Prices⁽¹⁾⁽²⁾

\$ billions

CF Realized Urea Equivalent Price (\$/ton) ⁽⁴⁾	CF Realized North American Natural Gas Cost (\$/MMBtu) ⁽³⁾				
	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50
	\$175	\$0.4	\$0.3	\$0.3	\$0.2
	\$200	\$0.7	\$0.7	\$0.6	\$0.5
	\$225	\$1.1	\$1.0	\$1.0	\$0.9
	\$250	\$1.5	\$1.4	\$1.4	\$1.2
	\$275	\$1.8	\$1.8	\$1.7	\$1.6
	\$300	\$2.2	\$2.1	\$2.1	\$2.0
	\$325	\$2.6	\$2.5	\$2.4	\$2.3
	\$350	\$2.9	\$2.9	\$2.8	\$2.7
	\$375	\$3.3	\$3.2	\$3.2	\$3.1

Source: CF Industries

(1) The table was created by using 2017 adjusted EBITDA of \$969 million, 2017 sales volumes of approximately 20 million product tons and gas consumption of approximately 360 million MMBtus. Sales volume and gas consumption were adjusted for CF's anticipated 2018 turnaround schedule and 100% ownership of TNCLP. Changes in product prices and gas costs were not applied to the CHS supply agreement and the contractual Orica and Mosaic volumes as CF Industries' is naturally hedged against changes in product prices and gas costs under each agreement. While the table above presents CF's realized North American natural gas cost, CF Fertilisers UK's gas cost and volumes were included in the analysis. As with North America, CF Fertilisers UK's gas cost was sensitized in \$0.25/MMBtu increments.

(2) See appendix for 2017 EBITDA reconciliation.

(3) Assumes CF's 2017 North American basis differential to Henry Hub of (\$0.27)/MMBtu

(4) Assumes that a \$25 per ton change in urea price is equivalent to a \$17.39 per ton change in UAN price, \$18.47 per ton change in AN price and a \$44.57 per ton change in ammonia price. Price sensitivity is applied only to major products (ammonia, urea, UAN, and AN).

\$25/ton urea equivalent movement implies ~\$350M change in EBITDA on an annual basis

Non-GAAP: reconciliation of Net Earnings to EBITDA and Adjusted EBITDA

In millions	Q3 2018	Q3 2017	First nine months 2018	First nine months 2017
Net earnings	\$ 71	\$ (68)	\$ 333	\$ (53)
Less: Net earnings attributable to noncontrolling interests	(41)	(19)	(92)	(54)
Net earnings (loss) attributable to common stockholders	30	(87)	241	(107)
Interest expense – net	55	76	171	233
Income tax provision (benefit)	12	(47)	73	(55)
Depreciation and amortization	233	226	667	648
Less other adjustments:				
Depreciation and amortization in noncontrolling interests ⁽¹⁾	(20)	(25)	(66)	(77)
Loan fee amortization ⁽²⁾	(2)	(4)	(6)	(10)
EBITDA	\$ 308	\$ 139	\$ 1,080	\$ 632
Unrealized net mark-to-market (gain) loss on natural gas derivatives	(3)	(7)	(11)	64
Loss on foreign currency transactions, including intercompany loans ⁽³⁾	4	1	1	2
Insurance proceeds ⁽⁴⁾	(10)	-	(10)	-
Costs related to acquisition of TNCLP units	-	-	2	-
Equity method investment tax contingency accrual ⁽⁵⁾	-	-	-	7
Unrealized loss on embedded derivative ⁽⁶⁾	1	1	2	4
Total adjustments	\$ (8)	\$ (5)	\$ (16)	\$ 77
Adjusted EBITDA	\$ 300	\$ 134	\$ 1,064	\$ 709

(1) For the three months ended September 30, 2018, amount relates only to CFN, as we purchased the remaining publicly traded common units of TNCLP on April 2, 2018. For the nine months ended September 30, 2018, amount includes \$62 million related to CFN and \$4 million related to TNCLP.

(2) Loan fee amortization is included in both interest expense – net and depreciation and amortization.

