Spur Ventures Inc.

Fertilizers in China
At the Fork in the Road

Dr. Robert J. Rennie & Zhai Jidong *(Spur Ventures)*
Patrick Heffer & Michel Prud'homme *(IFA)*

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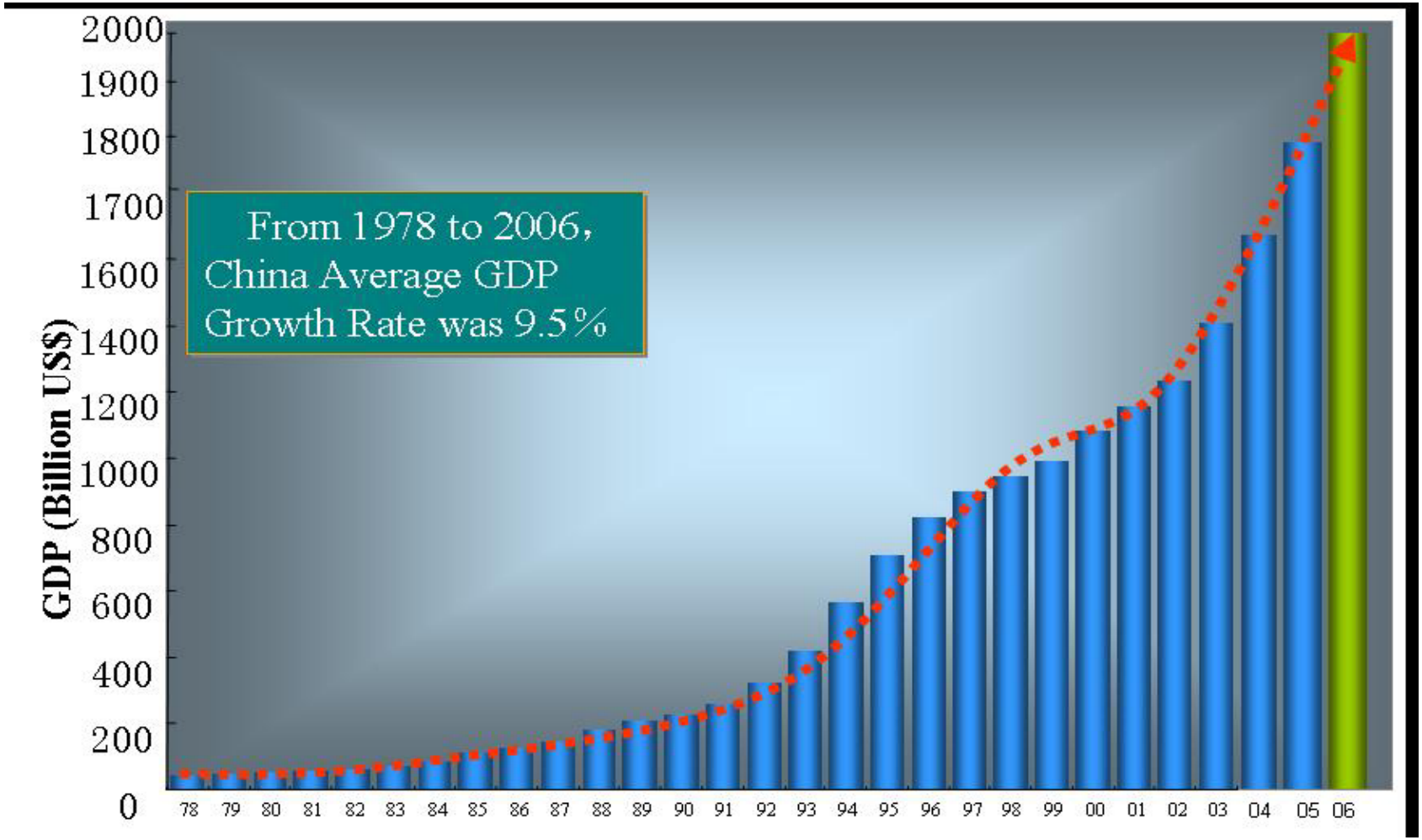
Presentation Outline

- ***China Today***
  - ***Key Trends***
  - ***China's Orderly Market-The Right Balance?***
- ***Fertilizers in China & Key Trends***
  - ***Phosphate***
  - ***Nitrogen***
  - ***Potash***

China Today

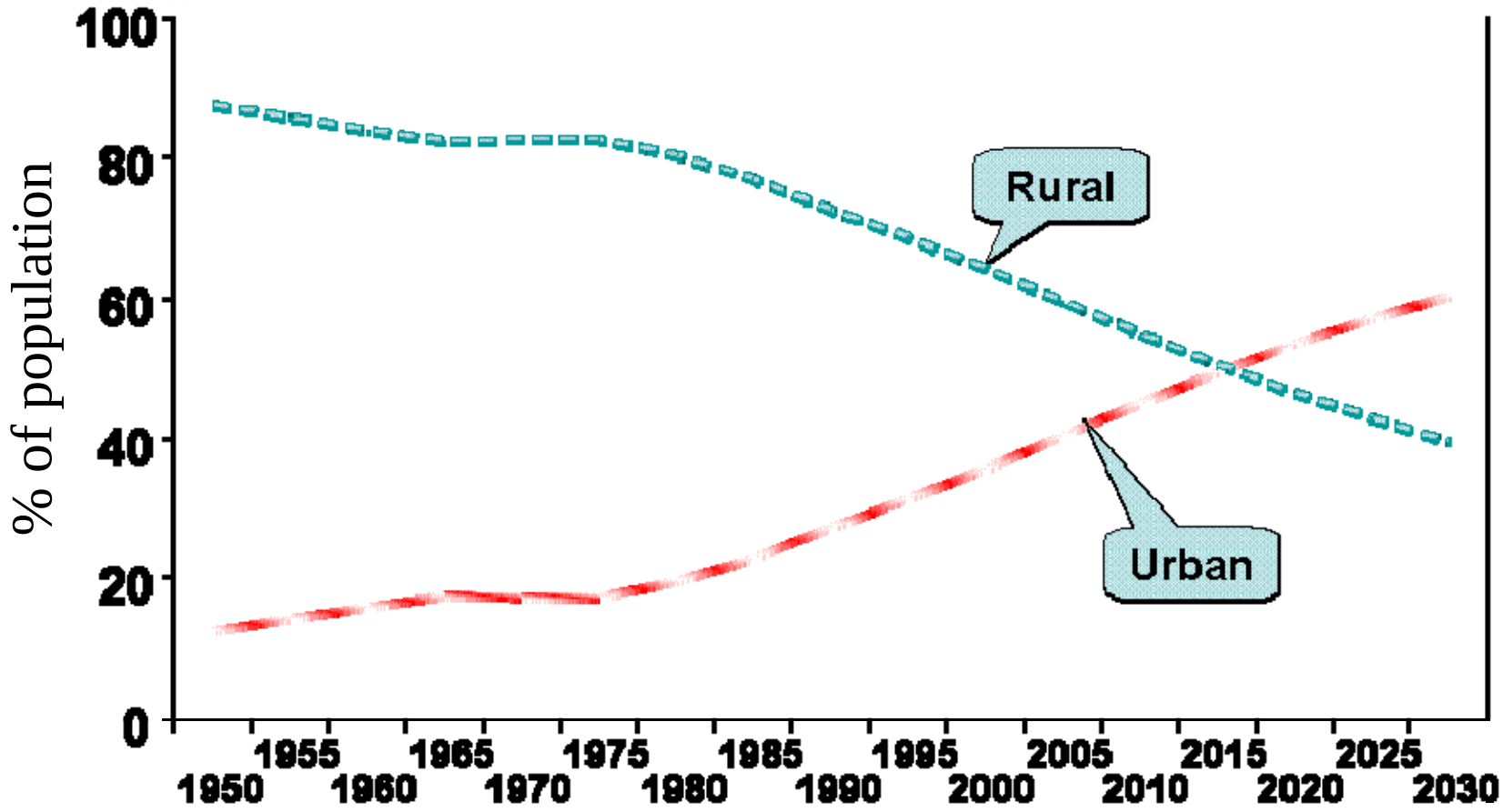
Key Trends

Rapid Economic Growth



Source: National Bureau of Statistics of China (NBSC)

