Rabobank's view on the fertilisers market

Global market dynamics and 2020 outlook

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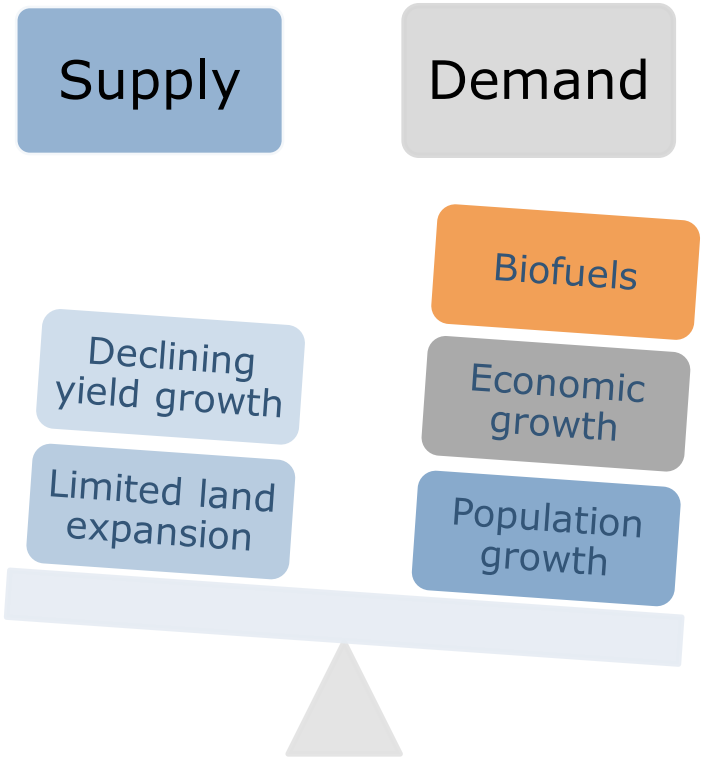
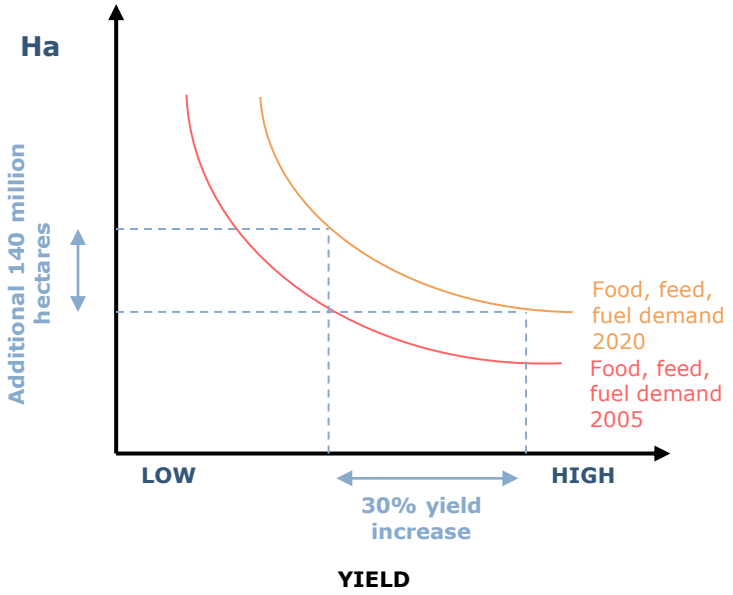
Rabobank’s view on the fertiliser market

Demand dynamics

Farm inputs – Long term demand drivers remain positive

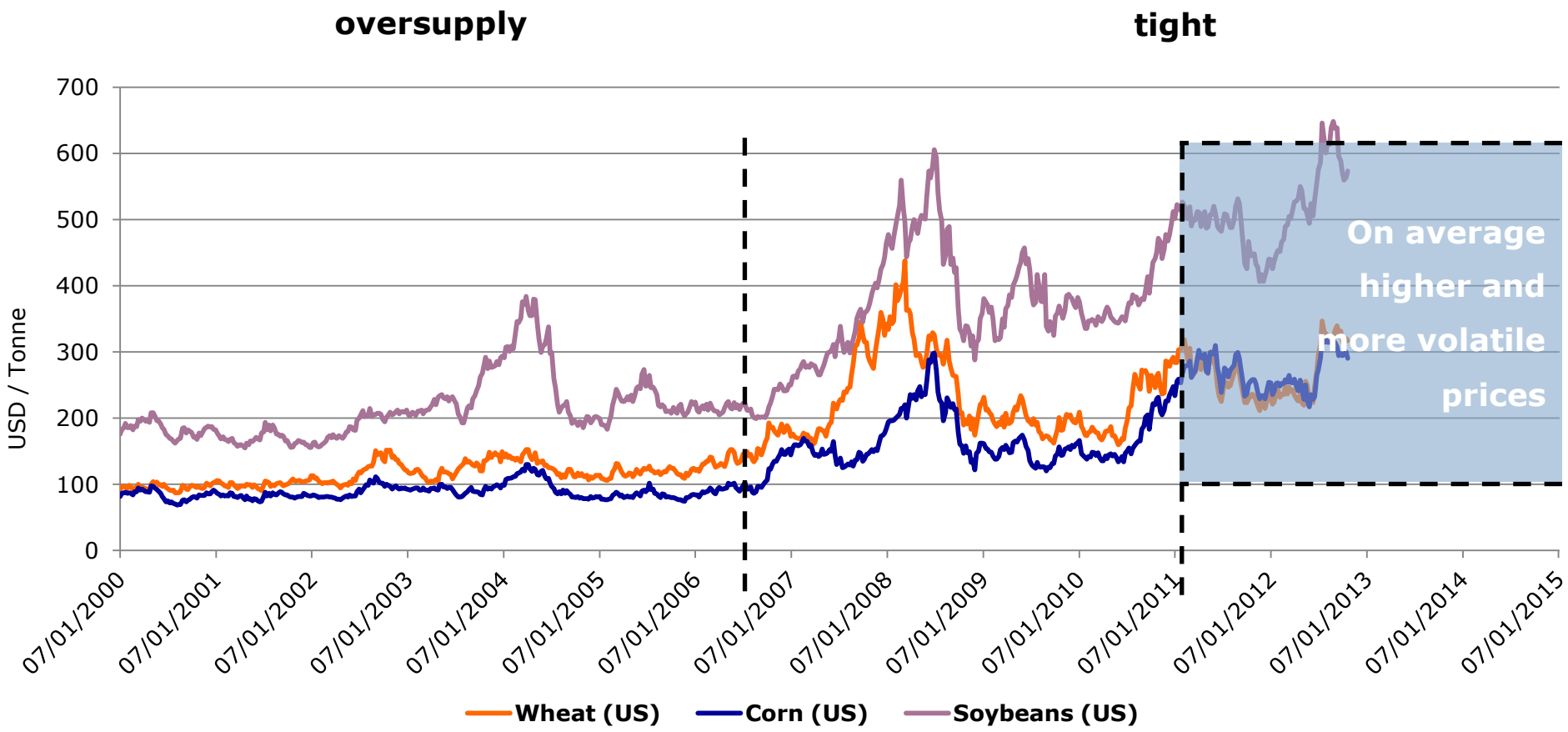
As agri demand growth exceeds supply yield improvement has become imperative





Source: Rabobank analysis

Higher and more volatile prices



Source: Bloomberg, Rabobank

Crop farming: sustainable intensification

Issues

- Increase crop per ha, per drop water and per kg nutrient
- Increasing capital intensity
- Enabling environment crucial
- Managing risks (inputs, prices, production, marketing)
- Enable entrepreneurship in a consolidating world

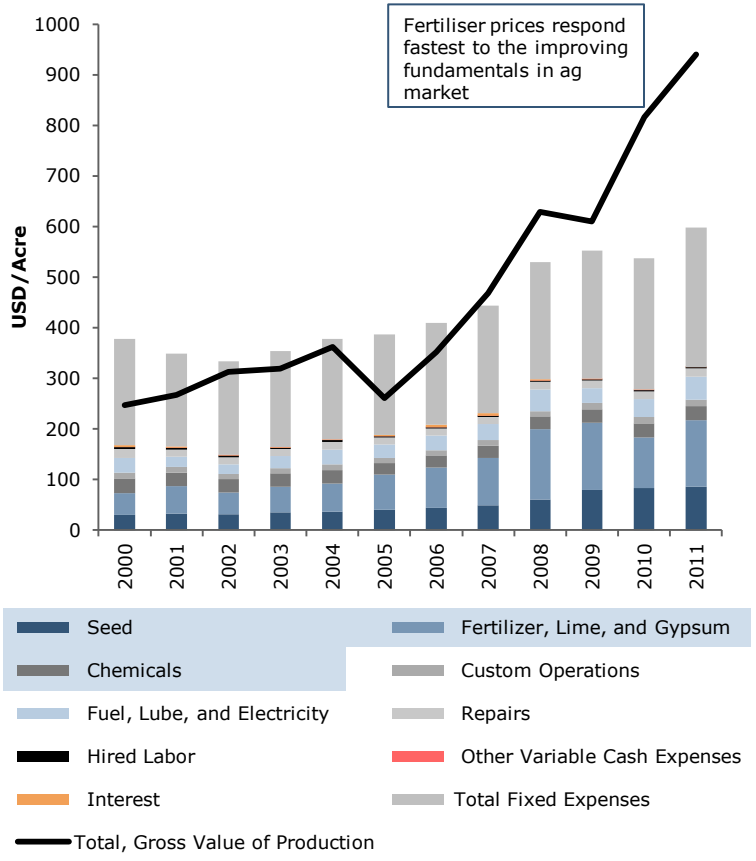
Investment themes

- Rising land prices
- The emergence of the rural entrepreneur

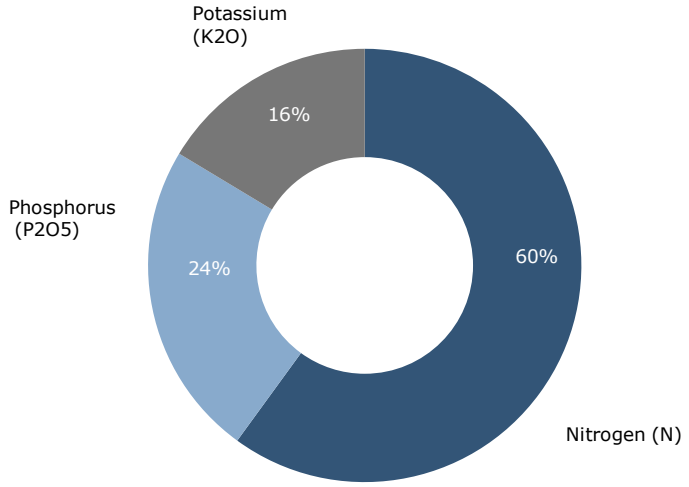
Farm inputs – The start of the food & agri chain

Fertiliser prices respond fast to improving farm margins

Gross value of production & expenses for US corn producer



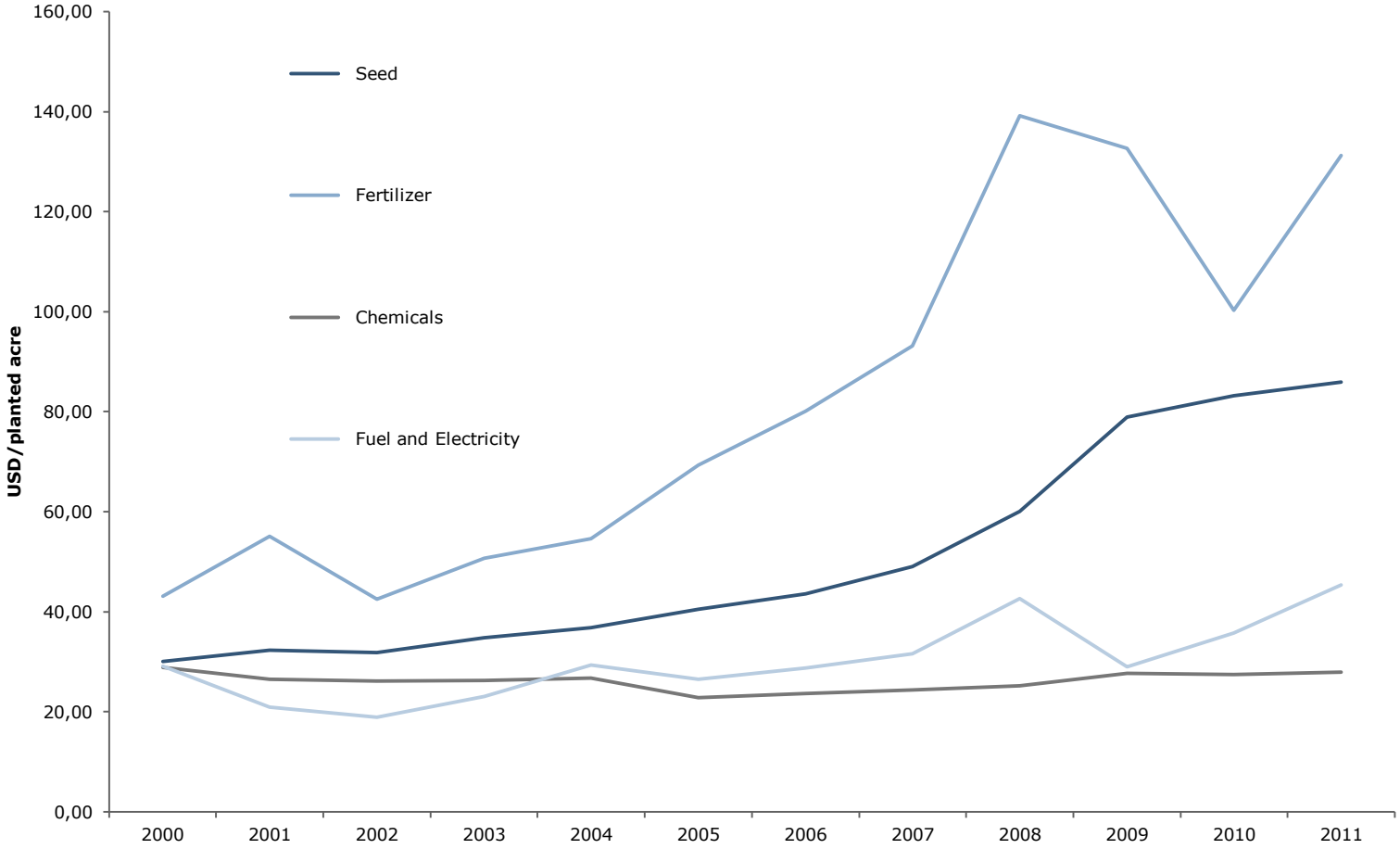
World Fertiliser market: USD100 billion plus



