Investor Information

Fourth Quarter 2017

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Safe Harbor Statement

This document contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements include, but are not limited to, statements about our proposed acquisition of the global phosphate and potash operations of Vale S.A. ("Vale") conducted through Vale Fertilizantes S.A. (the "Transaction") and the anticipated benefits and synergies of the proposed Transaction, other proposed or pending future transactions or strategic plans and other statements about future financial and operating results. Such statements are based upon the current beliefs and expectations of The Mosaic Company's management and are subject to significant risks and uncertainties. These risks and uncertainties include but are not limited to risks and uncertainties arising from the possibility that the closing of the proposed Transaction may be delayed or may not occur, including delays or risks arising from any inability of Vale to achieve certain specified regulatory and operational milestones, and the ability to satisfy any of the other closing conditions; our ability to secure financing, or financing on satisfactory terms and in amounts sufficient to fund the cash portion of the purchase price without the need for additional funds from other liquidity sources; difficulties with realization of the benefits of the proposed Transaction, including the risks that the acquired business may not be integrated successfully or that the anticipated synergies or cost or capital expenditure savings from the Transaction may not be fully realized or may take longer to realize than expected, including because of political and economic instability in Brazil or changes in government policy in Brazil; the predictability and volatility of, and customer expectations about, agriculture, fertilizer, raw material, energy and transportation markets that are subject to competitive and other pressures and economic and credit market conditions; the level of inventories in the distribution channels for crop nutrients; the effect of future product innovations or development of new technologies on demand for our products; changes in foreign currency and exchange rates; international trade risks and other risks associated with Mosaic's international operations and those of joint ventures in which Mosaic participates, including the performance of the Wa'ad Al Shamal Phosphate Company (also known as MWSPC) and the entity operating the Miski Mayo mine, the risk that protests against natural resource companies in Peru extend to or impact the Miski Mayo mine, the ability of MWSPC to obtain additional planned funding in acceptable amounts and upon acceptable terms, the timely development and commencement of operations of production facilities in the Kingdom of Saudi Arabia, the future success of current plans for MWSPC and any future changes in those plans; difficulties with realization of the benefits of our long term natural gas based pricing ammonia supply agreement with CF Industries, Inc., including the risk that the cost savings initially anticipated from the agreement may not be fully realized over its term or that the price of natural gas or ammonia during the term are at levels at which the pricing is disadvantageous to Mosaic; customer defaults; the effects of Mosaic's decisions to exit business operations or locations; changes in government policy; changes in environmental and other governmental regulation, including expansion of the types and extent of water resources regulated under federal law, carbon taxes or other greenhouse gas regulation, implementation of numeric water quality standards for the discharge of nutrients into Florida waterways or efforts to reduce the flow of excess nutrients into the Mississippi River basin, the Gulf of Mexico or elsewhere; further developments in judicial or administrative proceedings, or complaints that Mosaic's operations are adversely impacting nearby farms, business operations or properties; difficulties or delays in receiving, increased costs of or challenges to necessary governmental permits or approvals or increased financial assurance requirements; resolution of global tax audit activity; the effectiveness of Mosaic's processes for managing its strategic priorities; adverse weather conditions affecting operations in Central Florida, the Mississippi River basin, the Gulf Coast of the United States or Canada, and including potential hurricanes, excess heat, cold, snow, rainfall or drought; actual costs of various items differing from management's current estimates, including, among others, asset retirement, environmental remediation, reclamation or other environmental regulation, Canadian resources taxes and royalties, or the costs of the MWSPC, its existing or future funding and Mosaic's commitments in support of such funding; reduction of Mosaic's available cash and liquidity, and increased leverage, due to its use of cash and/or available debt capacity to fund financial assurance requirements and strategic investments; brine inflows at Mosaic's Esterhazy, Saskatchewan, potash mine or other potash shaft mines; other accidents and disruptions involving Mosaic's operations, including potential mine fires, floods, explosions, seismic events, sinkholes or releases of hazardous or volatile chemicals; and risks associated with cyber security, including reputational loss, as well as other risks and uncertainties reported from time to time in The Mosaic Company's reports filed with the Securities and Exchange Commission. Actual results may differ from those set forth in the forward-looking statements.

The Mosaic Company Overview

Executive Summary

Transforming

Potash

Phosphates

Brazil

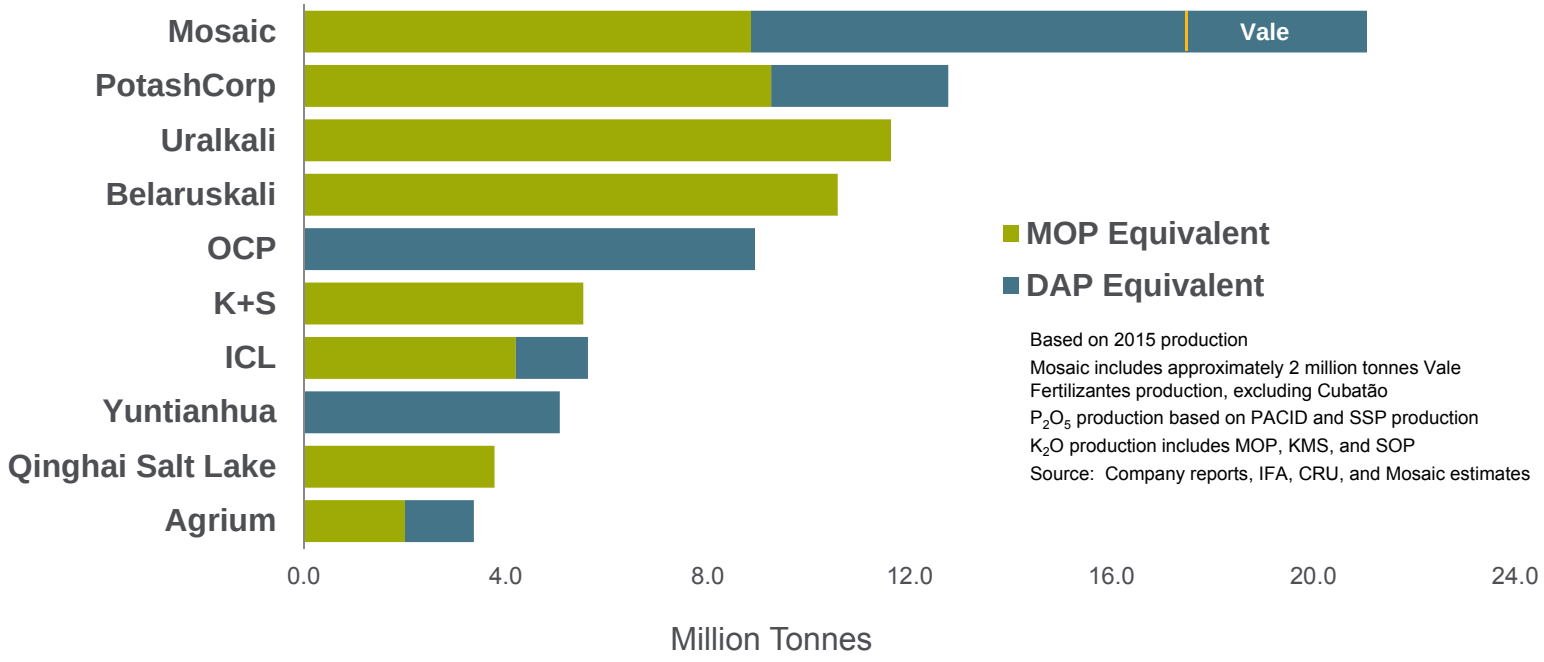
Targeting

Accelerate Business Performance

Expect to Achieve Targeted Balance Sheet Metrics by ~2020

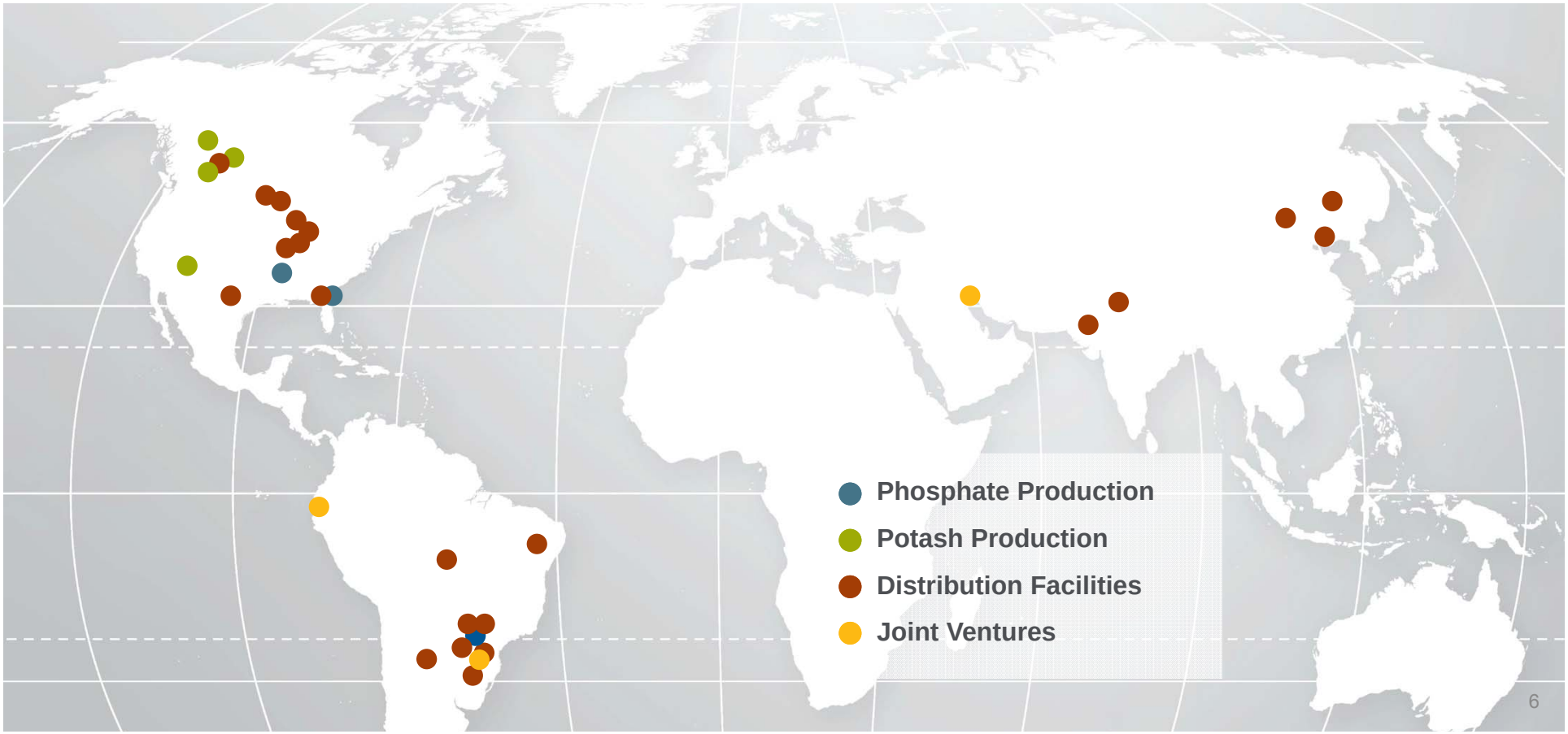
Unique Combination of High Quality Assets

World's Largest P&K Producers (Mosaic includes Vale Fertilizantes*)

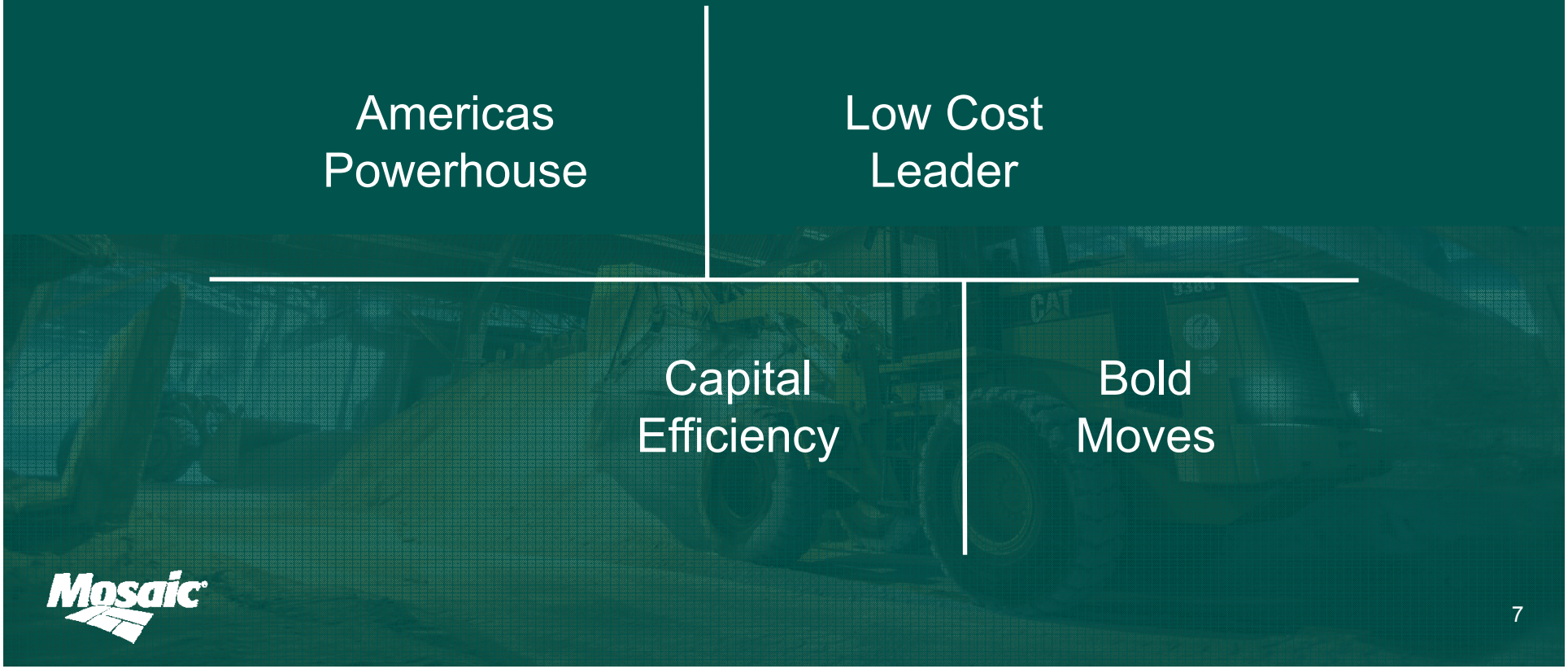


*Assumes completion of our a acquisition of the global phosphate and potash operations conducted through Vale Fertilizantes S.A, which we refer to as the "Vale Fertilizantes Acquisition

Long Life, Low Cost Asset Portfolio



5 Year Strategic Roadmap



Comprehensive Transformational Agenda

Phosphate Asset Optimization

Brazil Business Transformation

Capital Deployment

Actions

Idle Plant City Concentrates Plant for at Least One Year:

- Lower operating costs and improve system-wide margins
- Reduce CAPEX requirements
- Serve own distribution business and other India customers with logistically advantaged, low-cost Ma'aden Wa'ad al Shamal Phosphate Company joint venture
- Maintain future flexibility

Transform Mosaic's Combined Brazil Fertilizer Business:

- Eliminate system-wide redundancy
- Achieve productivity metrics Vale Fertilizantes experienced prior to 2016
- Achieve run-rate cash flow improvement of $275 million by end of 2020

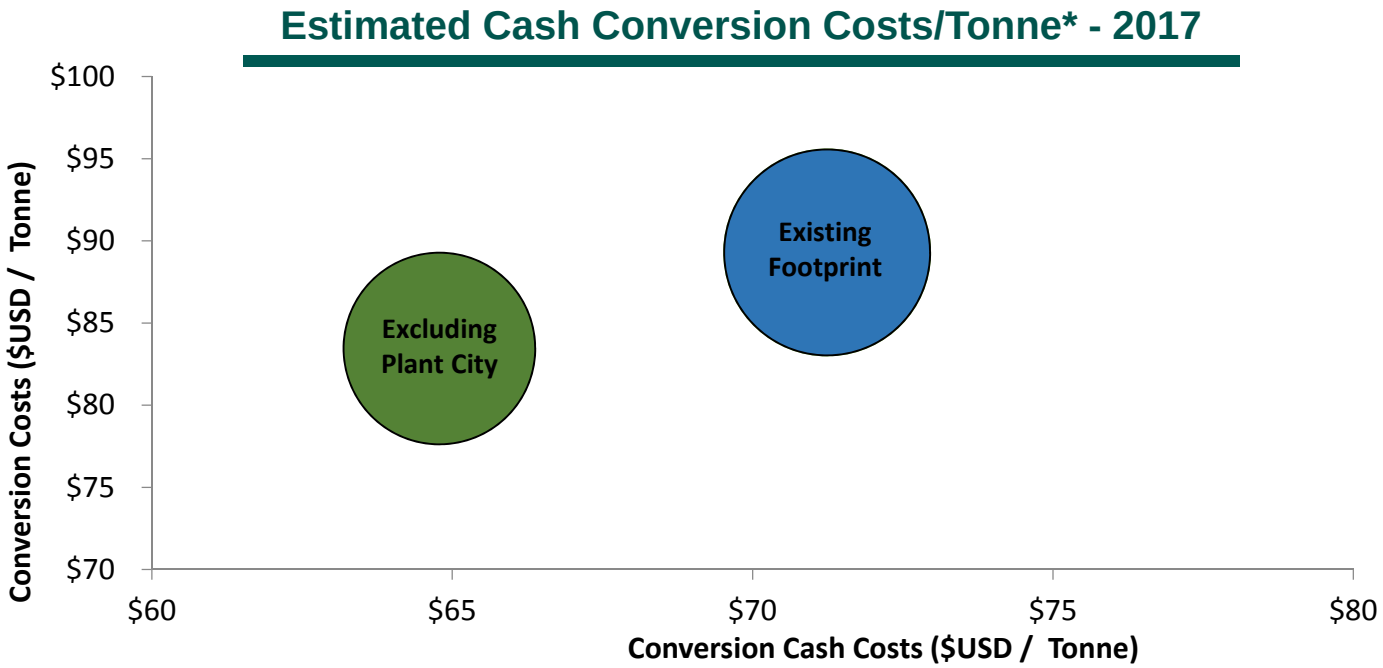
Deleverage Balance Sheet by ~ 2020:

- New targeted dividend payout of $0.10 per share annually
- Focus on returning to stated through-cycle balance sheet targets

> $1 Billion Cumulative Cash Flow Improvement by End of 2020

Mosaic

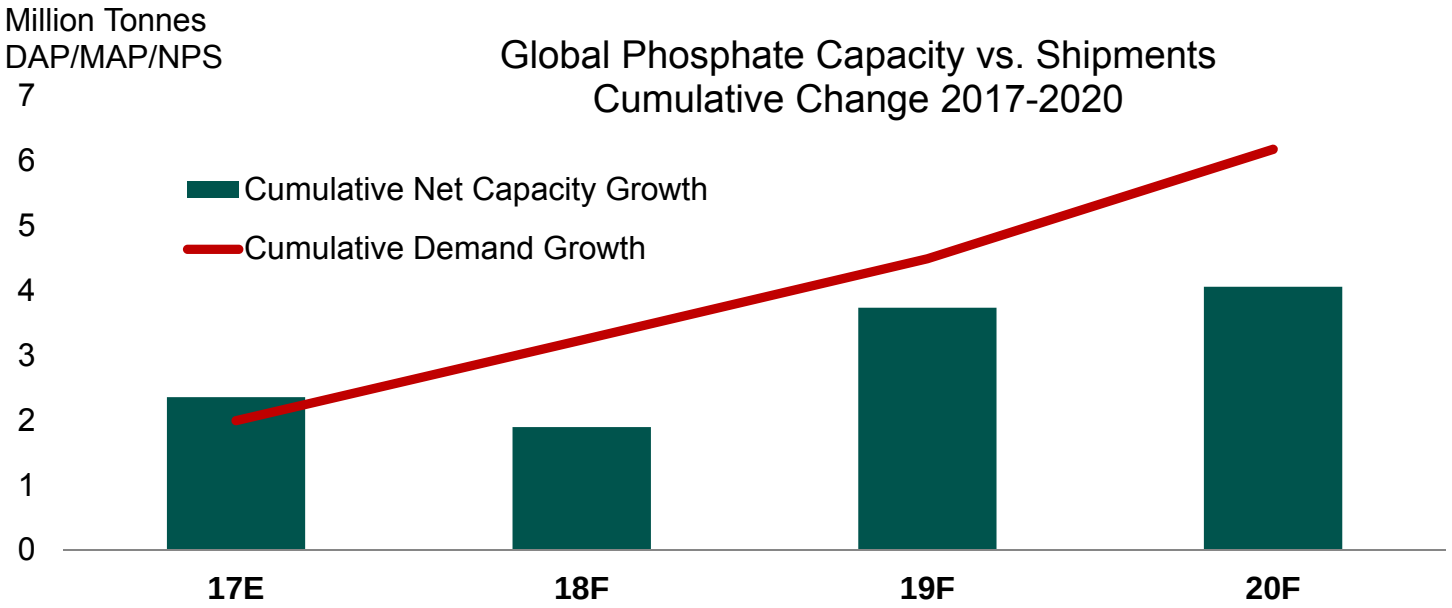
Phosphates: Expect Positive Gross Margin Impact



size of bubble = production volume

* Phosphate cash conversion costs are reflective of actual costs, excluding realized mark-to-market gains and losses. These costs are captured in inventory and are not necessarily reflective of costs included in costs of goods sold for the period.