Increased Urbanization
Loss of Arable Land

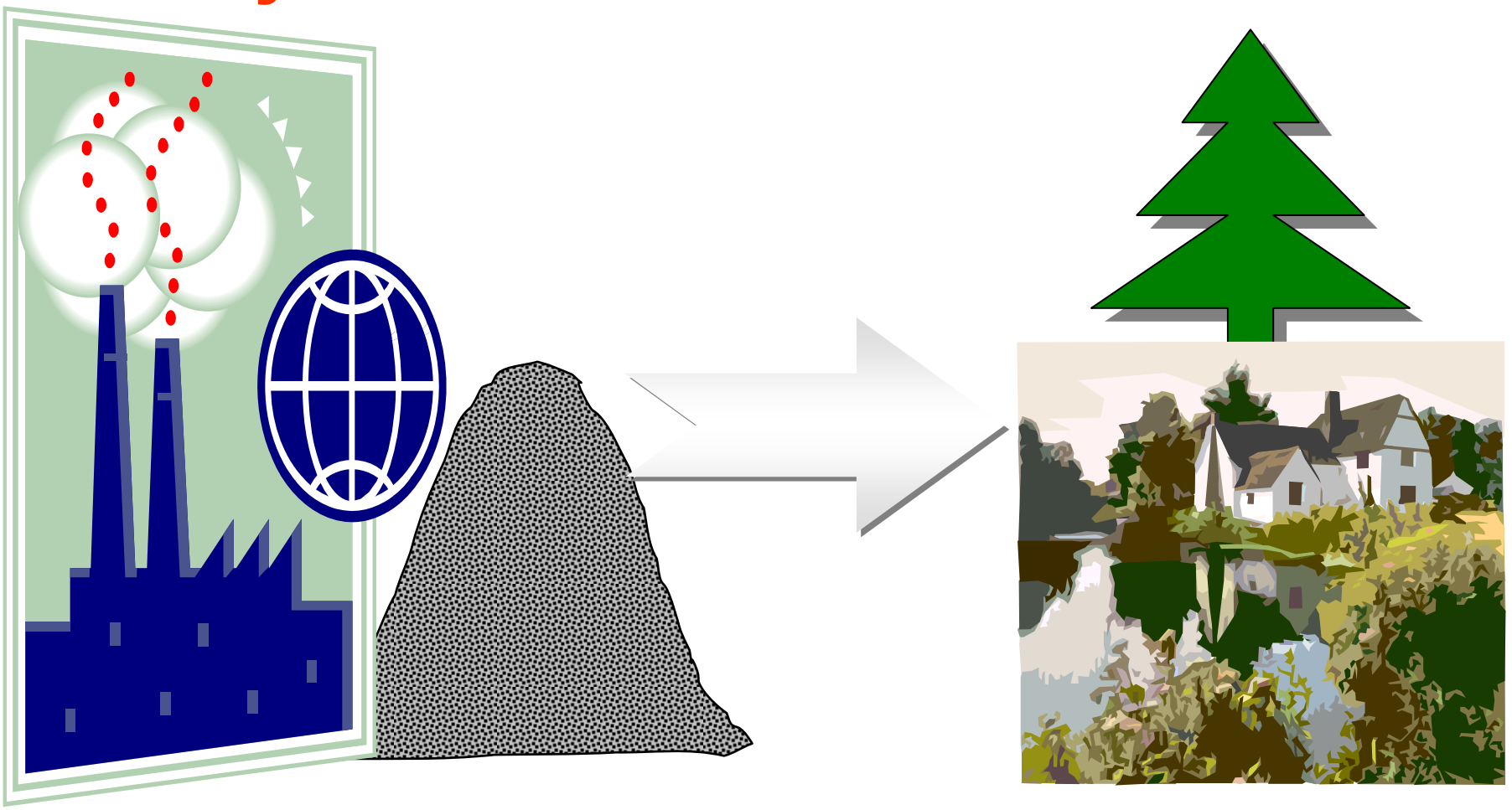


Source: NBSC

Improved Balance Between Economic Growth and Quality of Life

Today

Tomorrow



Still a Planned Economy
11th 5-Year Plan

Secure supply for farmers. Set up rules and regulations to keep fertilizer industry value chain stable and reliable - an orderly market

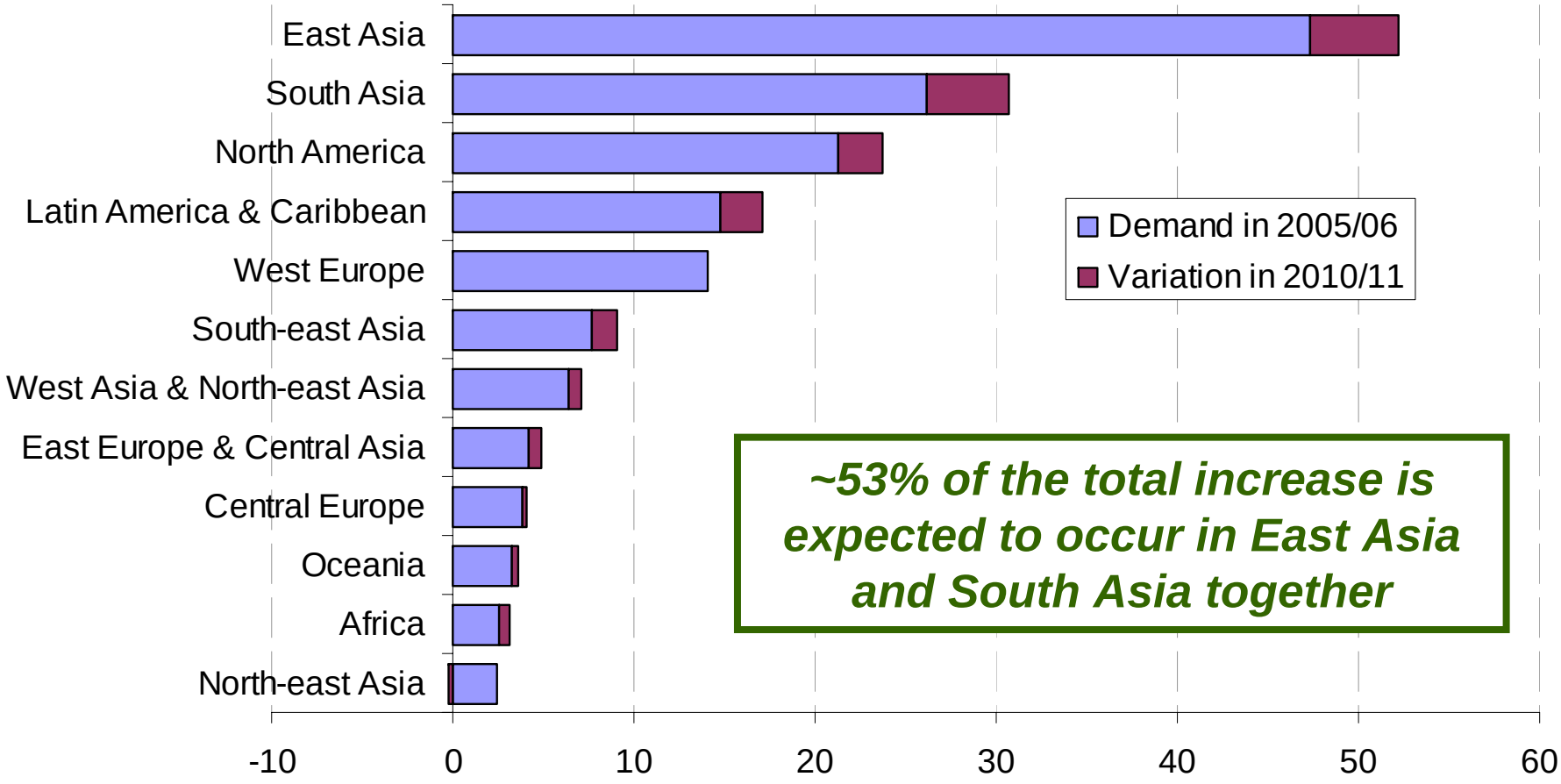
Promote industry centralization and competitiveness. Encourage private & foreign investors as well as international cooperation for China's fertilizer industrial structure and consolidation

Open fertilizers market. Encourage services for agriculture and farmers and pay subsidies directly to farmers

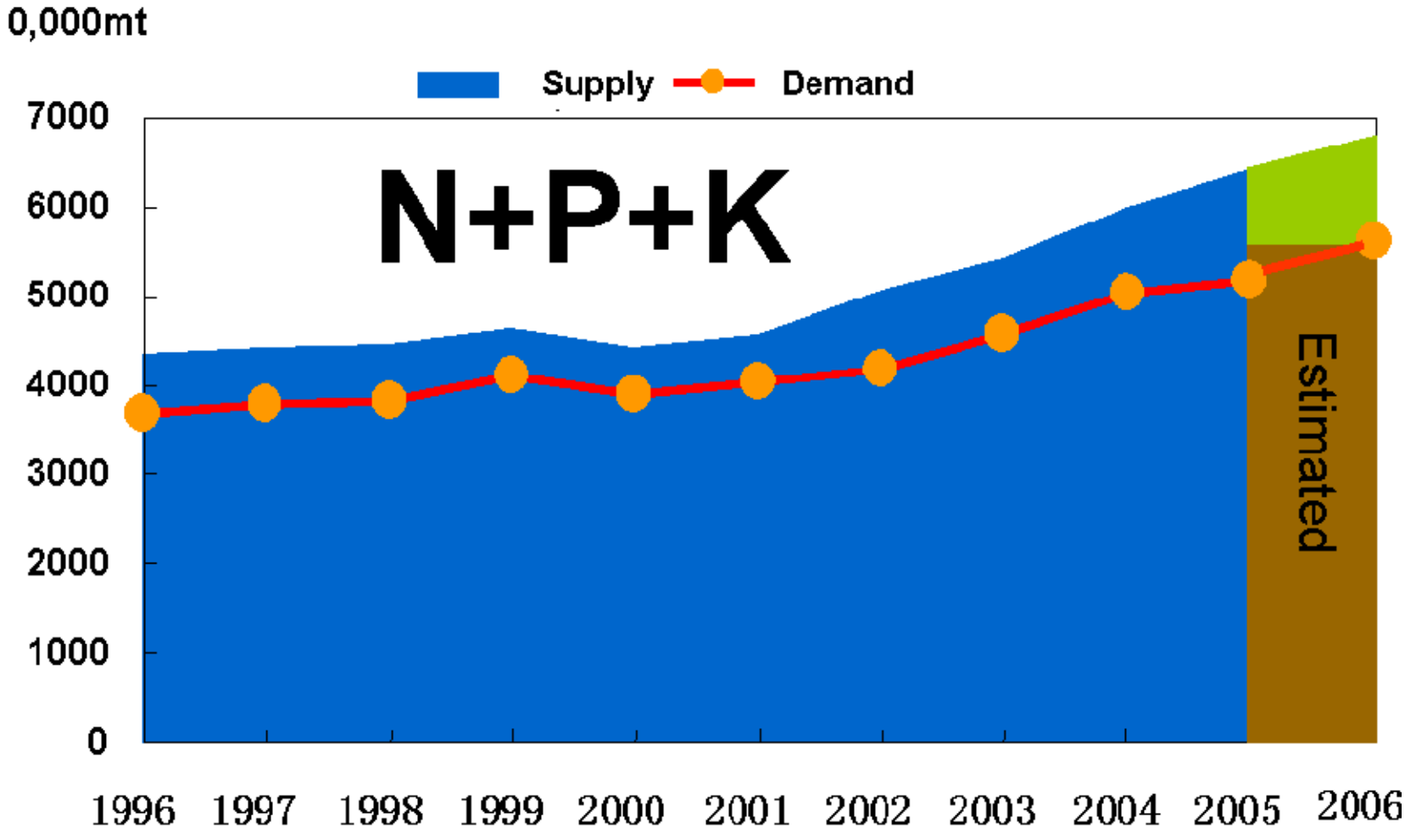
Control market access and fertilizer projects. Projects under US$100million should be approved by provincial DRC. Projects over US$100million must get the approval from SDRC; Ammonia projects must be above 200,000 tons annual capacity; Phosphoric acid projects must be above 100,000 tons P_2O_5 per annum