Sources: Global Insight, IFA, Rabobank analysis

US corn farmers see fertilisers and seeds as most important inputs

US corn farmers' spending on seed, fertiliser, agrochemicals, and fuel & electricity



Historical fertiliser demand development explained

Area, crop mix and application rate together explain volume of fertiliser market

- The volume of the fertiliser demand is the product of three components:
  (1) Area * (2) crop mix factor * (3) application rate = volume of fertiliser market

1. Area: area dedicated to crops that are fertilised
2. Crop mix factor: average number of kg of nutrients per ha for actual crop mix with application rates in base year
3. Application rate: average number of kg of nutrients applied per ha for a specific crop

- In the following slides you will see the evolution of the market volume of fertiliser in the top left graph.

- The explanatory factors are given in the other slides:
- area development in the top right graph,
- crop mix changes (change of average application rate due to change in crop mix and assuming base year application rates) in the bottom left graph
- application rate changes in the bottom right graph

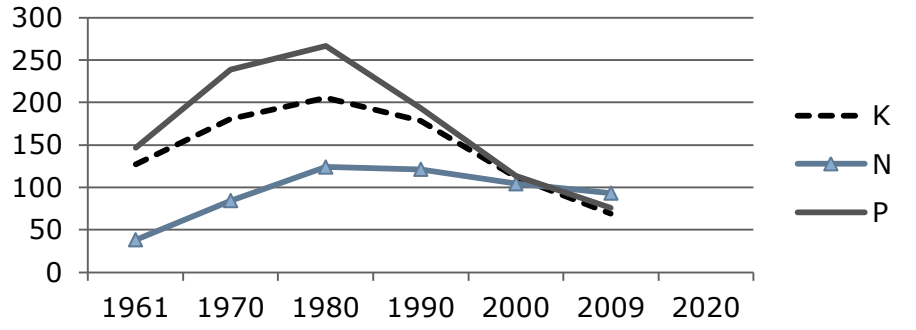
- The average of 2006 and 2007 is taken as the base year for all factors

- The next step is to include FAR's prediction for areas in 2020 for the different crops in the model and make an assumption about application rate development from now to 2020. Based on these two items the 2020 fertiliser demand can be predicted.

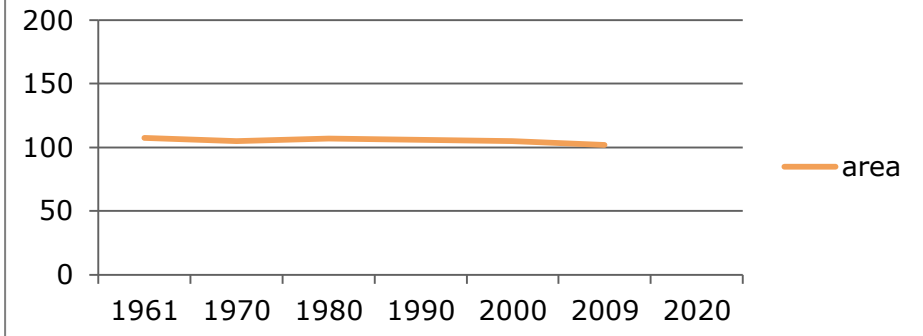
EU27

EU27 = all current EU member states included in all years

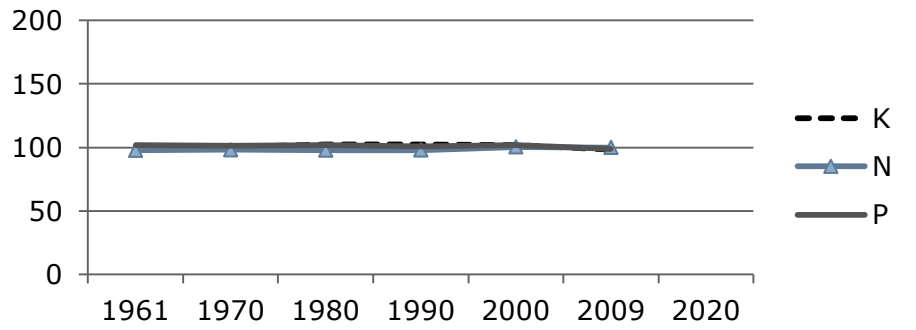
Market Volume (2006-2007 = 100)



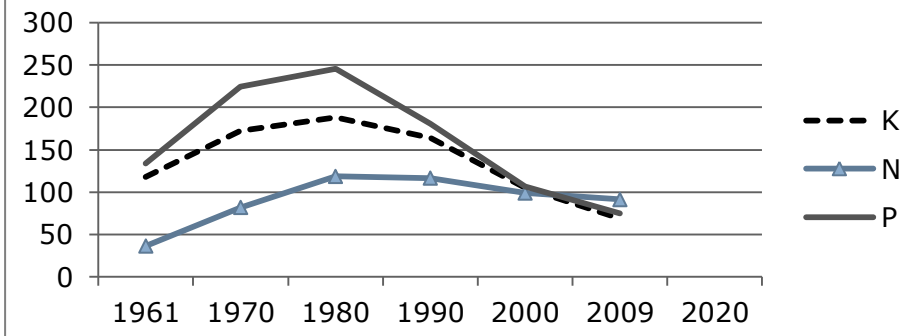
Area impact (2006-2007 = 100)



Crop Mix impact (2006-2007 = 100)



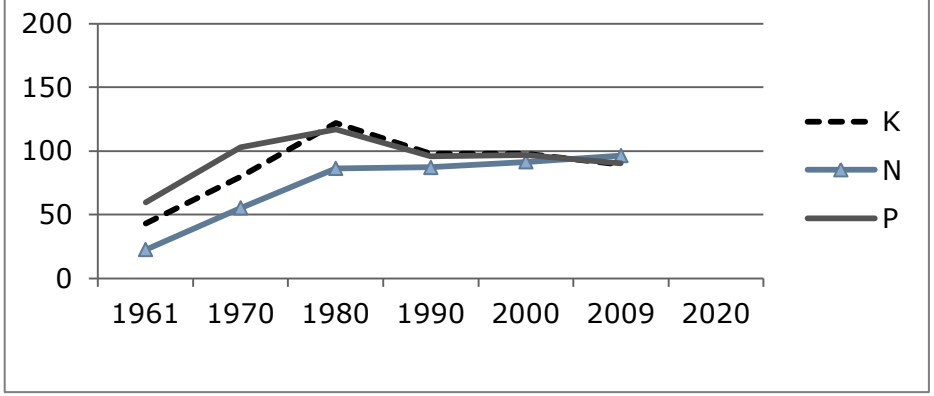
Application Rate impact (2006-2007 = 100)



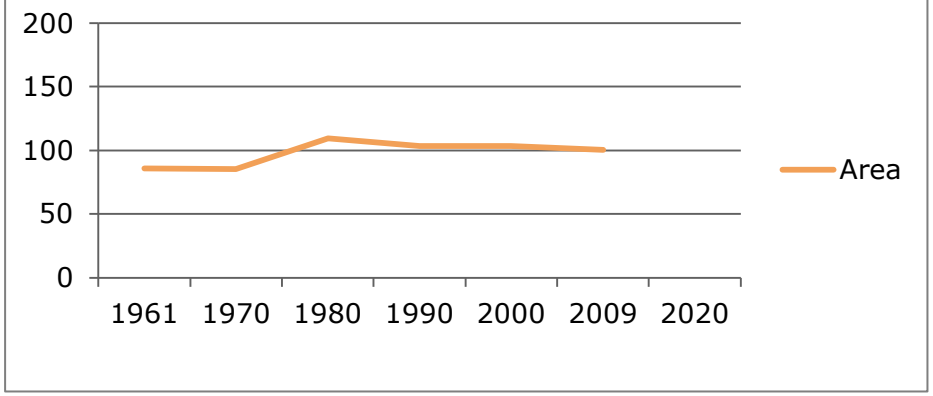
North America

North America = Canada, Mexico, United States of America

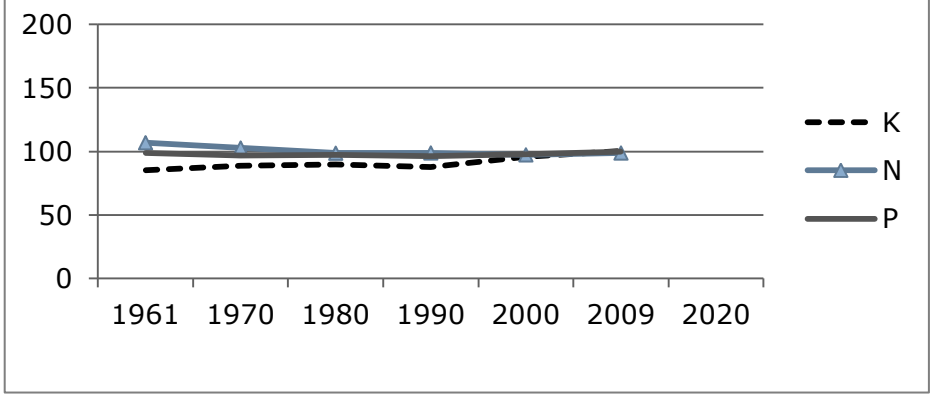
Market Volume (2006-2007 = 100)



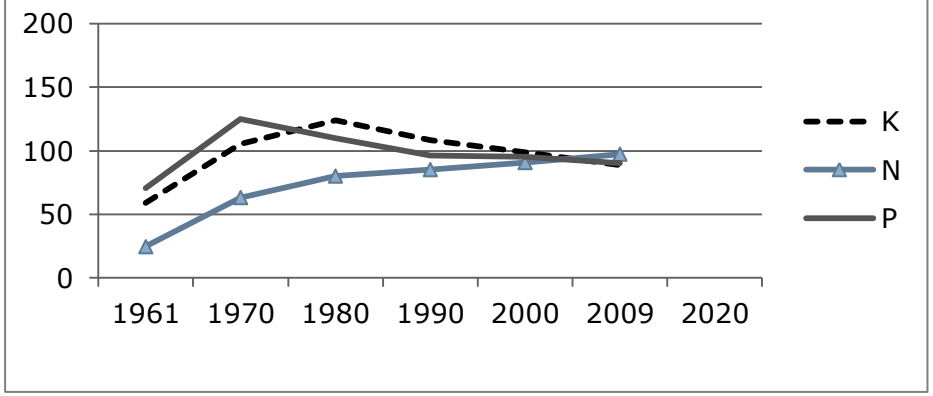
Area impact (2006-2007 = 100)



Crop Mix impact (2006-2007 = 100)



Application Rate impact (2006-2007 = 100)



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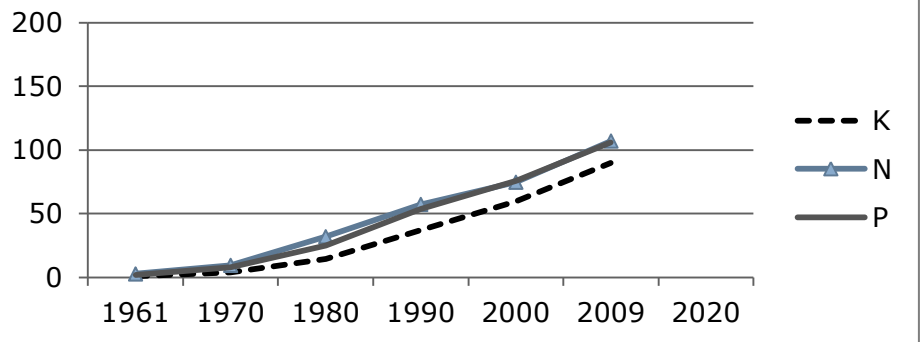
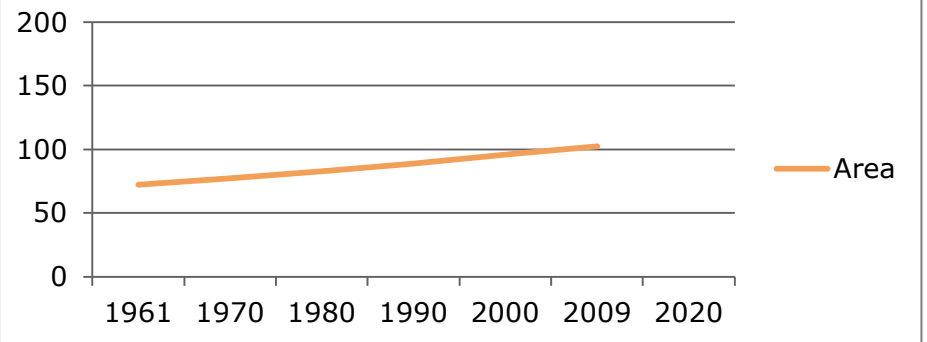
Asia