Proactive Actions: Balanced S&D

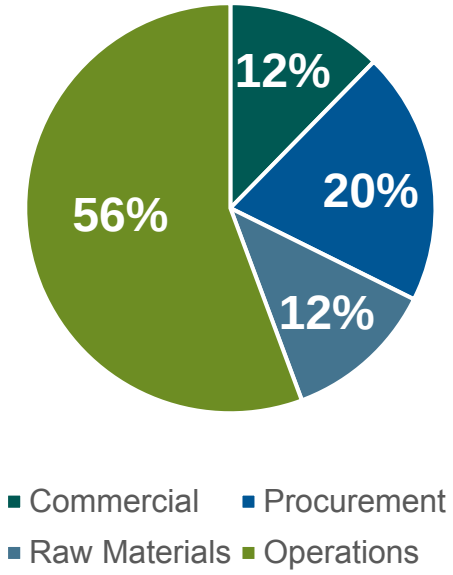


Source: CRU and Mosaic

Even Without Expected China Capacity Rationalization

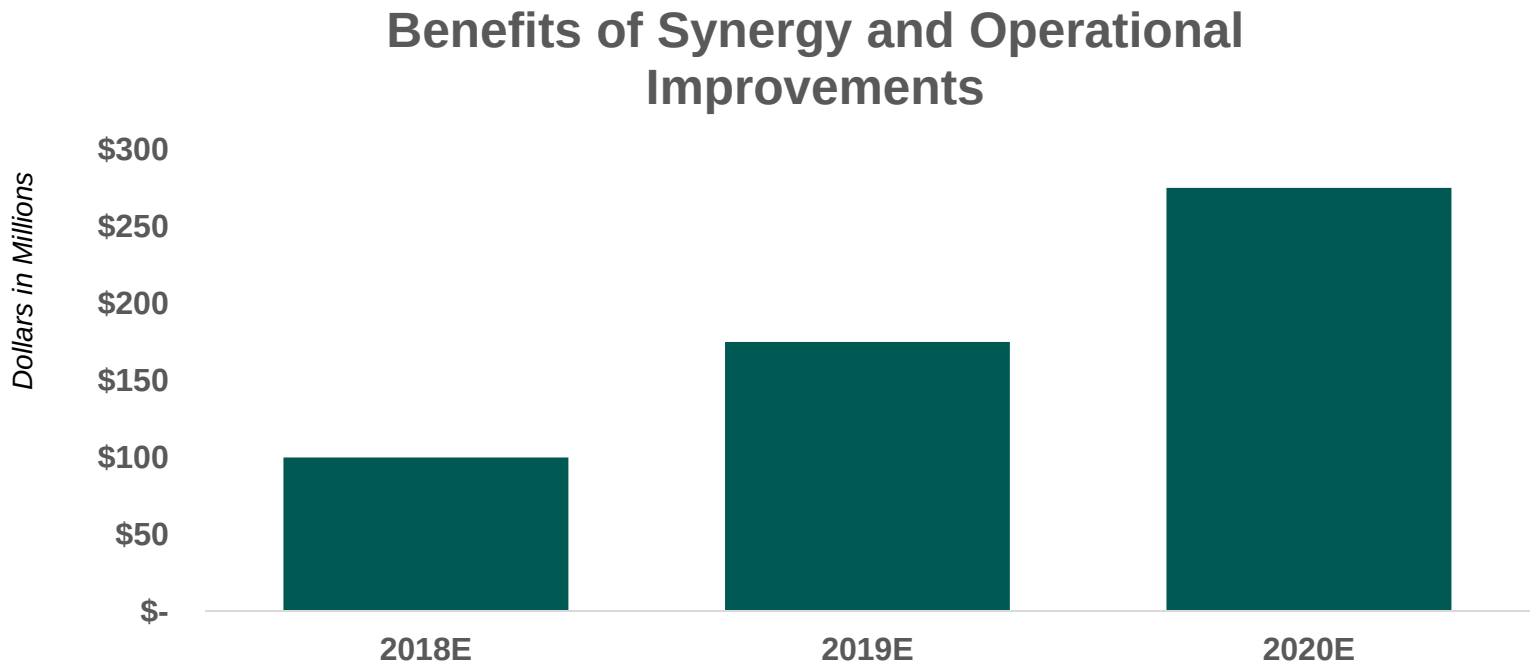
Brazil Business Transformation

$275 million Value Capture Target

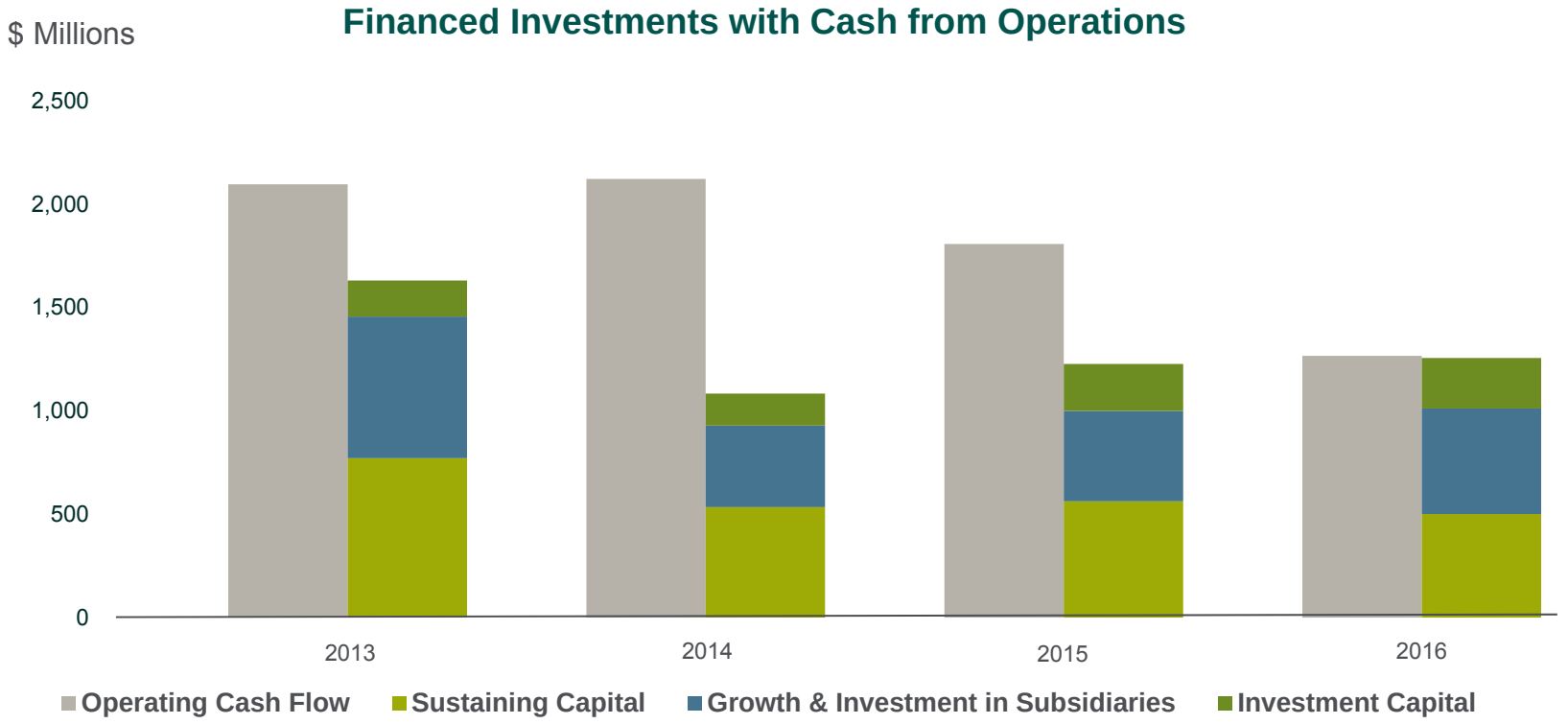


Meaningful Opportunity Based on Benchmarks of Prior Performance

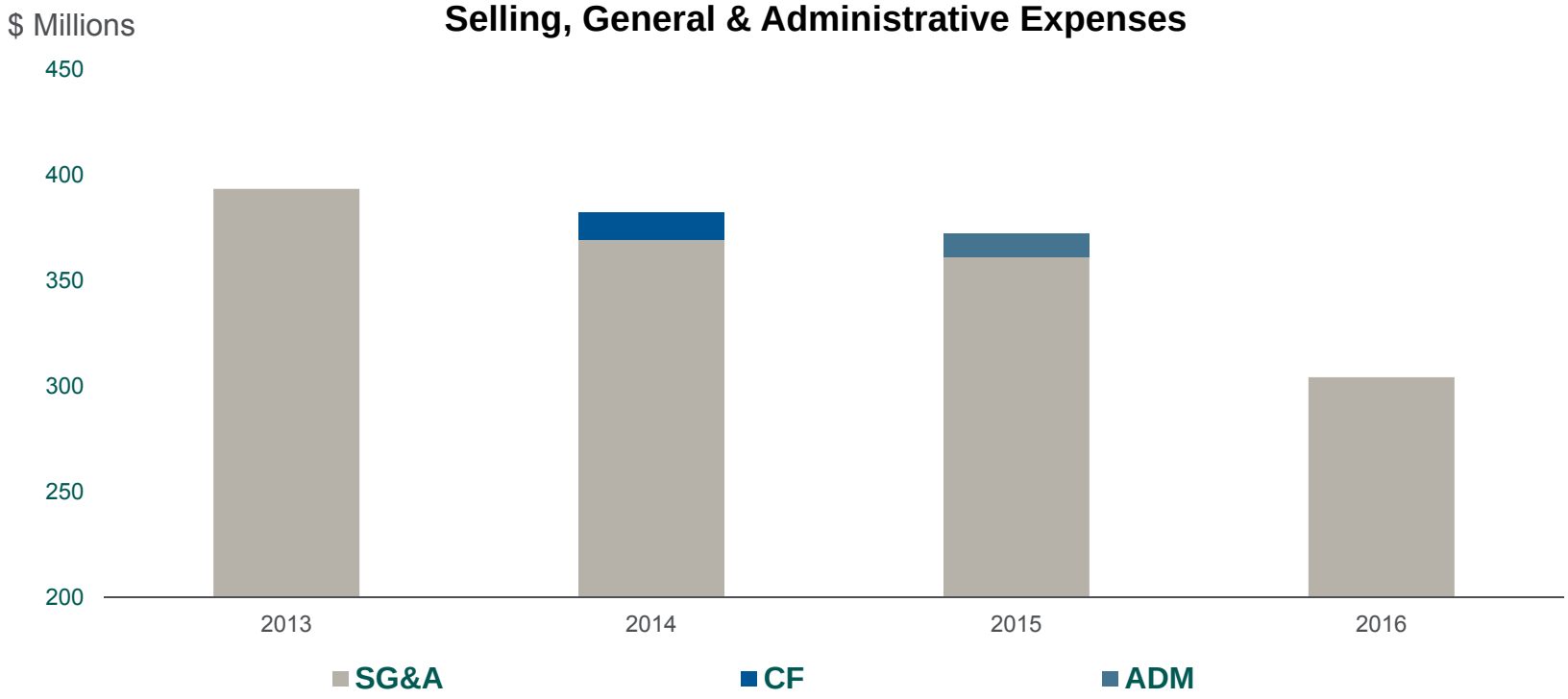
Brazil Business Transformation: Expected Benefits through 2020



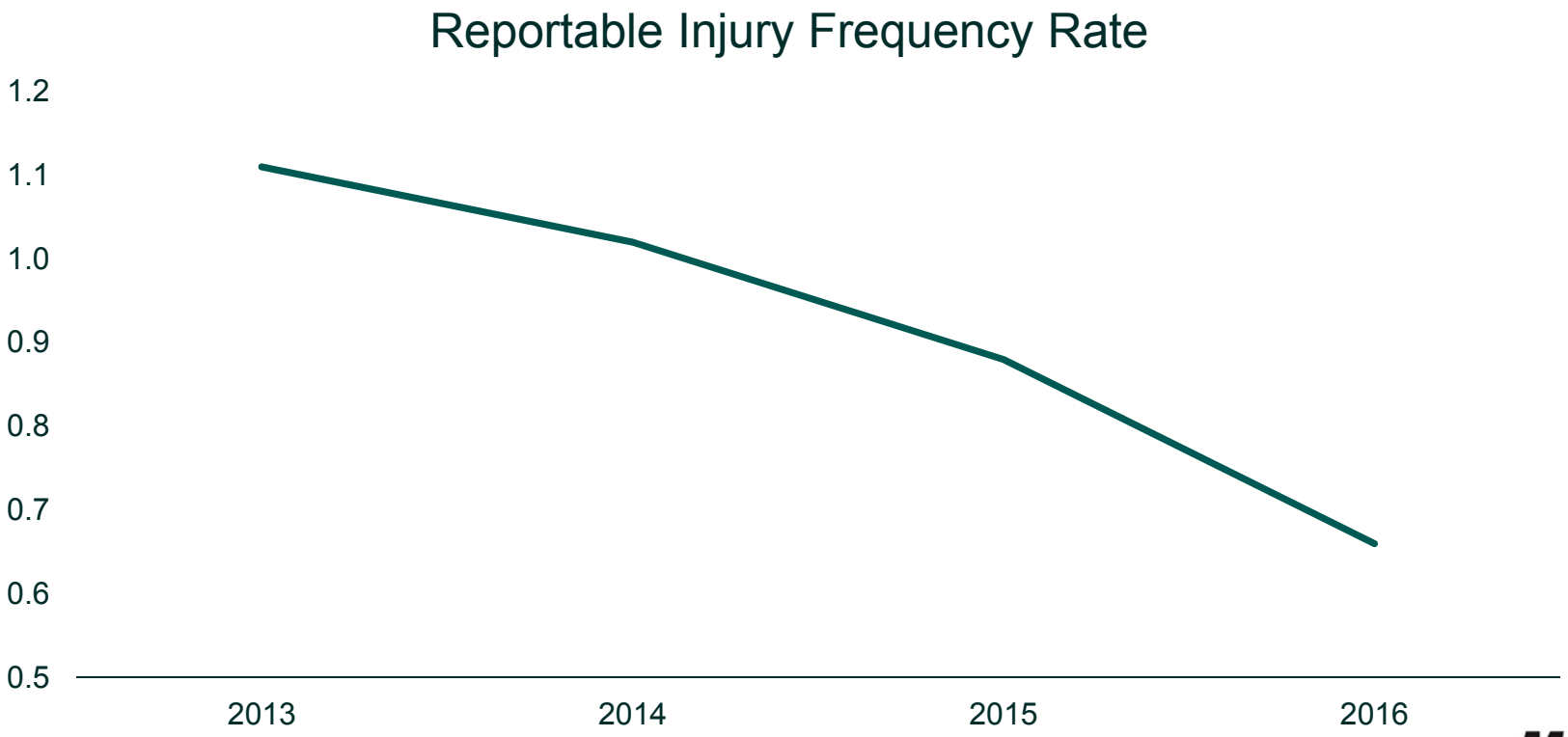
History of Prudent Capital Management



Visible Cost Controls



Record Safety Performance



Capital Allocation Philosophy



Phosphates Segment

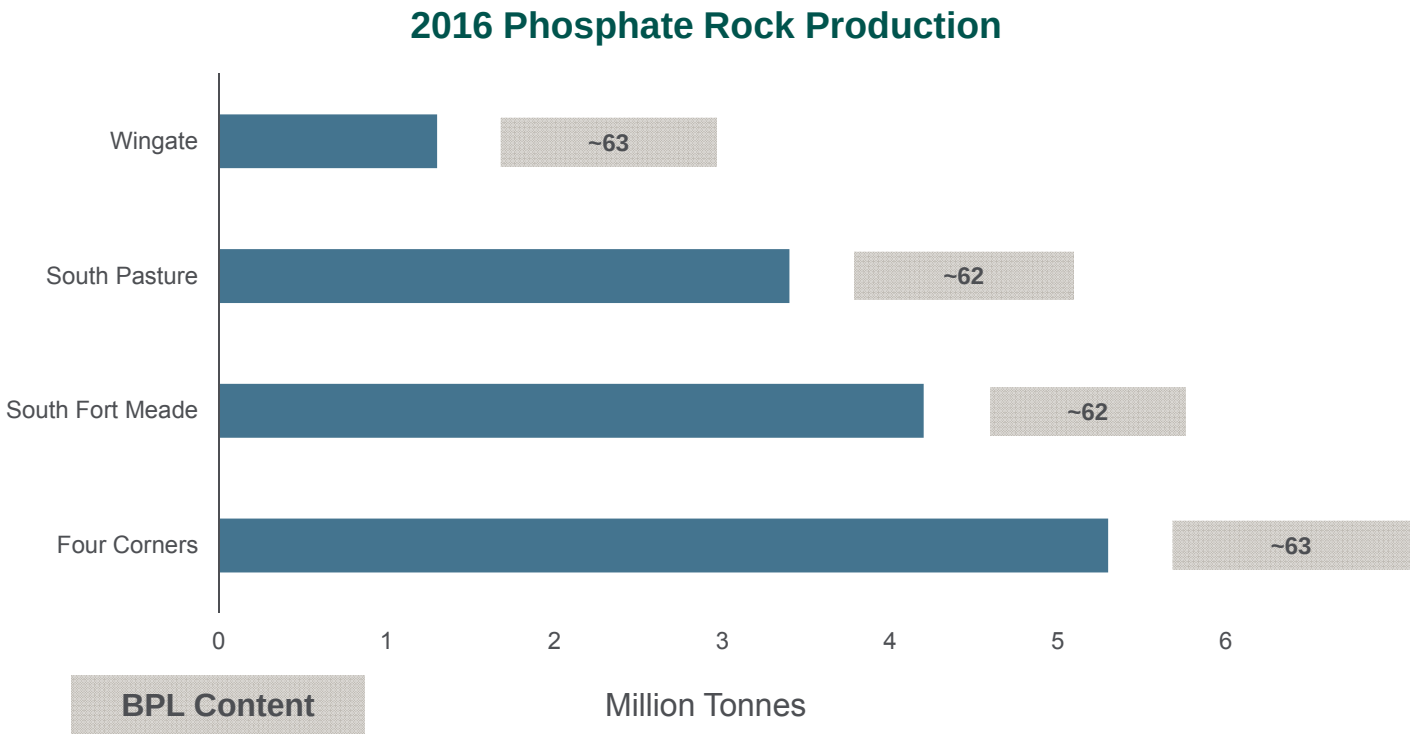
Selected Historical Data: Phosphates Segment