Improve standards of environmental protection, energy conservation, production technology and environmental quality

World's Largest & Fastest Growing Fertilizer Market

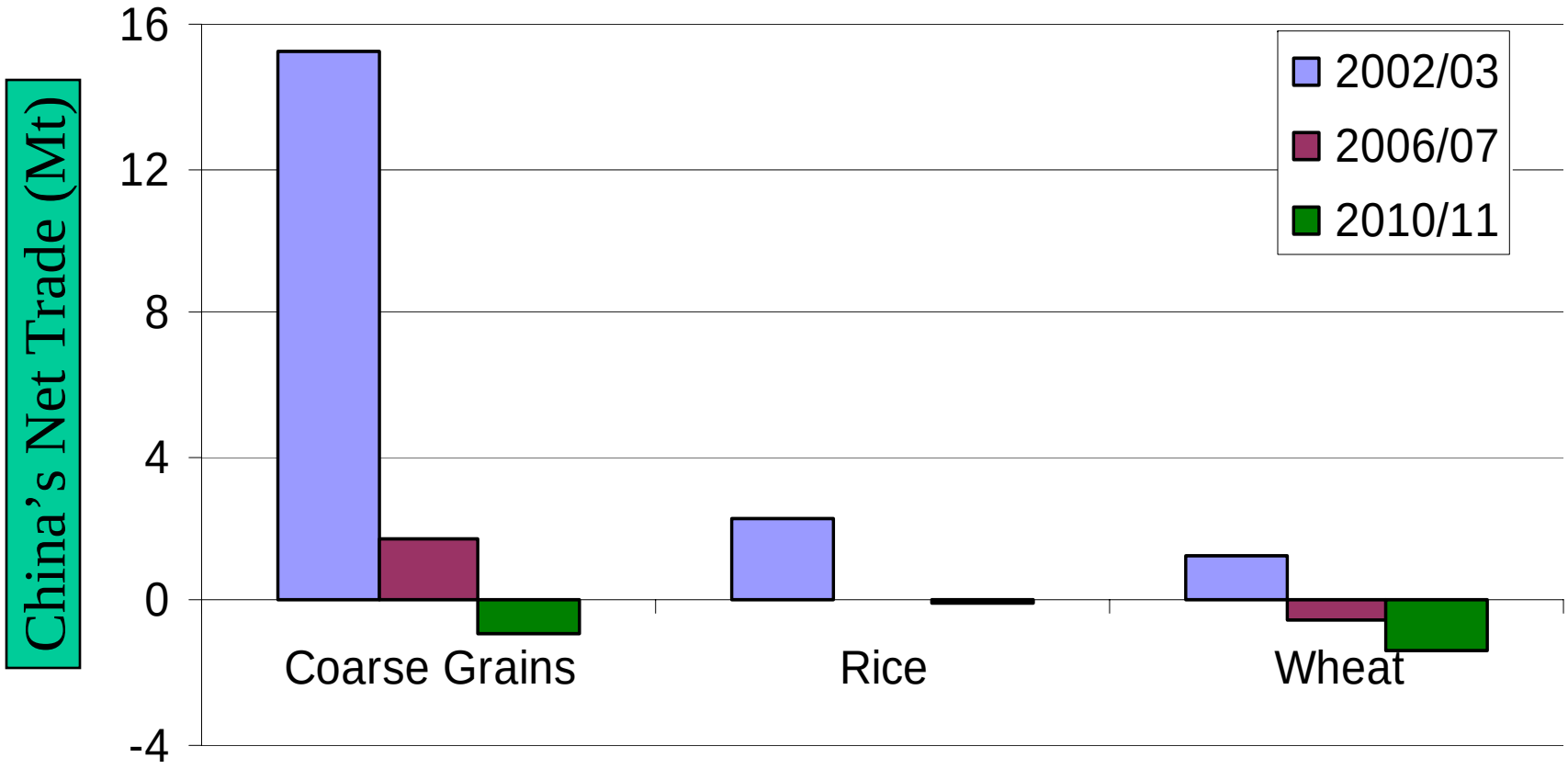


Supply Exceeding Demand



Source: NBSC, SPUR

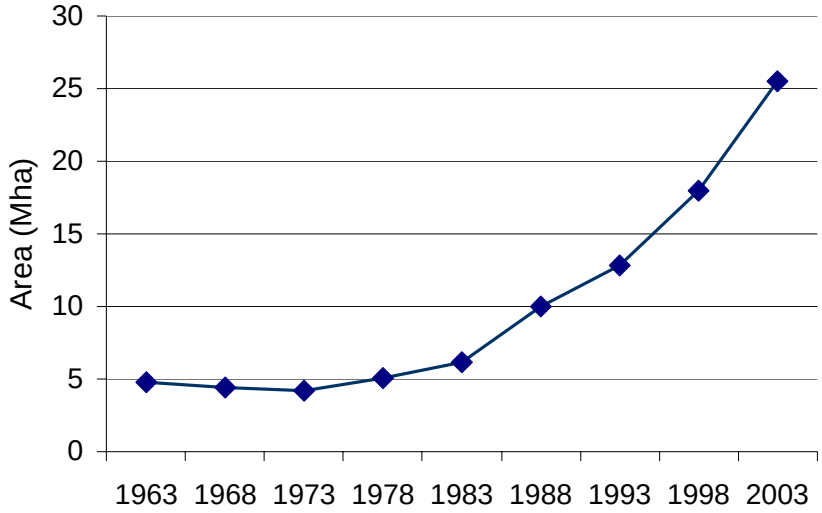
Expected to Become Regular Net Cereal Importer…



Source: USDA

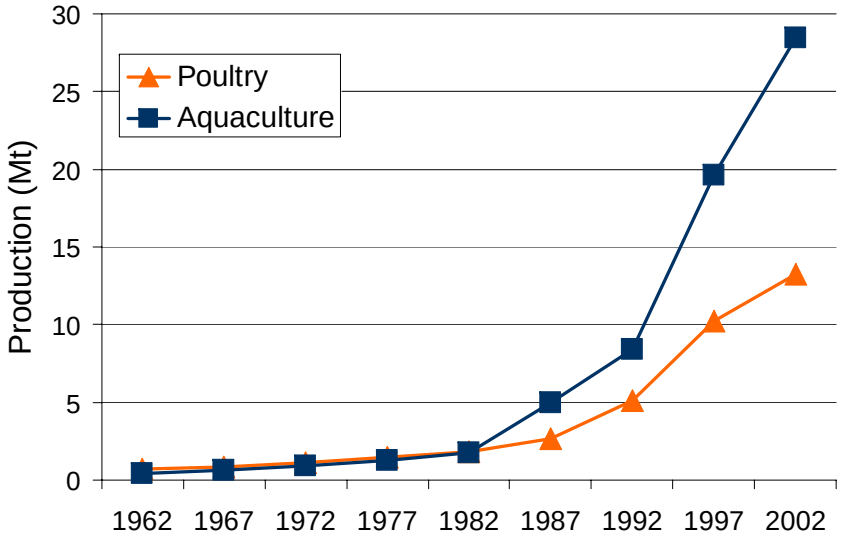
…As Agriculture Continues to Diversify

Vegetable and Fruit Harvested Area in China



Source: USDA

Aquaculture and Poultry Production in China



Source: USDA

China's Orderly Market
The Right Balance?

National Development and Reform Commission (NDRC)

- Responsible for planning the entire Chinese economy
  - What would Adam Smith say?
  - China sees a strong role for all levels of government in planning the economy

- With 500M farmers and a rural population of 800M in a country of diverse ecology and agriculture is this role possible or even desirable?

China's Orderly Market
The Right Balance?

