PHOSAGRO®

Phosphate Outlook

Not such stranger things

November 2017
TFI Outlook
Conference

Juan von Gernet
Head of Marketing – Europe

Phosphates Outlook: not such stranger things

Outline of today's presentation

We are PhosAgro: Brief background

Key developments (year to date)

Review of target/key markets & expectations for 2017 CY

Medium term phosphate fertilizer outlook

Conclusions

A background to PhosAgro

Production asset review

PHOSAGRO

APATIT | Phosphate Rock Mine

>2.0 bn T resource, enough for generations to come
Largest standalone producer of high grade rock

P Rock (39% P_2O_5) cap: 9.0 M t/y | Nepheline cap: 1.7 M t/y

CHEREPOVETS | P & N Fertilizers

Largest phosphate fertilizer plant in Europe
Ranked as one of the lowest cost producers globally[2]

DAP/MAP/NPK cap: 4.0 M t/y | APP cap: 140 K t/y
NH_3 cap: 1.2 M t/y | Urea cap: 1.0 M t/y | AN cap: 450 K t/y

METACHEM | Speciality fertilizer & industrial

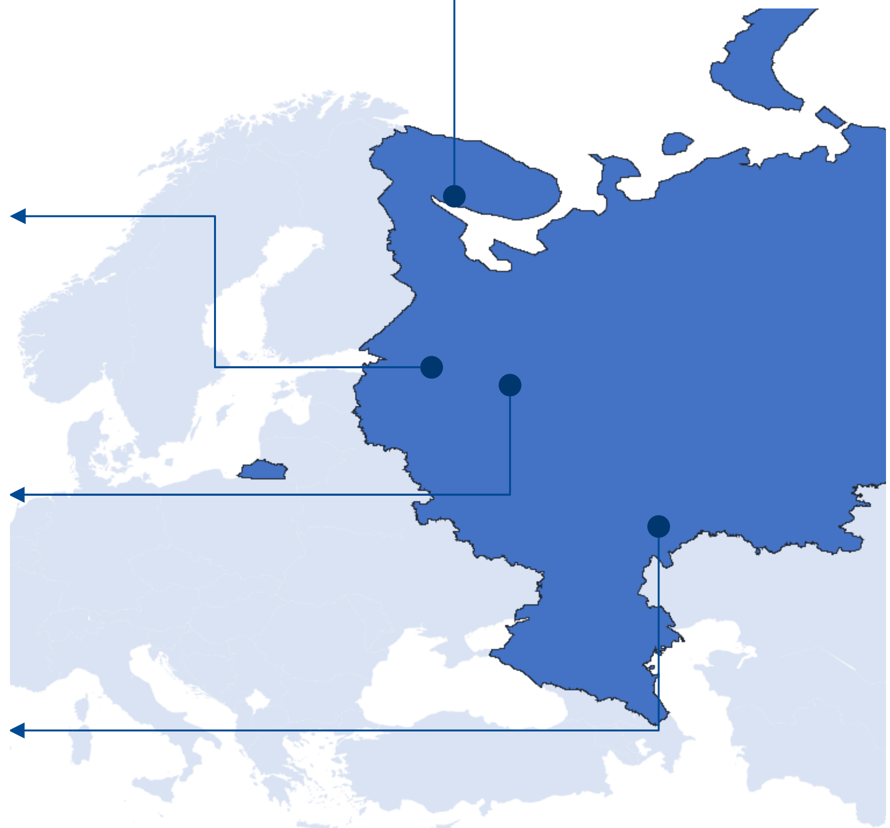
Only STPP producer in Russia with a wide grade offering

WPA capacity: 80 K T P_2O_5/y | STPP capacity: 130 K t/y
PKS capacity: 100 K t/y | SOP capacity: 100 K t/y

BALAKOVO | Phosphate fertilizer & feed

Located near agricultural heartland of Russia
Only MCP producer in Russia & 3rd largest unit globally

DAP/MAP/NPS capacity: 1.5 M t/y | MCP capacity: 360 K t/y



Rock, quality and flexibility defines us

Product offering review

Igneous apatite phosphate

PhosAgro's phosphate rock is all sourced from the **Apatit Mining Complex** in the Kola peninsula.

With over **2.0 BN T of phosphate rock resources**, Apatit can supply product for generations to come.

The ore is **igneous** in nature, rich in **flouroapatite** ($Ca_5(PO_4)_3F$), which can be processed into one of the **highest grades of concentrate (39% P_2O_5)** globally.

Superior quality feedstock

The **low $CaO:P_2O_5$ & MER ratios in Apatit rock concentrates**, mean that fertilizer processing uses less feedstock & produces less waste.

Among the purest phosphate feedstocks globally, with virtually **no traces of harmful materials** such as cadmium, lead, arsenic, and others.

Integrated value chain which allows for **total control of over every aspect of production,** ensuring even the strictest health and/or quality requirements globally can be met.

Flexible product range

On-going research into product safety, and quality, coupled with **flexible production and sales models**, means we can more quickly **anticipate and respond to the changing needs of our farmers**. This ensures that our customers always have the best possible solution available when they need it.

PhosAgro offers more than 35 grades with different N:P:K:S combinations, including: NP, NP(S), NPK, NPK(S), NPK(S)+Zn+B, PK, PK(S), PK(S)+Ca

Outline of today's presentation

We are PhosAgro: Brief background

Key developments (year to date)

Review of target/key markets & expectations for 2017 CY

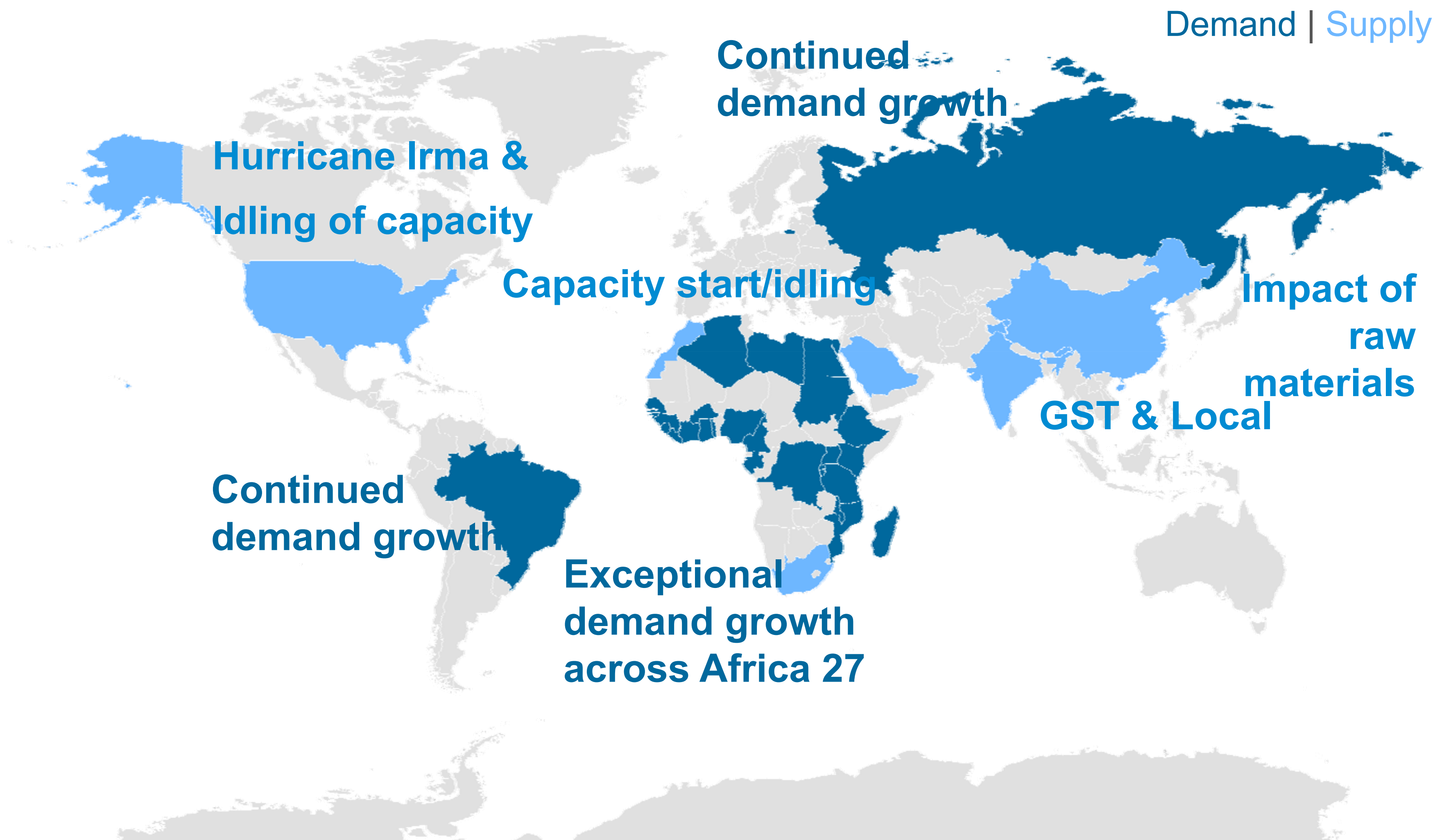
Medium term phosphate fertilizer outlook

Conclusions

Quick snapshot of major developments in 2017

Review of the global phosphate markets

PHOSAGRO



SOURCE: CRU, Fertecon, Argus

Outline of today's presentation

We are PhosAgro: Brief background

Key developments (year to date)