(in millions, except per tonne)	2014	2015	2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017
Segment income statement								
Net Sales	**$ 4,637**	**$ 4,620**	**$ 3,711**	**$ 930**	**$ 896**	**$ 839**	**$ 975**	**$ 779**
Cost of Goods Sold	3,700	3,783	3,361	829	812	783	898	712
Gross Margin	**$ 937**	**$ 837**	**$ 350**	**$ 101**	**$ 84**	**$ 56**	**$ 76**	**$ 67**
As % of Sales	*20%*	*18%*	*9%*	*11%*	*9%*	*7%*	*8%*	*9%*
Operating Earnings	**$ 709**	**$ 654**	**$ 48**	**$ 6**	**$ 12**	**$ 17**	**$ 30**	**$ 88**
EBITDA**	**$ 1,066**	**$ 1,044**	**$ 389**	**$ 88**	**$ 77**	**$ 91**	**$ 118**	**$ 179**
Notable Items Included in EBITDA	$ (40)	$ (14)	$ (148)	$ (60)	$ (33)	$ (5)	$ (23)	$ 43
Phosphates CAPEX *(in millions)*	**$ 404**	**$ 527**	**$ 380**	**$ 89**	**$ 89**	**$ 103**	**$ 101**	**$ 87**
Sales volumes *('000 tonnes)*								
North America - DAP/MAP	3,337	3,604	3,590	849	1,052	831	791	708
International - DAP/MAP*	3,450	3,392	3,255	866	711	655	915	775
MicroEssentials®*	1,850	1,782	2,300	658	607	692	774	508
Feed and Other	619	568	535	148	134	94	102	119
Total	**9,256**	**9,346**	**9,680**	**2,521**	**2,504**	**2,272**	**2,582**	**2,110**
Production Volumes *('000 tonnes)*								
Total tonnes produced*	9,273	9,463	9,520	2,461	2,463	2,303	2,461	2,339
Operating Rate	82%	81%	81%	84%	84%	79%	84%	80%
DAP FOB plant realized prices* *($/tonne)*	**$ 449**	**$ 443**	**$ 335**	**$ 326**	**$ 317**	**$ 327**	**$ 336**	**$ 329**
Realized prices *($/tonne)*								
Realized costs *($/tonne)*								
Ammonia (tonne)*	$ 479	$ 439	$ 307	$ 287	$ 259	$ 285	$ 373	$ 283
Sulfur (long ton)*	$ 132	$ 151	$ 105	$ 93	$ 87	$ 87	$ 90	$ 88
Blended rock	$ 63	$ 61	$ 61	$ 60	$ 58	$ 59	$ 58	$ 63
Full production conversion cost/production tonne	**$ 87**	**$ 91**	**$ 85**	**$ 81**	**$ 85**	**$ 97**	**$ 85**	**$ 87**

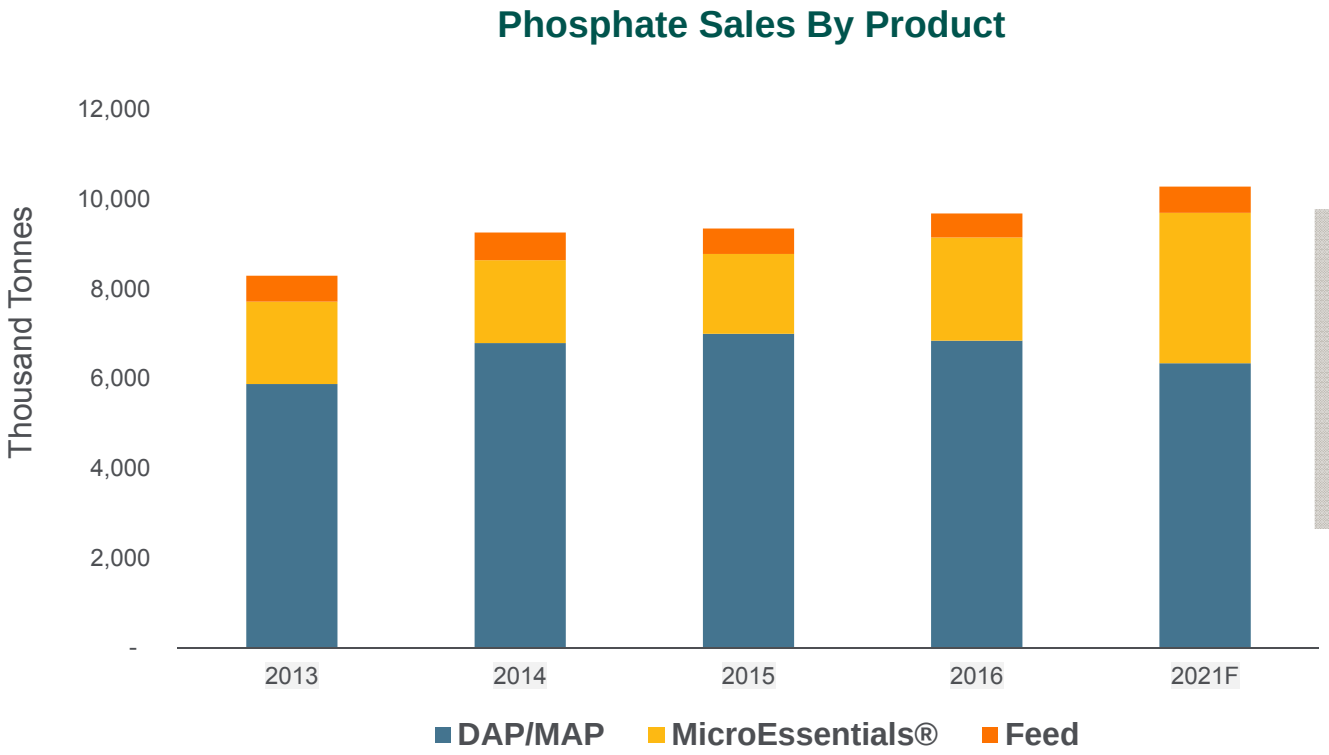
** Represents a financial measure not prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). Additional information on our presentation of non-GAAP measures and reconciliations to the most directly comparable GAAP measures are provided in the quarterly supplemental performance data that is available on Mosaic's website at http://investors.mosaicco.com under "Financial Information – Quarterly Earnings." Full-year amounts reported for each of 2014, 2015 and 2015 are the numerical sums of the amounts reported in the supplemental performance data for each quarterly period within the related year.

*All footnoted definitions and reconciliations can be found in the companies performance data, or the appendix to this deck, both available at mosaicco.com

High Quality Reserves



Increasing Proportion of Premium Products

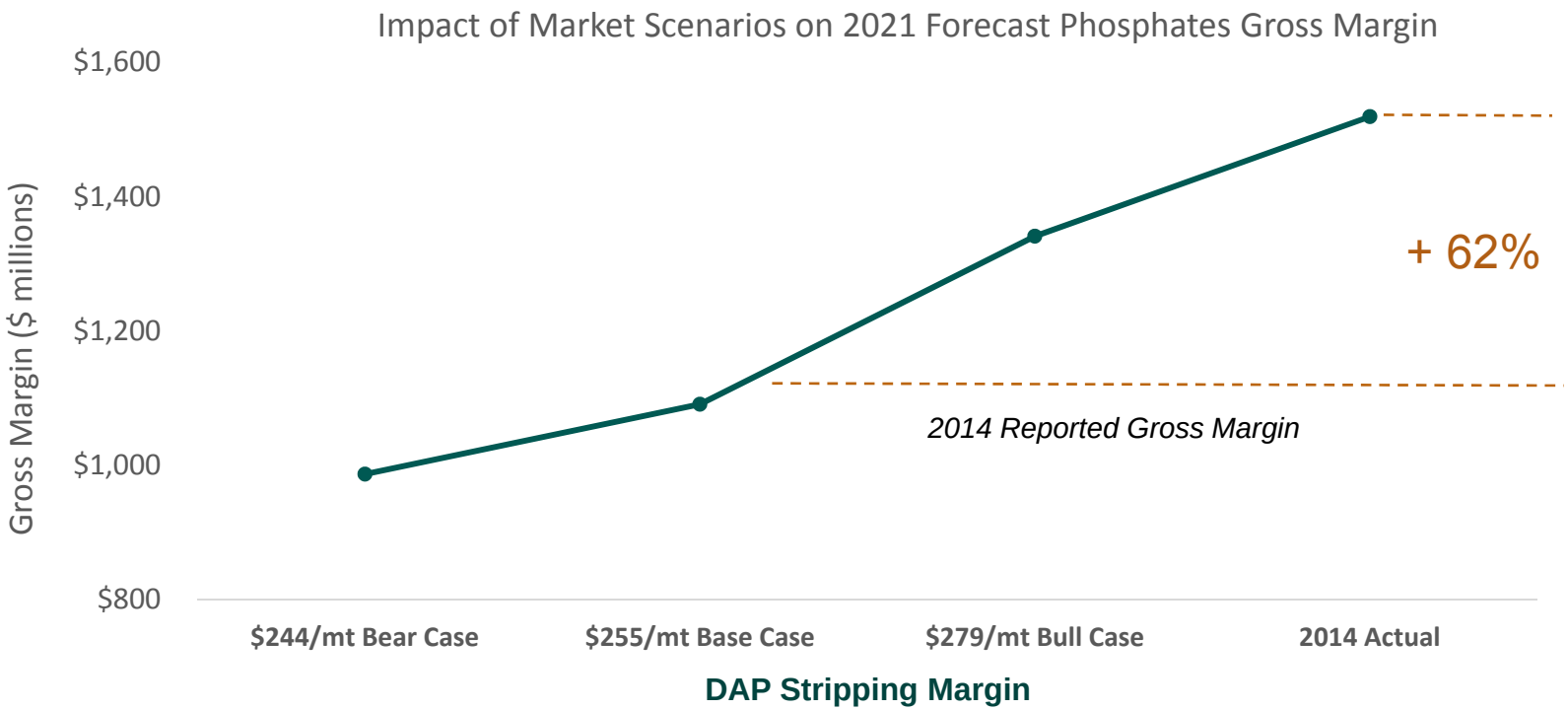


Expected by 2021:

1) Volume: Up ~ 25% since 2013
2) Mix: ~ 33% Premium Products

Forecast as of April 12, 2017

Actions Taken Increase Upside Potential: Phosphates



Bull, Base, Bear scenarios and related assumptions presented during Analyst Day on April 12th 2017.

Potash Segment

Selected Historical Data: Potash Segment

(in millions, except per tonne)	2014	2015	2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017
Segment income statement								
Net Sales	**$ 2,852**	**$ 2,447**	**$ 1,686**	**$ 428**	**$ 407**	**$ 414**	**$ 468**	**$ 474**
Cost of Goods Sold	1,929	1,659	1,429	388	341	345	358	376
Gross Margin	**$ 923**	**$ 788**	**$ 257**	**$ 40**	**$ 66**	**$ 69**	**$ 110**	**$ 99**
As % of Sales	*32%*	*32%*	*15%*	*9%*	*16%*	*17%*	*23%*	*21%*
Operating Earnings	**$ 656**	**$ 642**	**$ 139**	**$ 7**	**$ 28**	**$ 36**	**$ 85**	**$ 77**
EBITDA**	**$ 1,012**	**$ 925**	**$ 585**	**$ 138**	**$ 78**	**$ 114**	**$ 188**	**$ 205**
Notable Items Included in EBITDA	$ (22)	$ (26)	$ 85	$ (26)	$ (27)	$ 5	$ 30	$ 45
Potash CAPEX *(in millions)*	**$ 471**	**$ 432**	**$ 417**	**$ 99**	**$ 107**	**$ 106**	**$ 61**	**$ 102**
Sales volumes *('000 tonnes)*								
Crop Nutrients North America*	3,601	2,431	3,231	806	792	803	815	806
Crop Nutrients International*	4,639	4,824	3,993	1,270	1,069	1,024	1,213	1,250
Non-Agricultural	732	671	554	132	123	146	163	163
Total*	**8,972**	**7,926**	**7,778**	**2,208**	**1,984**	**1,973**	**2,191**	**2,219**
Production Volumes *('000 tonnes)*								
Production Volume	8,165	8,410	7,596	1,662	2,147	2,048	2,302	2,151
Operating Rate	75%	80%	72%	63%	82%	83%	93%	87%
MOP Average Realized price *(FOB plant, $/tonne)*	$ 279	$ 273	$ 176	$ 160	$ 169	$ 172	$ 179	$ 182

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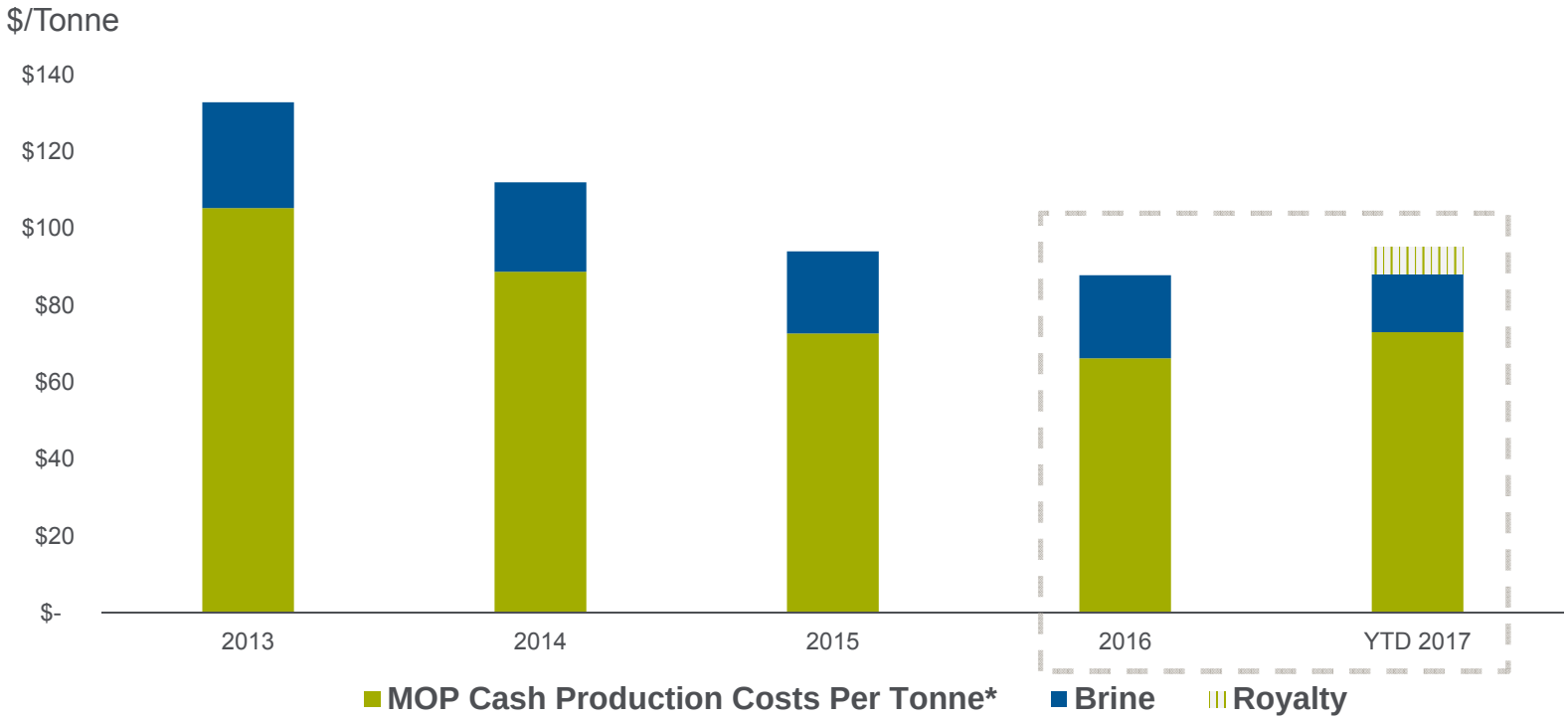
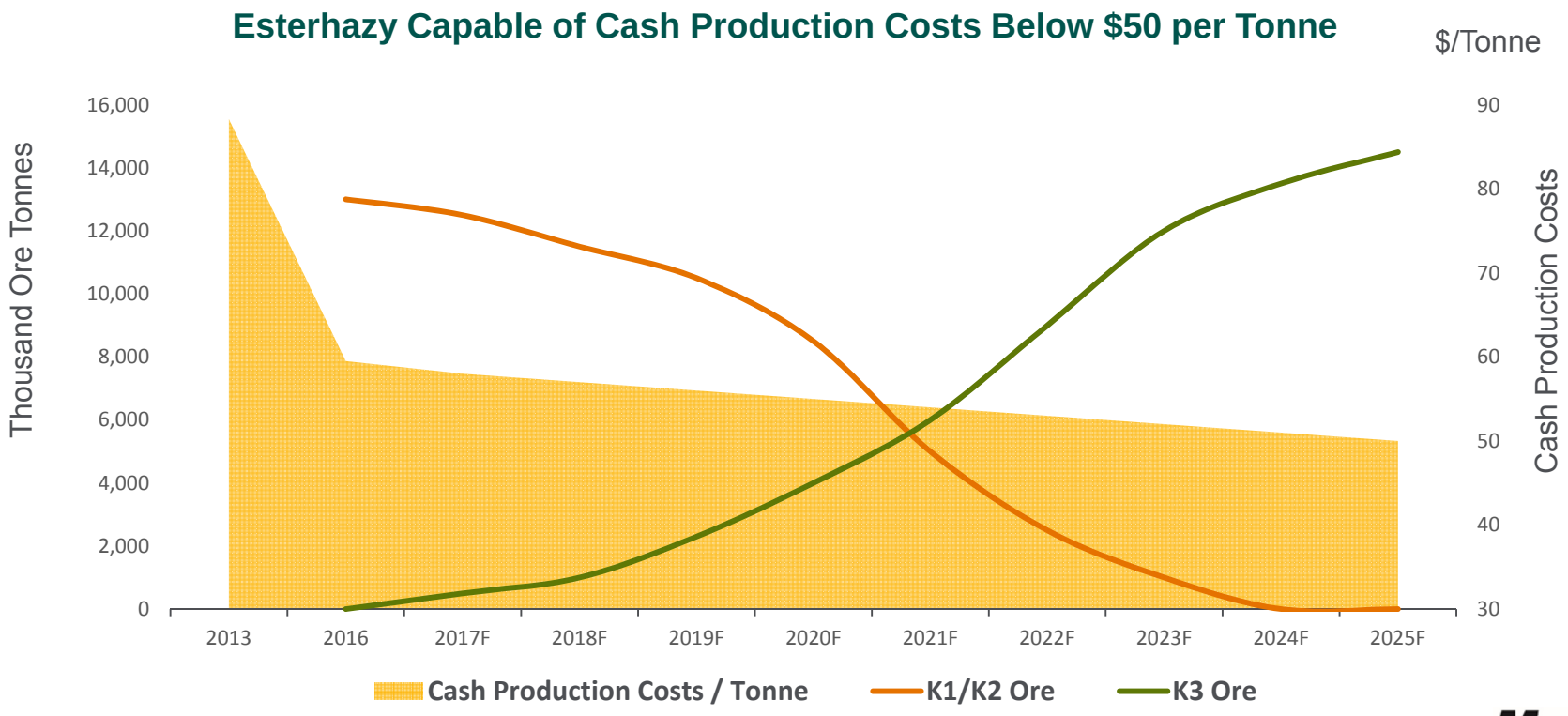
Controlling Costs



*MOP cash production costs are reflective of actual costs during the quarter, excluding realized mark-to-market gains and losses. These costs are captured in inventory and are not necessarily reflective of costs included in costs of goods sold for the period.