Asia = Bangladesh, China, India, Indonesia, Malaysia, Pakistan, Philippines, Thailand, Vietnam

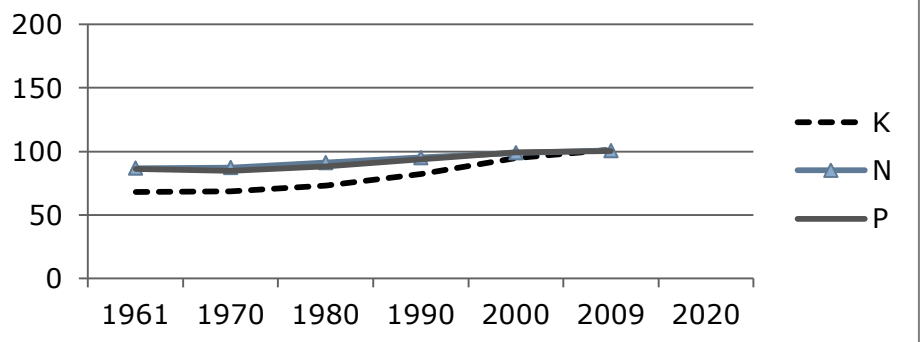
Market Volume (2006-2007 = 100)



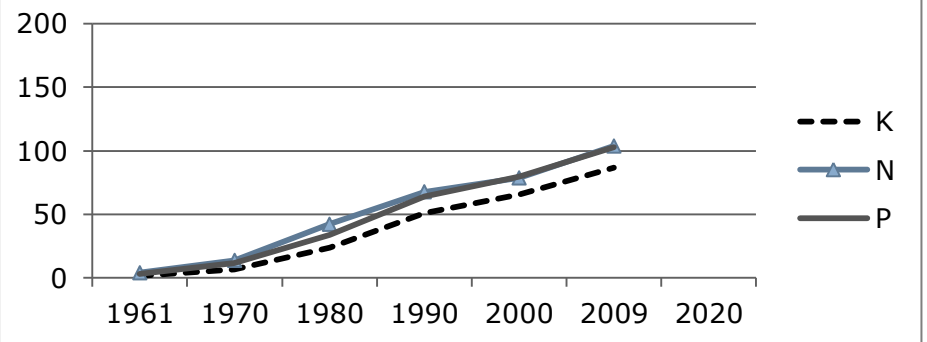
Area impact (2006-2007 = 100)



Crop Mix impact (2006-2007 = 100)



Application Rate impact (2006-2007 = 100)



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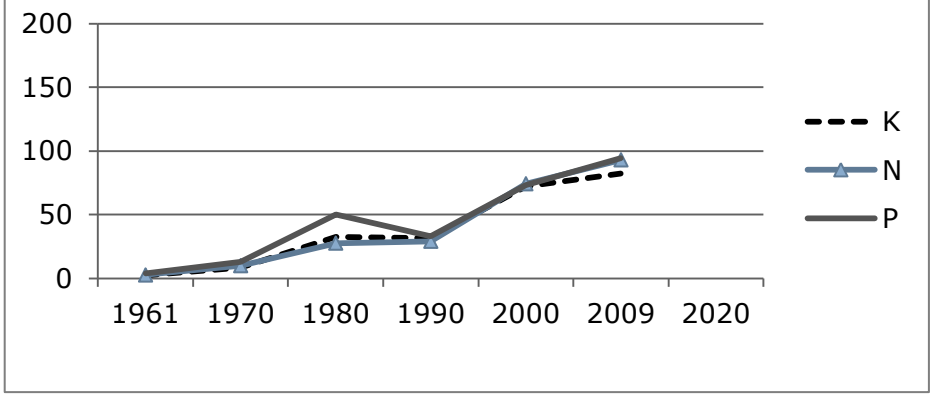
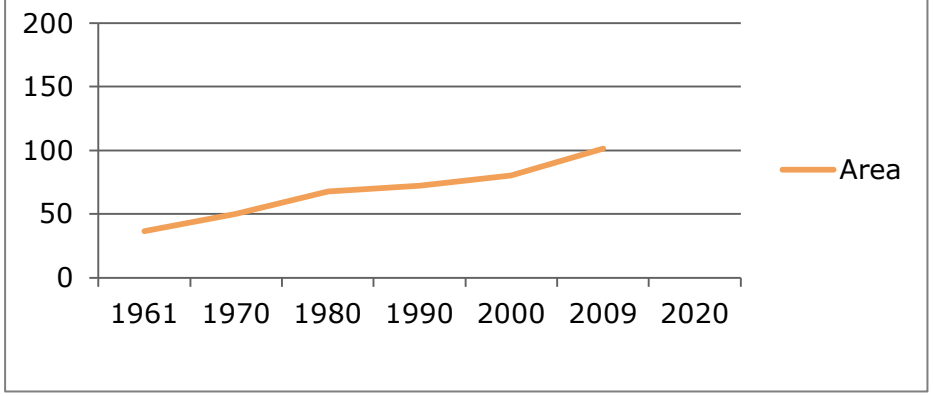
South America

South America = Argentina, Brazil and Chile

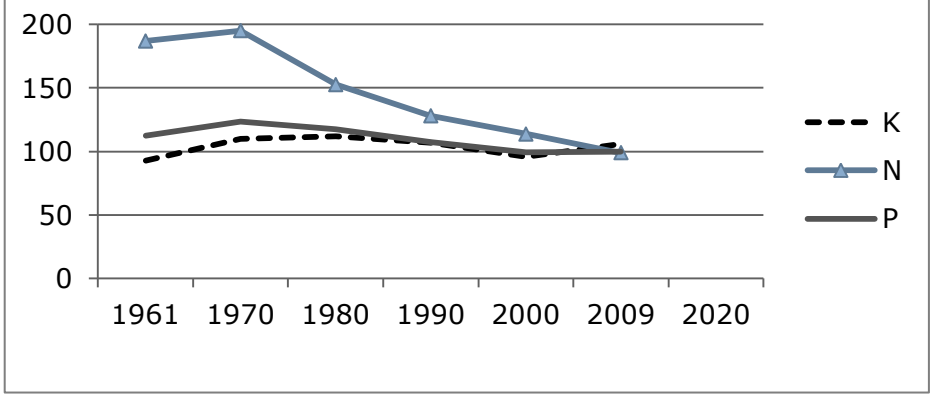
Market Volume (2006-2007 = 100)



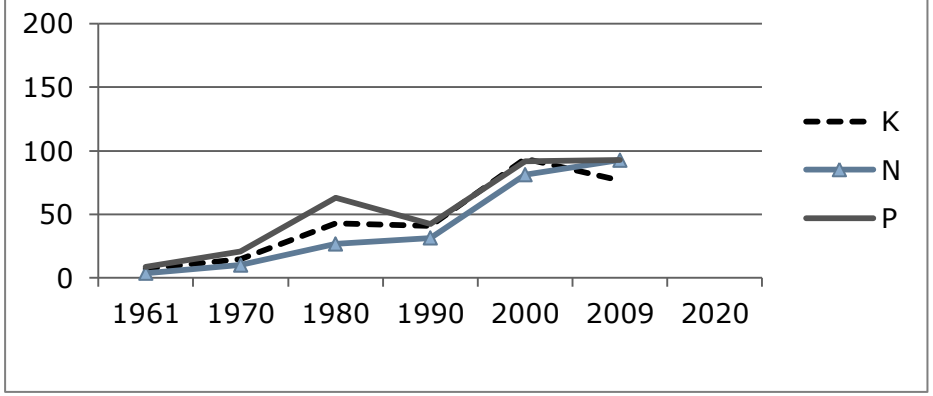
Area impact (2006-2007 = 100)



Crop Mix impact (2006-2007 = 100)



Application Rate impact (2006-2007 = 100)



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Conclusion

Global demand growth of 2% for nitrogen and 3% for potassium towards 2020

Relative high agricultural commodity prices incentivize farmers towards sustainable intensification	▪ Changing farming best-practices ▪ Integrated approach regarding farm inputs necessary ▪ Potential depressed farm earnings in coming 3 years might delay the penetration of these innovative farming practices

Farmers' instant response to improve yields through increased fertilizer spending not sustainable longer term	▪ Balanced crop nutrition will gain importance
	  ▪ Improved application technology
	  ▪ Increased regulation (e.g. EU legislation)
	▪ Potential depressed farm earnings in coming 3 years might delay the penetration of these innovative farming practices

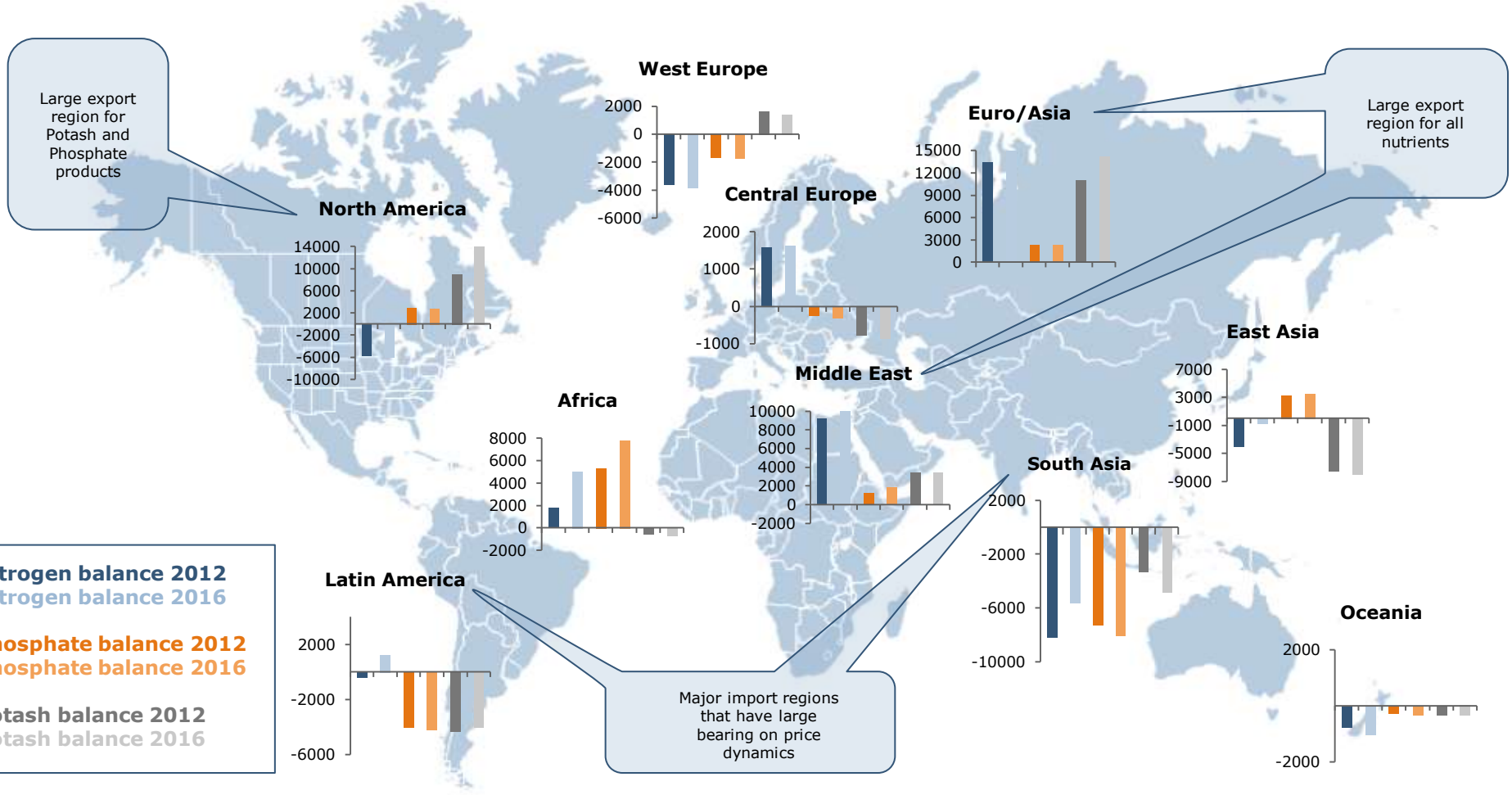
Long term volume growth expected to significantly lower resulting from lower application rate growth in Asia and Latin America	▪ Potential depressed farm earnings in coming 3 years might delay the penetration of these innovative farming practices to materialize beyond 2020 ▪ Global demand growth of 2% for nitrogen and 3% for potassium till 2020 ▪ Beyond 2020 much lower growth rates for fertilizers likely

Rabobank’s view on the fertiliser market

Trade dynamics

The regional fertiliser (im)balance necessitates trade

While nitrogen supply-demand is relatively balanced, phosphates and potash market relies heavily on international trade