Review of target/key markets & expectations for 2017 CY

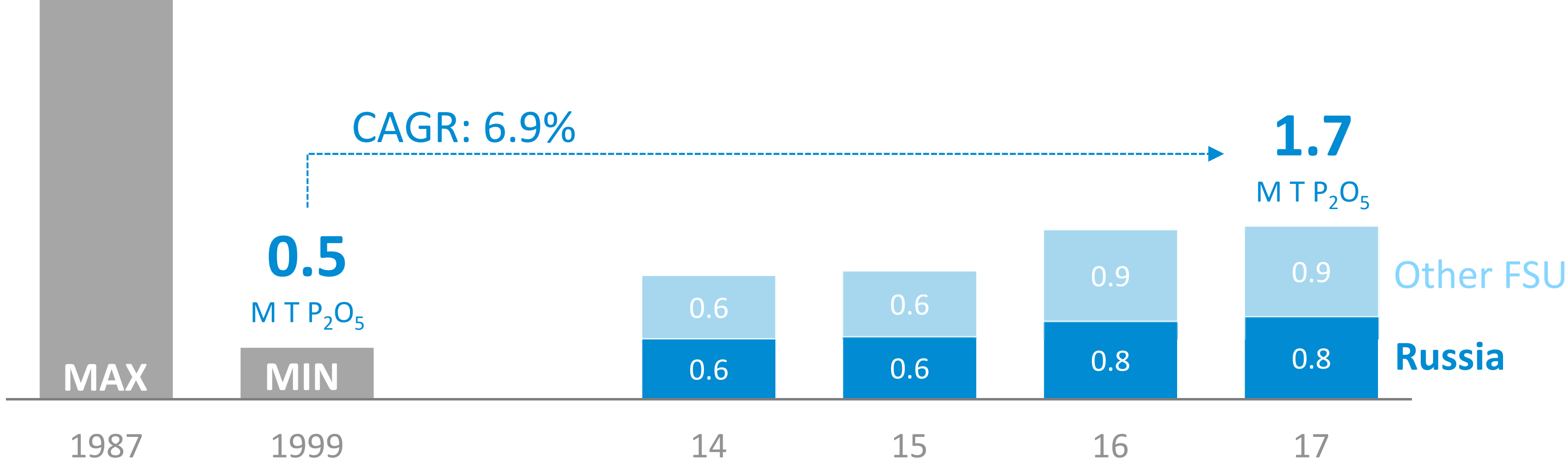
Medium term phosphate fertilizer outlook

Conclusions

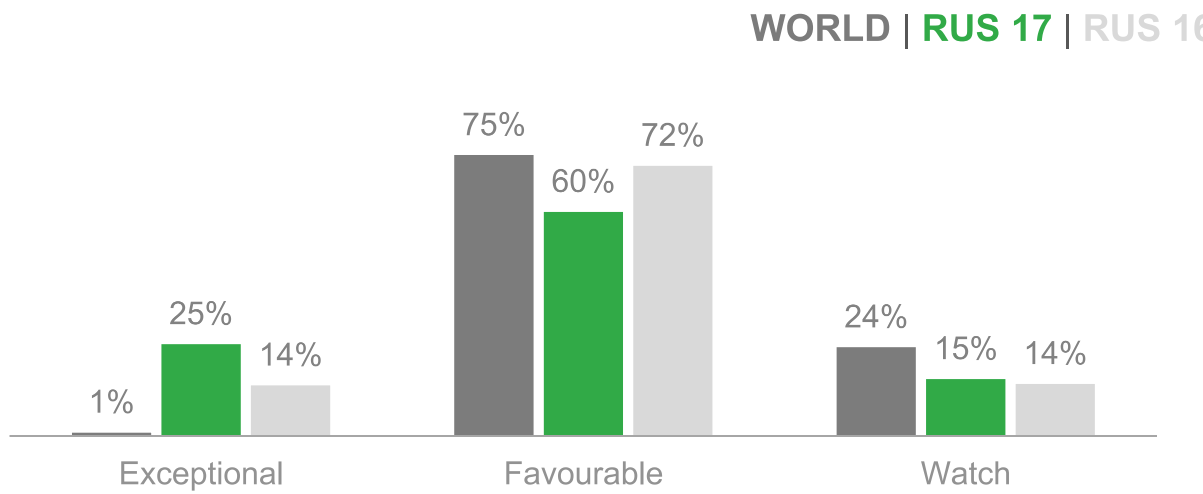
Russian P_2O_5 fertilizer demand a further 6% up y/y

FSU fertilizer demand, 1987-2017, m tonnes P_2O_5

FSU & Russian Agri P_2O_5 demand



Comparative wheat growing conditions



SOURCE: AIMS, GEOGLAM, IFA

Strong fundamentals remain in place

Import restrictions, agricultural subsidies & forex position

Restricted food imports


FINANCIAL TIMES myFT

D UK COMPANIES MARKETS OPINION WORK & CAREERS LIFE & ARTS Sign In Subscribe

Russia Business & Finance + Add to myFT

Russian agriculture thrives as sanctions close off imports

Farms and other suppliers flourish as consumers turn to homegrown products

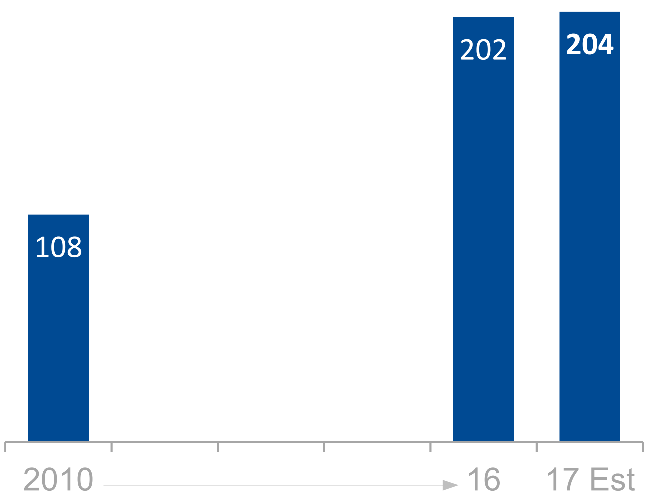
Read next

Germany cools on Russia-backed gas pipeline plan

Russia introduced a ban on **imports of fruit, vegetable, meat, fish, milk & dairy** products from the US, EU, Australia, Canada and Norway in 2014. This remains in place.

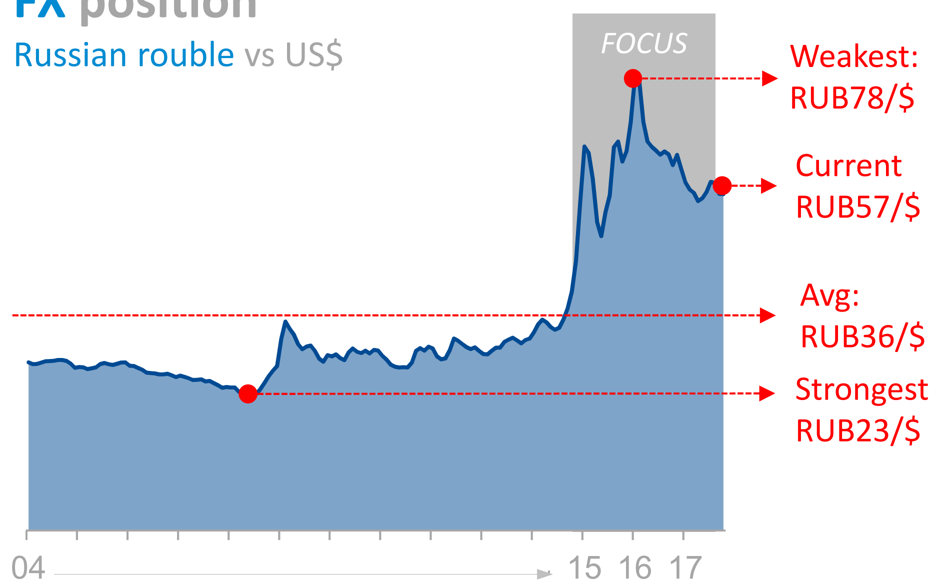
Sate **support** measures

Agricultural subsidies, Billion Roubles



FX position

Russian rouble vs US$



SOURCE: Financial Times, IMF, Russian Ministry of Agriculture

IMPLEMENTATION of legislation

- Banned **STPP in automatic dishwashing detergents** since January 2017

PROPOSAL of NEW legislation

- Create a **more sustainable & health conscious fertilizer industry,** promoting interests of consumers.
- **Level the playing field between recycled and mineral fertilizer** industries by introducing limits on contaminants (Cd, Pb, As, Cr VI, Hg)
- In October the European Parliament voted in favour of **introducing Cd limits, progressively over a period of 16 years**.