(3) Loss on foreign currency transactions, including intercompany loans, primarily relates to the unrealized foreign currency exchange rate impact on intercompany debt that has not been permanently invested and is included in other operating – net in our consolidated statements of operations.

(4) Represents proceeds related to a property insurance claim at one of our nitrogen complexes.

(5) Represents an accrual recorded in the three months ended June 30, 2017 on the books of Point Lisas Nitrogen Ltd. (PLNL), the company's Trinidad joint venture, for a disputed tax assessment. Amount reflects the company's 50 percent equity interest in PLNL. This is included in equity in earnings (losses) of operating affiliates in our consolidated statements of operations.

(6) Represents the change in fair value on the embedded derivatives included within the terms of the company's strategic venture with CHS.

Non-GAAP: reconciliation of Net Earnings to EBITDA and Adjusted EBITDA

In millions	Full year 2017
Net earnings	\$ 450
Less: Net earnings attributable to noncontrolling interests	(92)
Net earnings attributable to common stockholders	358
Interest expense – net	303
Income tax benefit	(575)
Depreciation and amortization	883
Less other adjustments:	
Depreciation and amortization in noncontrolling interests	(101)
Loan fee amortization	(12)
EBITDA	\$ 856
Unrealized net mark-to-market loss on natural gas derivatives	\$ 61
Loss on foreign currency transactions, including intercompany loans ⁽¹⁾	2
Equity method investment tax contingency accrual ⁽²⁾	7
Loss on embedded derivative ⁽³⁾	4
Loss on debt extinguishment	53
Gain on sale of equity method investment	(14)
Total adjustments	\$ 113
Adjusted EBITDA	\$ 969

- (1) Loss on foreign currency transactions, including intercompany loans primarily relates to the unrealized foreign currency exchange rate impact on intercompany debt that has not been permanently invested
- (2) Represents an accrual recorded in the three months ended June 30, 2017 on the books of Point Lisas Nitrogen Ltd (PLNL), the company's Trinidad joint venture, for a disputed tax assessment. Amount reflects the company's 50 percent equity interest in PLNL. This is included in equity in earnings (losses) of operating affiliates in our

- consolidated statements of operations.
- (3) Represents change in fair value on the embedded derivative included within the terms of the company's strategic venture with CHS.

Projected new global urea plants (2018-2022)

Country	Company	City/Province	Feedstock	Capacity – K Metric Product Tons ⁽¹⁾	Year of Addition
Azerbaijan	Azerkimya (SOCAR)	Sumgayit	Natural Gas	660	2018
China	Tonghua Chemical Co	Jilin	Anthracite powder	300	2018
China	Yangmei	Hebei	Thermal	900	2018
China	Haohua-Junhua Group	Henan	Thermal	520	2018
China	Hualu-Hengsheng	Shandong	Thermal	1,000	2018
Indonesia	PT Petrokimia Gresik II	Gresik	Natural Gas	580	2018
United States	Dakota Gasification	Beulah, ND	Natural Gas	360	2018
				4,300	Subtotal
Iran	Lordegan Petrochemical	Lordegan	Natural Gas	1,200	2019
China	Yili Resource	Inner Mongolia	Anthracite powder	1,040	2019
China	JAMG	Jiangsu	Thermal	520	2019
China	Wulan Coal Group	Inner Mongolia	Thermal	1,200	2019
China	Sha'anxi Heima Coking Co.	Sha'anxi	Coke-oven gas	480	2019
China ⁽²⁾	China National Petroleum Co.	Ningxia	Natural Gas	800	2019
Russia	Acron	Veliky Novgorod	Natural Gas	210	2019
Turkmenistan	Turkmenhimiya	Garabogaz	Natural Gas	1,160	2019
India ⁽³⁾	Chambal Fertilizers	Kota	Natural Gas	1,340	2019
Egypt	Egyptian Chemical Industries (KIMA)	Aswan	Natural Gas	520	2019
				8,500	Subtotal
India ⁽²⁾	Ramagundam	Andhra Pradesh	Natural Gas	1,270	2020
China	Qitaihe Longpeng	Heilongjiang	Coke-oven gas	300	2020
Uzbekistan	JSC NavoiAzot	Navoi	Natural Gas	580	2020
				2,200	Subtotal
China	Henan Xin Lian Xin (XLX)	Jiangxi	Anthracite powder	600	2021
Kazakhstan	Kazazot	Kazazot	Natural Gas	830	2021
Nigeria	Dangote Group	Edo State	Natural Gas	1,270	2021
				2,700	Subtotal
Russia	PJSC Metafrax	Perm	Natural Gas	580	2022
Russia	TogliattiAzot	Togliatti	Natural Gas	730	2022
China	Xiaoyi Nongmei	Shanxi	Coke-oven gas	300	2022
Brunei	Brunei Fertilizer Industries	Sungai Liang	Natural Gas	1,290	2022
				2,900	Subtotal
				20,600	Grand Total