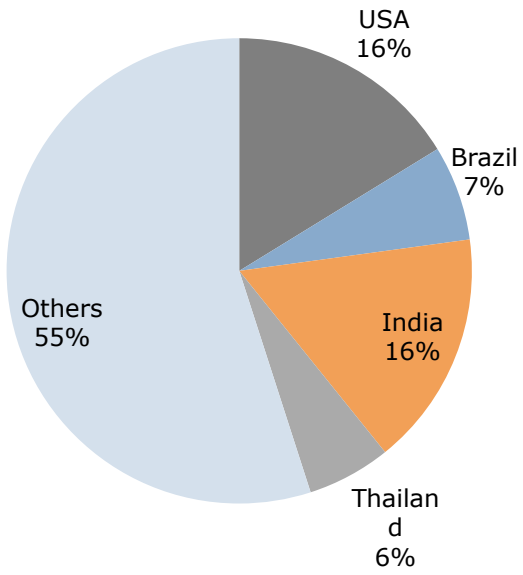


Figures in thousand tonnes

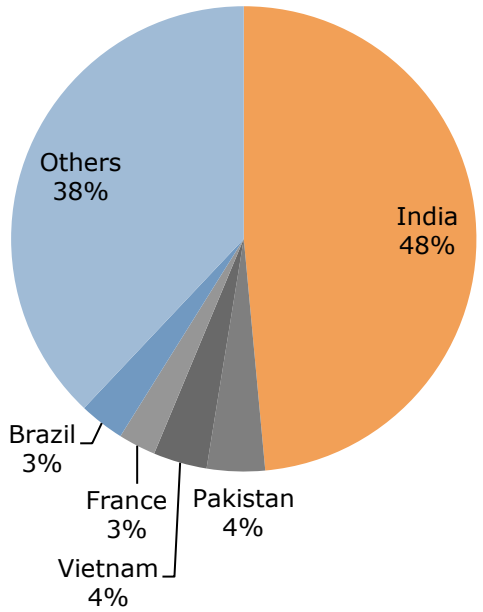
Key importing countries

India is top importer of fertilisers, followed by USA and Brazil

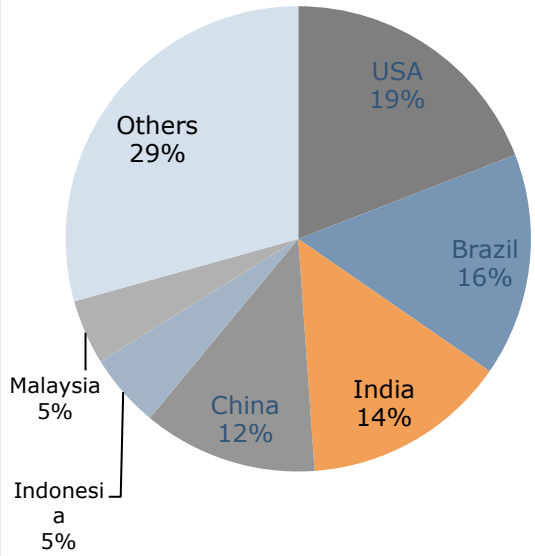
Urea
Total traded volume of 40 mt



DAP
Total traded volume of 16 mt



MOP
Total traded volume of 43 mt

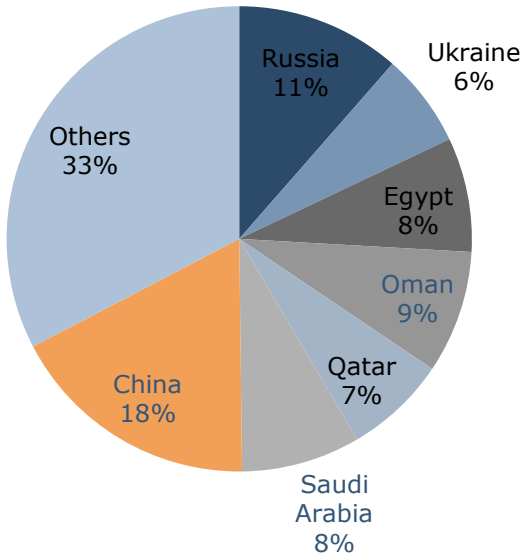


Source: IFA 2010 figures, Rabobank analysis

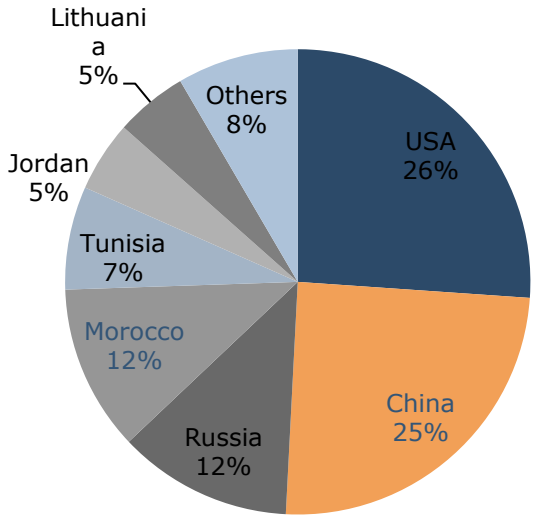
Key exporting countries

Different industry structures impact supply dynamics

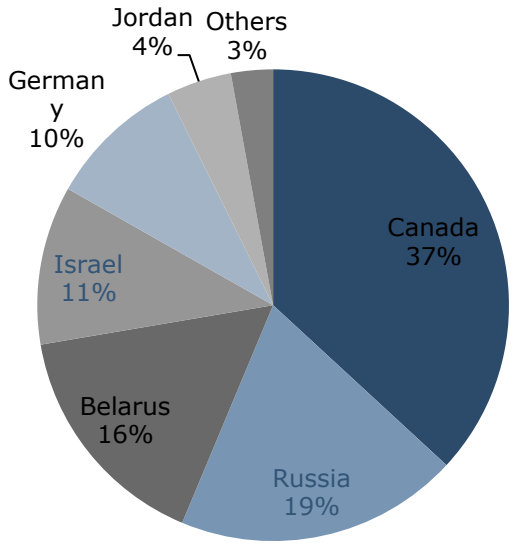
Urea - fragmented market
Total traded volume of 40 mt



DAP
Total traded volume of 16 mt



MOP – oligopolistic structure
Total traded volume of 43 mt



Source: IFA 2010 figures, Rabobank analysis

Rabobank’s view on the fertiliser market

Potash supply dynamics

Current oligopolistic structure of industry favors supply side long term

Initiatives to break oligopolistic structure fading away

Supply side

- Medium-term supply expected to remain tight despite currently peaking inventories
- Recent contract negotiations favored buyer side
- Key players/price setters

Canpotex

BELARUSIAN POTASH COMPANY

- Decreasing interest from giant miners

bhpbilliton

VALE

- Price followers operate in and benefit from strict supply discipline

ICL

K+S Wachstum erleben.

Demand side

- Key drivers include
  - Contract negotiations with India and China sets price bottom
  - Agricultural commodity prices that drive farm margins
- Demand in key markets will continue to rise especially where nutrient-balance needs attention
- Securing stable and timely supply of potash is a key priority of Indian, Chinese and Brazilian governments

Source: Rabobank FAR

Winners and losers in potash market

Canpotex carries large burden while peers gain market share

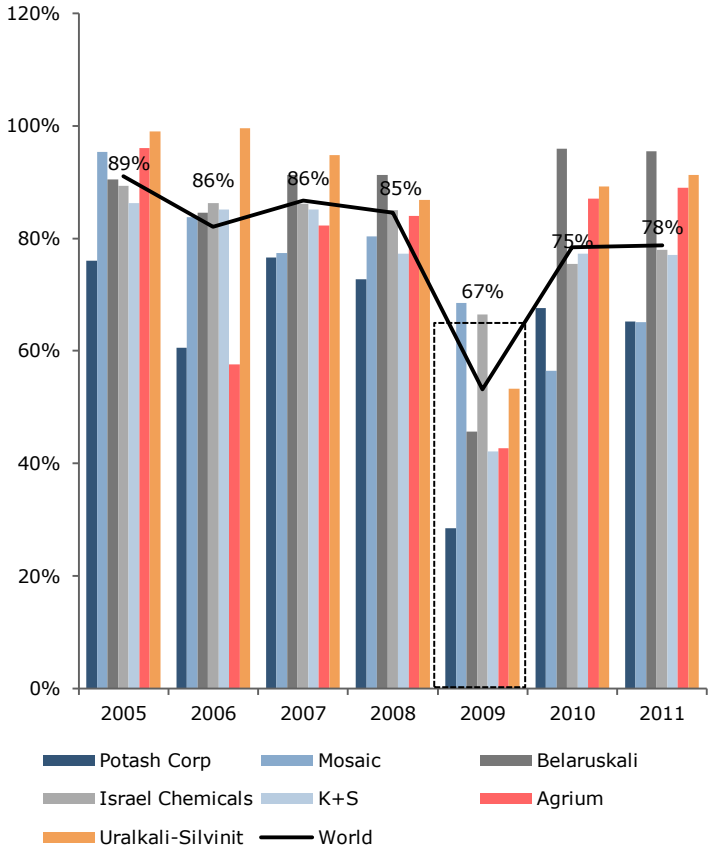
Observations on capacity utilisation

- *Distinct differences in capacity utilisation for various players*

Observations on potash exports

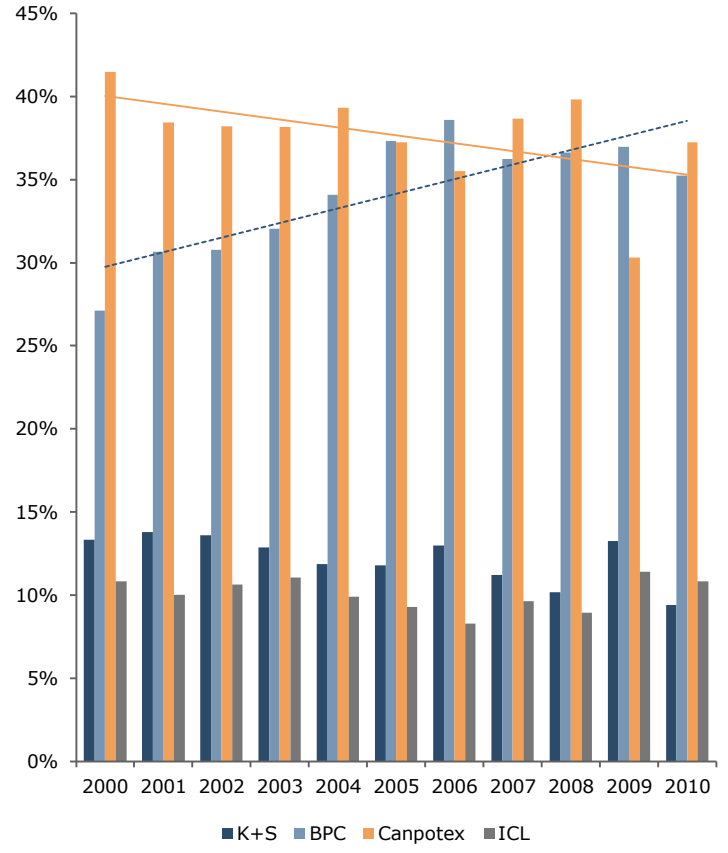
- *Rising market share of BPC*
- *But declining market share of Canpotex*

Capacity utilisation development



Source: Company reports, Rabobank

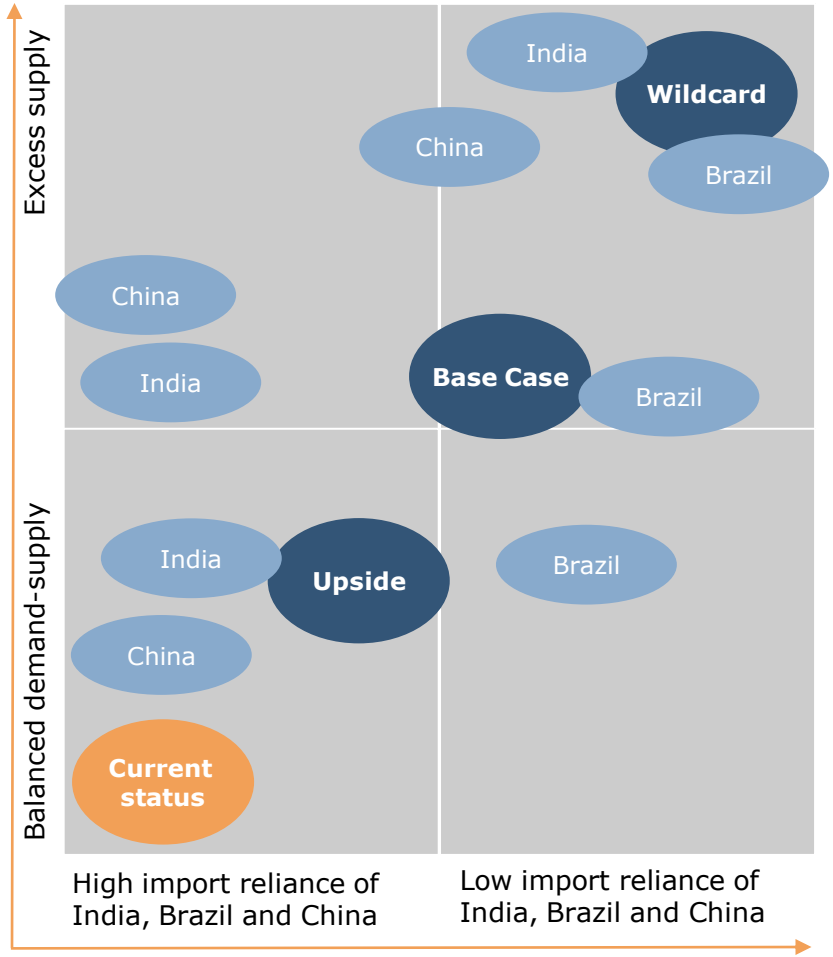
World export market share development



Source: IFA, Rabobank

Scenario analysis - 2011

New capacities and players will have impact on the market



Source: Rabobank FAR

Key takeaways and implications

- All 3 scenarios point towards a buyer's market
- BPC and Canpotex players may try to oversupply the market to discourage competition
- Overall, pricing dynamics are set to change
  - Players outside the cartel can distort the market
  - Importers will have more supply options
  - Price bottom based on cost of production of marginal producer