Migrating Ore Production from K1/K2 to K3

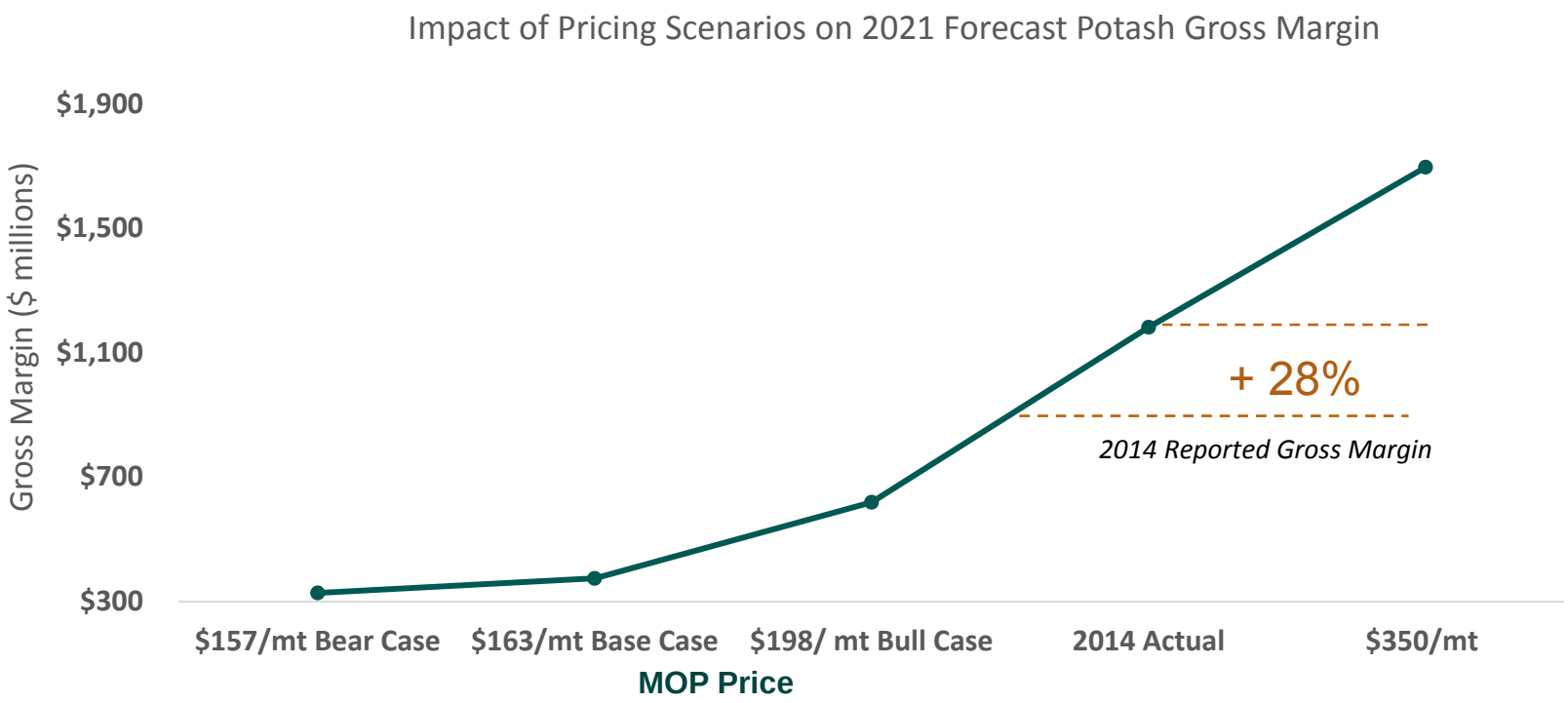


Forecast as of April 12, 2017

Capital Efficiency

Expansion	Esterhazy	Colonsay	Belle Plaine
Expected tonnes	800,000	544,000	570,000
Proven and peaking tonnes*	1,057,842	784,045	1,105,000
Actual capital costs/tonne	$577	$927	$480

Actions Taken Increase Upside Potential: Potash



Bull, Base, Bear scenarios and related assumptions presented during Analyst Day on April 12th 2017.

International Distribution Segment

Selected Historical Data: International Distribution Segment

(in millions, except per tonne)	2014	2015	2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017
Segment income statement								
Net Sales	**$ 2,135**	**$ 2,506**	**$ 2,534**	**$ 849**	**$ 684**	**$ 487**	**$ 583**	**$ 931**
Cost of Goods Sold	1,988	2,358	2,388	778	625	459	543	867
Gross Margin	**$ 147**	**$ 148**	**$ 146**	**$ 71**	**$ 59**	**$ 28**	**$ 39**	**$ 64**
As % of Sales	*7%*	*6%*	*6%*	*8%*	*9%*	*6%*	*7%*	*7%*
Per tonne	$ 32	$ 25	$ 21	$ 32	$ 31	$ 21	$ 24	$ 25
Operating Earnings (Loss)	**$ 76**	**$ 69**	**$ 74**	**$ 50**	**$ 39**	**$ 11**	**$ 21**	**$ 46**
EBITDA**	**$ 84**	**$ (91)**	**$ 95**	**$ 42**	**$ 33**	**$ 12**	**$ 6**	**$ 62**
Notable Items Included in EBITDA	**$ (43)**	**$ (172)**	**$ 11**	**$ (10)**	**$ (7)**	**$ -**	**$ (19)**	**$ 13**
International Distribution CAPEX	**$ 35**	**$ 23**	**$ 24**	**$ 5**	**$ 7**	**$ 8**	**$ 5**	**$ 4**
Working Capital*	**$ 186**	**$ 109**	**$ 74**	**$ 10**	**$ 74**	**$ 70**	**$ 61**	**$ 95**
Sales volumes *('000 tonnes)*								
Total	**4,566**	**5,977**	**6,802**	**2,212**	**1,909**	**1,335**	**1,619**	**2,511**
MicroEssentials® % of Total	10%	8%	13%	14%	9%	24%	23%	7%

MicroEssentials® volumes in % of total reflect volumes shipped to international distribution.

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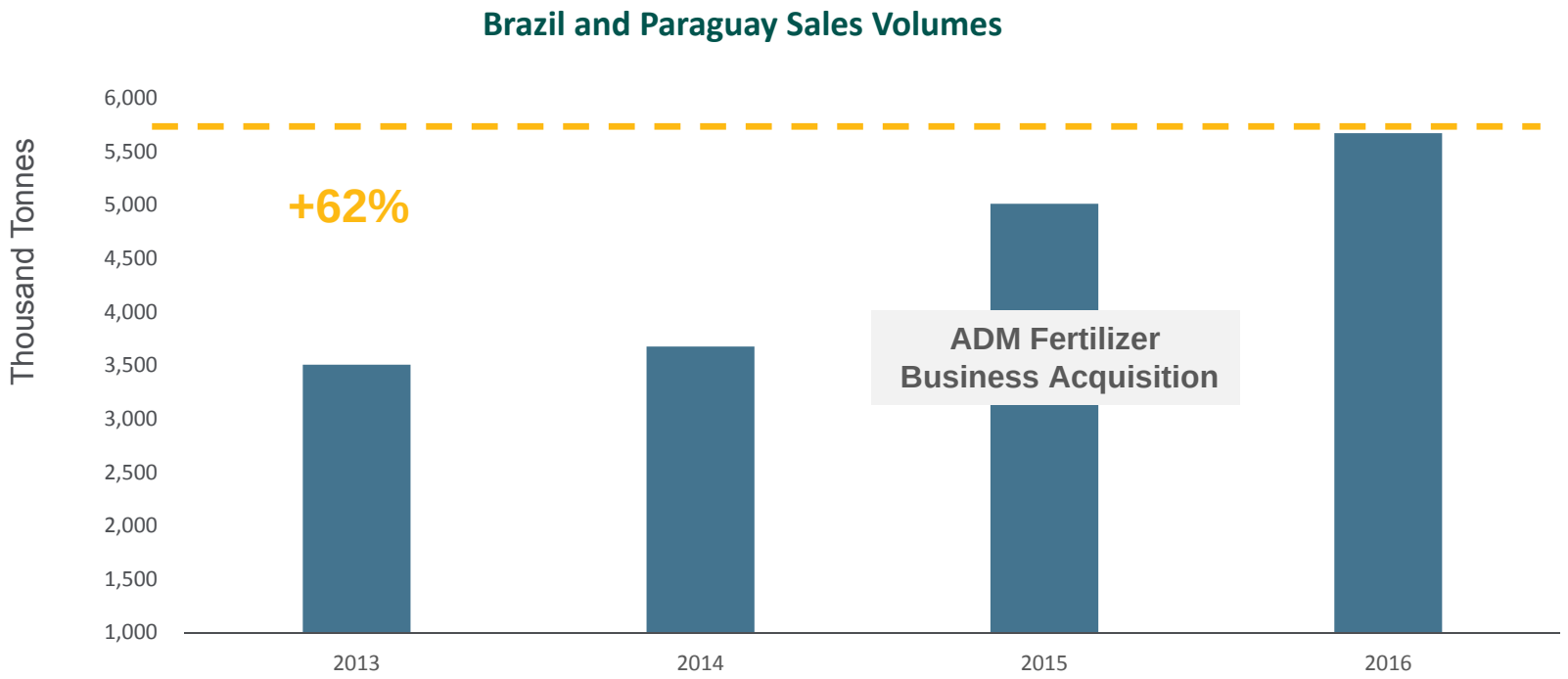
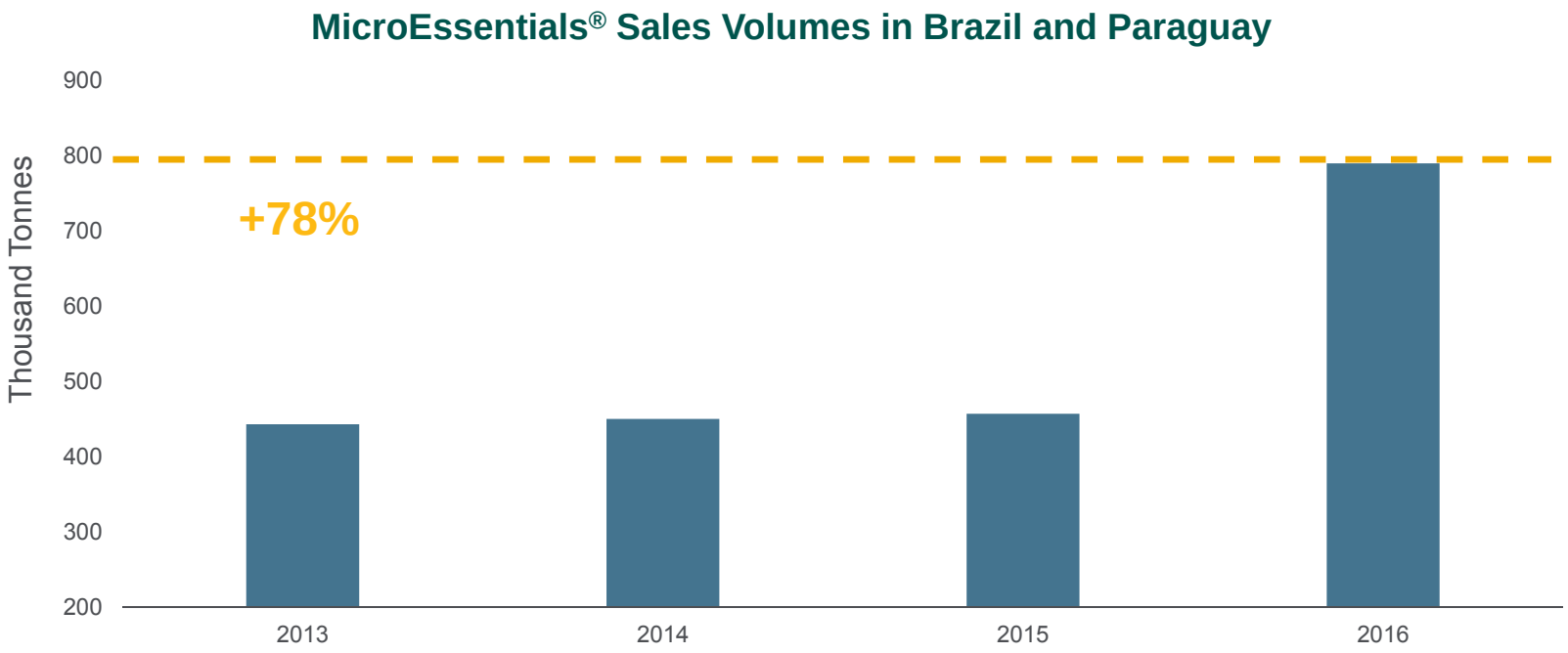
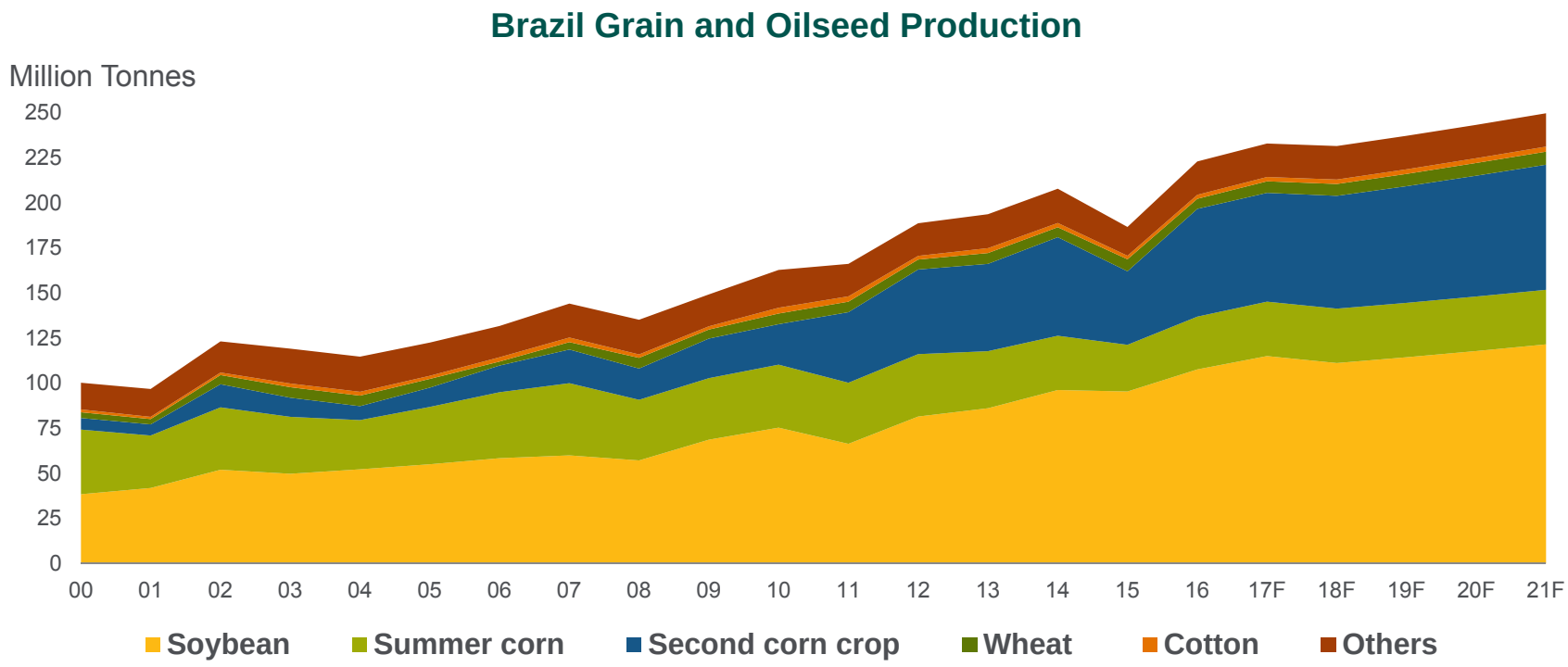
A Record of Success in Brazil