Observations of a Guest in China

- China seeks order through direct control rather than order through the ultimate balance of market forces

- China does not like short term volatility and "tweaks" long-term economic strategies
  - Housing market in Beijing & Shanghai
  - Value of the RMB
  - Export tax on urea

- Political stability is a key driving force in China as it liberalizes its economy
  - Wants to avoid FSU experience
  - Concern about the rising gap between rural and urban average income
    - Growth of cash crops, meat and fish production vs. cereals
    - Shift from taxing to subsidizing agriculture
    - Need to keep jobs in rural areas (e.g. ABC and SSP plants)

China's Orderly Market
The Right Balance?

China Will Progress Conservatively and Wisely

- China will first study other countries
- Preference will be socialist countries where the role of government is stronger than in the USA
  - Canada, EU
  - eg.1 Drafting of mining laws
  - eg.2 Drafting of M&A regulations for foreign investors
- Decide what fits best for China

Proactive Steps by the Central Government

- Forced consolidation of the industry by shutting down smaller players who are environment and safety violators
  - e.g. coal industry
- Forced integration of mining companies and fertilizer producers
- Restrict export of P rock
- Strict control of investment to shape the industry
- State-owned enterprises (SOE's) favoured over private Chinese companies, with foreigners a distant third
  - but improved administration and regulation of SOE's (e.g. to pay taxes & dividends)

Proactive Steps by the Central Government cont'd

- Consolidate SOE's
  - CNOOC and CNCCC to strengthen fertilizer focus

- Encourage spin offs of SOE's and listing as public companies
  - e.g. Sinochem/Sinofert
  - e.g. CNOOC/China Blue Chemical

- Encourage minority investment by foreigners
  - e.g. PCS in Sinofert
  - e.g. Yara in China Blue Chemical

Proactive Steps by the Central Government cont'd

- Chinese fertilizer internationals will invest abroad
  - e.g. CNOOC's attempt to purchase Unocal
  - e.g. CNPC investment in Alberta oilsands
  - e.g. Lenovo buying IBM

- Central control over rogue provinces and cities for uniform strategies and policies
  - eg. Shanghai Party Secretary Chen Liangyu in jail

Fertilizers in China

Overview

Main Characteristics of China's Fertilizer Consumption

- Strong and steady growth of consumption
- Still a supply-driven market
- Low nutrient use efficiency
  - Little or no soil testing
    - Unbalanced N:K ratio
    - Recent launch of a national soil testing programme
  - Low and still declining nitrogen use efficiency
  - Low-analysis fertilizers still common
    - FMP (19-20%)
    - SSP (16-20%)
    - ABC (15-17%)
- Little bulk blending, but a lot of complex fertilizers
  - NPK's a developing trend
  - A step in the right direction

Main Characteristics of China's Fertilizer Supply

- Mining
  - Still limited, but increasing environmental pressures
  - Mining mostly high-grade ores
  - Non-sustainable practices

- Fertilizer Production
  - Little natural gas
  - Still large number of small ABC, SSP and FMP plants
  - 60% of ammonia is produced using coal as feedstock

- Trade
  - Imports of P and K: a necessity

China's Production of Fertilizer Materials on a Global Scale

M mt nutrient 2005 data

Nutrient	Global	China	% of Global
N	90	29.2	32
P_2O_5	37	11.5	31
K_2O	27	1.5	5
Total	154	42.2	27

Source: IFA, 2006; 10th Ferti China Guiyang Symposium 2005

Chinese Consumption of Fertilizers on a Global Scale

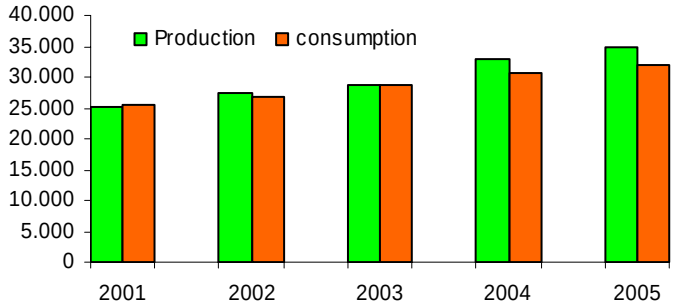
M mt of nutrient, 2005 data

Nutrient	Global	China	% of Global
N	91	27.8	31
P_2O_5	37	11.1	30
K_2O	26	5.6	21
Total	154	44.5	29

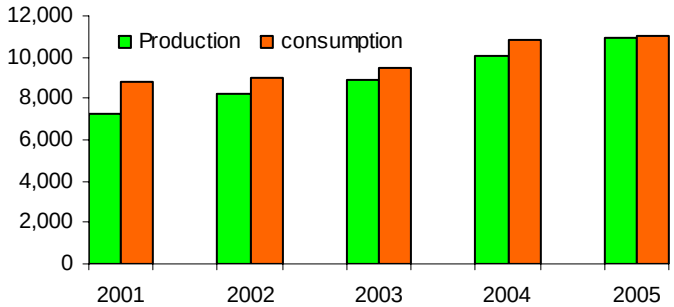
Source: IFA, 2006; 10th Ferti China Guiyang Symposium 2005

China's growth of fertilizer production and consumption

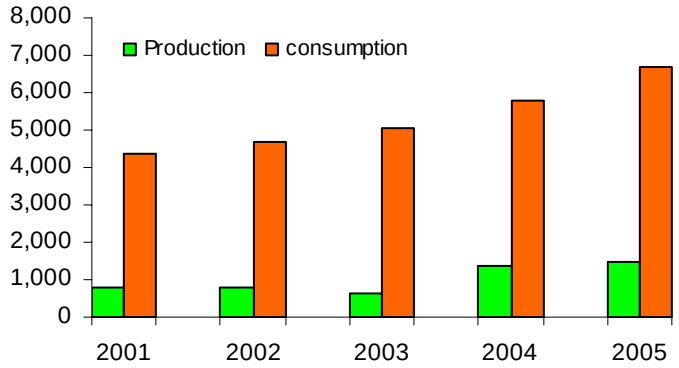
China Nitrogen Production and Consumption



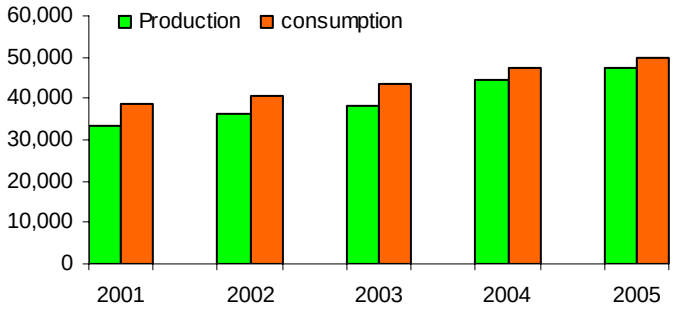
China Phosphate Production and Consumption