Market less favourable for independent players

General assumptions in 2011 scenarios

All three scenarios point towards large potential surpluses

Demand

- Demand growth at consistent 3% rate p.a. (exception: Chinese demand growth of 5.6% p.a.)
- Part of demand in China, India and Brazil is fulfilled through strategic investments in greenfield projects

Capacity and supply

- 2011 base for world capacity based on IFDC data. Forward expectations based on Rabobank analysis of 63 new projects
- Capacity developments that are considered in all scenarios (excluding importer driven supply):
  - Greenfield project of BHP Billiton (Jansen); only 1. 2 mt K2O/ 2 mt KCl
  - Greenfield project of EuroChem; 2.8 mt K2O/ 4.6 mt KCl
  - Greenfield project K+S; 1.6 mt K2O/ 2.7 mt KCl
  - Brownfield expansions of Mosaic, PCS, Agrium, Uralkali, Belaruskali; around 6mt K2O
- Operating rate of 85% assumed for calculating supply

Source: Rabobank FAR

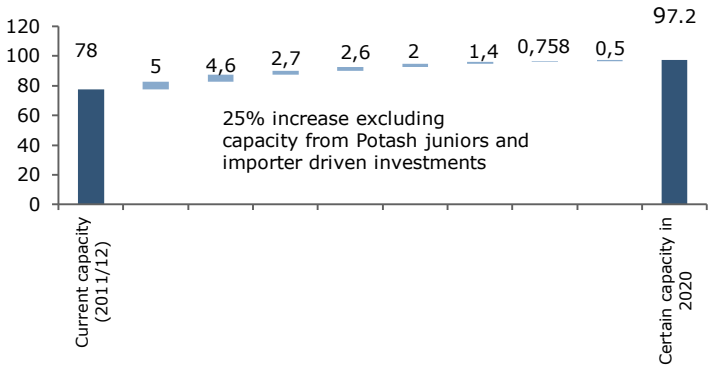
Three variables will set the extent of oversupply

Importer's lure to secure stable supply	▪ Brazil, India and China collectively import close to 18 million tonnes KCl annually ▪ Growing import reliance, frustration from one sided contract negotiations and strategic importance of potash nutrient for long term viability of their growing agri sector represent primary drivers ▪ No dearth of options in the form of developing greenfield mines
Securing financing for the greenfield projects	▪ Elevated potash prices and profitability has attracted investments from number of new players ▪ Capex of at least $1000/tonne needed to build greenfield mine and securing financing may represent key bottleneck in realising production
Response of traditional players to discourage entry of new players	▪ Response of existing low cost players and large volume – Potash Corp and Uralkali- will be critical in limiting the extent of oversupply ▪ Flexible and buyer friendly contract negotiations may dilute importer's incentive to make strategic investments in greenfield mines in the short term ▪ Fiercer competition may trigger further consolidation in the market

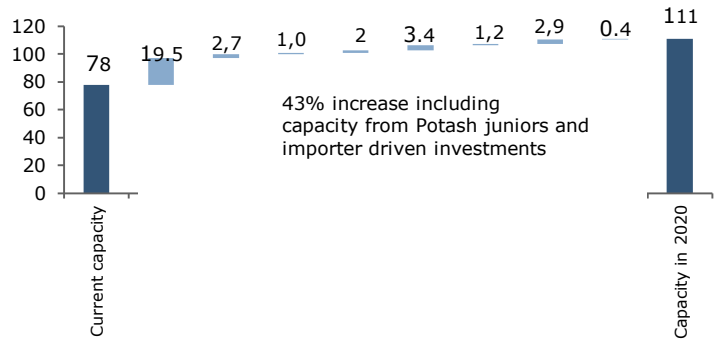
Looming oversupply in the market (A look at original scenarios in bullish environment)

Extent of oversupply will largely depend on geopolitical factors

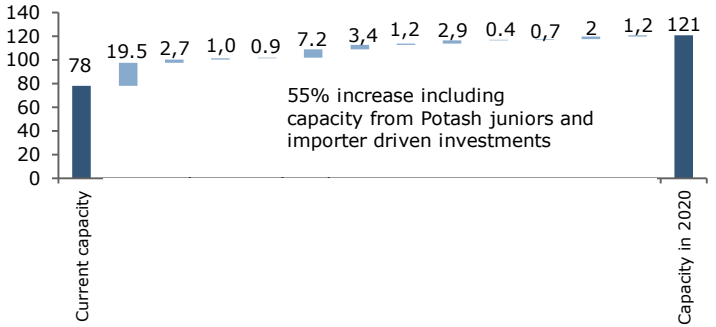
Certain capacities considered in building scenarios



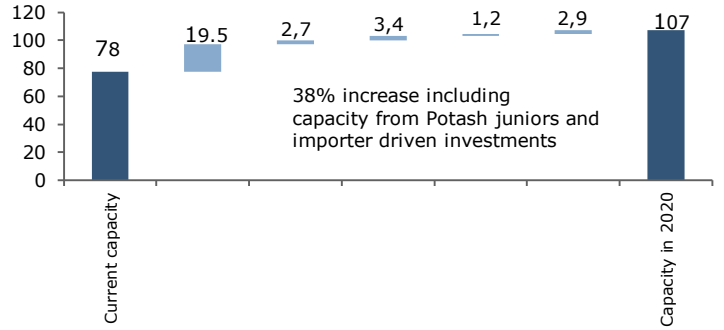
Base Case



Wildcard/Downside case



Upside case

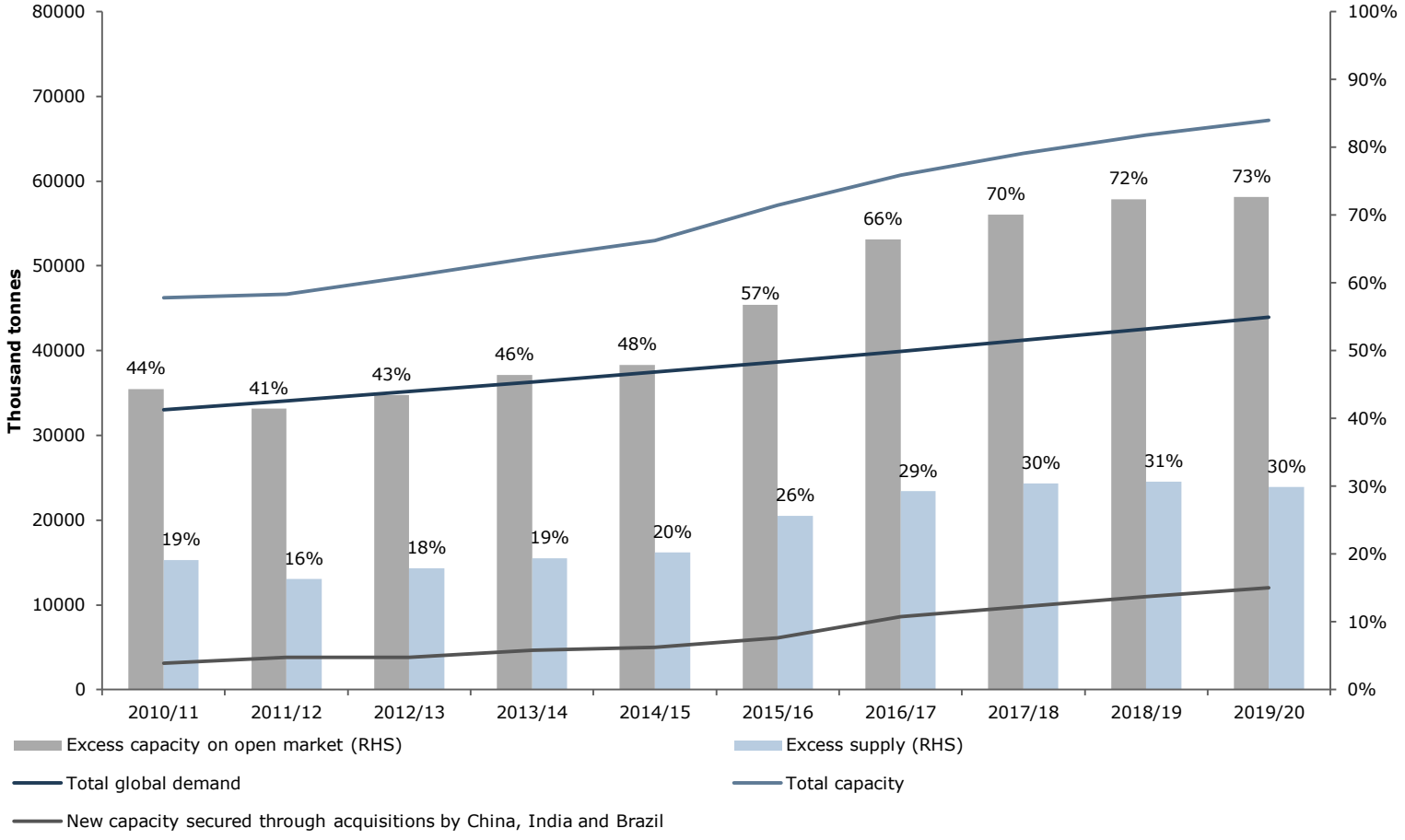


Potash market outlook: Base scenario

Partial supply secured by importers marking gradual shift towards buyer's market

Key takeaways

- *Tight market until 2015*
- *Build up of excess capacity post 2015*
- *Overall, India's import reliance remains same as that in 2010 peak*
- *China's import requirement declines by 11% over 2010-2020*
- *Brazil's import demand declines by 82% over 2010-2020*
- *Net loss of 6 million tonnes KCl in import demand over 2010-2020*



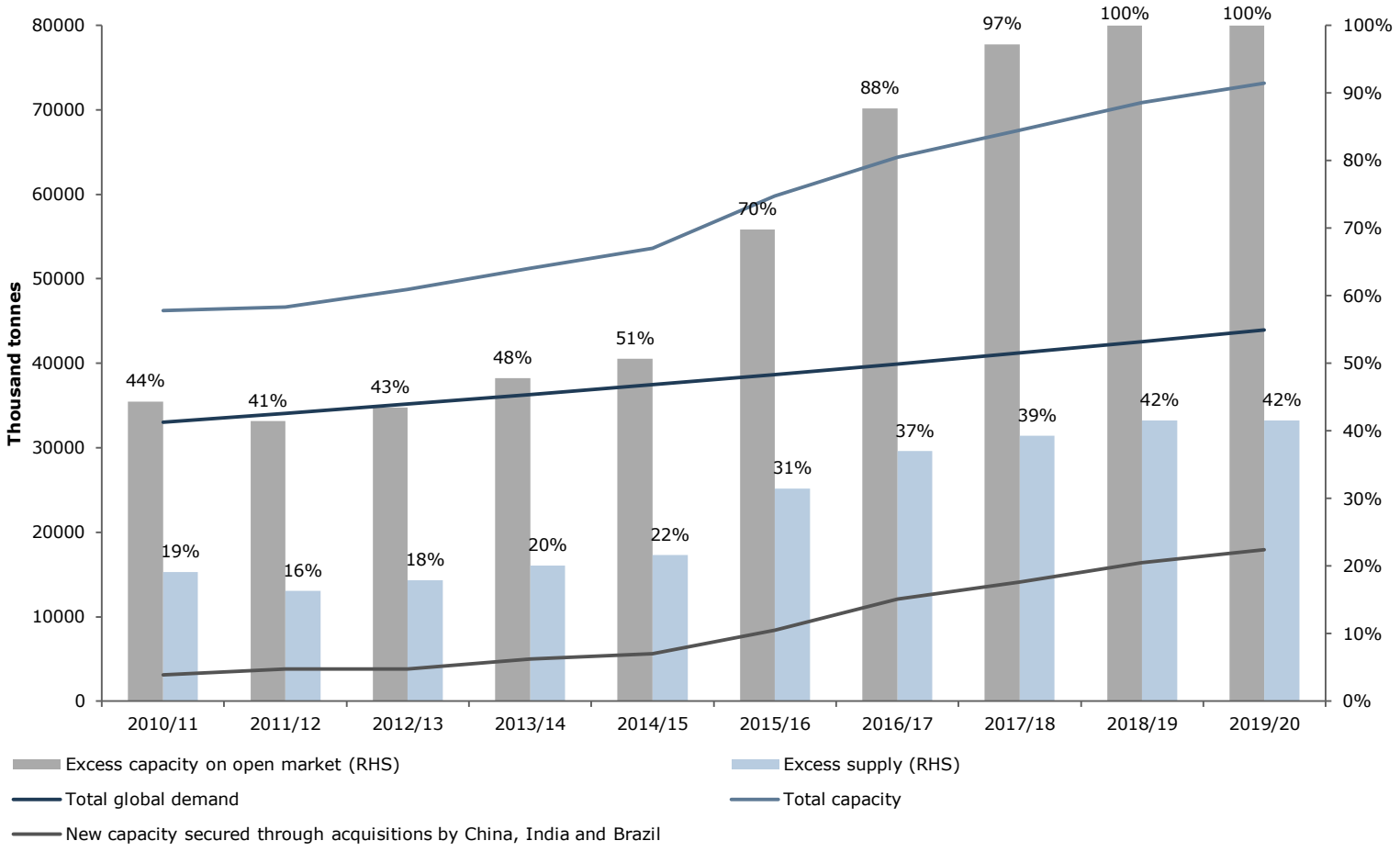
Source: Rabobank FAR, IFDC

Potash market outlook: Wildcard scenario

Significant part of supply secured through several strategic investments by importers resulting in strong shift towards buyer's market