European phosphate m arkets

Average P_2O_5 fertilizer demand, 2014-2016 avg, by country

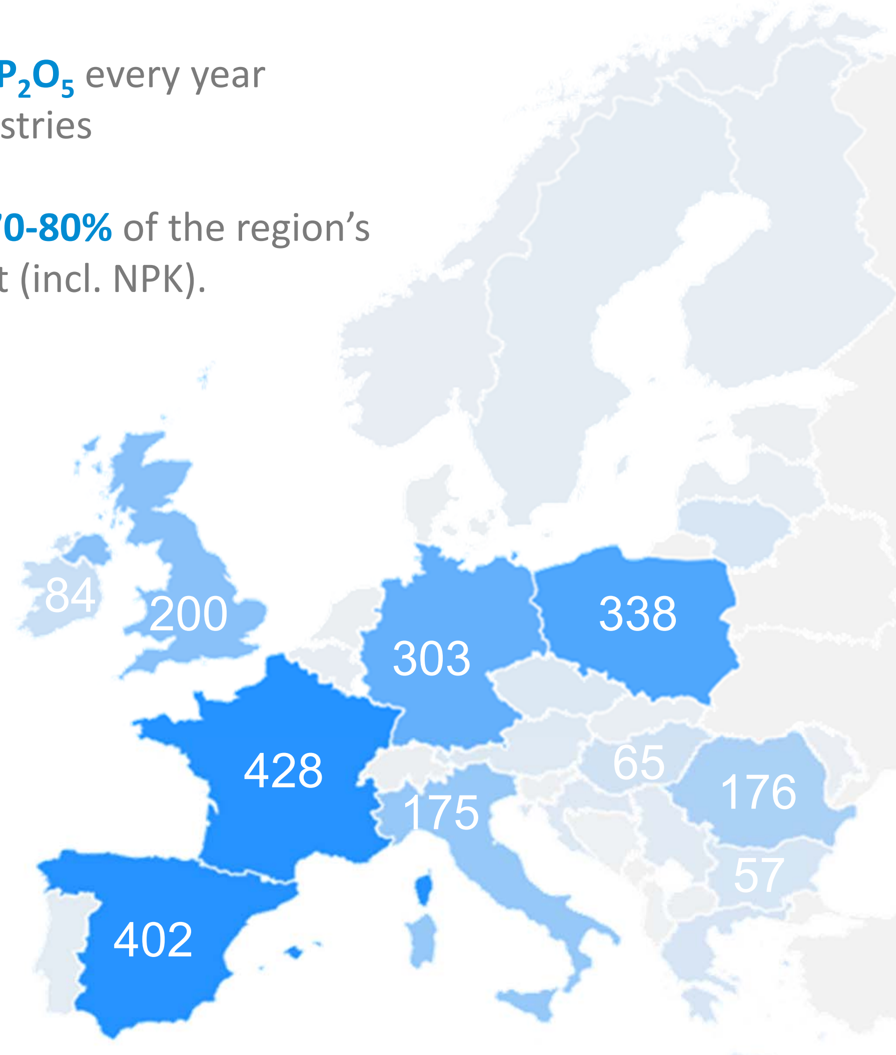
Europe consumes around **4.0 million tonnes of P_2O_5** every year across the ag, livestock, industrial and food industries

Its estimated that **fertilizer usage accounts for 70-80%** of the region's total, mostly in the form of high analysis product (incl. NPK).

The top 5 consumers: **France, Spain, Poland, UK & Italy, account for around 60-70%** of the region's fertilizer P_2O_5 use.

With only one mine in operation (Finland), **most of the region's P_2O_5 is imported**.

North Africa & Middle East supply around half of the imported P_2O_5 (raw & intermediate materials & finished products) with the remainder stemming from Russia & the Rest of the World.



SOURCE: CRU

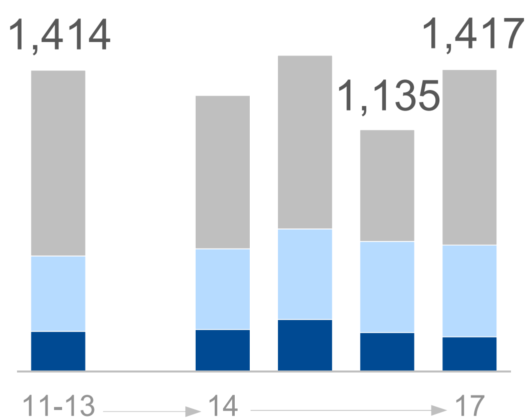
Farmers have had more breathing room

Farming margins across Europe, €/ha

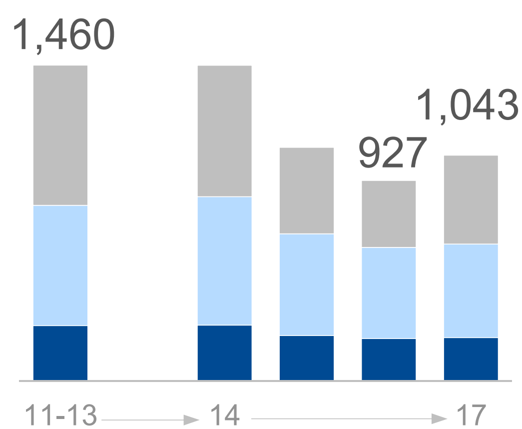
Fertilizer cost | **Other costs** | **Gross Margin**

- **Fertilizers** account for between **5-20% of gross margins.**
- In 2017, **fertilizer costs have moderated**, while **other costs & gross margins** have **increased**.

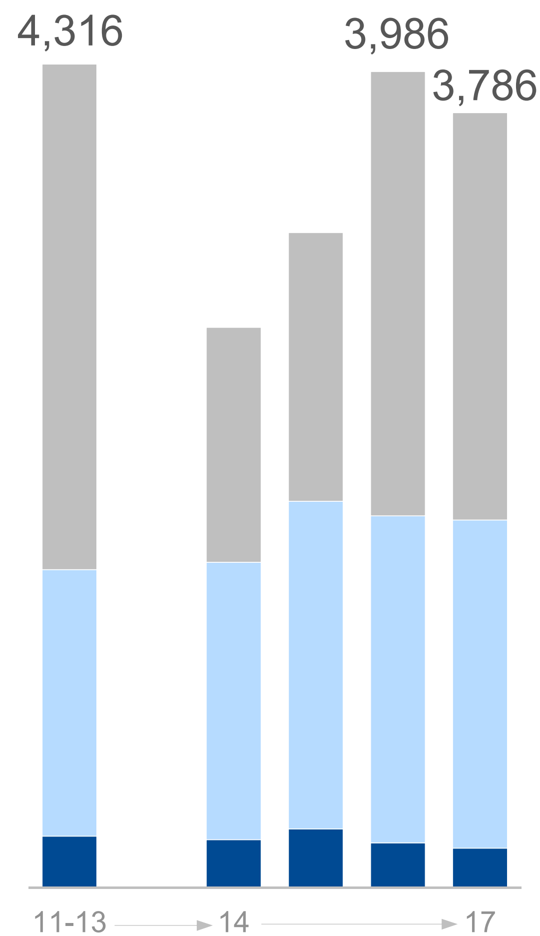
France



Poland



Netherlands

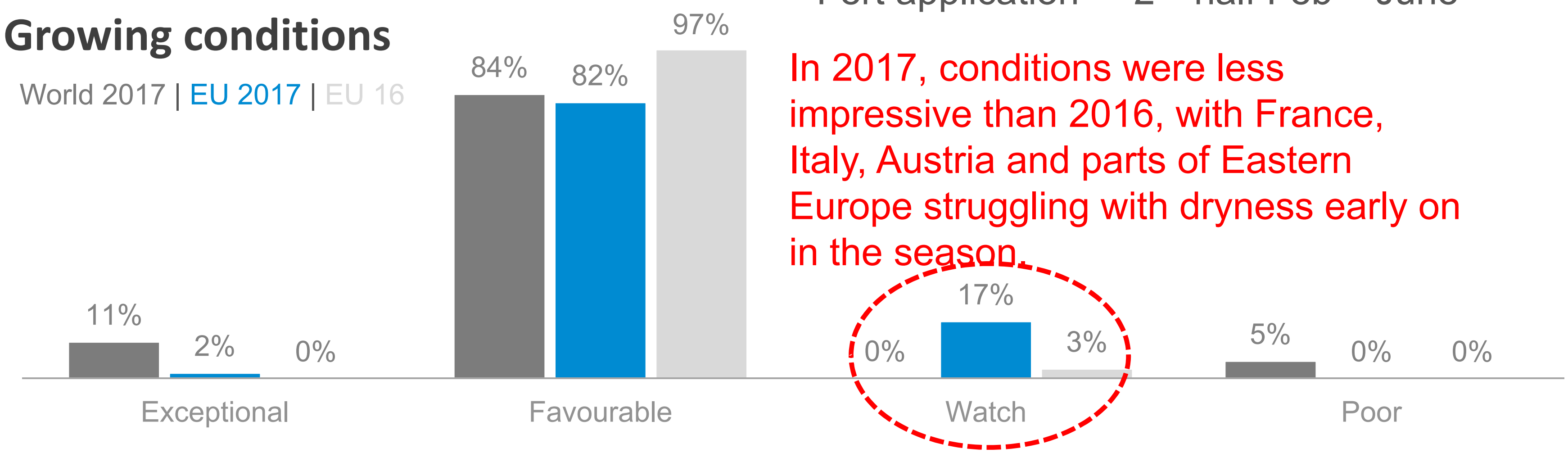


Source: Rabobank

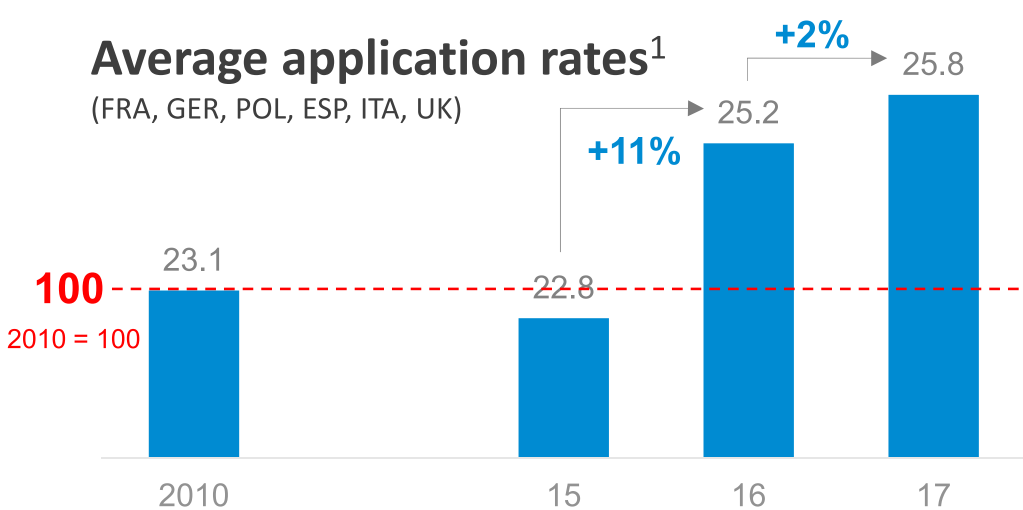
This year weather conditions have been mixed

Wheat growing conditions & application rates, 17 vs 16

Fert application = 2nd half Feb – June



In 2017, conditions were less impressive than 2016, with France, Italy, Austria and parts of Eastern Europe struggling with dryness early on in the season.