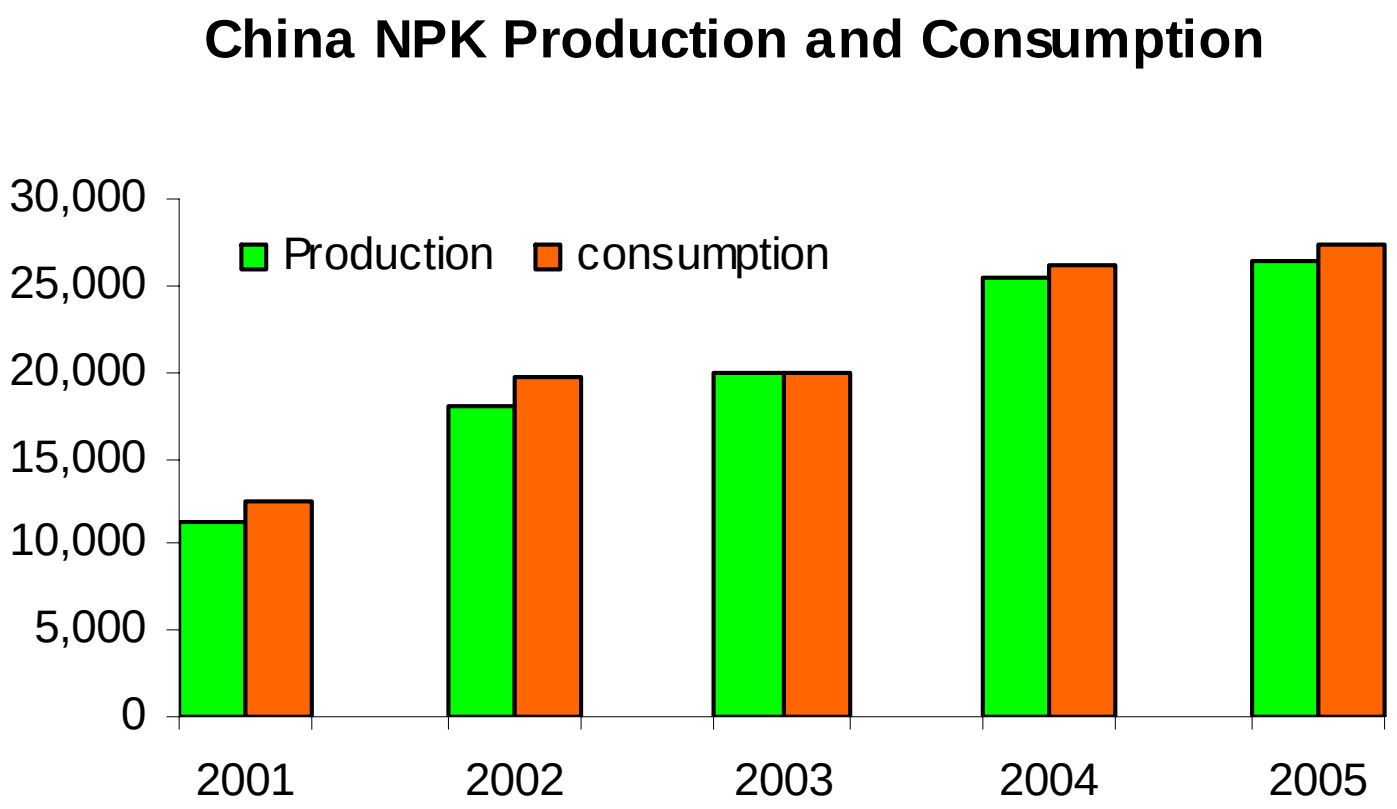
China Potash Production and Consumption



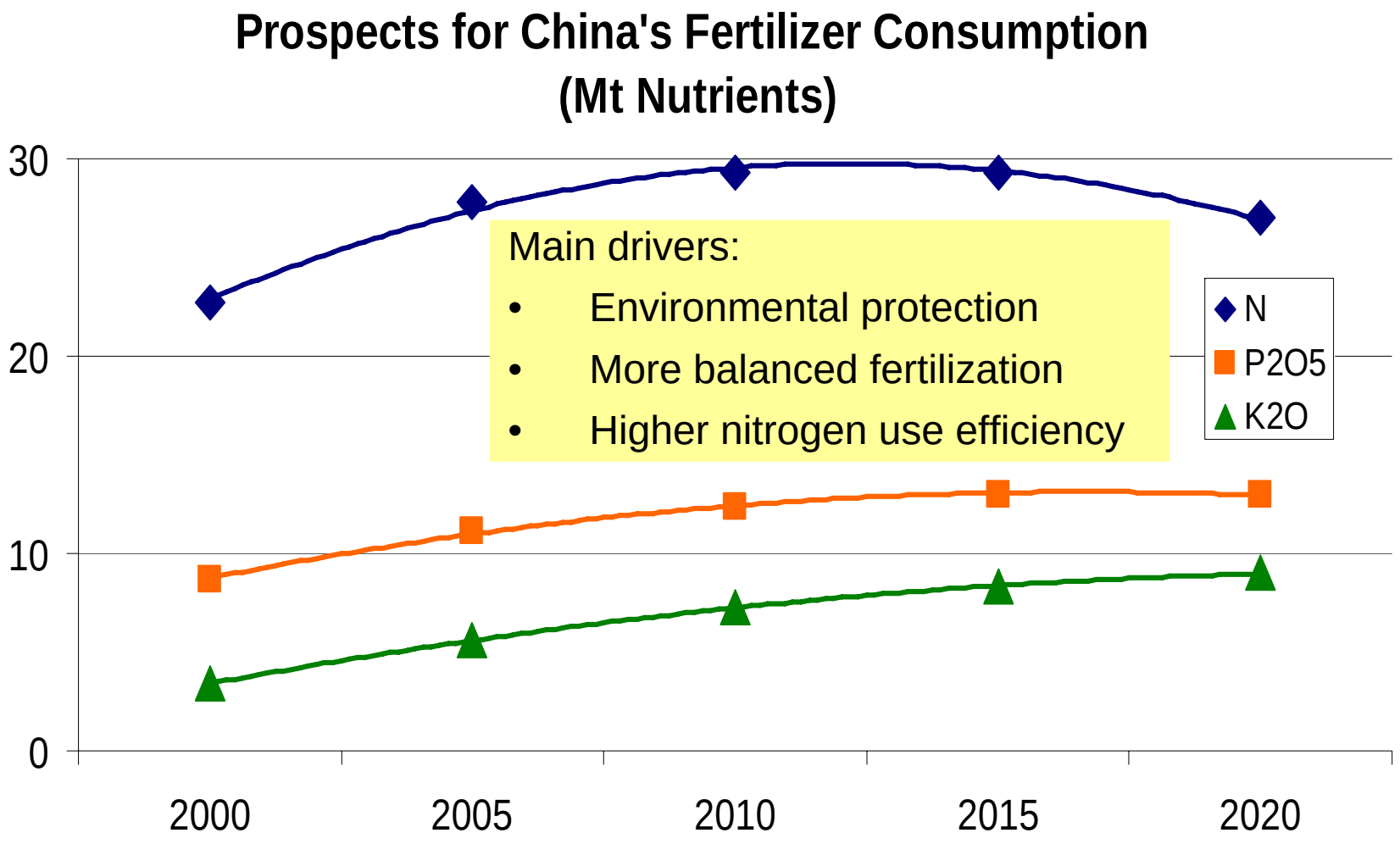
China Total Fertilizer Production and Consumption



China NPK Production and Consumption



At the Fork in the Road



Phosphate

2005/10 World Phosphate Fertilizer Demand (Mt P_2O_5/year)

2005-2005/06 Demand	
Global	36.8 (-1.5% vs. previous year)
USA	3.9
India	5.2
Brazil	2.9 (3.9 mt in 2004)
China	11.1

2010-2010/11 Demand	
Global	41.8 (+2.6% growth p.a.)
USA	4.2 (+2.2% p.a.)
India	6.5 (+4.8% p.a.)
Brazil	3.4 (+3.8% p.a.)
China	12.4 (+2.2% p.a.)

Global Phosphate Rock Reserves

Country	Reserve (million tonnes)	(%)
China	**6.600**	37%
Morocco	5.700	32%
South Africa	1.500	8%
United States	1.200	7%
Jordan	900	5%
Brazil	260	1%
Other countries	1.410	10%
World Total	**18.000**	**100%**

Source: US Geological Survey, 2006; Mineral Commodity Summaries

Phosphate Mining Countries

Country	Million tonnes rock	Million tonnes P2O5	%
China (2004)	**41.86**	**12.56**	**24**
- major mines	24.47	7.34	
- small mines	17.39	5.22	
USA	35.52	10.25	19
Morocco	28.79	9.19	17
Russia	11.29	4.30	8
Tunisia	8.20	2.38	5
Other	45.70	14.21	27
Grand Total	**171.36**	**52.89**	**100**

Source: IFA, Phosphate Rock Statistics 2006; China Chemical Planning Institute 2005

Phosphate Rock Resources in China Centered in 5 Provinces

Province	Resources (billion tonnes)	%
Guizhou	3.20	24
Yunnan	2.94	22
Hubei	2.10	16
Sichuan	1.79	14
Hunan	1.66	13
Others	1.40	11
Total Resource	13.29	100
Total Reserve	**3.90**	

Source: China Fertilizer Market Week, Jan 17 2006; China National Resources Summary 2001

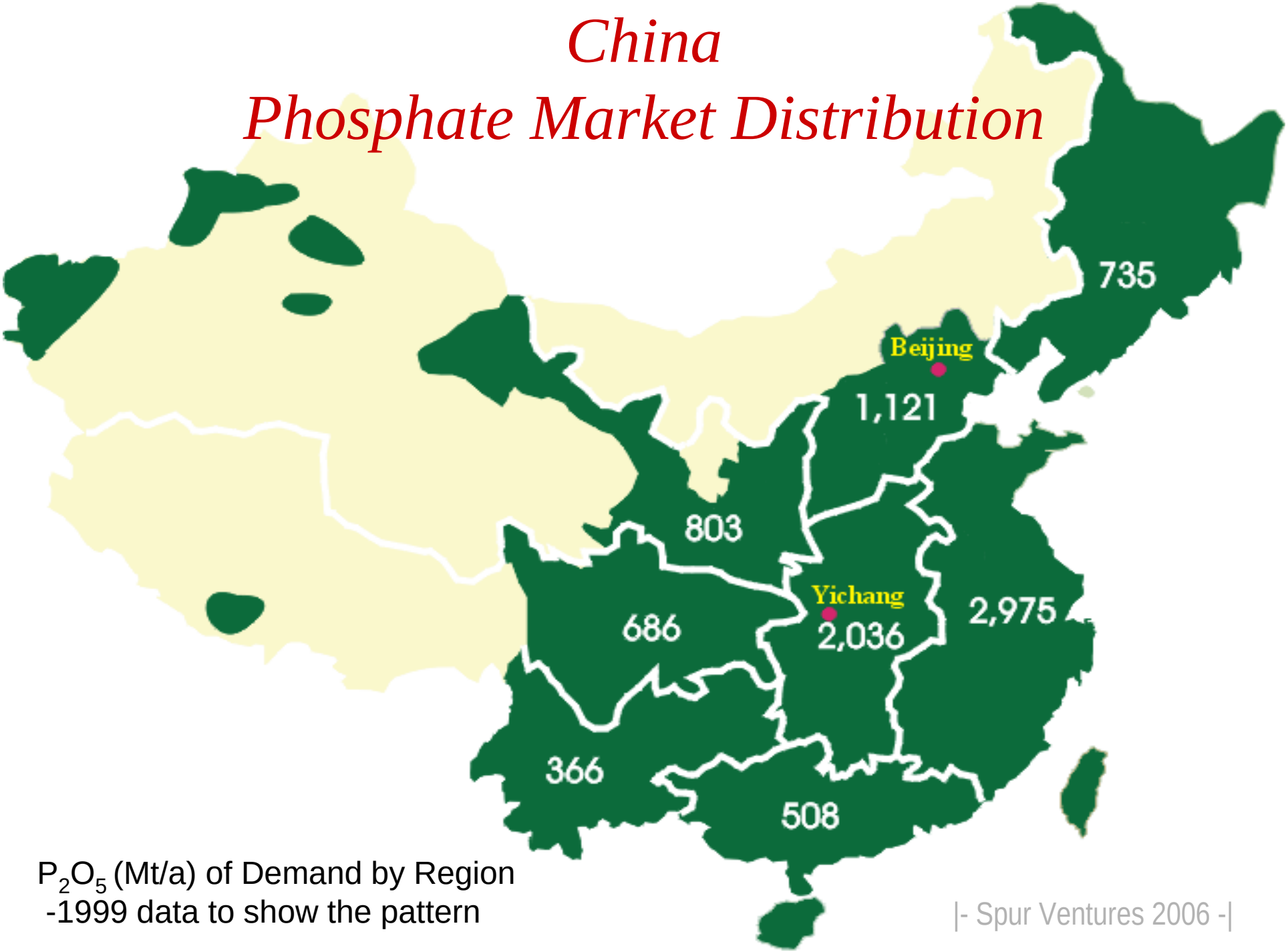
Resources are total mineralized materials in the ground.
Reserves are part of the mineralized materials which can be economically mined.