Key takeaways

- *Strong shift away from pure market economics*
- *India's import reliance declines by 82% over 2010-2020*
- *Brazil's import reliance declines to nil over 2010-2020*
- *China's imports declines by 28% over 2010-2020*
- *Net loss of 16 million tonnes KCl in import demand over 2010-2020*



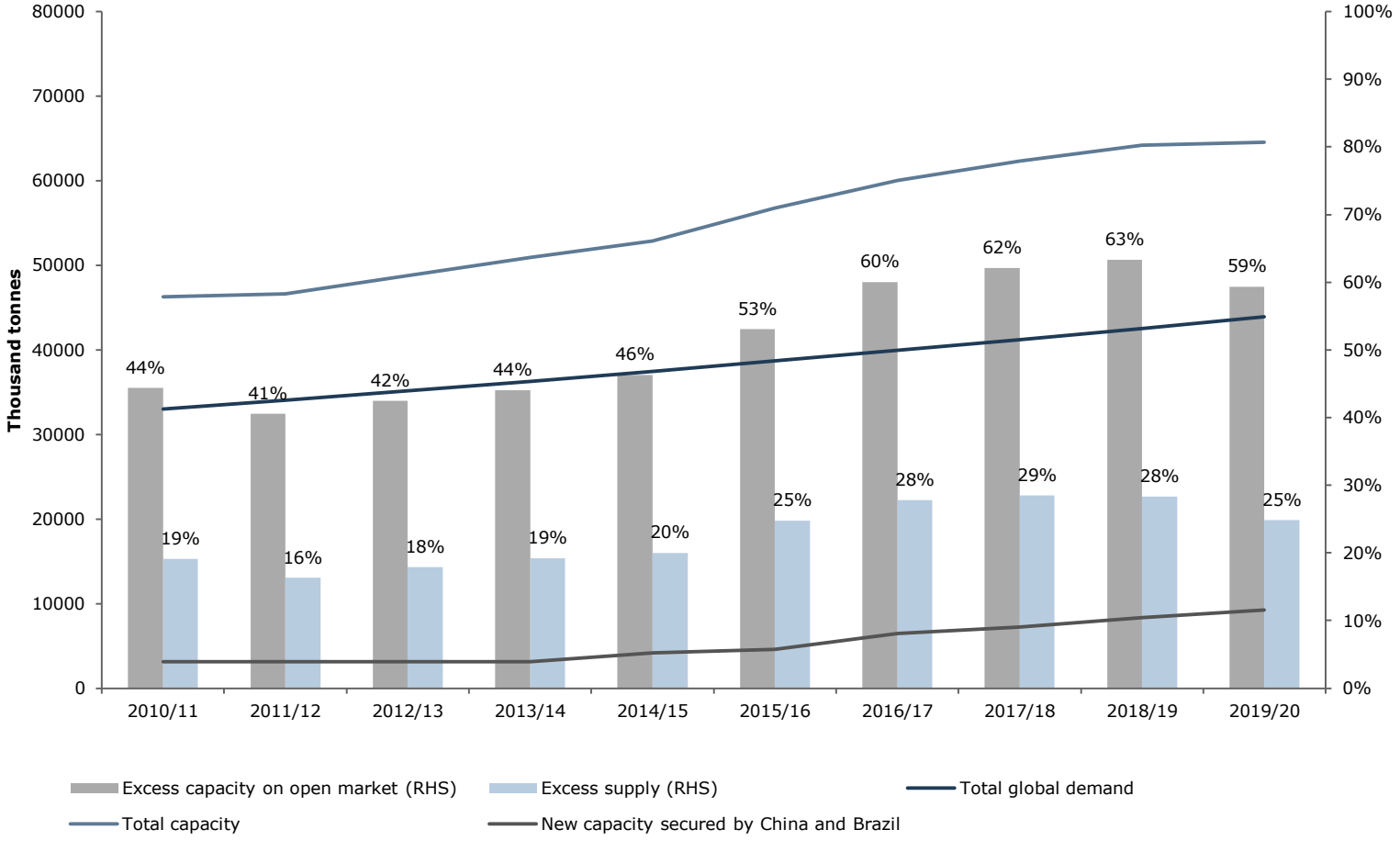
Source: Rabobank FAR, IFDC

Potash market outlook: Upside case

Minimal action from importers to secure supply resulting in continued seller's market (scenario 1)

Key takeaways

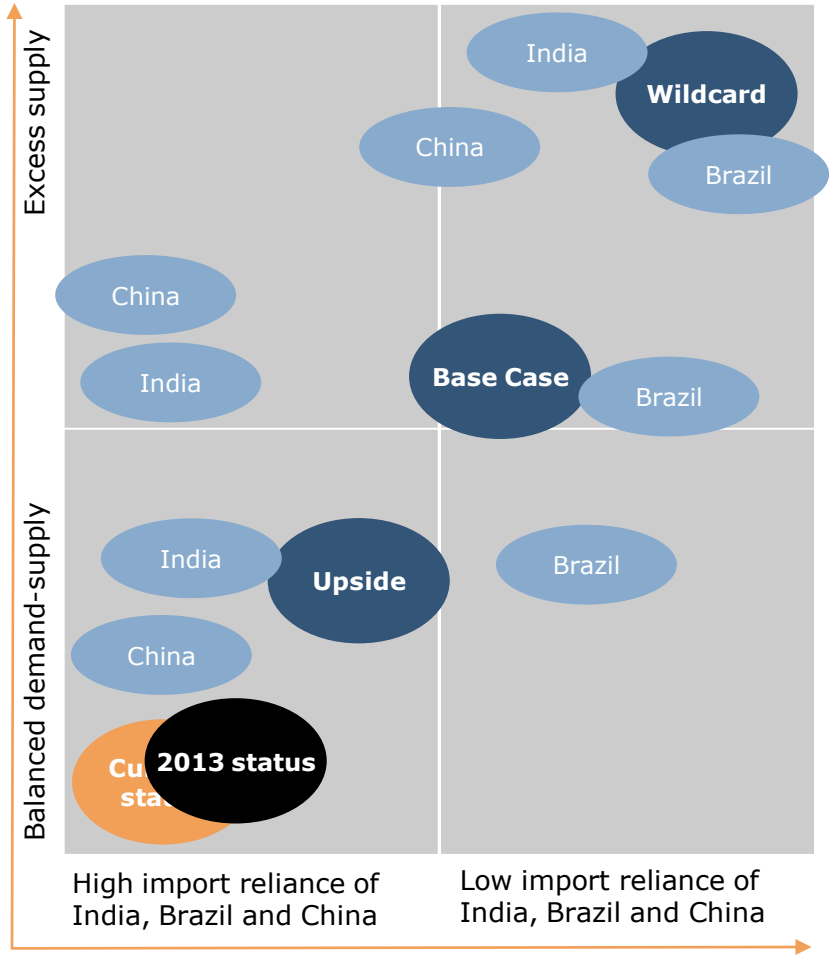
- *Negotiation power of suppliers remains strong*
- *Biggest implications for players relying heavily on Brazilian market*
- *India's import reliance further increases by 34% over 2010-2020*
- *China's import reliance grows by 30% over 2010-2020*
- *Net loss of just 1 million tonnes KCl in import demand over 2010-2020*



Source: Rabobank FAR, IFDC

Scenario analysis - 2013

Oligopolistic structure will survive and optimise value over volume long term



Source: Rabobank FAR

Key takeaways and implications

- 2013 scenario point towards a seller's market
- Uralkali has taken the initiative to oversupply the market to discourage competition
- Overall, dynamics are set to change
  - Short term price drops play at the advantage to the importers
  - Opportunities for further consolidation in the global potash market

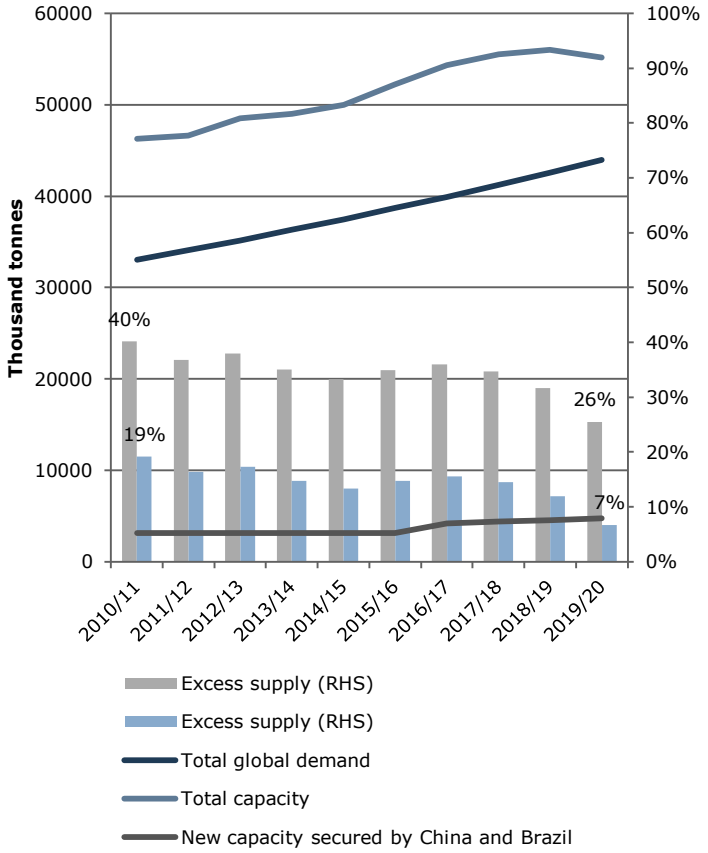
Incorporating latest announcements: Upside Case Revisited

Minimal action from importers and delays in more promising capacity additions by incumbents to tighten supply towards 2020

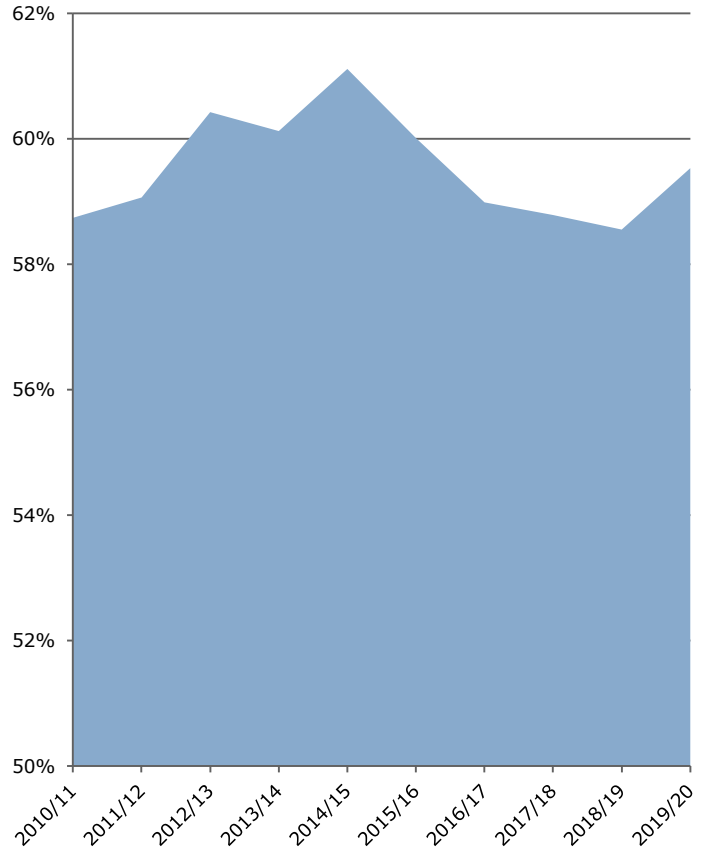
Key takeaways

- *Negotiation power of suppliers remains intact and Canpotex and BPC occupy majority of capacity share*
- *Import reliance of all three importers grows and supply options remain unchanged*
- *In fact deferment of two promising mine expansions by Mosiac to add to importers' woes*
- *Maximum upside for potash prices on tight supply*

Upside case revisited



Total capacity share of Canpotex and BPC



Conclusion

Structural shift in supply side requires action from big importers

Change on supply side could be irreversible and structural	▪ Market entry of new but significant players ▪ Host of junior mining projects in various stages of development ▪ More competitive pricing of potash likely in future
Challenges facing new capacity developments good for the oligopolistic supply structure	▪ Viability of most of the greenfield potash projects under question current bearish market ▪ Immense pressure on junior and senior miners to secure financing ▪ This could be a positive news for current players
Spotlight on big importers to build a balanced 'potash supply mix'	▪ Supply concentration will potentially remain unchanged if big importers stay on sidelines ▪ Junior mining projects only viable under more push from importers ▪ India, China and Brazil need to improve their supply mix