(1) Subtotals rounded to nearest 100k

(2) New since last forecast

(3) Timing of start updated since last forecast

Sources: Fertecon, CRU, CFMW, Baiinfo, Fert.cn, Industry Publications, CF analysis

Urea plants in permanent shutdown

Plants included in closure forecast:
11.5 Million Tons
2018-2019

Country	Company	Feedstock	Source	Initial Report of Shutdown ⁽¹⁾	Capacity – K Metric Product Tons	Year of Assumed Closure
China	Asid Chemicals Ltd	Anthracite Lump	Fert.cn	Jan, 2016	300	2018
China	Haolianghe Fertilizer Co	Thermal	Fert.cn	July, 2016	80	2018
China	Haolianghe Fertilizer Co	Thermal	Fert.cn	July, 2016	100	2018
China	Haolianghe Fertilizer Co	Anthracite Powder	Fert.cn	July, 2016	110	2018
China	Zhangqiu Riyue Chemical Industry Co	Anthracite Lump	Fert.cn	July, 2016	160	2018
China	LTH (LuTianHua)	Natural Gas	Fert.cn	Jan, 2016	650	2018
China	Hebei Gaocheng Fertilizer Plant	Anthracite Lump	Baiinfo	Sep, 2016	150	2018
China	Liuguo Chemical Stock Co Ltd	Anthracite Lump	Fert.cn	Unreported	230	2018
China	Handan Jinan Chemical Co	Anthracite Lump	Fert.cn	Unreported	100	2018
China	Qilu Petrochemical Company, SINOPEC	Natural Gas	CRU	Mar, 2018	170	2018
China	China XLX Fertiliser Ltd*	Anthracite Lump	XLX	Mar, 2018	350	2018
China	Jinmei Hubei Saning Chemicals	Anthracite Lump	CRU	Feb, 2018	450	2018
China	Sichuan Hongtai Bio-Chemical	Natural Gas	ICIS	Mar, 2018	300	2018
China	Additional assumed closures due to negative profits ⁽²⁾				1,850	2018
Kuwait	PIC	Natural Gas	ICIS	Jan, 2016 ⁽³⁾	1,000	2018
					6,000	2018 total
Brazil	Petrobras S.A. (Camacari)	Natural Gas	CRU	Mar, 2018	500	2019
Brazil	Petrobras S.A. (Laranjeiras)	Natural Gas	CRU	Mar, 2018	600	2019
China	China Guodian Corp	Thermal	Fert.cn	Nov, 2016	500	2019
China	Shaanxi Weihe Coal Chemical Corp Group Ltd	Thermal	Fert.cn	Mar, 2018	580	2019
China	Yangmei Shijiazhuang Zhengyuan Fertilizer	Anthracite Lump	Local Media	Jan, 2018	600	2019
China	Hebei Jinghua Chemical	Anthracite Lump	Local Media	Jan, 2018	350	2019
China	Yangmei Shenzhou Fertilizer	Anthracite Lump	Local Media	Jan, 2018	300	2019
China	Additional assumed closures due to negative profits ⁽²⁾				2,120	2019
					5,550	2019 total
					11,550	2018-2019 total
					9,450	China Total

(1) Methodology updated to include additional assumed closures due to modeled negative profitability

Sources: Fertecon, CFMW, Baiinfo, Fert.cn, Industry Publications, CF analysis