> 46% Chinese Phosphoric Acid Capacity in Non-Phosphate Provinces

Phosphoric Acid Capacity in 2005 (Kt P_2O_5)		
	Regions and Provinces	**Capacity**
In Phosphate Provinces	**Yunnan**	**1,675**
	Guizhou	**1,280**
	Hubei	**1,038**
	Sichuan	**711**
	Sub-total	**4,704**
In Non-phosphate Provinces	**Northern China**	**747**
	Eastern China	**1,491**
	South & Southwestern	**443**
	Central China	**200**
	Sub-total	**2,881**
	Grand Total	**7,585**

Sources:China Chemical Planning Institute; IFA Processed Phosphates Capacities, 2006.

China
Phosphate Market Distribution



P_2O_5 (Mt/a) of Demand by Region
-1999 data to show the pattern

Fragmented Phosphate Mining Market

USA

Mining Companies: 8

Total output 35 Mt

China

Mining Companies: 429

Total output 50 Mt

Large scale: 5 (> 1 Mt)

Medium scale: 13 (0.3-1.0 Mt)

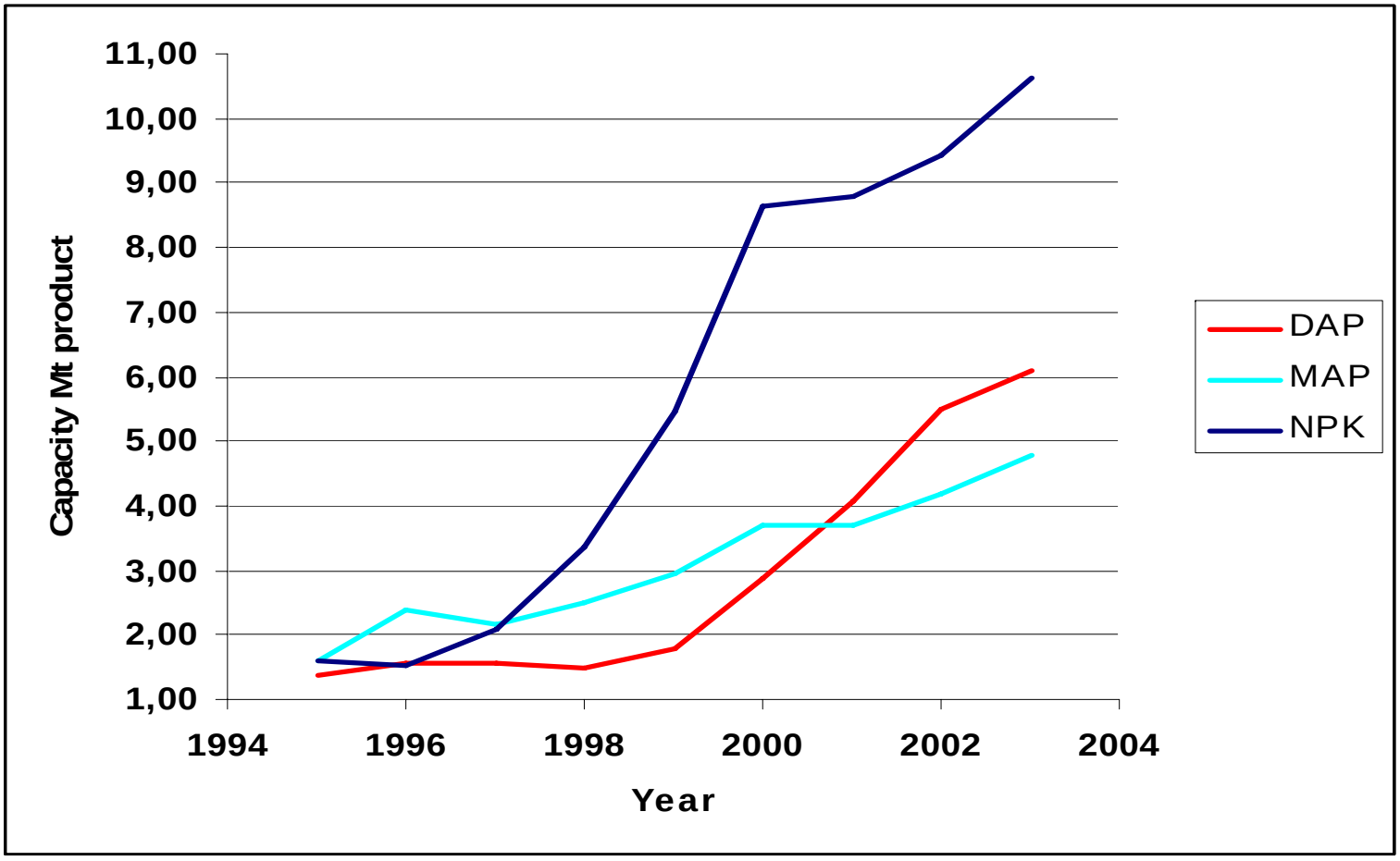
Small scale: 411 (<0.3 Mt)

Phosphate Fertilizers : Also Fragmented

USA	
Capacity	12.2 Mt
Companies	9
DAP producers	9 (>90% rate)
MAP producers	9 (>90% rate)
NPK producers	0

China	
Capacity	12.5 Mt
Companies	> 400
DAP producers	26 (67% rate)
MAP producers	56 (71% rate)
NPK producers	80 (57% rate)

Fast Growth of High-Analysis Phosphate Fertilizer Capacity



Future Trends - Phosphate

Market Trends

- China will eventually import phosphate rock in the northeastern regions
- China will also continue to import DAP in the northern regions due to logistical constraints
- Internal P fertilizer prices will be based on “import parity” model
- Phosphoric acid producers without a secured rock supply source will eventually be challenged
- Phosphoric acid, DAP and MAP producers will concentrate in phosphate-rich regions
- NPK producers: some may compete in non-phosphate area
    - If have easy access to market
    - If have easy access to N, K and S

Future Trends - Phosphate

Government Policies

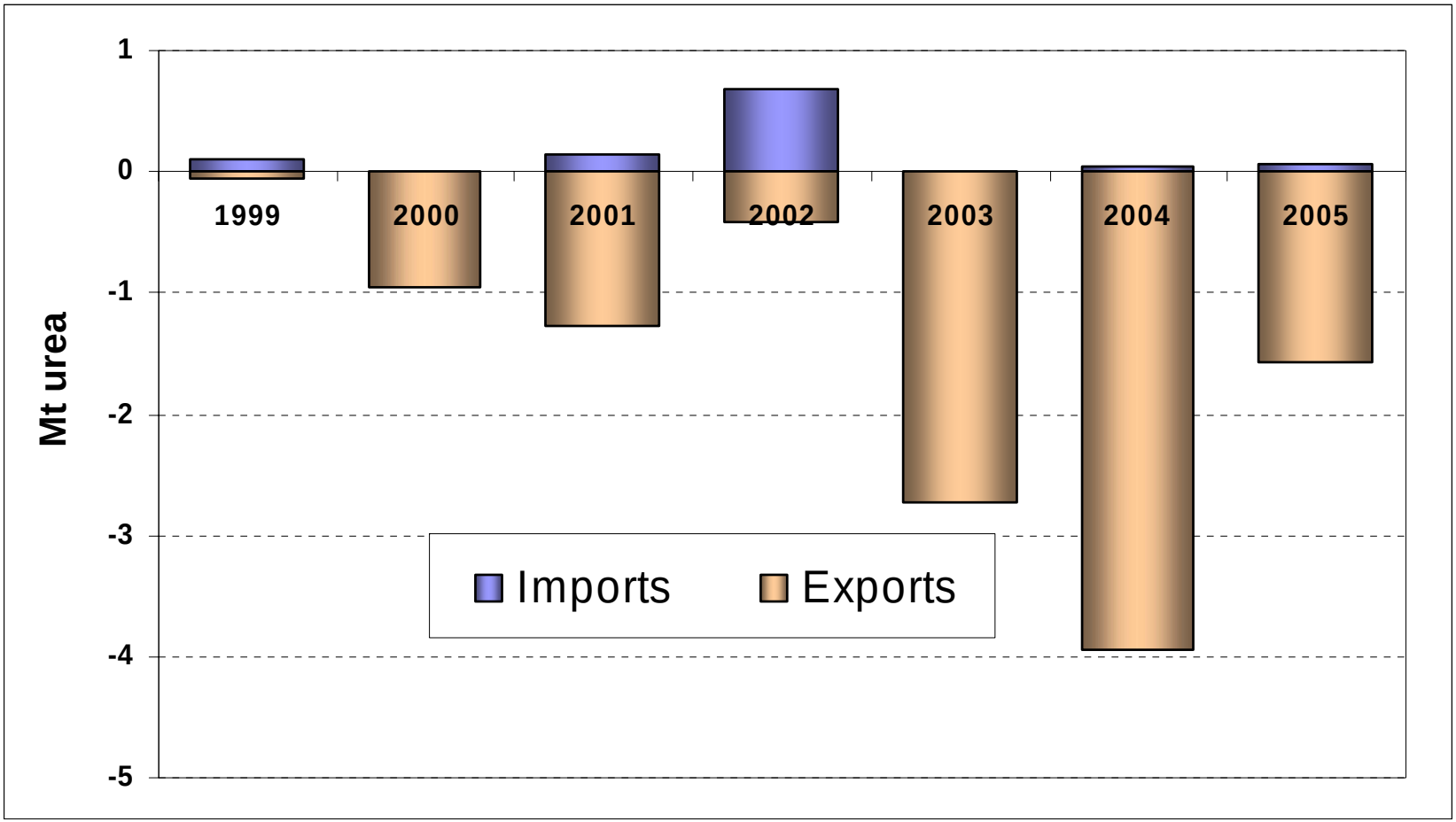
- Develop an “orderly” market based on central planning
- Phosphate rock exports are likely to be restricted
- Make the industry more competitive by having fewer, larger players through regional consolidations
    - o but SSP and FMP producers will disappear more slowly than it should because of social considerations
- Favour sustainable development and environmental quality