Premium Products Outpacing Overall Business

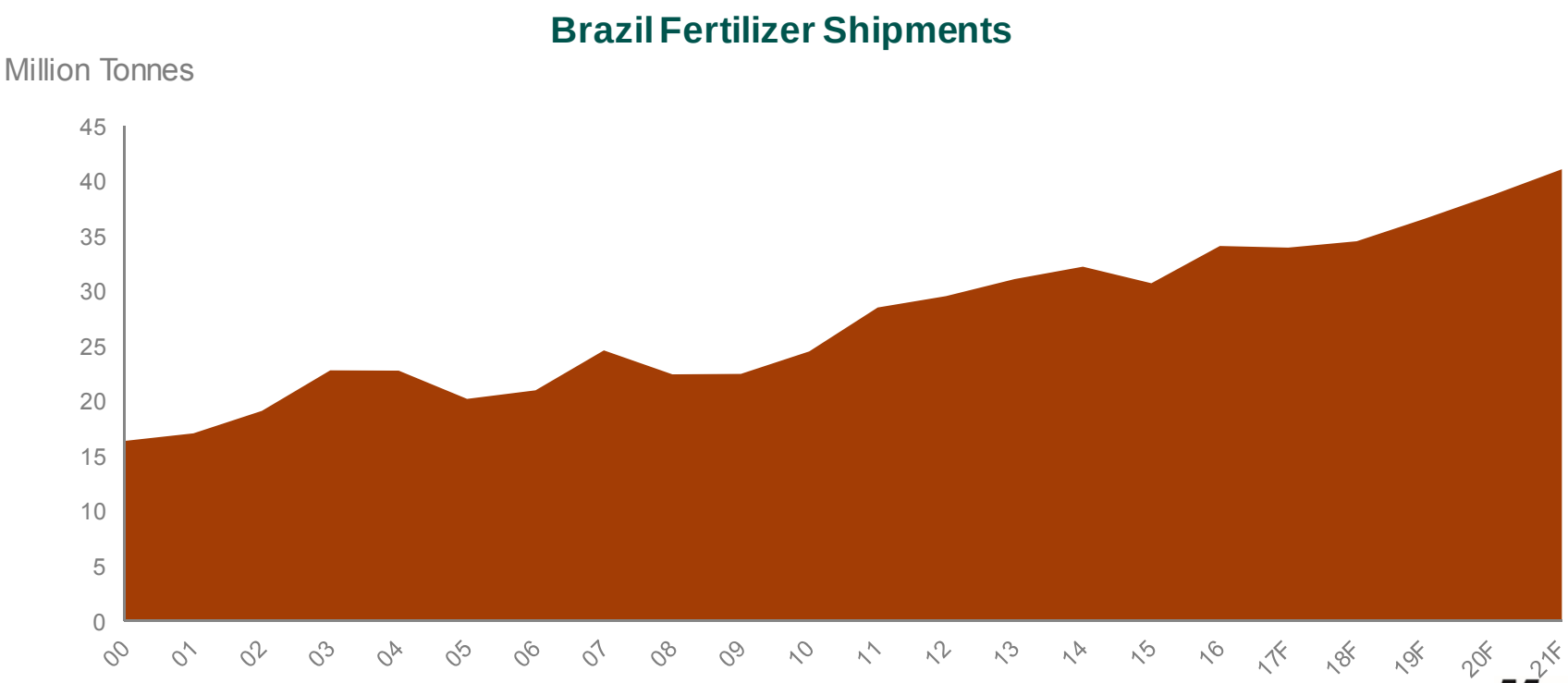


Brazil: Agricultural Powerhouse



Source: CONAB and projections from FIESP Outlook

Brazil Market Opportunity



Source: ANDA, Mosaic

Vale Fertilizantes: Pending Acquisition

High quality, long life and low cost assets

Excellent strategic fit

Attractive valuation

Committed to maintaining investment grade credit rating

Vale: Strategic minority investor with extensive Brazilian experience

Significant Leverage to the Up Cycle

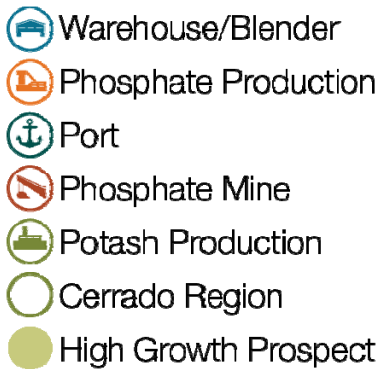
Logistical Advantage to Key Growing Areas

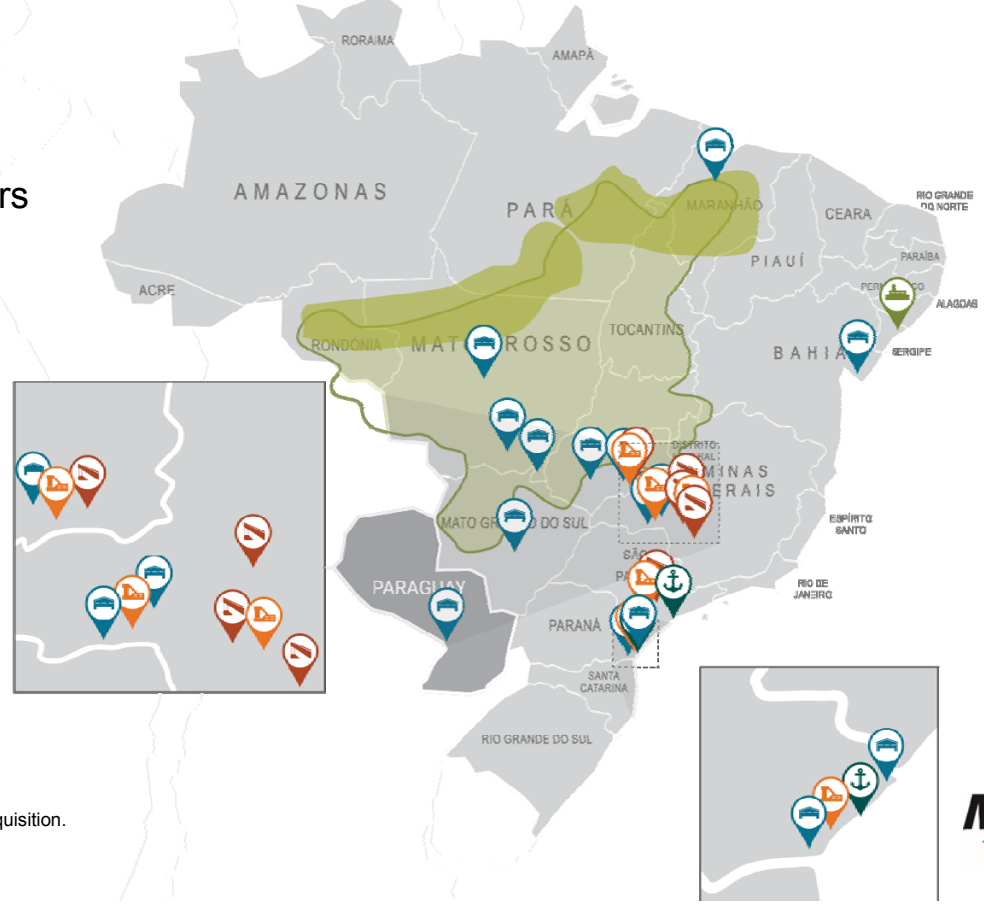
Exposure to the Cerrado region

Just-in-time deliveries

Long-term relationship with customers

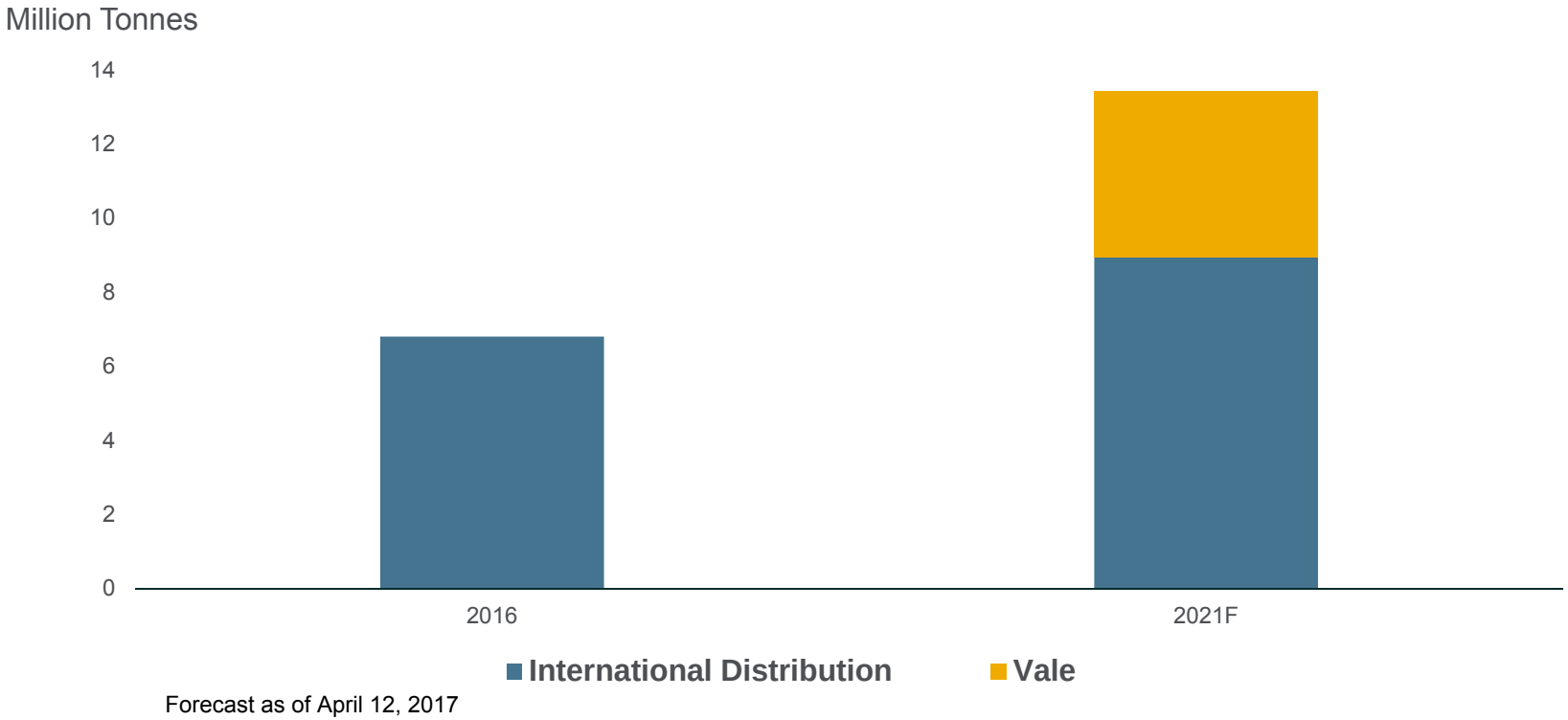
Integrated logistics





Assumes closing of the Vale Fertilizantes Acquisition.

New Brazil Segment

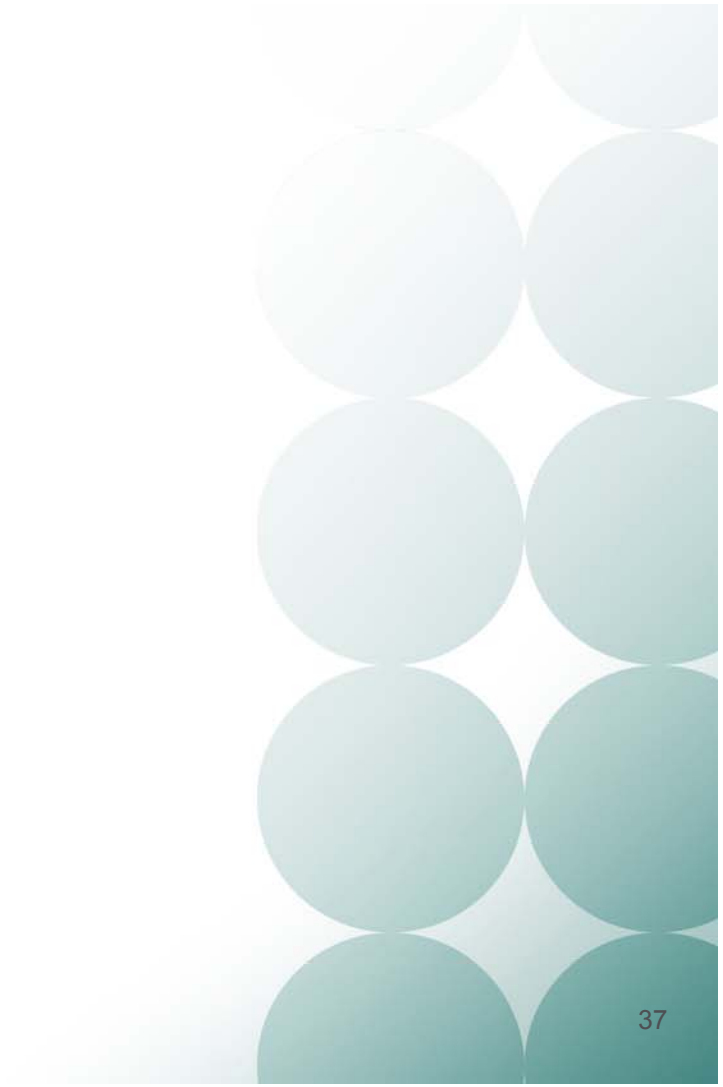


Forecast as of April 12, 2017

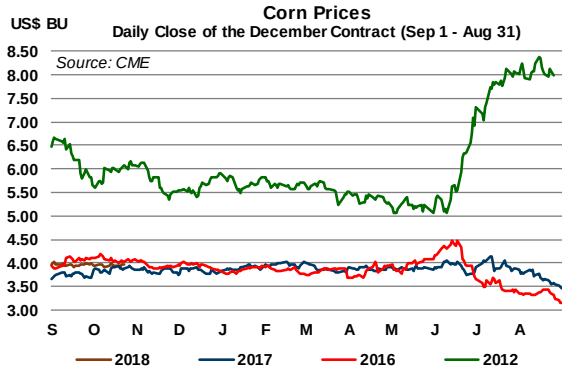
*2021 Forecast includes Mosaic International Distribution segment and Vale Fertilizantes using base case scenario from Mosaic Analyst Day presentation, April 12, 2017. Assumes closing of the Vale Fertilizantes Acquisition.

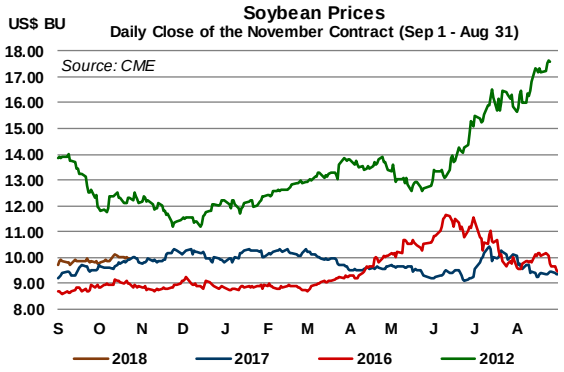
Markets

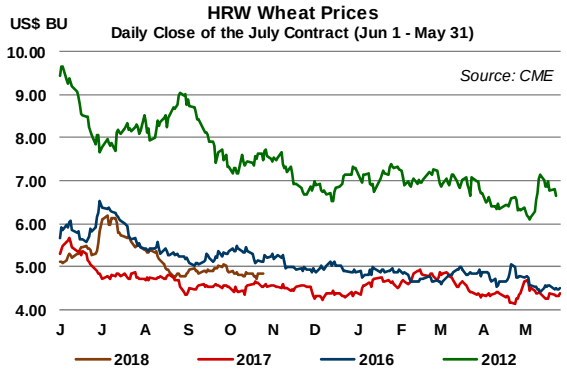
Agricultural Outlook

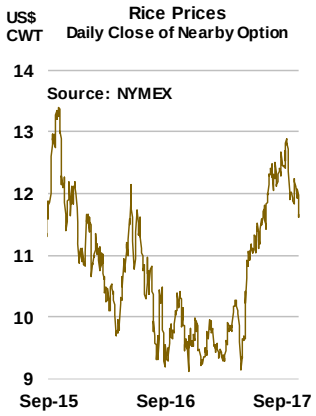


Steady Crop Prices Underpin Positive P&K Demand Outlook

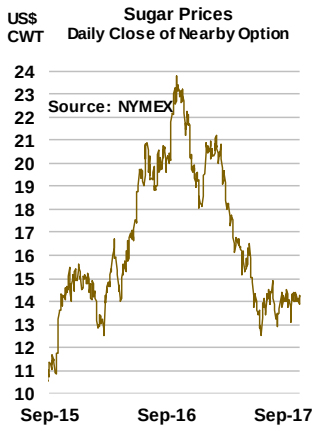








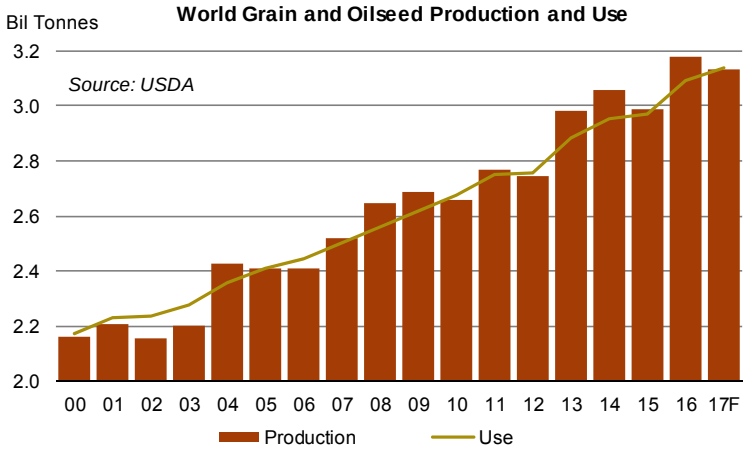






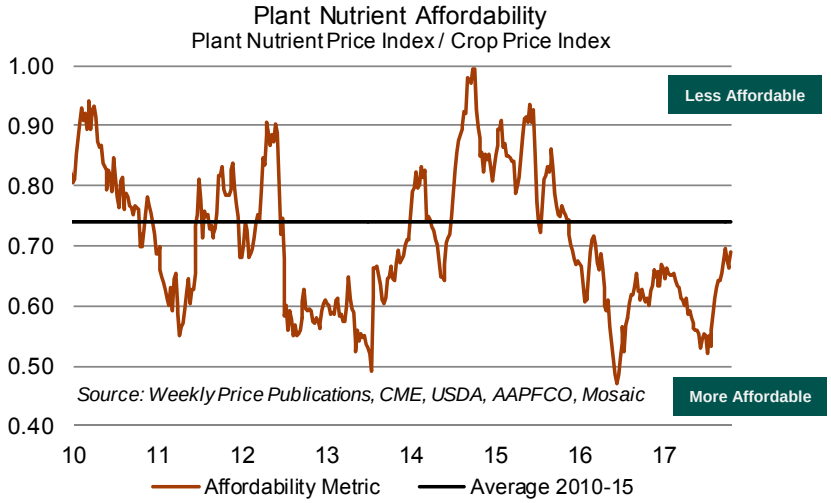
Positive Agronomic & Economic Demand Drivers