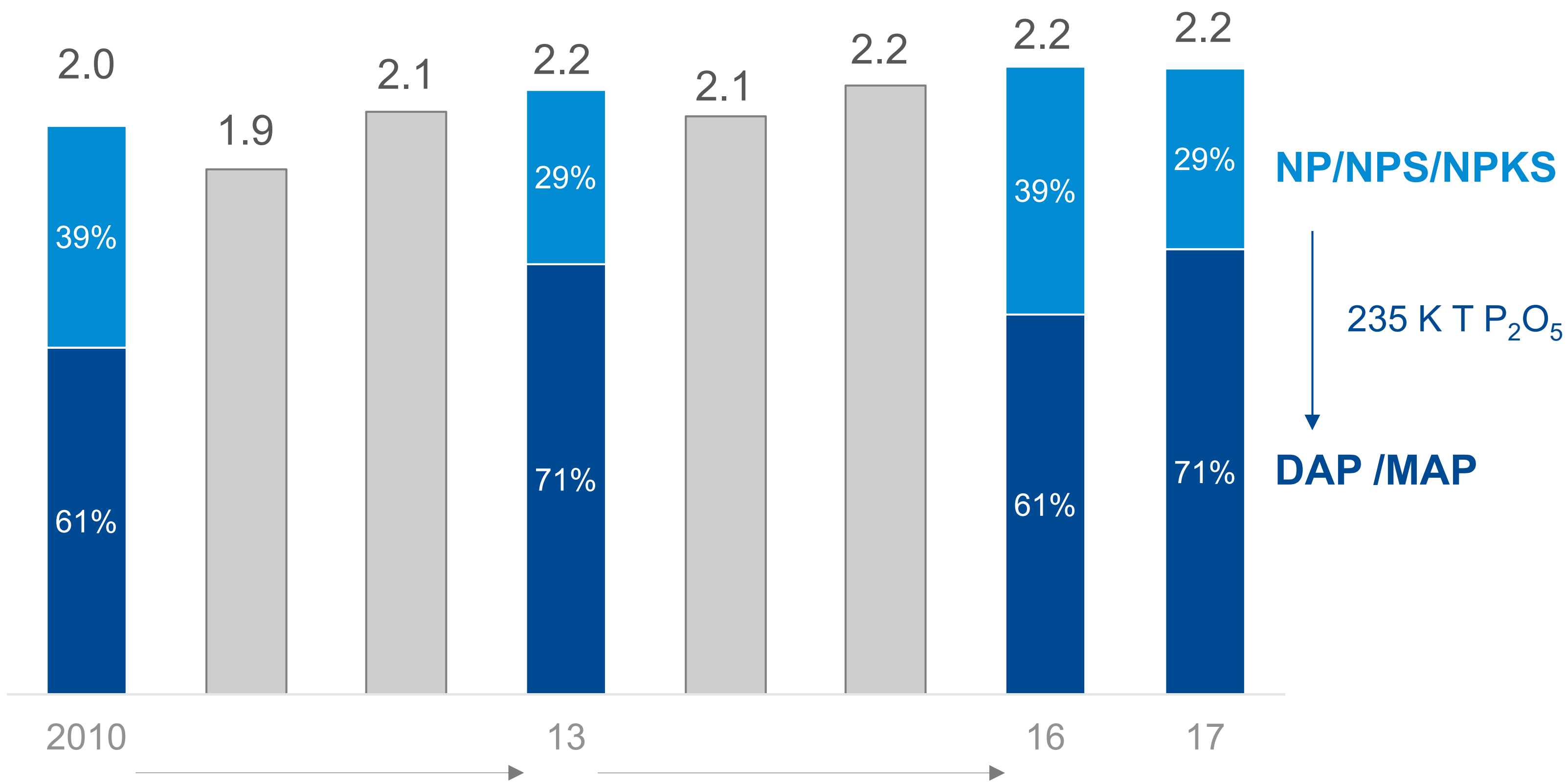
Crop years are estimated smaller y/y & despite the comparatively more challenging conditions, higher application rates are estimated to boost yields and production volumes

SOURCE: AIMS, GEOGLAM, CRU
NOTE: 1. Application rates shown as kg P_2O_5/ha

Net effect on EU-28 fertilizer use?

Fertilizer demand by selected product, m tonnes P_2O_5

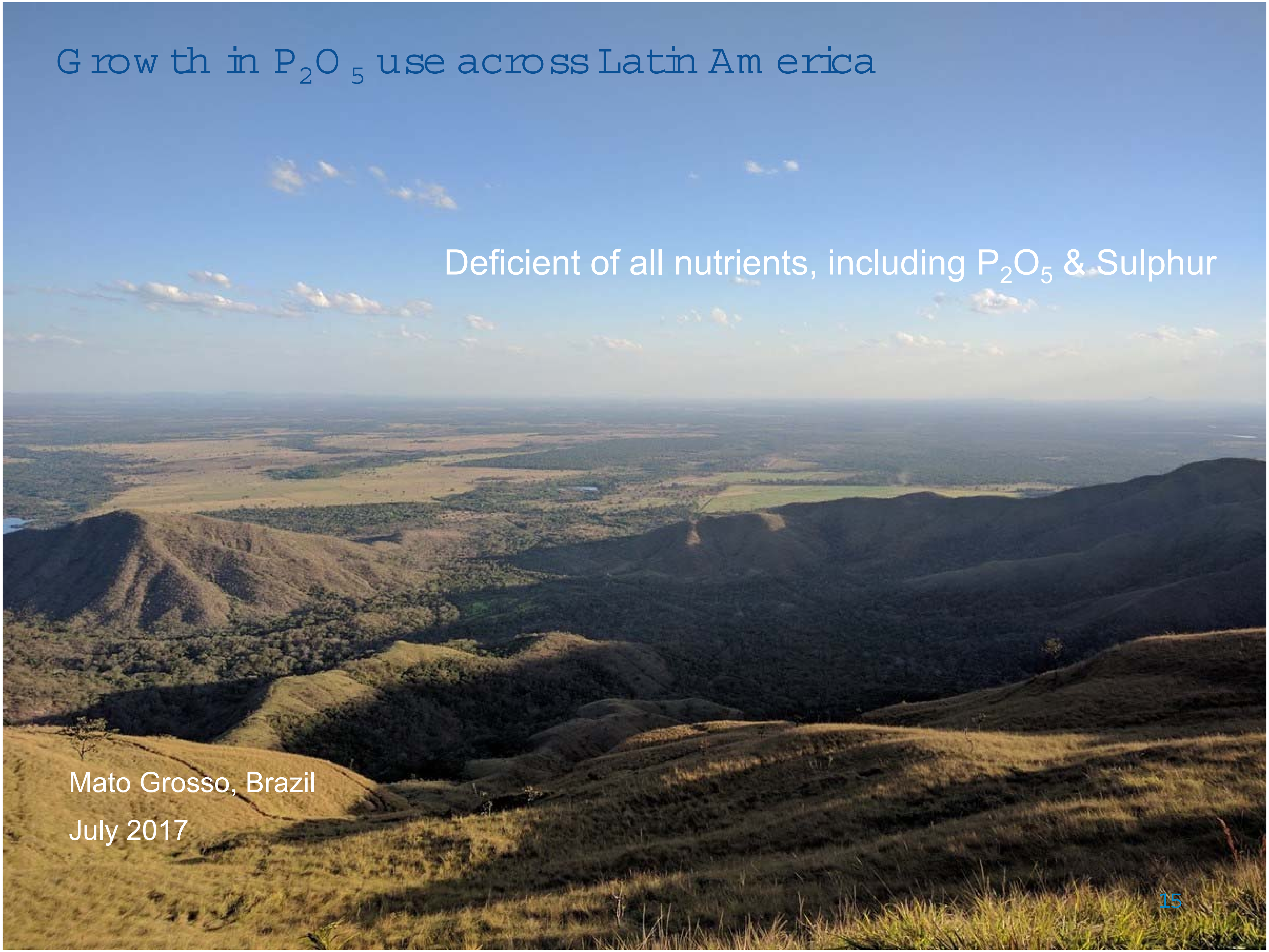
Are farmers seeking lower nutrient NPKs or the flexibility of that blended products offer?