Nitrogen

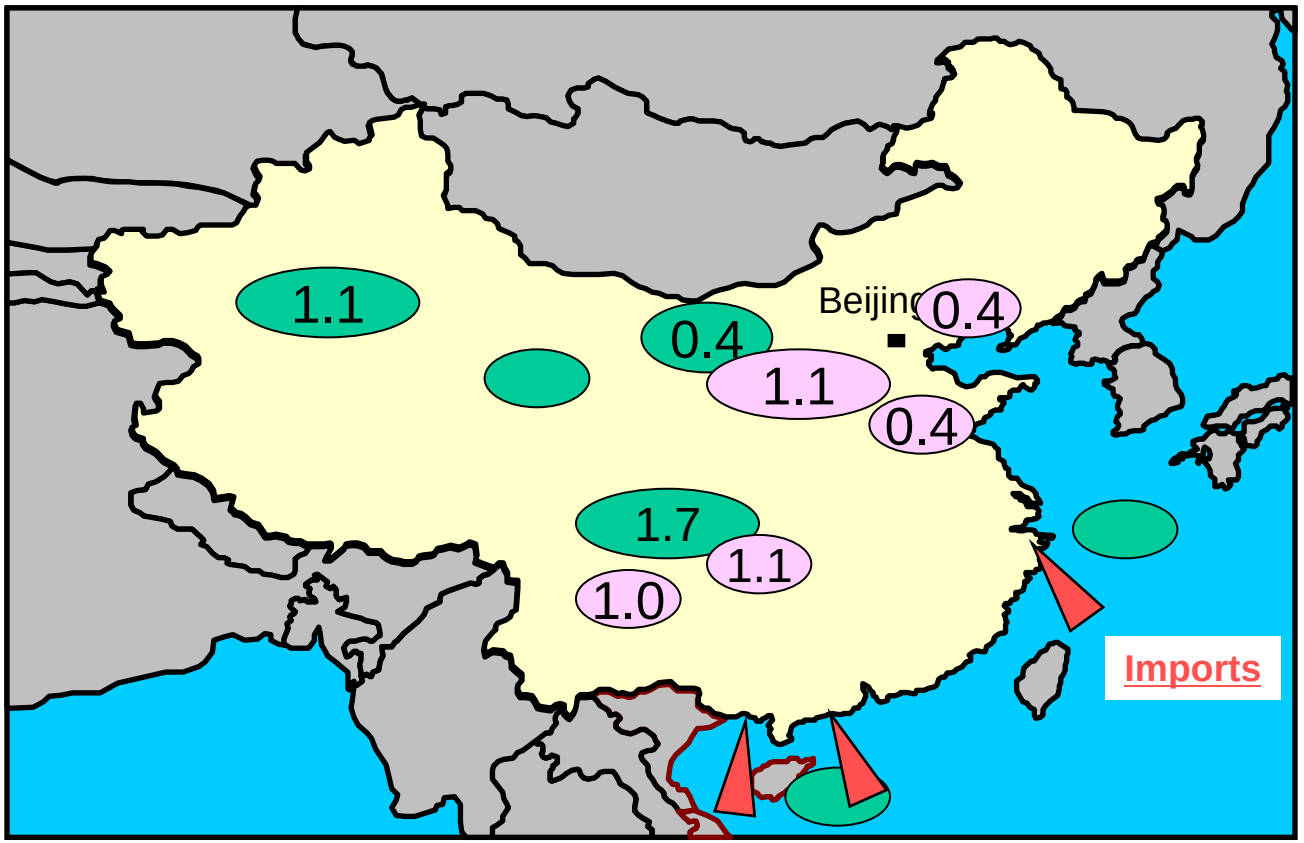
China
N Supply / Demand

Mt N	1995	2000	2005	2010
Production				
Urea	8.6	14.2	20.0	23.7
ABC	9.6	6.3	5.5	3.5
Others	1.0	1.7	5.4	8.2
Total Supply	*19.2*	*22.2*	*30.9*	*35.4*
Techn. Uses	*0.5*	*0.8*	*2.2*	*3.0*
Total Demand[(e)]	23.4	21.4	27.8	29.3
Balance	*- 4.7*	*- 0.6*	*+ 0.9*	*+ 3.1*

China
Urea Trade



China
Ammonia Capacity Developments



NH3 Feedstock of large plants:

Natural gas

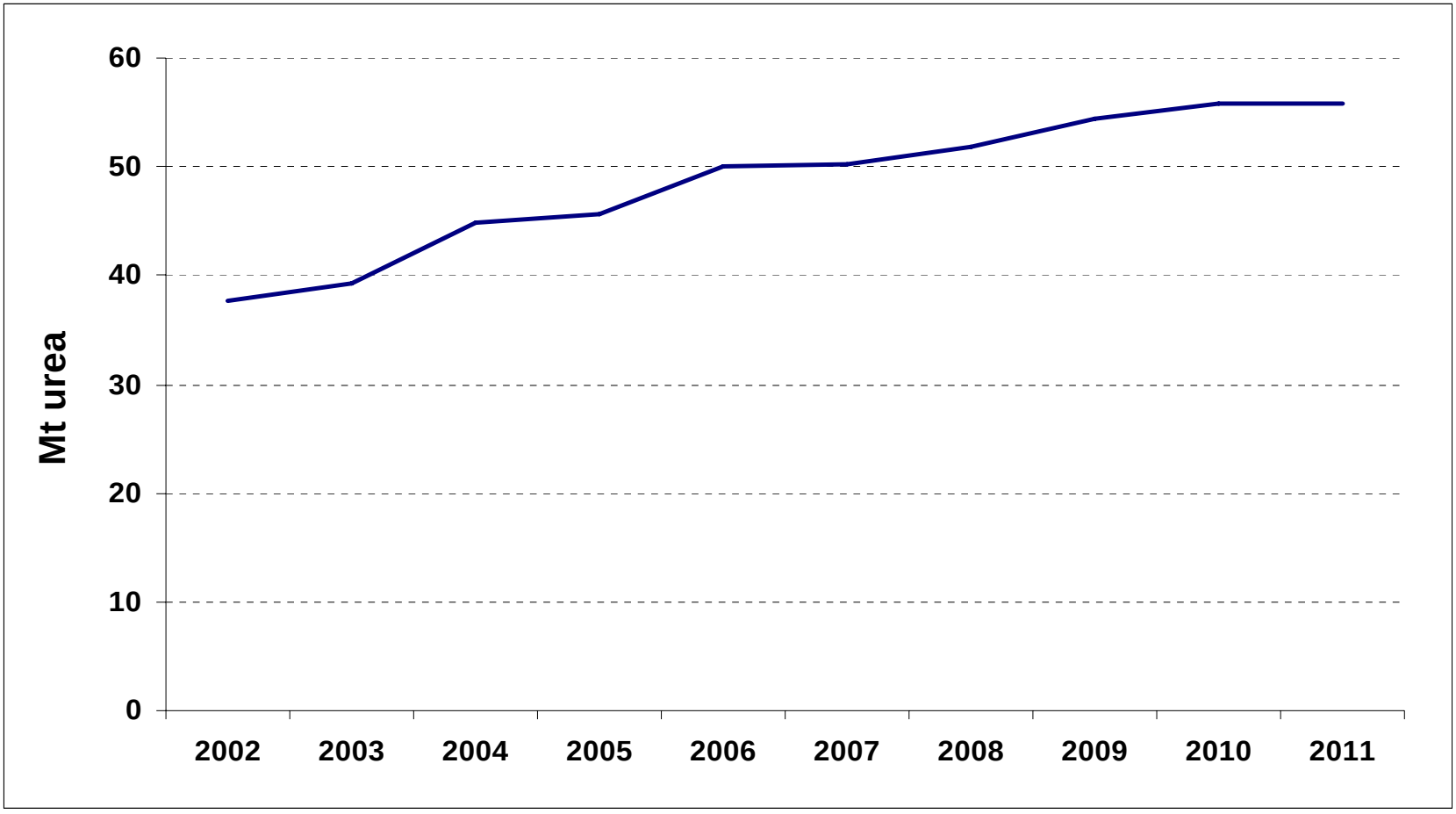
3.2 Mt of new capacity

Coal

4.0 Mt of new Capacity

Close to 9 Mt of new ammonia capacity
From 47 to 58 Mt NH3 in 2010

China
Urea Capacity Developments



Future Trends - Nitrogen

Raw Materials

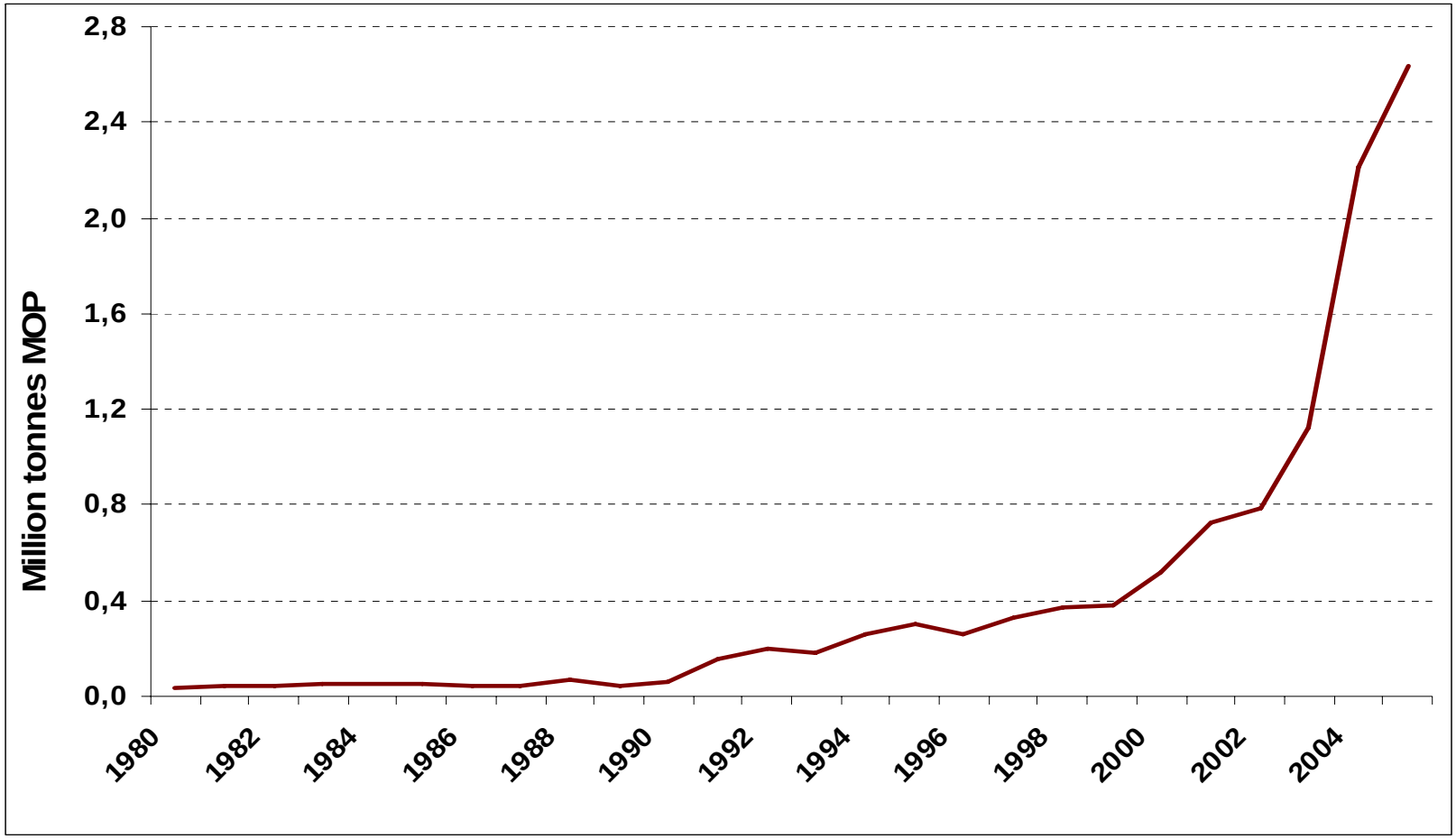
- Continued search for increased energy efficiencies
- Diversification of feedstock: natural gas, coal and coal gasification
- Decline in the use of naphtha and fuel oil

N Fertilizers

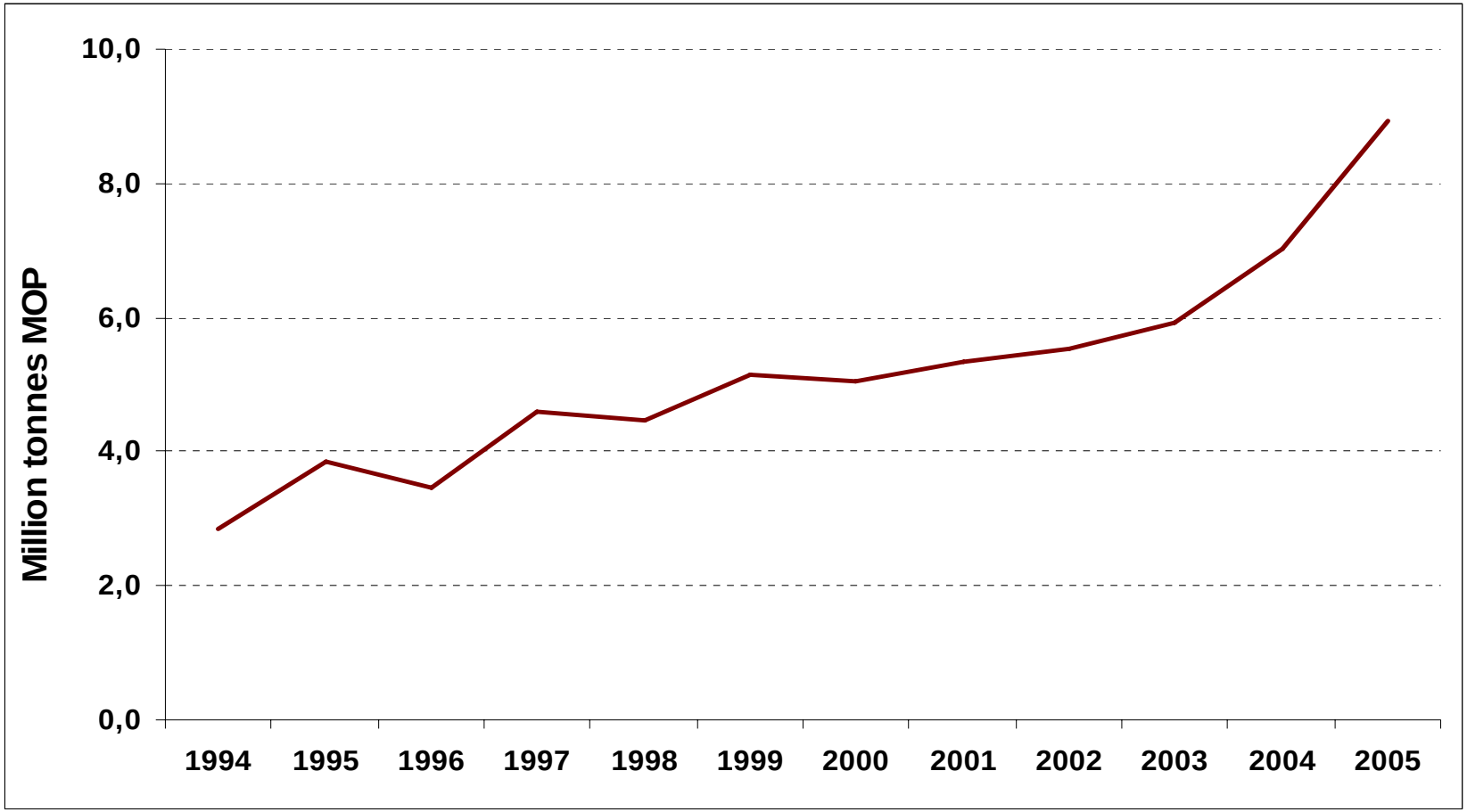
- Increased production and use of urea and NPKs
- Declining consumption of AN and ABC. Production of stabilized AN has emerged
- Fledgling introduction of bulk, blended granular fertilizers for high cash value crops (e.g. cotton, tobacco)
- Potential oversupply of urea, as new capacity expands at strong rate: exports?
- Industry's consolidation and possible restructuring, leading to the shut-down of smaller and efficient units
- Government's will to improve nitrogen use efficiency is constrained by weakness of extension
- Exploratory probes of CRF's (SCU's)

Potash

Fast Growth of Potash Production



China
Potash Imports



China
Potash Capacity Developments

	Potash Capacity	
Kt product	2005	2010
MOP	2 900	3 600
SOP	100	1 200
KMgSOP	400	3 300
K_2O eq	1 900	3 500

Future Trends - Potash

Raw Materials

- Continued exploration for potash resources, including lower grade potash ore (SOP and KMgSOP)
- Improvement of K mining technologies and K fertilizers' quality

Potash Supply

- Strong reliance on imports
- Growing K_2O production; potential of doubling the 2005 level by 2011/12
- Creation of buffer stocks in key consuming regions in China

Potash Demand

- Firm agricultural demand, driven by the increasing implementation of balanced fertilization
- Strong demand supported by a growth in the production and consumption of NPKs