Record Harvests Remove Record Amounts of P&K

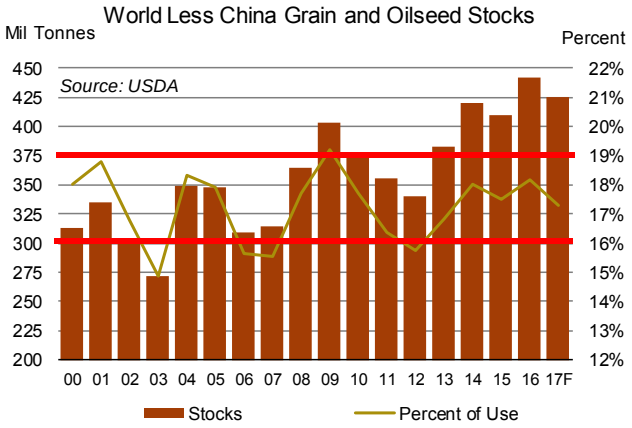


World Grain & Oilseed Nutrient Removal					
Mil Tonnes	**2015**	**2016**	**Chg MT**	**Chg %**	**Product**
N Removal	**64.7**	**67.7**	**3.0**	**4.6%**	**6.5**
P_2O_5 Removal	**24.7**	**25.8**	**1.1**	**4.3%**	**2.3**
K_2O Removal	**20.8**	**21.9**	**1.1**	**5.3%**	**1.8**
Source: USDA, IPNI, Mosaic					

Affordable Nutrients Spur Demand



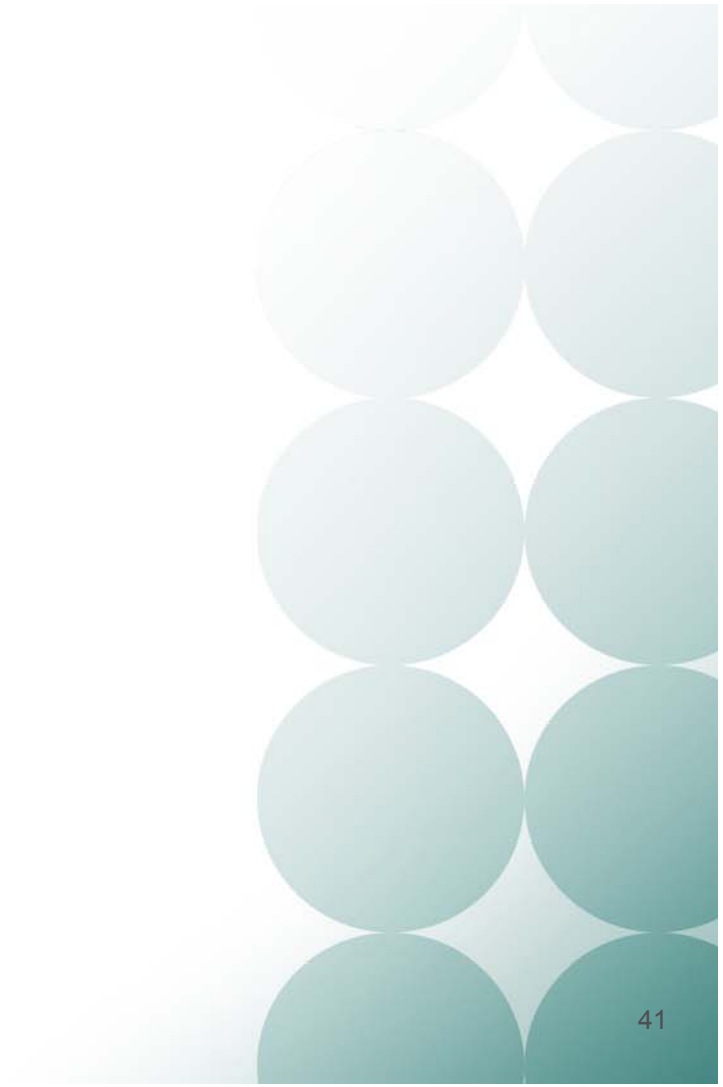
Grain and Oilseed Fundamentals Still OK Despite the String of Bin-Busting Harvests



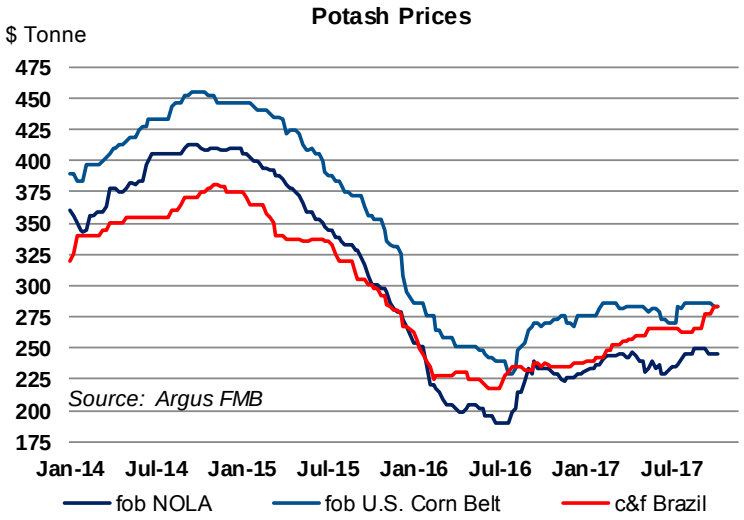
- A big step-up in global production since 2012/13
- But continued strong and steady demand growth
- Stocks ex China increased to a record high in 2016/17
- Inventories ex China projected to decline in 2017/18
- Stocks as a percentage of use projected to drop into the lower half of the 16%-19% range by the end of 2017/18

Markets

Potash Outlook

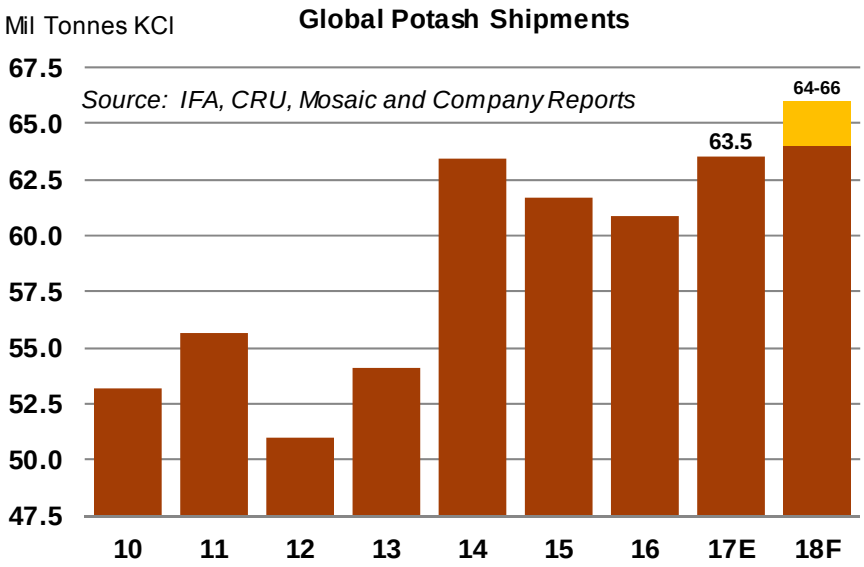


Prices Are Trending Up



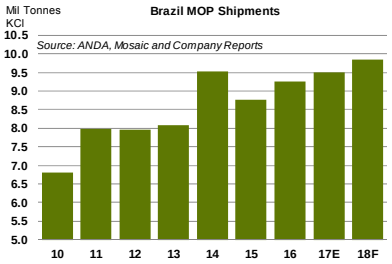
- Strong broad-based demand growth
- Stable to stronger potash export currencies
- No immediate threat from new capacity
- Restructured/optimized operations

A Big Demand Rebound is Underway

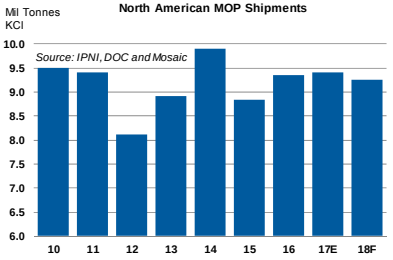


- After declining during the last two years, we project that global MOP shipments will rebound 4.4% or 2.7 million tonnes KCl to 63.5 million in 2017. Our first look at 2018 indicates that shipments likely will increase another 2.7% or 1.7 million tonnes to 65.2 million next year.
- CRU forecasts exceed our projections. CRU forecasts released at the end of August put MOP shipments at 63.9 million tonnes this year and 67.0 million tonnes next year, a jump of 4.8% or 3.1 million tonnes.

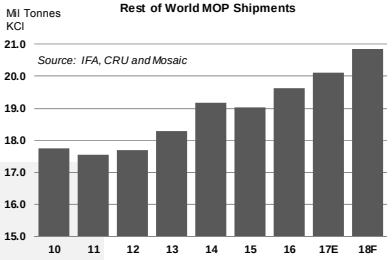
Strong Broad-Based Demand Growth



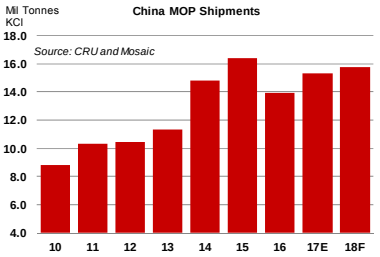
Brazil demand continues its upward march driven mainly by steady increases in soybean production.



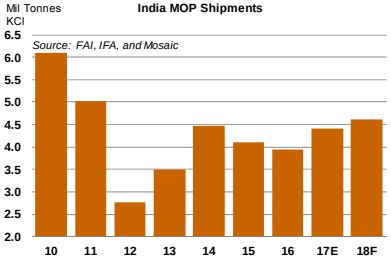
North American shipments typically total 9.0-9.5 million tonnes KCl. Shipments have stabilized in this range after a few volatile years driven mostly by weather and the timing of fill programs.



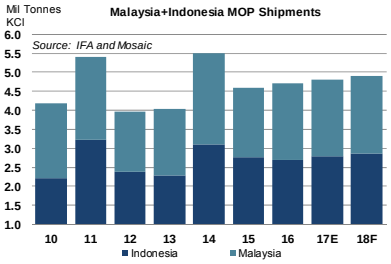
Shipments outside the “Big Six” countries/regions have taken off led mostly by other Asian and other Latin American countries as well as a doubling of African use (albeit from a low starting point).



Chinese shipments also are trending up due to record crop production year after year as well as efforts to improve its potassium balance. Higher domestic MOP production has met much of this growth.



India shipments are beginning to recover following changes to the subsidy program in 2010/11 that resulted in a near tripling of retail potash prices. More normal monsoon rainfall this year also is aiding the recovery.

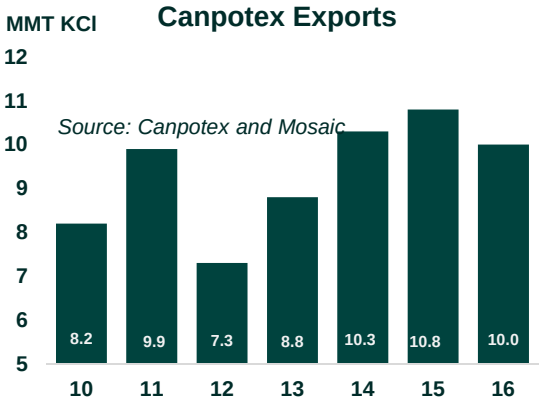


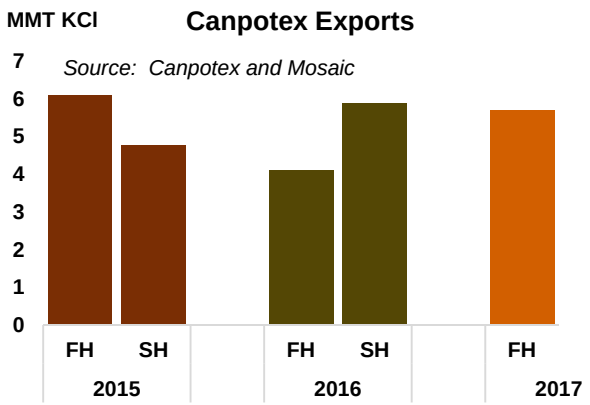
Indonesian and Malaysian shipments also have trended steadily upward with surges in 2011 and 2014. The gains are driven mostly by increases in palm oil production, but positive rice profitability also has helped to underpin potash use in the region and other Asian countries.

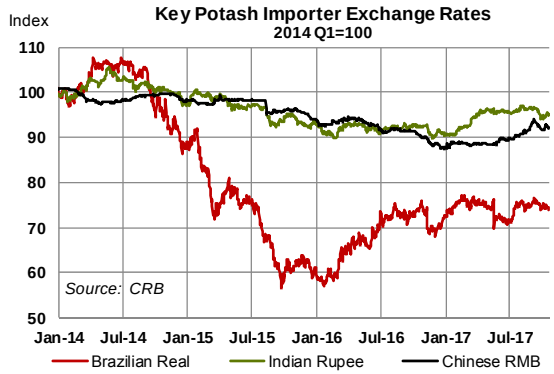
Global Potash Shipment Forecasts by Region (November 2017)

Muriate of Potash Million Tonnes (KCl)	2015	2016	2017E	Low 2018F	High 2018F	Source: IFA, CRU and Mosaic. Numbers may not sum to total due to rounding. Comments
China	16.4	14.0	15.3	15.5	16.0	*Shipments are projected to recover to 15.3 mmt in 2017 (7.2 mmt production plus 8.1 mmt net imports). After spiking to 9.2 mmt in 2015, imports plunged to 6.5 mmt in 2016. Despite farm program uncertainties, changes in crop mix are unlikely to impact on-farm K use in 2018.*
India	4.1	3.9	4.4	4.5	4.7	*Shipments are forecast to increase to 4.4 mmt in CY 2017 and to 4.5 mmt in 2018. Despite a lower 2017/18 subsidy and 5% GST, a good monsoon, higher minimum support prices for key crops, a relatively strong rupee, and moderate K prices underpin improving demand prospects.*
Indonesia+Malaysia	4.6	4.7	4.8	4.8	4.9	*Shipments continue to trend upward driven by normal rainfall this year, lower and more stable K prices, increases in palm oil production, moderate palm oil prices, and higher rice prices..*
Other Asia	4.4	4.5	4.9	4.9	5.1	*Bangladesh, Thailand, and Vietnam account for most of the projected increase. Demand is buoyed by good weather, favorable policies, more moderate K prices, and stronger crop prices (e.g. recent rice prices).*
W. Europe	4.8	5.0	4.8	4.7	4.9	*Shipments are expected to drop slightly this year and again in 2018 as a result of elevated channel inventories and the aftermath of the 2017 drought in southern parts of the region.*
E. Europe+FSU	4.7	4.9	5.1	5.2	5.3	*Shipments here are on the rise despite less favorable weather in some regions this year. Moderate crop prices combined with weak currencies continue to bolster agricultural output and K demand.*
Brazil	8.8	9.3	9.5	9.8	10.0	*Potash shipments were down 1% but MOP imports were up 6% during the first nine months of this year. Farmers are holding back grain sales and deferring K purchases, but shipments are expected to pick up during the SH and hit our 9.5 mmt forecast. Demand drivers continue to look positive despite a stronger real.*
Other L. America	2.6	2.8	2.8	2.8	2.9	*Shipments are projected to drop slightly this year following the import surge and channel inventory build last year. Imports are projected to remain about stable in 2018.*
N. America	8.8	9.4	9.4	9.2	9.4	*Shipments jumped in CY 2016 as a result of outstanding 2015/16 spring shipments and record 2016/17 fall shipments. On-farm potash use is projected to remain about flat despite changes in crop mix with shipments also staying stable at 9.2-9.4 in CY 2017 and 2018.*
Other	2.5	2.4	2.6	2.7	2.8	*Africa is expected to account for much of the projected gain in shipments in 2017 and 2018.*
Total	**61.7**	**60.9**	**63.5**	**64.1**	**66.0**	*Shipments are forecast to increase to 63.5 mmt in 2017, up 4.4% or 2.7 mmt from last year. The "Big Six" consuming regions led by the big rebound in China account for all of the projected increase. Our point estimate for 2018 is 65.2 mmt, a gain of 2.7% or 1.7 mmt.*

Record Canpotex Exports to Meet Demand

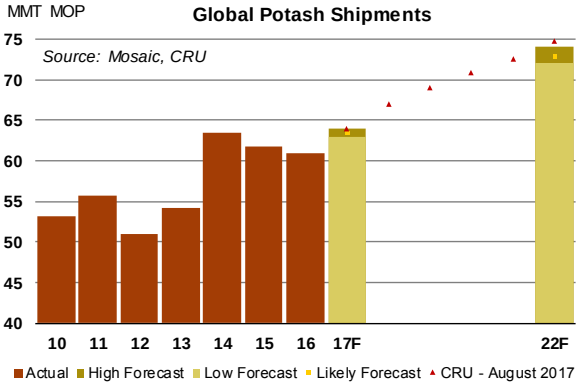


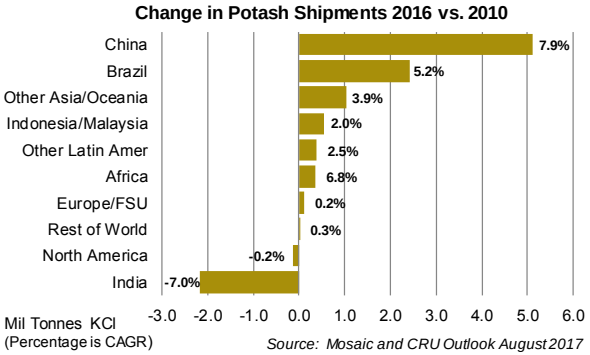


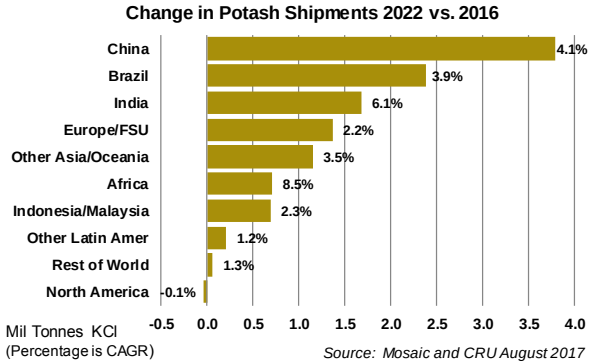


- Canpotex is expected to export record tonnage in 2017 in order to meet broad-based demand growth this year.
- Unlike the last two years, Canpotex is expected to string together two strong halves this year with second half shipments equaling first half exports.
- Import demand is bolstered by stronger currencies in several major importing countries.