SOURCE: CRU FERTECON

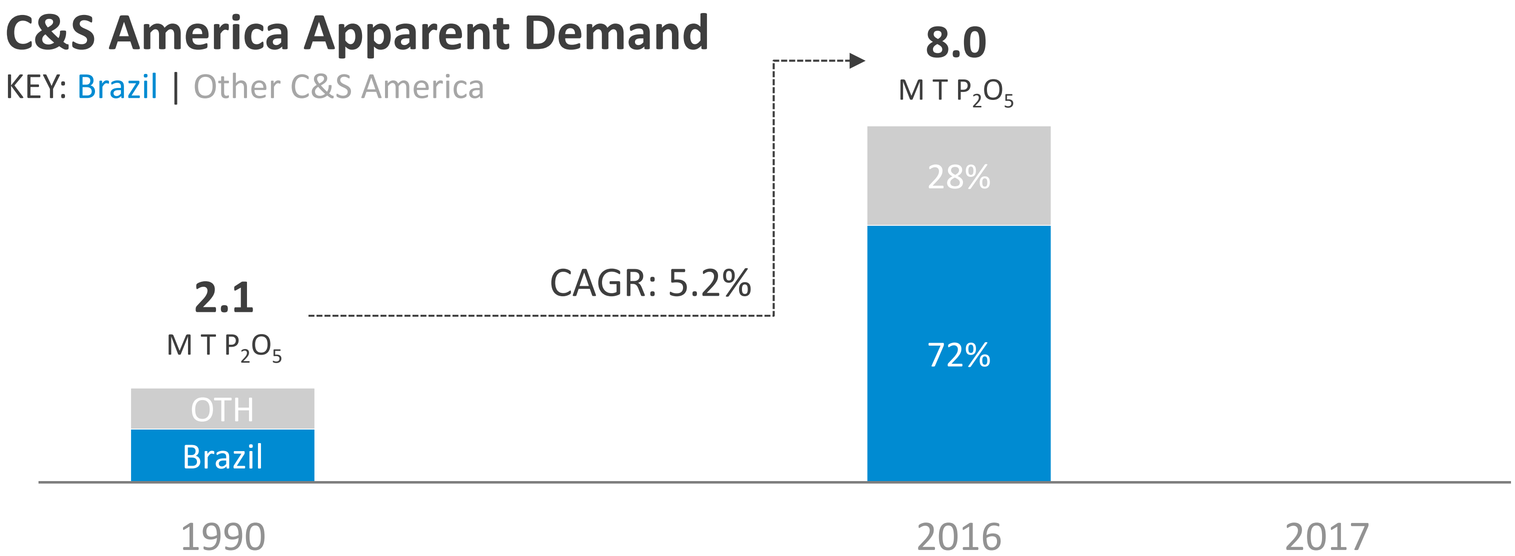
NOTE: 1. TSP & SSP excluded from above calculations.

Growth in P_2O_5 use across Latin America



Growing conditions have been supportive in 2017

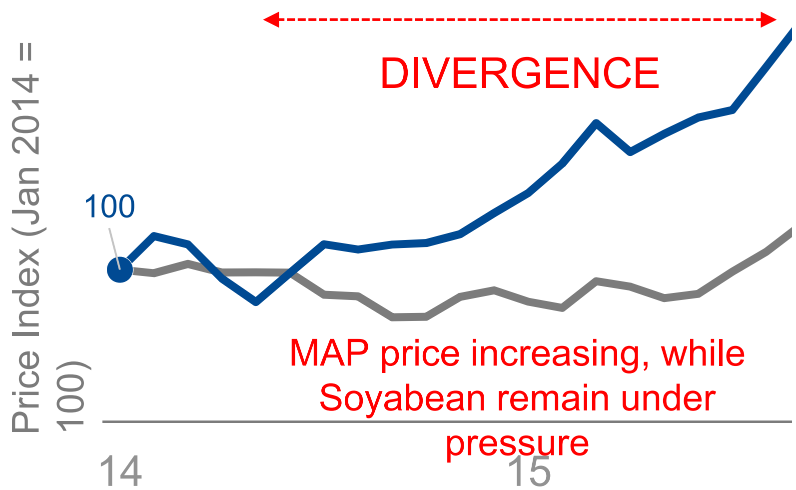
Latin American P_2O_5 fertilizer demand & planting conditions