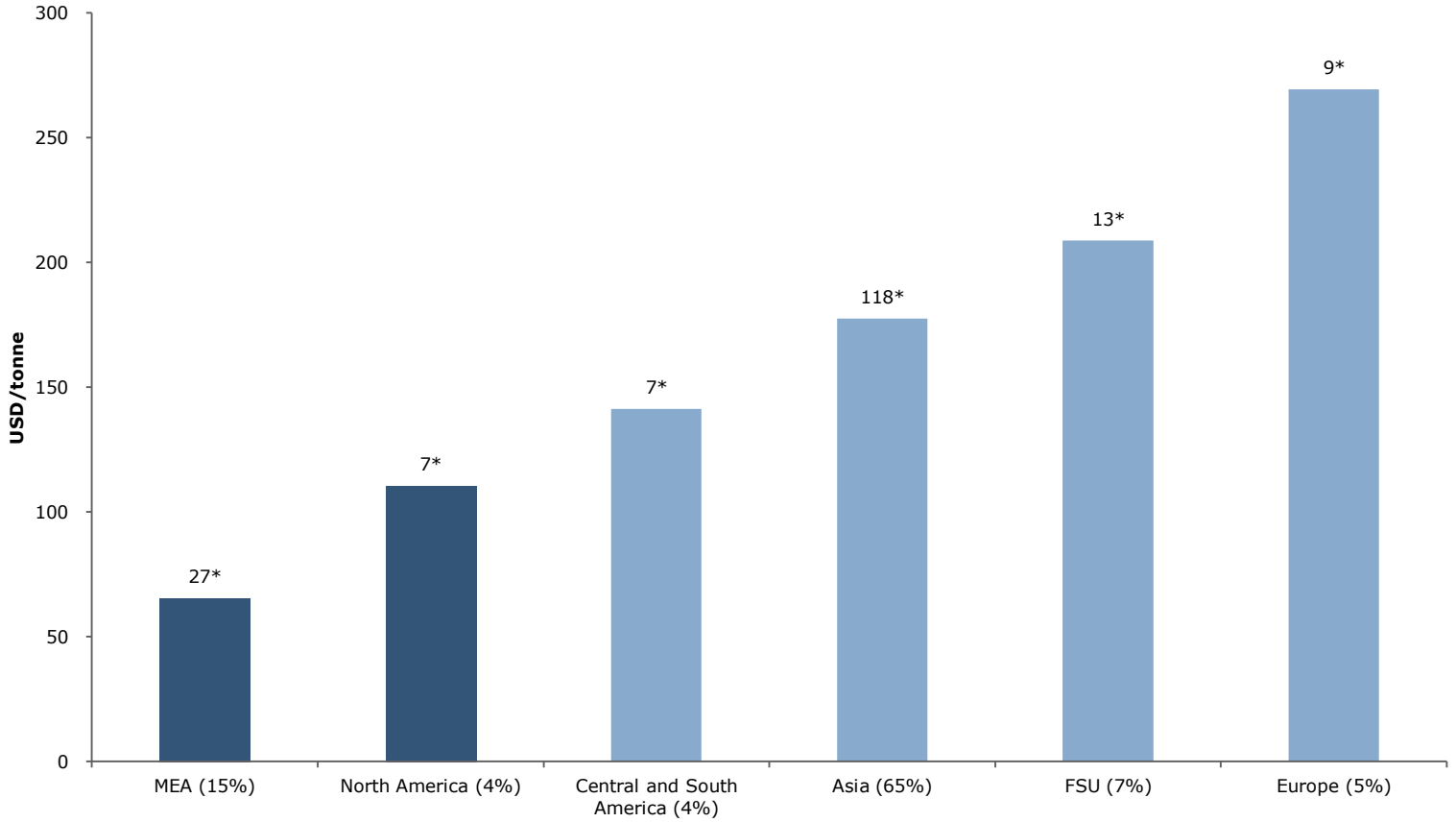
Rabobank’s view on the fertiliser market

Urea supply dynamics

Factors affecting future nitrogen supply

Shale gas has shifted the cost curve for North America triggering new capacity developments; Projects in MEA driven by lowest cost position of the region

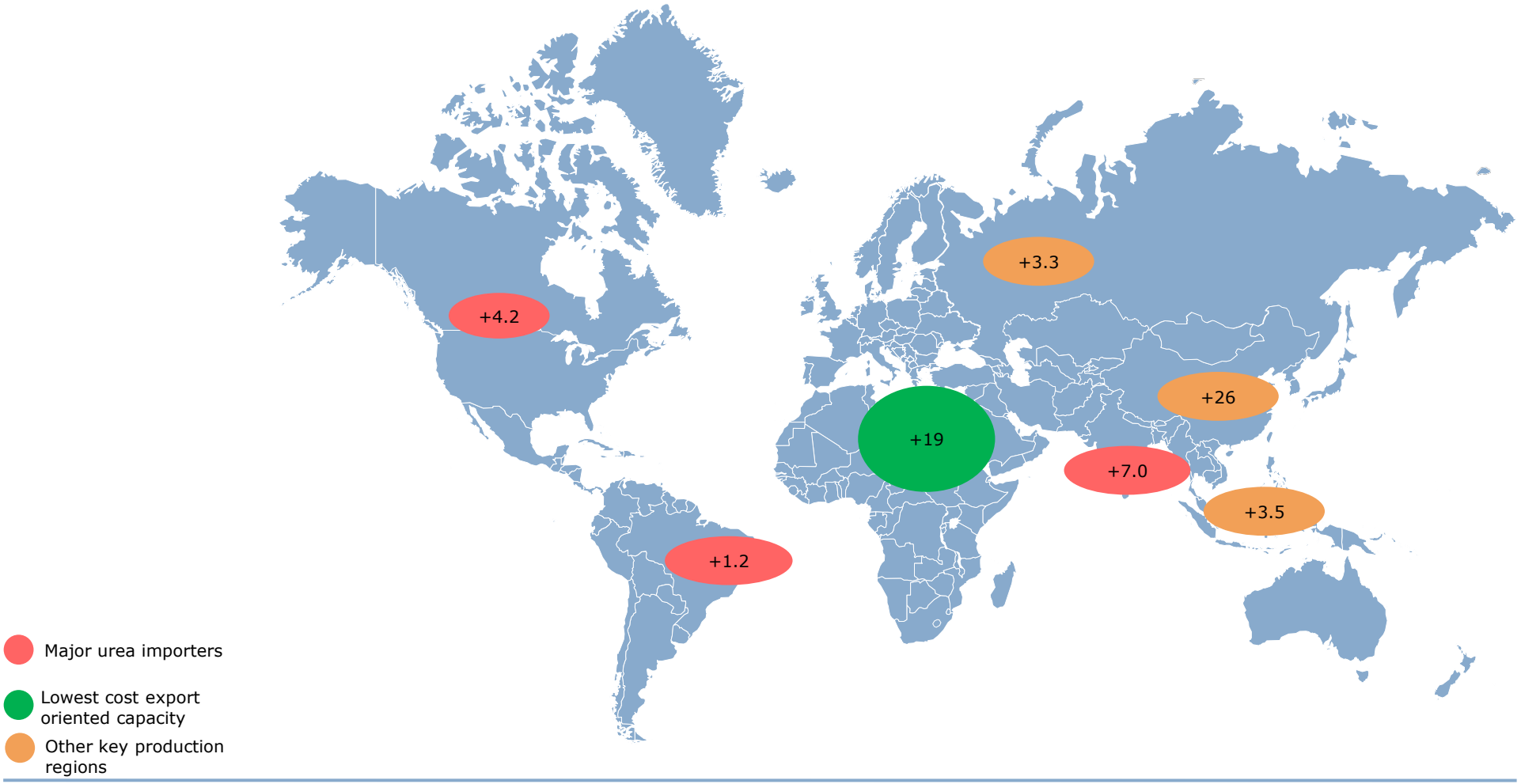
Regional urea cost of production in 2012



* Represents current capacity in million tonnes
() represents % share in global urea capacity
Source: CRU, Rabobank

New project activity set to accelerate in the top three importing countries: USA, India and Brazil

Potential combined loss of 2.4 million tonne urea imports to top three importers



China: Key swing exporter of urea

Nitrogen fertiliser use in China has been increasing in-line with gains in agricultural productivity

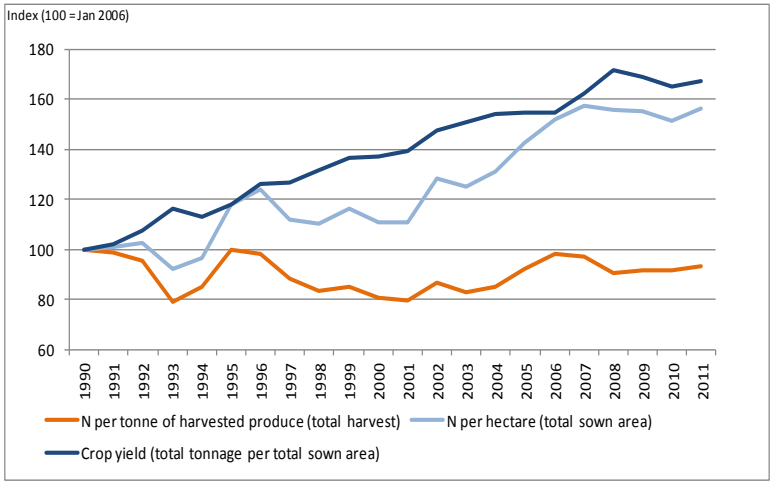
Domestic production growth concentrated in energy rich Western region

Drive towards consolidation of Chinese urea industry

Future competitiveness in exports is however questionable

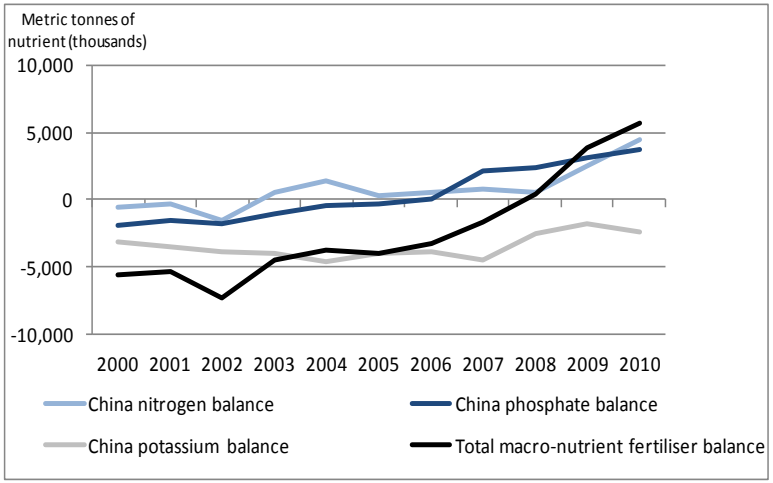
Focus to grow on expanding domestic consumption market as tax structure, high cost or production and logistics limit export viability

Demand: Nitrogen consumption increase has coincided with productivity gains



Source: IFA, CNCIC, Rabobank

Supply: China is world leading exporter of urea



Source: IFA, Rabobank

India: Largest importer of urea with 26% reliance on imports

But expanding domestic production on the back of Urea Investment Policy will bring import reliance down to 16%

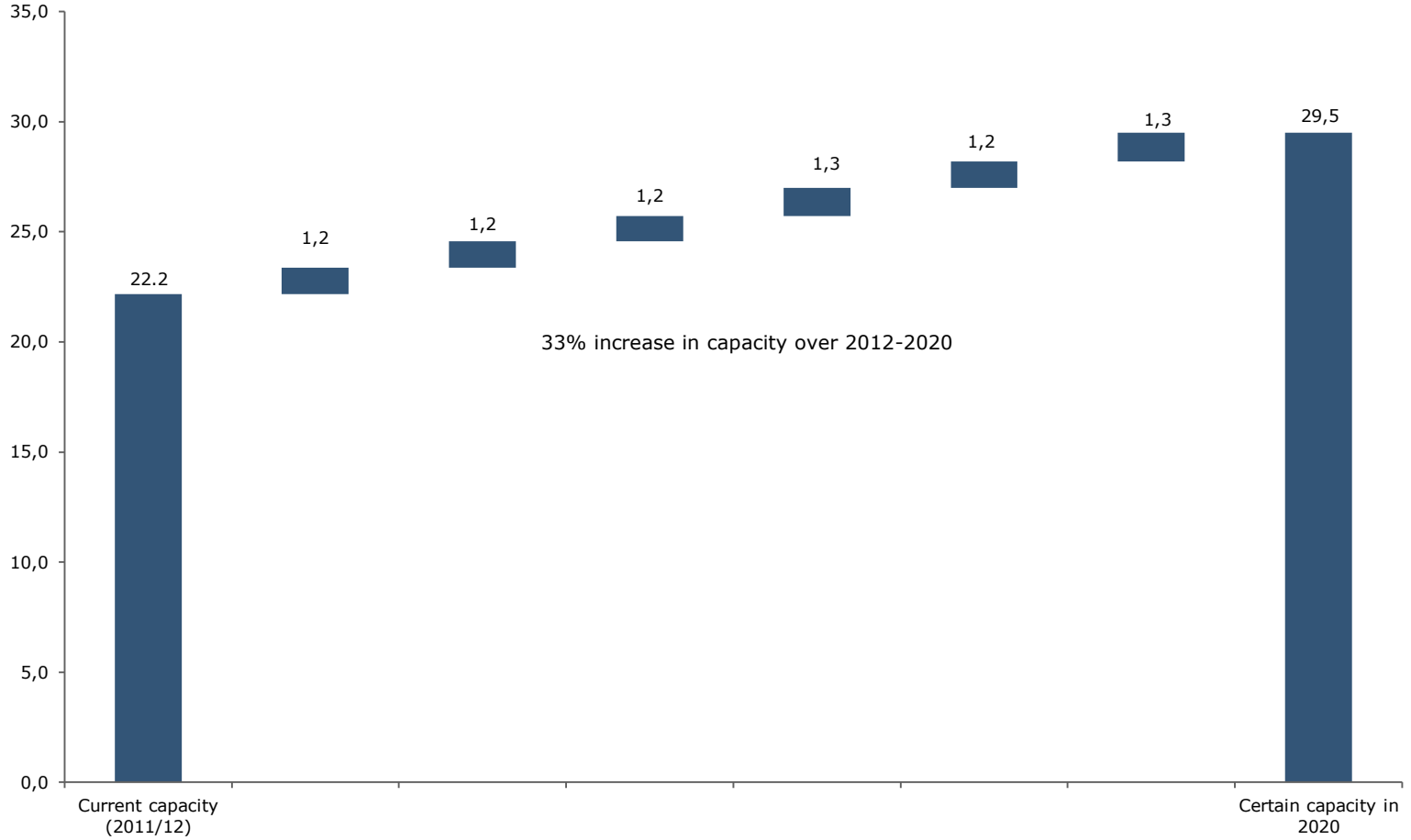
Government incentivized urea production expansion