Five-Year Outlook: Strong, Broad-Based and Less Volatile Demand Growth the Key Feature





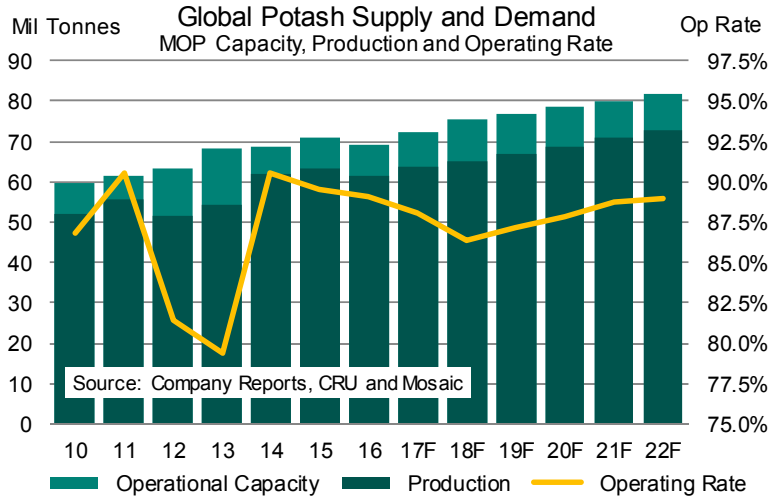


Global Potash Shipments				
	Mosaic Scenario			CRU
Mil Tonnes MOP	Low	Likely	High	Aug 17
2010 Shipments	na	53.1	na	53.6
2016 Shipments	na	60.9	na	61.3
Change 2010-16	na	7.7	na	7.7
CAGR 2010-16	na	2.3%	na	2.3%
2022 Forecast	72.0	72.9	74.0	74.7
Change 2016-22	11.1	12.0	13.1	13.4
CAGR 2016-22	2.8%	3.0%	3.3%	3.3%

Source: Mosaic, CRU Potash Outlook August 2017

- By our count, global MOP shipments increased 2.3% per year or 7.7 million tonnes from 2010 to 2016. Growth was erratic with all of the gain coming in 2014. Shipments increased in three years and decreased in three years. India was a heavy drag on growth due to subsidy cuts and a near tripling of retail MOP prices in 2010/11.
- Shipments are forecast to increase 3.0% per year or 12.0 million tonnes from 2016 to 2022. Demand drivers remain positive, and more rapid and consistent growth is expected given lower and less volatile potash prices as well as moderate agricultural commodity prices. An expected rebound in India shipments as well as the low 2016 starting point boost the odds of hitting our 2022 forecast.
- The traditional growth geographies - Brazil, China, India, Indonesia, and Malaysia account for almost 70% of the projected gain from 2016 to 2022, but other regions such as the former Soviet Union (FSU), other Asian countries and Africa are expected to post significant increases during the next five years.
- CRU forecasts are greater than Mosaic projections. Based on their August outlook report, they now expect that MOP shipments will grow 3.3% per year or 13.4 million tonnes KCl during the forecast period.

Five-Year Outlook: Mosaic Forecasts (September 2017)

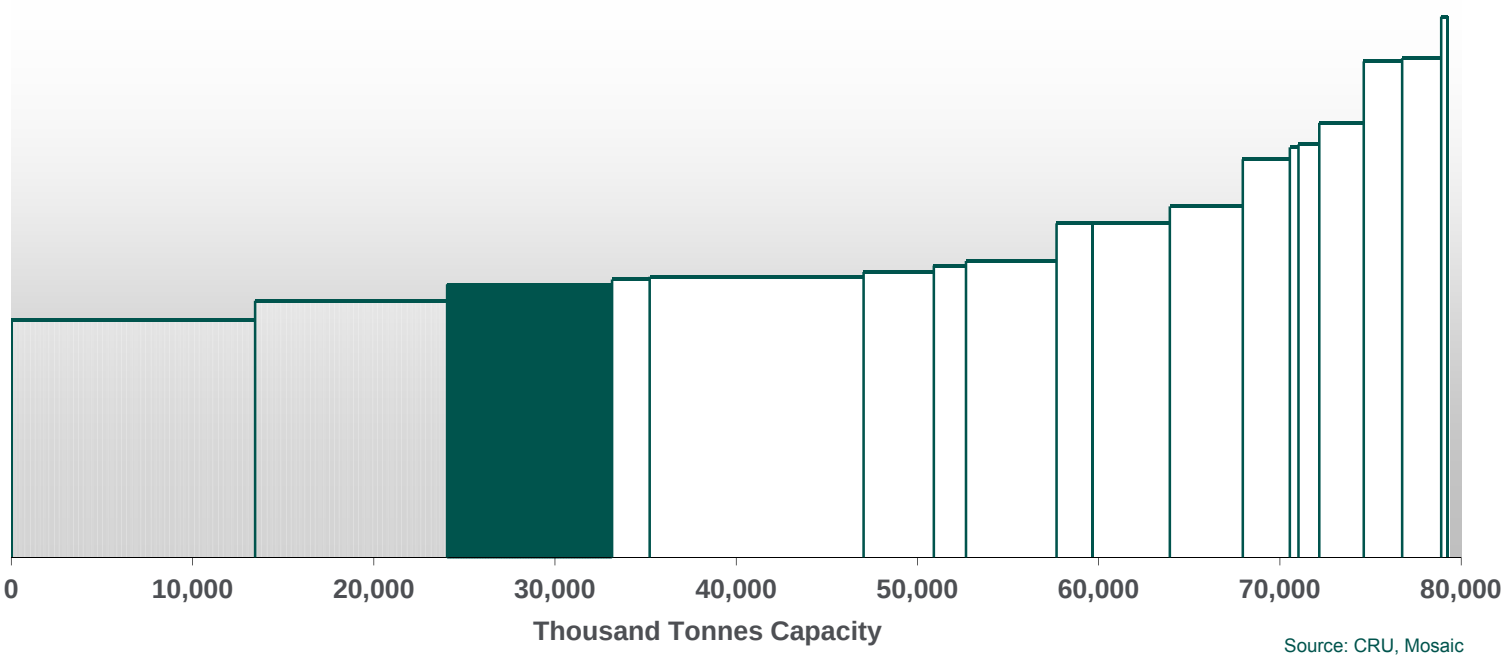


- We project no chronic or severe long term supply and demand imbalance. Global operational capacity is projected to increase 12.8 million tonnes from 69.0 million in 2016 to 81.8 million in 2022.
- The global MOP operating rate is forecast to dip from more than 89% in 2016 to around 86% in 2018 before moving back up to the 89% range by the end of the forecast period.
- Our analysis assumes that global demand will grow 3% per year and that the four greenfield projects in Turkmenistan, Saskatchewan and Russia (2) will ramp up based on production estimates in the table below:

Mil Tonnes KCl	2017	2018	2019	2020	2021	2022
Production	.50	2.06	3.24	4.46	5.69	6.87

2021 Cost Curve

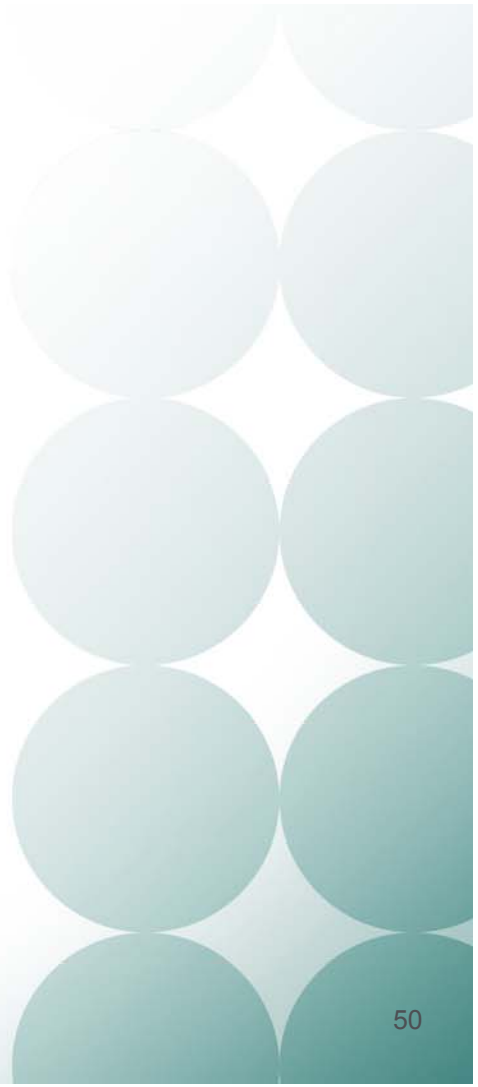
2021 MOP Cost Curve fob Mine at Effective Capacity



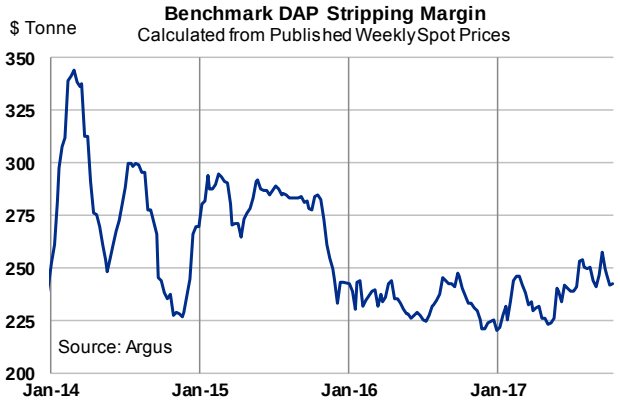
Source: CRU, Mosaic

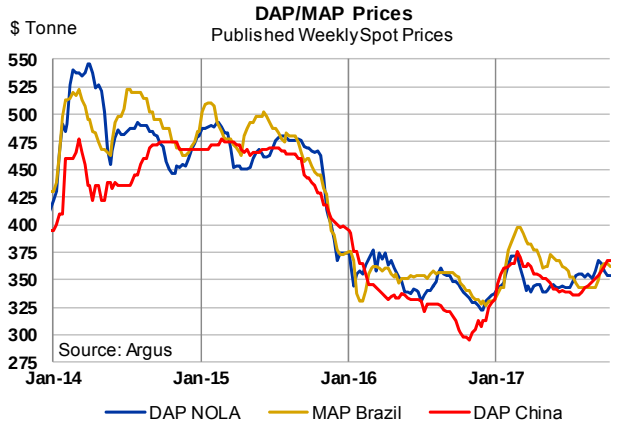
Markets

Phosphate Outlook

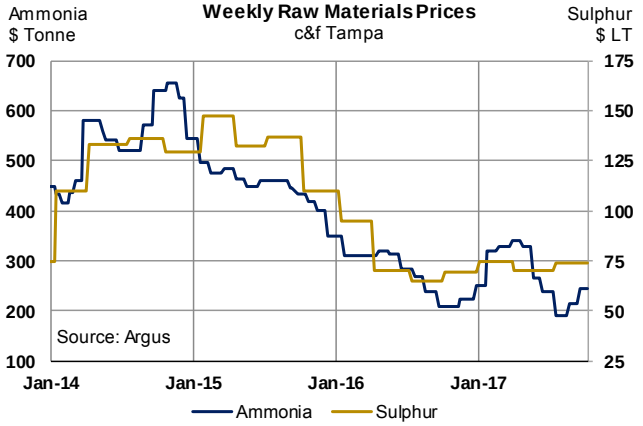


DAP Margin Has Moved Up Since Mid-2017

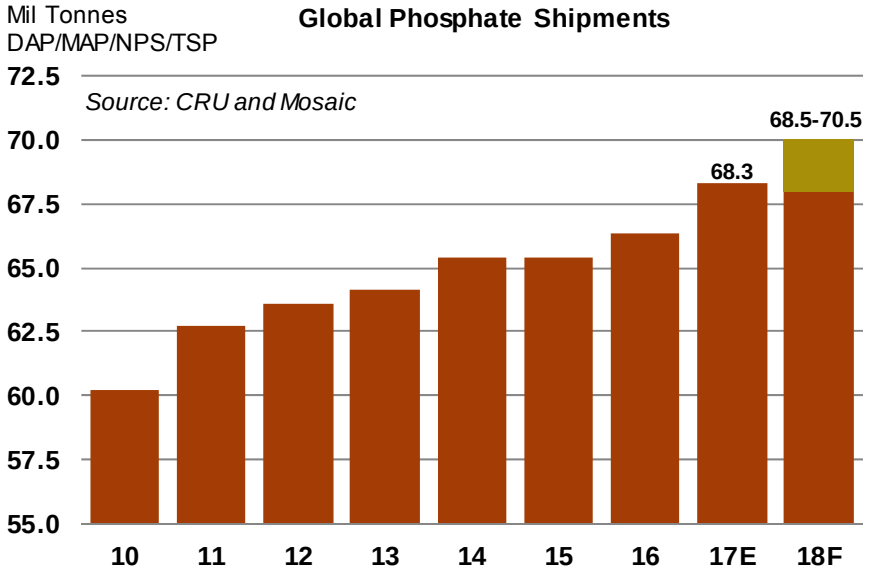




- Our DAP benchmark stripping margin is calculated from published spot prices for DAP, sulphur and ammonia. It is a gauge to measure relative profitability of the phosphate industry over time and is not intended to approximate Mosaic's realized margins.
- This benchmark has increased from a seasonal low of $224 tonne in mid-May to a peak of $254 tonne in early August. Most of the gain resulted from lower ammonia prices.
- Prices east of Suez have increased significantly with the fob China port DAP price climbing almost $40 tonne from the low-$330s in July to the $370 range at the start of November. (Our benchmark DAP margin calculation utilizes only U.S. prices.)

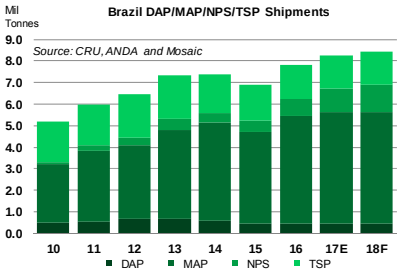


Pace of Demand Growth Picking Up

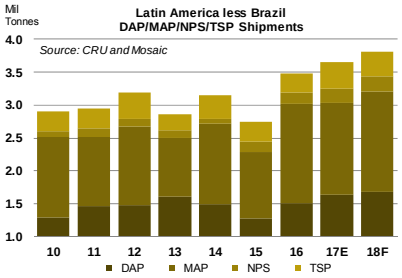


- Shipments of the leading finished phosphate products are projected to increase 3.0% or 2.0 million tonnes to 68.3 million this year, but slowing to 1.8% or 1.2 million tonnes to 69.6 million in 2018. The slowdown in shipment growth is not predicated on a slowdown in farmer demand, but rather our expectation that there will be a destocking of channel inventories next year.
- The pace of demand growth has picked up this year and shipments during the next five years are expected to increase at a faster clip than the recent past. The pick-up is due to stable Chinese shipments, a rebound in India, and strong and steady gains in growth geographies like Brazil, the rest of Latin America and Asia, the former Soviet Union, and Africa.
- CRU forecasts exceed our projections with shipments forecast to climb to 69.0 million tonnes this year and to 70.1 million in 2018. About one-half the difference is due to larger Indian shipment forecasts.

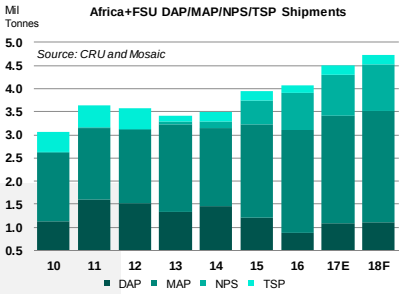
Strong Broad-Based Demand Growth



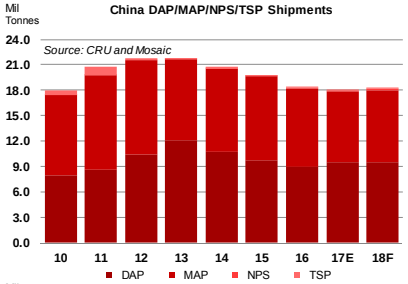
Phosphate demand in Brazil continues its strong upward trend driven mainly by steady increases in soybean production. The growth in NPS shipments – mostly Mosaic's MicroEssentials – is noteworthy.



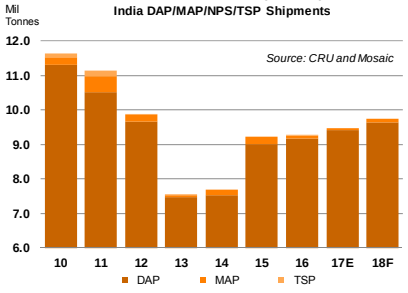
Shipments in the rest of Latin America jumped last year, led by large gains in Argentina following the elimination or reduction of grain export taxes. The region is expected to hold those increases this year. Shipments are forecast to increase again next year due to generally profitable farm economics throughout the region.



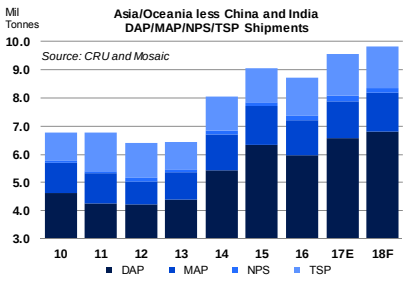
Shipments in the former Soviet Union (FSU) are recovering thanks to a collapse of local currencies and mostly favorable weather during the last few years. African demand is beginning to take off as a result of policy reforms as well as government-private sector programs to promote nutrient use.



Chinese shipments peaked at more than 21 million tonnes in 2013. Growth was driven by high support prices for leading crops such as corn and a build-up of strategic reserves. Shipments are expected to stabilize in the 18 million tonne neighborhood in the new economic/policy environment.



Indian shipments plummeted following changes in the subsidy and a doubling of retail DAP prices in 2010/11. Poor monsoons also contributed to weak demand. Shipments are beginning to recover given high local crop prices, more moderate phosphate prices, a strong rupee, and a normal monsoon.



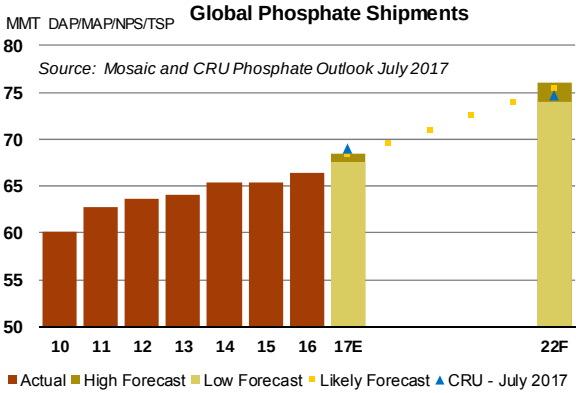
Shipments in the rest of Asia have increased significantly since 2013. The biggest gains were in Pakistan and Vietnam, but most countries registered increases during this period. Profitable farm economics due to steady crop prices and lower phosphate costs underpin demand growth.