SDATA: IFA, CRU, ANDA

P_2O_5 fertilizer has remained affordable through '17

Brazilian MAP affordability versus Soyabean pricing



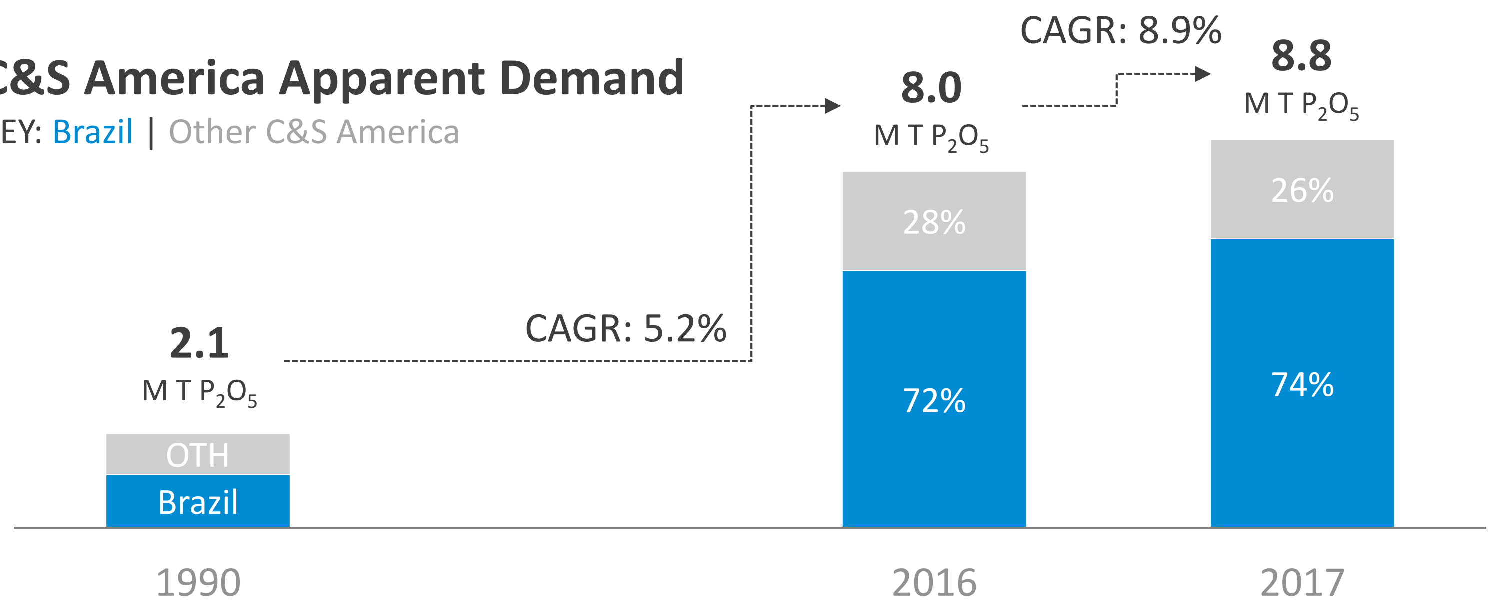
DATA: Fertilizer Week, www.agrolink.br

… as such, fertilizer demand continues rising

Latin American P_2O_5 fertilizer demand & planting conditions

C&S America Apparent Demand

KEY: Brazil | Other C&S America

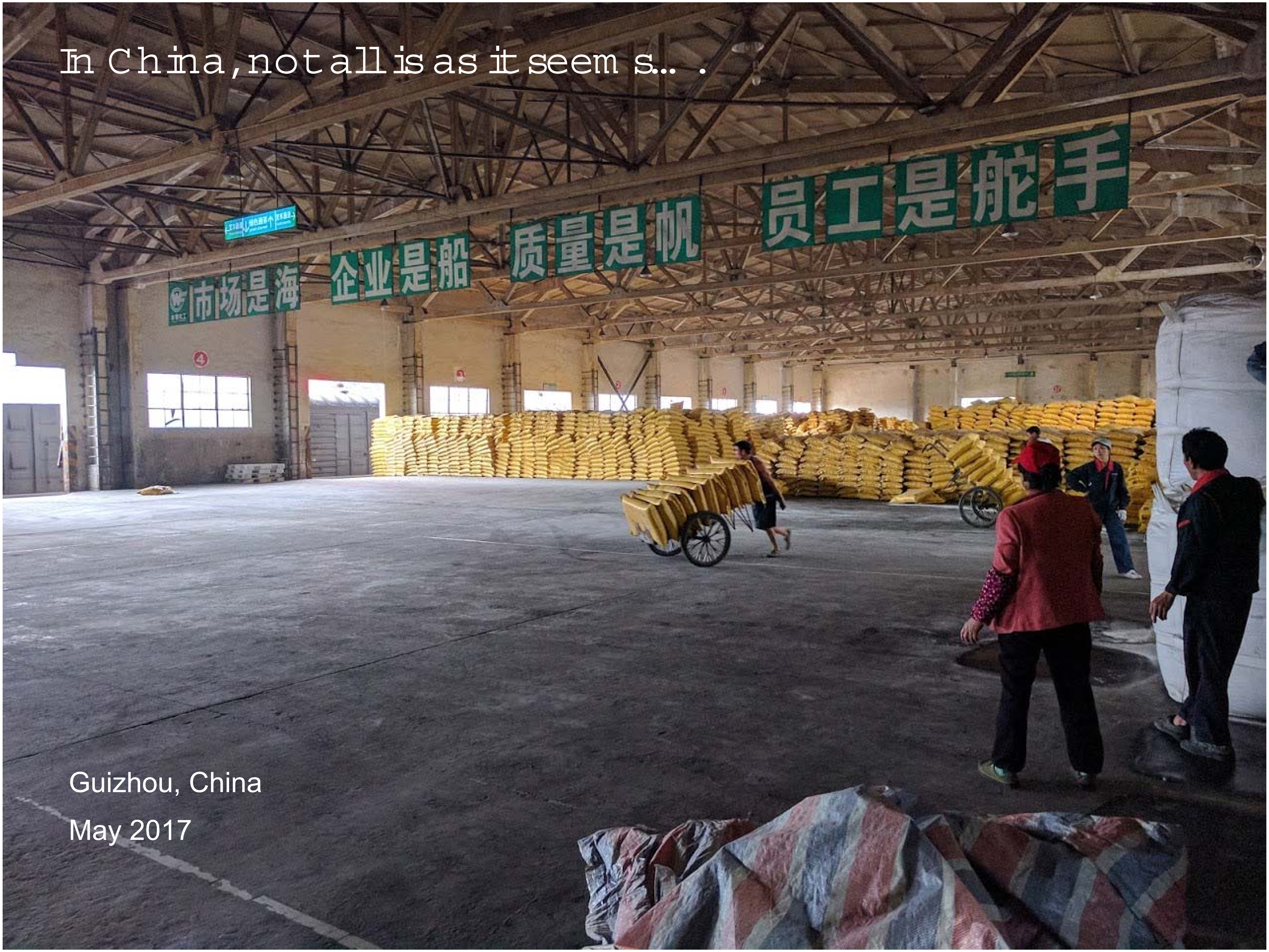


DATA: IFA, CRU, ANDA

Meanwhile, the US continues to idle/cut capacity

US phosphoric acid production capacity, million tonnes P_2O_5

DATA: CRU


In China, not all is as it seems… .
市场是海
企业是船
质量是帆
员工是舵手
Guizhou, China
May 2017

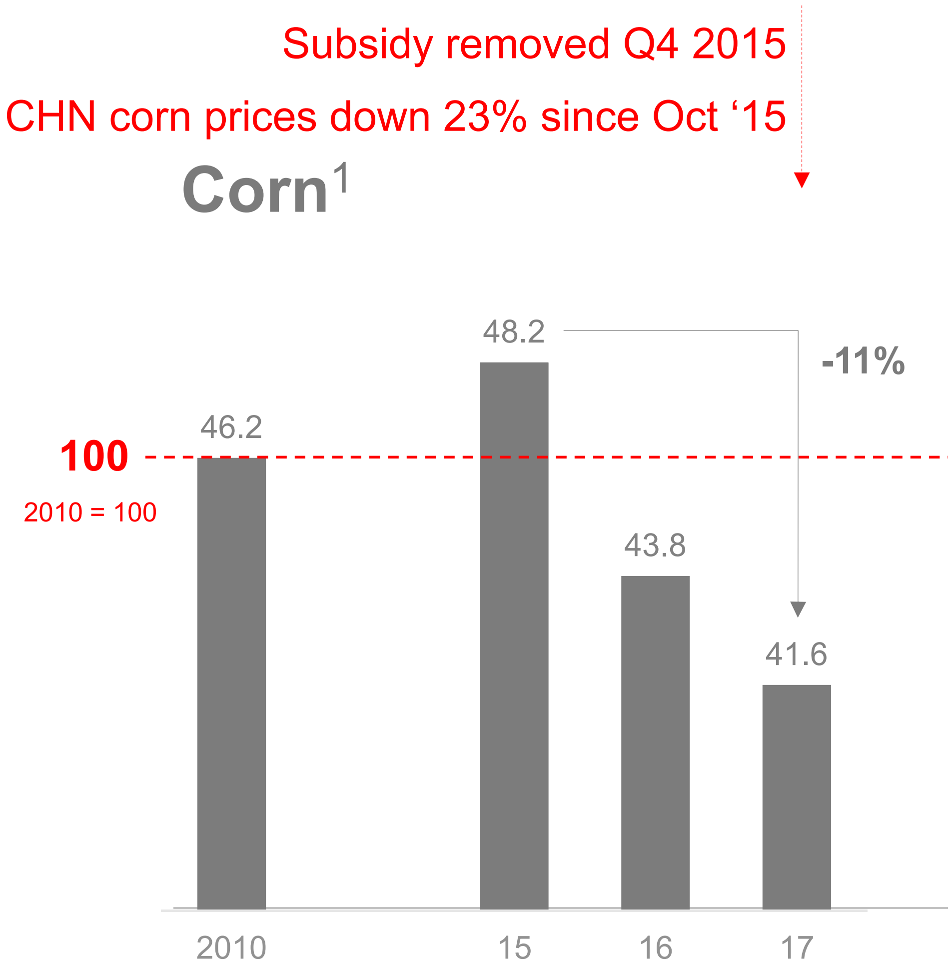
Fertilizer demand habits are changing…

Chinese fertilizer demand habits

Low er corn applications has pulled down total use

Index of Chinese application rates, total vs corn, 2010 = 100 (kg P_2O_5/ha)

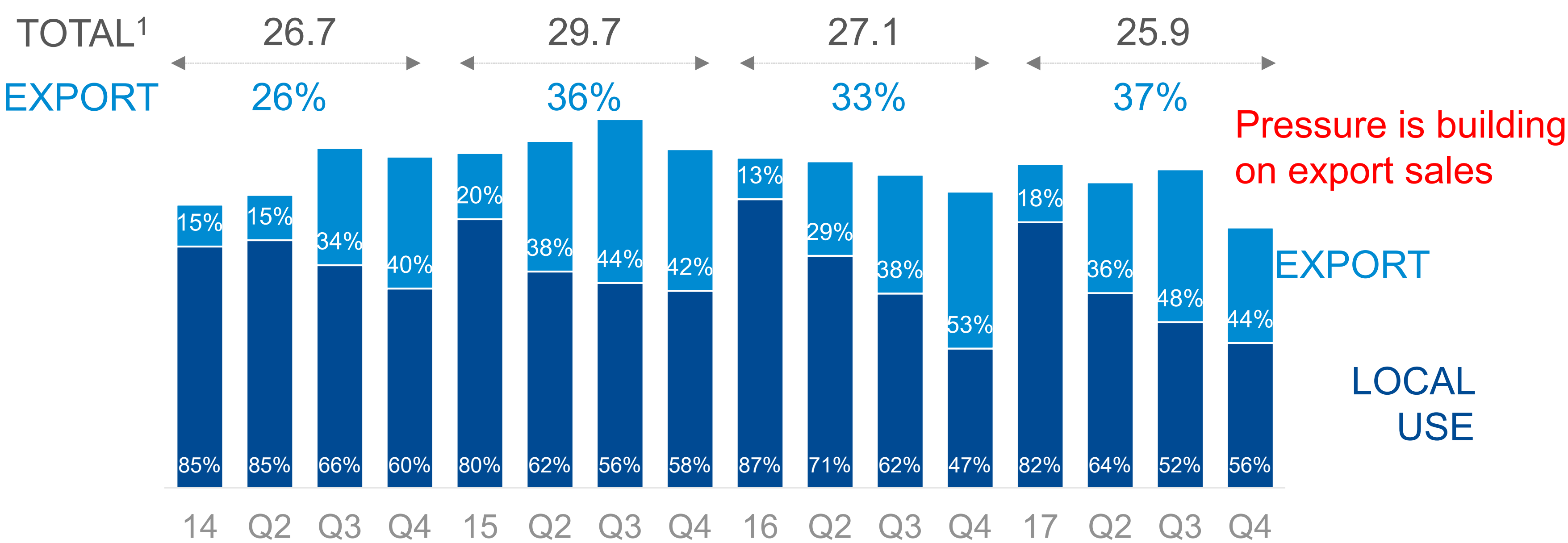
PHOSAGRO



DATA: IFA, CRU
Note: Application rates shown as kg P_2O_5/ha.