- *Minimum RoE of 12% ensured by government*
- *Policy applicable for 8 years from start of production*

Large import substitution if all planned capacities come onstream

However, cost and availability of natural gas feedstock remains a question

Despite the new capacities, India would still import about 5.5 million tonnes urea in 2020 (down from 7 million tonnes in 2011)

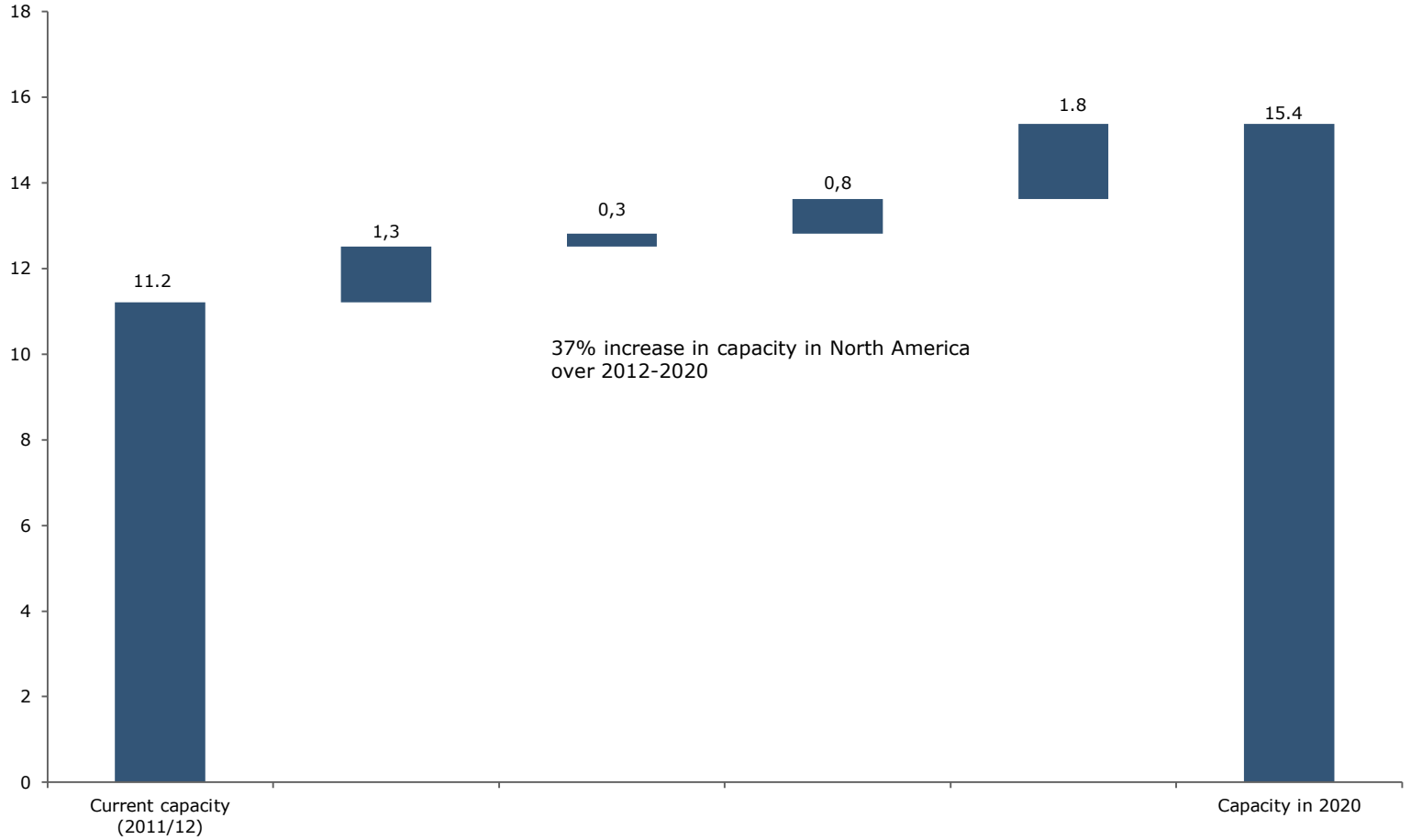


USA: Second largest importer of urea with 50% reliance on imports

Substantial capacity expansions on the back of low-priced shale gas to bring import reliance down to 37%

North America has strongest investment fundamentals outside MEA region

However, urea imports to decline to just 6 million tonnes in 2020 from 6.5 million tonnes in 2011

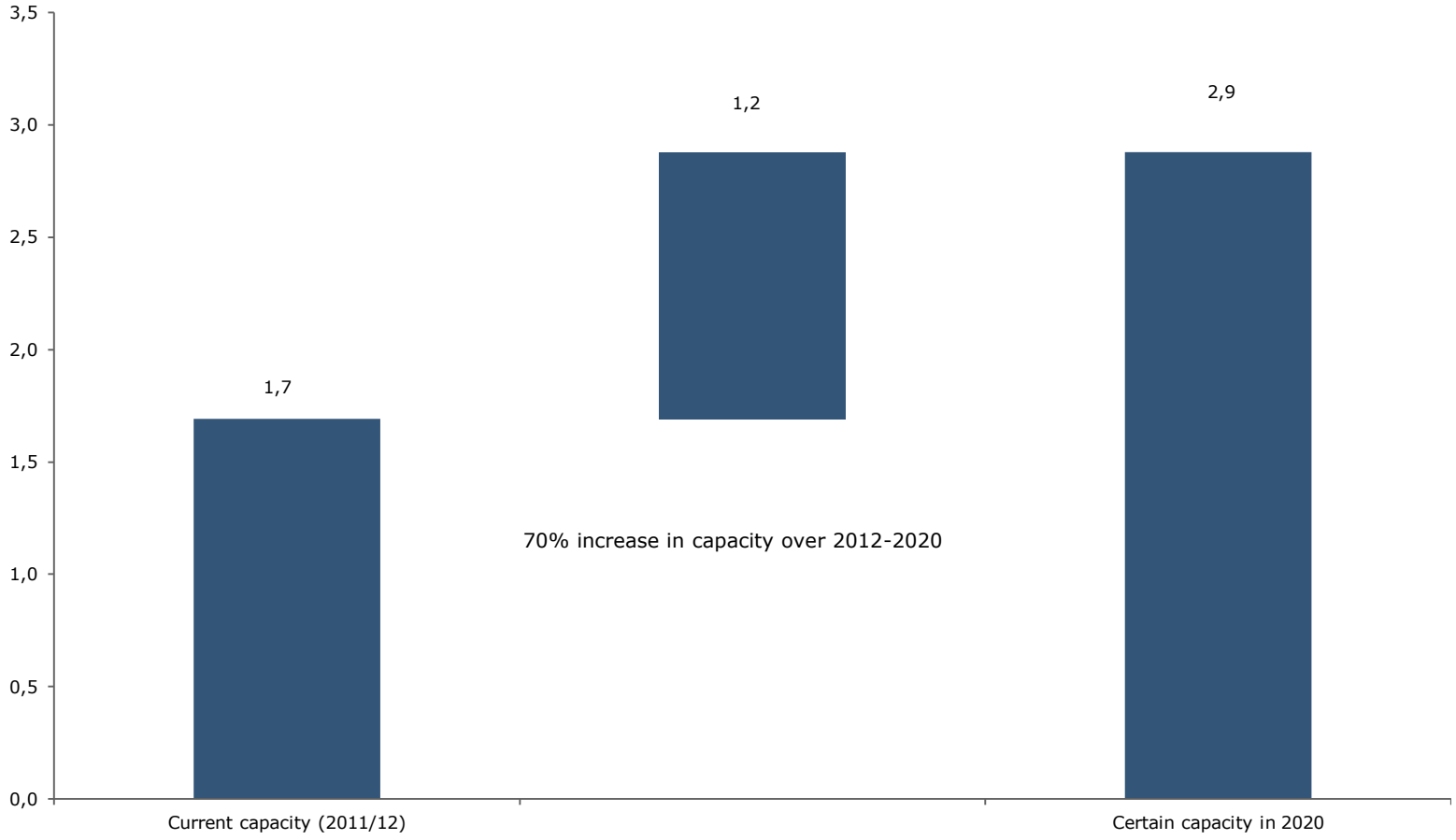


Brazil: Third largest importer of urea with 70% reliance on imports

New capacity will help reduce import reliance to 40%

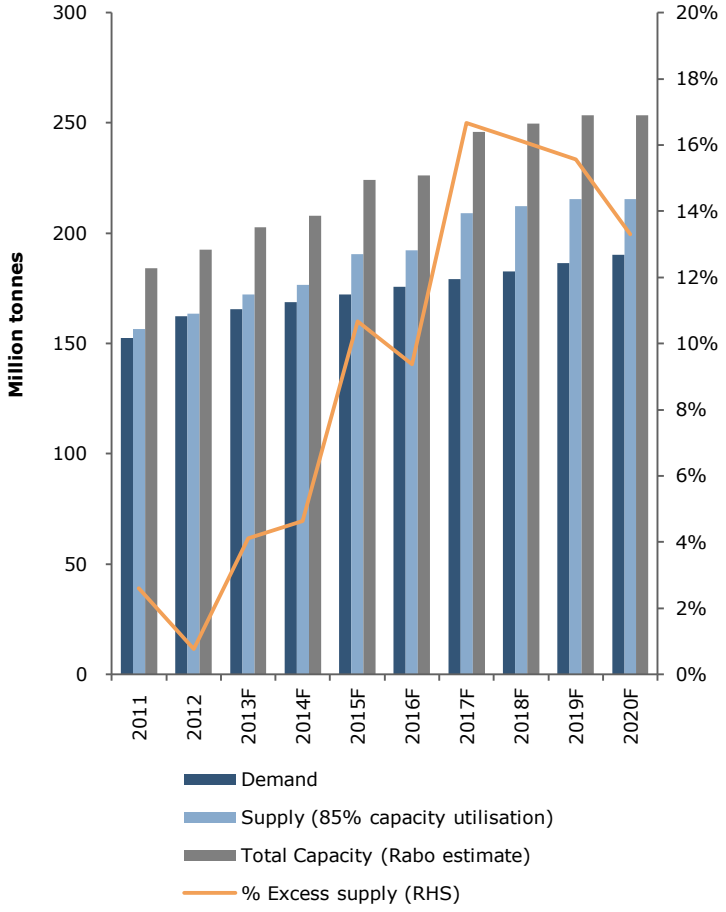
Import dependence to decline somewhat by 2020

Brazil's urea imports expected to decline to 2 million tonnes in 2020 from current level of about 2.5 million tonnes



Trend towards self sufficiency by big importers will start to impact global market balance post-2016

Implications on trade flows, price and supplier strategies



Need to integrate downstream closer to farm gate in key consumption markets

Keep production cost competitive by building capacities outside high cost regions

Minimise cost for P and K sourcing through upstream integration in NPK marketing

Source: IFDC, company reports, Rabobank 2013

Conclusion

Global urea market is set to enter an era of oversupply

New capacity developments in low-cost production regions	▪ US shale gas revolution alters global urea trade flows ▪ Delay in capacity expansion resulting from high engineering and construction costs ▪ Political instability in MENA can delay expansion capacity
Key importing countries driven to reduce their import reliance	▪ Increase in import volumes at international prices has laid out ambitious plans to achieve self sufficiency in urea in India ▪ Is it wise to pursue this ambition in light of global urea dynamics and specific state of Indian economy? ▪ Brazil will significantly reduce its dependence in urea imports
Strategic routes of the urea value chain partners would need to change	▪ High-cost producers need to strengthen their market position through cross industry partnerships and downstream integration closer to farmers ▪ Winners will be those who can achieve low costs of production and/or are placed close to a demand market enabling them to quickly respond to demand dynamics by altering production cycles ▪ Market intelligence and access to growers will be key success factors in this case

Thank You!