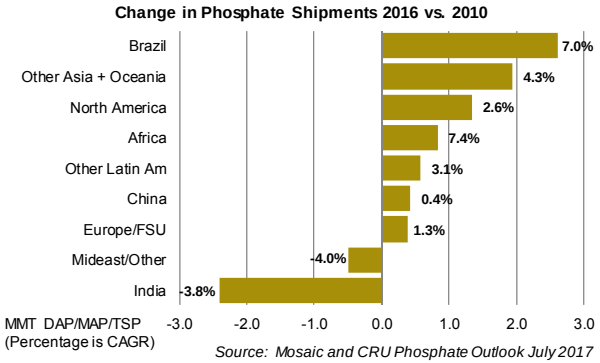
Global Phosphate Shipment Forecasts by Region November 2017)

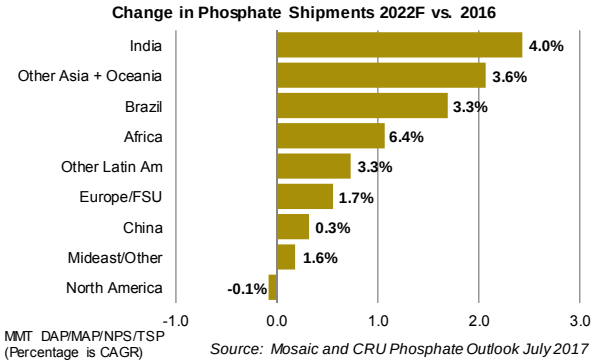
Mil Tonnes DAP/MAP/NPS/TSP	2015	2016	2017F	Low 2018F	High 2018F	Comments
China	19.8	18.4	18.1	18.2	18.4	*Shipments are expected to stabilize at a little over 18 mmt in 2017, with a strong domestic pull expected this fall, helped in part by more supportive policy comments from the government, including the newly announced ethanol mandate. In 2018, we expect a modest demand uptick.*
India	9.2	9.2	9.5	9.6	9.8	*Despite the slow start for DAP shipments through the first eight months of the year (up by only ~100,000 tonnes), we have maintained our full-year 2017 on the basis of decent monsoon and expectations of strong uptake for the Rabi season. We project this positive momentum to continue in 2018, though implementation of the Direct Benefit Scheme remains a wild-card.*
Other Asia / Oceania	9.1	8.7	9.5	9.6	9.9	*Our 2017 forecast is raised slightly to reflect the strength of Pakistani imports (up 74% y-o-y through August) and shipments (up 15% y-o-y). Assuming normal weather, we forecast moderate demand growth of ~3% for the region in 2018.*
Europe and FSU	4.7	5.2	5.2	5.3	5.5	*Our 2017 forecast continues to show flat demand, as channel inventories are worked through and farm economics in Europe remain strained. Modest growth is projected in 2018, as parts of the region recover from draught conditions in 2017.*
Brazil	6.9	7.8	8.3	8.4	8.7	*We have moderated our 2017 forecast slightly due to the tepid farmer demand through the first ¾ of the year. Farm economics remain OK despite the strength of the real this year (but which has recently weakened) and the slow pace of selling last season's harvest (though it has picked up with the rebound in soybean prices since mid-August). Phosphate shipments are up 2% y-o-y, while YTD imports of DAP/MAP/TSP are up by over half a million tonnes (+16%), suggesting some channel inventory build. We anticipate growth to continue in 2018, but because of expectations of higher carry-in inventories, we have pared back the volume forecast.*
Other Latin America	2.8	3.5	3.6	3.7	3.9	*We have left our forecast for 2017 and 2018 forecasts little-changed, calling for a pick-up in the pace of demand growth in 2018, with good farmer economics persisting, particularly in Argentina where soybean export tariffs are to again be lowered.*
North America	8.9	9.4	9.7	9.4	9.6	*The weather-challenged 2017 spring season was about average, but we believe it ended with very low channel stocks. Summer fill interest was above average, as are imports, and we have boosted our shipment estimate for 2017 on expectations of a good fall season despite some harvest delays. Our 2018 forecast has shipments moderating slightly.*
Other	4.1	4.2	4.3	4.3	4.6	*Our forecast for 2017 and 2018 are unchanged. Remarkable demand growth (albeit from a low base) continues to spread across Africa, and there is likely further upside to our 2018 forecast because of it, though limited demand growth prospects in the Middle East continue to act as a drag.*
Total	**65.4**	**66.3**	**68.3**	**68.5**	**70.5**	*Our point estimate shipment forecast for 2017 is up slightly at 68.3 million tonnes, while our forecast for 2018 falls in the middle of our upwardly revised 68.5-70.5 mmt range at 69.6mmt.*

NPS products included in this analysis are those with a combined N and P_2O_5 nutrient content of 45 units or greater.

Five-Year Outlook: Positive Demand Outlook







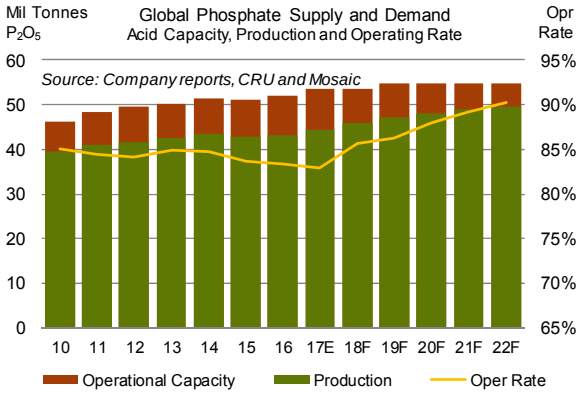
Global Phosphate Shipments

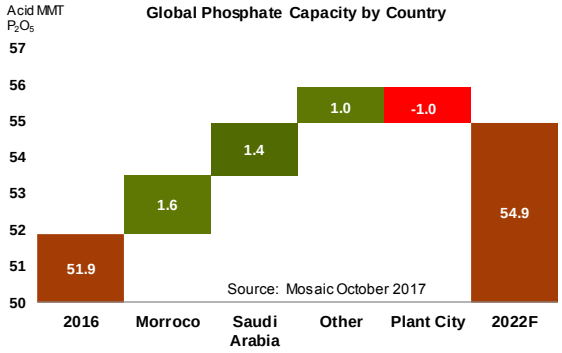
Mil Tonnes DAP/MAP/NPS/TSP	Mosaic Scenario Low	Likely	High	CRU July 2017
2010 Shipments		60.2		61.0
2016 Shipments		66.3		67.2
Change 2010-16		6.1		6.2
CAGR 2010-16		1.6%		1.6%
2022 Forecast (2021for CRU)	74.0	75.3	76.0	74.6
Change 2016-22 (2021for CRU)	7.7	9.0	9.7	7.4
CAGR 2016-22 (2021for CRU)	1.8%	2.1%	2.3%	2.1%

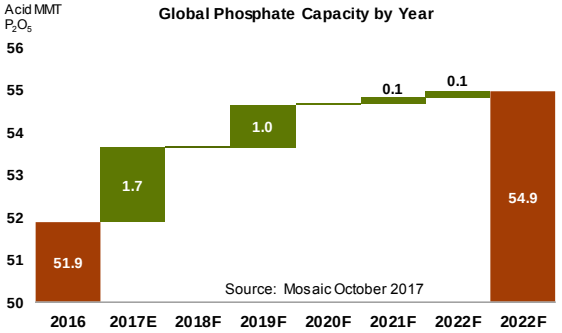
Source: Mosaic and CRU Phosphate Outlook July 2017

- Global shipments increased 1.6% per year or 6.1 million tonnes from 2010 to 2016. India was a heavy drag on demand with shipments dropping 2.4 million tonnes during this period due to subsidy cuts and a doubling of retail phosphate prices. Demand barely increased in China with shipments increasing significantly during the first half of this period but then declining during the second half.
- Shipments are forecast to increase 2.1% per year or 9.0 million tonnes from 2016 to 2022. Prospects for lower and more stable raw materials costs are expected to help keep phosphate prices at moderate levels and help to fuel steady gains. Indian demand also is expected to recover due to high domestic crop prices, lower phosphate prices, a workable subsidy, and a relatively stable or stronger rupee.
- Brazil and other Latin American countries as well as other Asia/Oceania are projected to post strong gains during this period. Increases in Africa and the former Soviet Union (FSU) also are noteworthy.
- CRU's also projects that demand will grow 2.1% from 2016 to 2021.

Five-Year Outlook: Mosaic Forecasts (October 2017)







- We project that global phosphoric acid capacity will increase 3.0 million tonnes P_2O_5 from 2016 to 2022 with Morocco and Saudi Arabia accounting for all of the net increase. Nearly all of the projected increase is on line by 2019. This analysis incorporates no net change in Chinese capacity although we expect a restructuring of the industry with the permanent closure of less efficient plants and higher and more consistent operating rates at cost competitive facilities.
- Production required to meet projected phosphate demand is forecast to increase 6.3 million tonnes P_2O_5 during this same period. As a result, the global operating rate is projected to move up from 83% in 2016 to 90% by the end of the forecast period. The projected rate increases in 2018 due to the combination of moderate demand growth and the closure of our Plant City facility that offsets most of the expected ramp-up of new capacity next year.
- There are no world-scale projects in the pipeline behind the first four OCP Jorf Phosphate Hubs (JPH 1-4) in Morocco and the Ma'aden Wa'ad al Shamal Phosphate Company (MWSPC) JV in Saudi Arabia. We do not expect additional capacity from either debottlenecking in Morocco or the next round of expansions in Saudi Arabia and Morocco until after the forecast period.

Key Factor Update: New Capacity Ramp Up

More clarity on the start-up and ramp-up of new P&K capacity

Ma'aden Wa'ad al Shamal Phosphate Company (MWSPC)

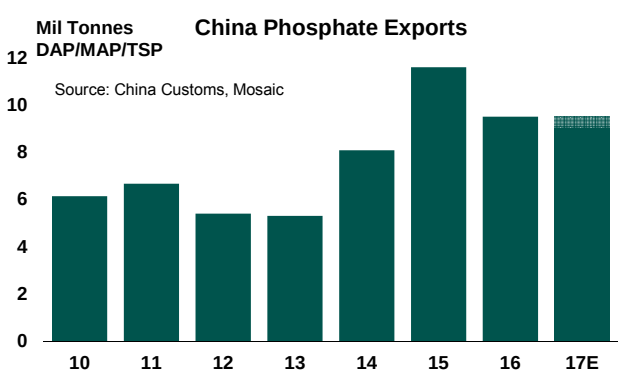


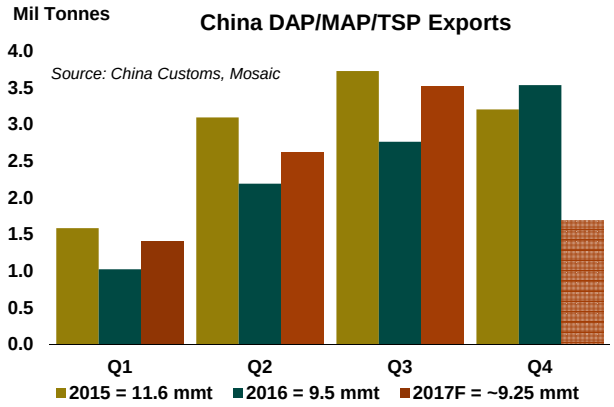
"DAP price-firming east of Suez extended this week despite an announcement from Saudi Arabia's Wa'ad Al Shamal of its first export tonnage from its new hub."

A favorite headline from CRU on August 31, 2017

- First DAP produced on July 8, 2017.
- The first export vessel from MWSPC began loading during the last week of August for Ma'aden.
- Product quality is very good.
- We expect MWSPC will produce 500,000-600,000 tonnes of DAP in 2017 and 1.5-2.0 million tonnes in 2018.

Key Factor Update: Chinese Exports





China Phosphate Exports

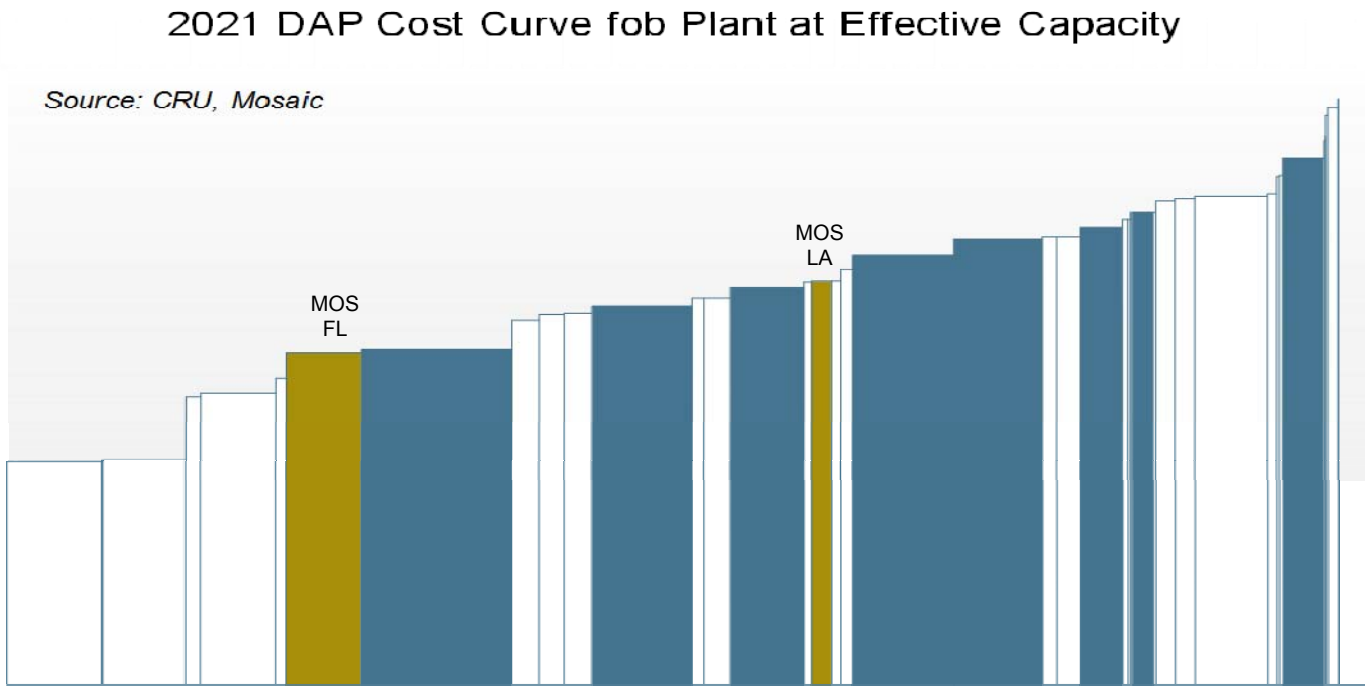
Year-To-Date

1000 MT	YTD 2017	YTD 2016	% Chg Prior Yr	7-Yr Avg	% Chg 7-Yr Avg
DAP	4,598	4,136	11%	3,089	49%
MAP	2,300	1,324	74%	921	150%
TSP	660	514	28%	675	-2%
DAP/MAP/TSP	*7,558*	*5,974*	*27%*	*4,791*	*58%*

Source: China Customs

- Chinese exports of DAP/MAP/TSP surged to 11.6 million tonnes in 2015 and then dropped to 9.5 million last year. We now project exports will fall in the 9.4-9.6 million tonne range this year given strong demand and higher prices in Asia.
- Exports during the first nine months of 2017 were up 27% from a year ago but down 10% from the same period in 2015. We estimate that exports in Q4 will drop from the peak last year, but several factors such as the volume of domestic shipments, anticipation of 2018 environmental taxes, and latent Indian import demand will impact exports in the remaining quarter.
- Based on our five-year forecasts, China likely will need to export 7.0 to 8.0 million tonnes of phosphate products in order to balance the global market during the forecast period. We expect that the restructuring of the Chinese industry will result in a smaller, more stable, and more profitable industry that runs at higher and more consistent rates.

Phosphate Cost Curve: 2021



Source: CRU, Mosaic

Appendix

Notable Items

Q1 2014

Description	Segment	Line Item	Amount	Tax Effect	EPS Impact
Share repurchase	Consolidated	Change in value of share repurchase agreement	$ (60)	$ -	(0.15)
Special Equity Incentive	Consolidated	Selling, general & administrative	$ (15)	$ 4	(0.03)
Severance	Potash	Other operating expense	$ (6)	$ 2	(0.01)
Remediation of a pre-combination environmental event	Phosphates	Other expense	$ (5)	$ 1	(0.01)
Foreign currency transaction gain	Consolidated	Foreign currency transaction (gain) loss	$ 43	$ (12)	0.08
Unrealized gain (loss) on derivatives	Corporate & Other	Cost of goods sold	$ (4)	$ 1	(0.01)
Closing and integration costs for CF acquisition	Phosphates	Selling, general & administrative	$ (5)	$ 2	(0.01)
Discrete tax items	Consolidated	Provision for (benefit from) income taxes	$ -	$ 62	0.16
Total Notable Items			$ (52)	$ 60	0.02

Q2 2014

Description	Segment	Line Item	Amount	Tax Effect	EPS Impact
Share repurchase	Consolidated	Interest costs	$ (5)	$ -	(0.01)
Severence	Corporate & Other	Other operating expense	$ (4)	$ 1	(0.01)
Severence	Phosphates	Other operating expense	$ (10)	$ 3	(0.02)
Foreign currency transaction gain	Consolidated	Foreign currency transaction gain (loss)	$ (39)	$ 11	(0.07)
Unrealized gain (loss) on derivatives	Corporate & Other	Cost of goods sold	$ 24	$ (6)	0.04
Asset disposition (loss on Chile)	Corporate & Other	Other operating expense	$ (6)	$ -	(0.01)
Other	Phosphates	Selling, general & administrative & other operating expense	$ (5)	$ 1	(0.01)
Discrete tax items	Consolidated	Income tax benefit	$ -	$ 14	0.03
Total Notable Items			$ (45)	$ 24	(0.06)

Q3 2014

Description	Segment	Line Item	Amount	Tax Effect	EPS Impact
Share repurchase	Consolidated	Interest income (expense)	$ 5	$ -	0.01
Severence	Corporate & Other	Other operating expense	$ (3)	$ 1	(0.01)
Foreign currency transaction gain (loss)	Consolidated	Foreign currency transaction gain (loss)	$ 27	$ (8)	0.06
Unrealized gain (loss) on derivatives	Corporate & Other	Cost of goods sold	$ (23)	$ 6	(0.04)
Adjustments to assets held for sale	Corporate & Other	Other operating expense	$ 18	$ (5)	0.03
Gain on Sale of Hersey	Potash	Other operating expense	$ 14	$ (4)	0.03
Carlsbad Restructuring Expense	Potash	Carlsbad restructuring expense	$ (67)	$ 28	(0.10)
Total Notable Items			$ (29)	$ 18	(0.02)

Q4 2014

Description	Segment	Line Item	Amount	Tax Effect	EPS Impact
Foreign currency transaction gain (loss)	Consolidated	Foreign currency transaction gain (loss)	$ 48	$ (14)	0.09
Unrealized gain (loss) on derivatives	Corporate & Other	Cost of goods sold	$ (30)	$ 9	(0.06)
Adjustments to assets held for sale	Corporate & Other	Other operating expense	$ (10)	$ 3	(0.02)
Loss on write-down of Carlsbad	Potash	Carlsbad restructuring expense	$ (59)	$ 24	(0.09)
Discrete tax items	Consolidated	Provision for (benefit from) income taxes	$ -	$ 76	0.20
Carlsbad insurance proceeds	Potash	Other operating expense	$ 10	$ (3)	0.02
ARO Adjustment	Phosphates	Other operating expense	$ (22)	$ 6	(0.04)
Total Notable Items			$ (63)	$ 101	0.10

Full Year 2014

Description	Segment	Line Item	Amount	Allocate FX	Report
Foreign currency transaction gain (loss)	Consolidated	Foreign currency transaction gain (loss)	$ 79	$ (50)	$ 29
Unrealized gain (loss) on derivatives	Corporate & Other	Cost of goods sold	$ (33)		$ (33)
Other Potash	Potash		$ (108)	$ 86	$ (22)
Other Phosphates	Phosphates		$ (47)	$ 7	$ (40)
Other ID	ID		$ -	$ (43)	$ (43)
Other Corp & Other	Corporate & Other		$ (5)		$ (5)
Other Consolidated	Consolidated		$ (75)		$ (75)
Total Notable Items			$ (189)	$ -	$ (189)

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