Implications on Chinese DAP/MAP production

Chinese production by quarter of DAP & MAP, for local & foreign use

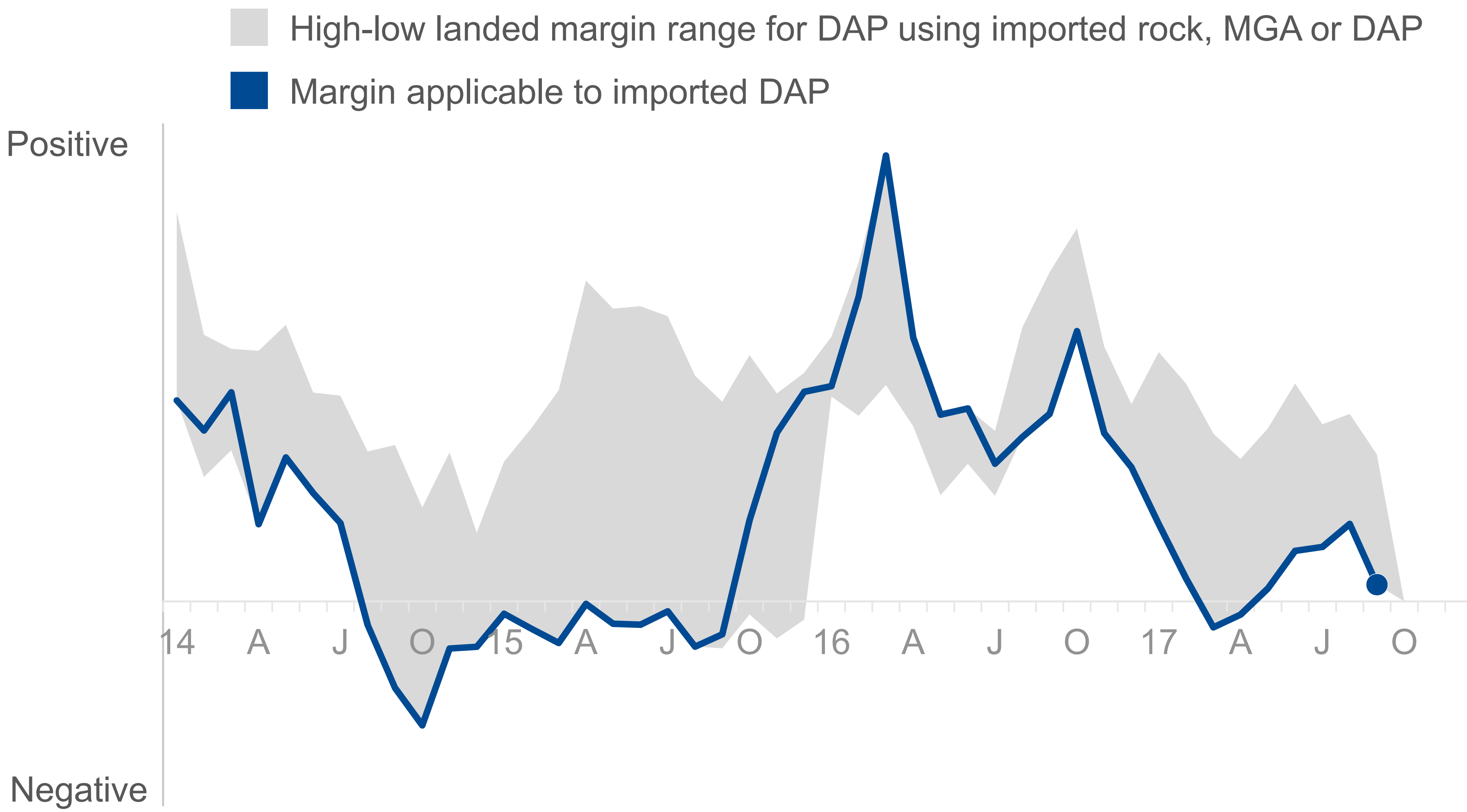


DATA: CRU, Fertecon

NOTE: DAP/MAP offering shown on a product tonne basis.

In India, locally processed DAP offers better margins

Historical Indian margins across rock, MGA & DAP, INR/tonne

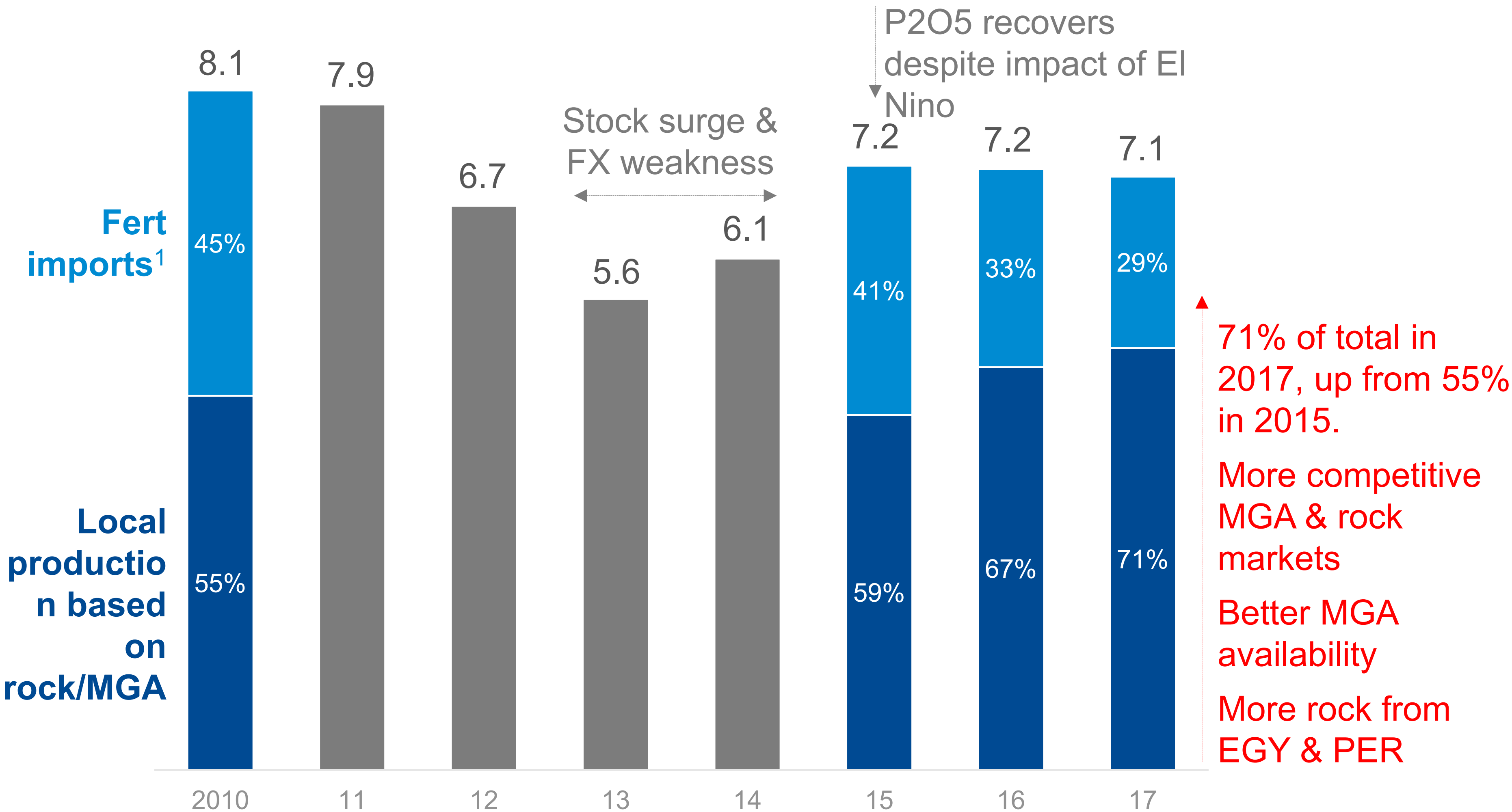


DATA: Fertilizer Week

NOTE: Calculated as a component in DAP.

There's a concerted effort to manufacture in India

India's Phosphate value chain in million tonnes P_2O_5

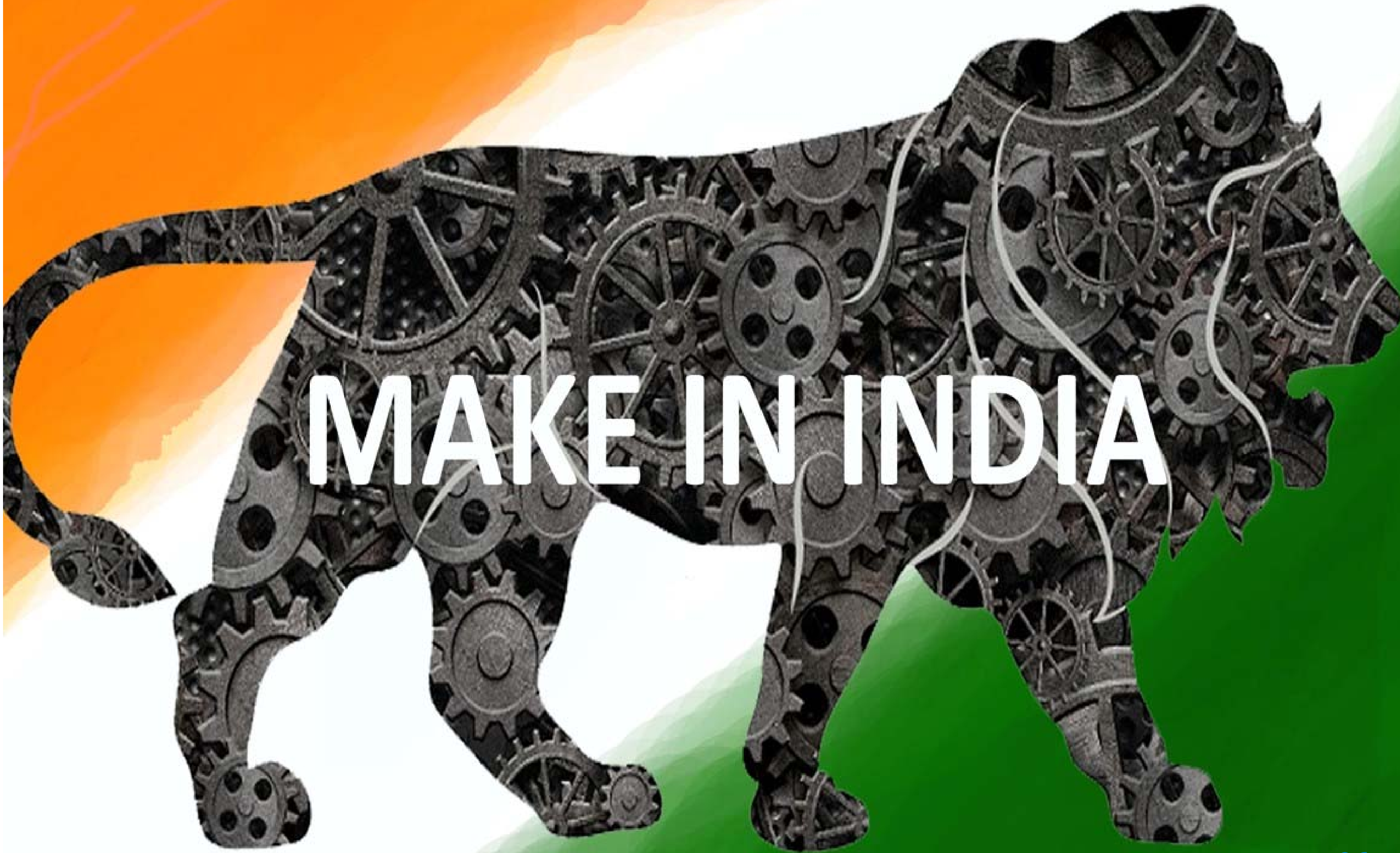


DATA: IFA, CRU

NOTE: 1. included DAP, MAP, TSP, SSP but not NPK/NPKs, etc.

Launched in September 2015

Goal: encourage Indian manufacturing



Phosphates Outlook: not such stranger things

Outline of today's presentation

We are PhosAgro: Brief background

Key developments (year to date)

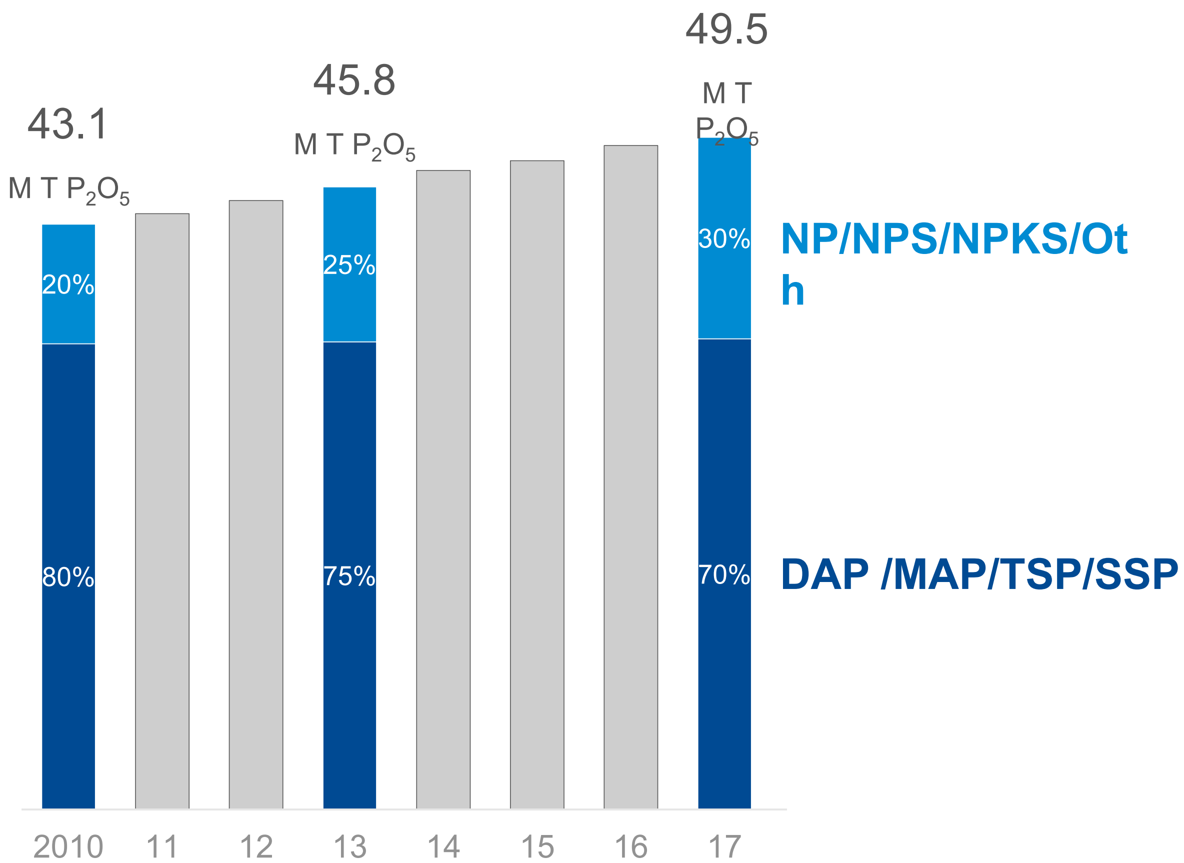
Review of target/key markets & expectations for 2017 CY

Medium term phosphate fertilizer outlook

Conclusions

Phosphate fertilizerdem and outlook

Medium term outlook for demand growth, Million tonnes P_2O_5



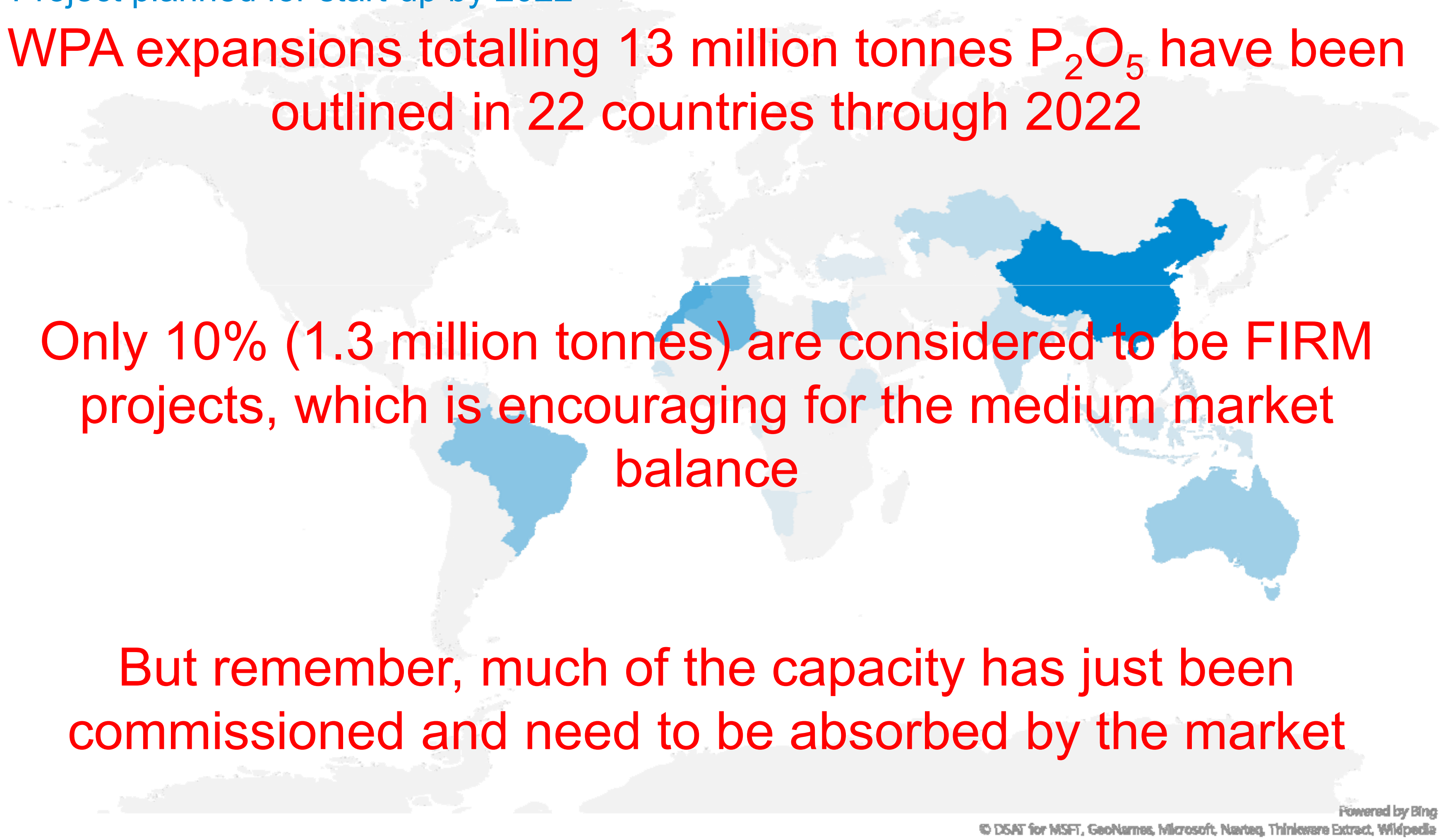
DATA: IFA, CRU

Phosphate fertilizer supply outlook

Medium term outlook for capacity additions, WPA, 2017-2022

Project planned for start-up by 2022

WPA expansions totalling 13 million tonnes P_2O_5 have been outlined in 22 countries through 2022



Only 10% (1.3 million tonnes) are considered to be FIRM projects, which is encouraging for the medium market balance

But remember, much of the capacity has just been commissioned and need to be absorbed by the market

DATA: CRU

Outline of today's presentation

We are PhosAgro: Brief background

Key developments (year to date)

Review of target/key markets & expectations for 2017 CY

Medium term phosphate fertilizer outlook

Conclusions

Final thoughts: not such stranger things

Conclusions from today's presentation

- **Capacity expansions may now be starting to bite:** The relentless expansion of capacity in MENA may now be forcing a rebalancing. In recent months we've seen idling of capacity in North America and South Africa.

- This pressure is also **evident in China, where production is estimated lower**. With weaker domestic nutrient application, there is more pressure to export, however tighter **sulphur and ammonia markets are making this difficult.**

- Demand in the **CIS** and **Latin America has continued to grow** in 2017, while we expecting **similar volumes in Europe and India** as we saw last year. By mid 2018, we should have a bit more clarity on legislative outcomes in the EU.

- **Global demand is forecast to grow by around 3.0 million tonnes through 2022**, driven by higher consumption in Latin America, South Asia, South East Asia and Africa. This will **help to bring the market into balance** following the large amounts of capacity that has been commissioned in recent years.


THANK YOU
PHOSAGRO