



# Phosphate Industry Outlook



Andy Jung  
British Sulphur Consultants  
November 2008

LONDON | MINNEAPOLIS | RALEIGH | WASHINGTON | SINGAPORE | BEIJING

# Presentation Agenda

- World Macro and Agricultural Forecasts
- World Phosphate Outlook
  - Phosphate Fertilizers
  - Phosphate Rock
  - Phosphoric Acid
  - Price Trend

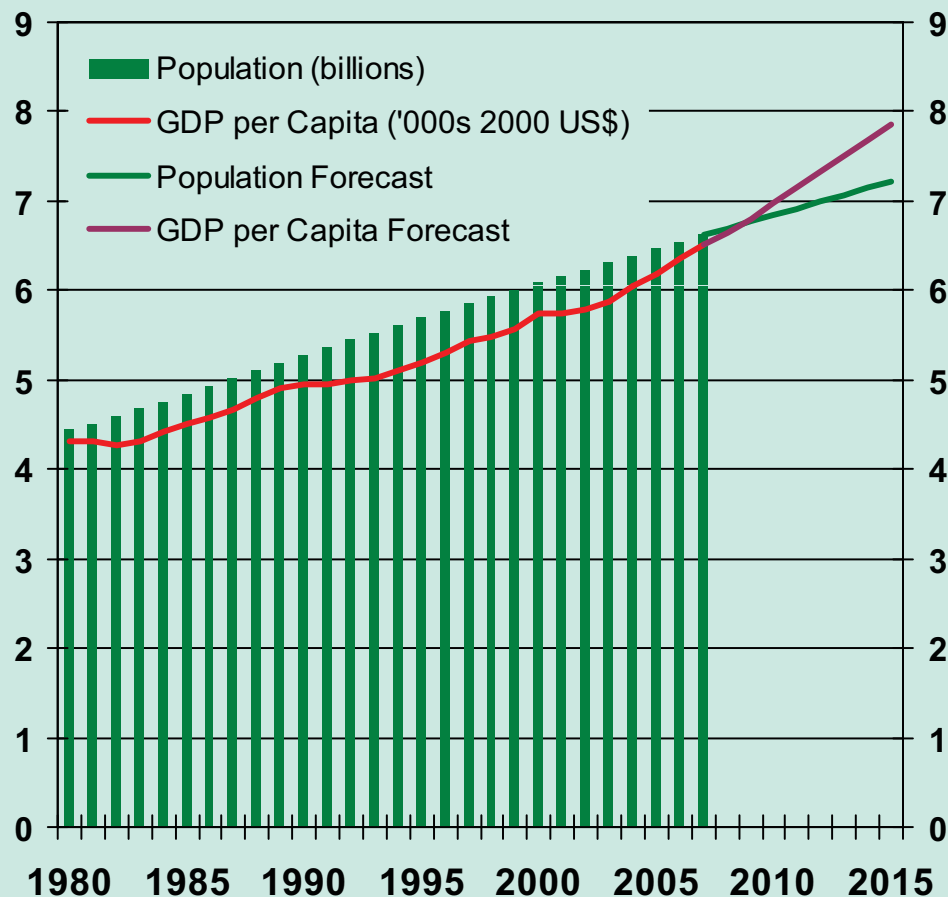


# Presentation Agenda

- World Macro and Agricultural Forecasts
- World Phosphate Outlook
  - Phosphate Fertilizers
  - Phosphate Rock
  - Phosphoric Acid
  - Price Trend



## Demand Drivers: Increased population and incomes, especially in developing economies, leads to higher food and fertilizer demand

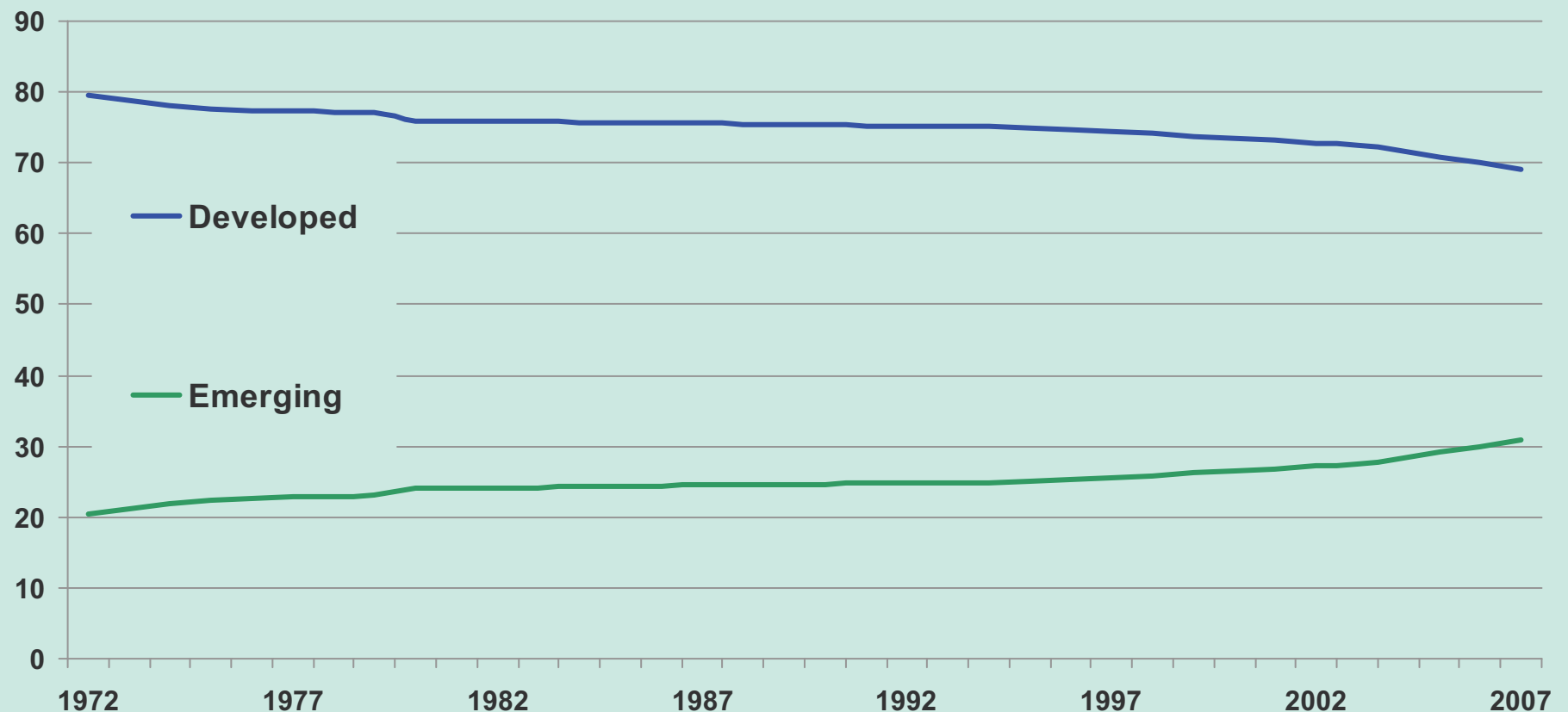


- **Population** growth rates continue very gradual slowdown, from historical levels of 1.5% to forecast levels of 1%
- **Income growth** is increasing at a faster pace than historically, particularly as large Asian populations are pushing on with rapid economic development. Global GDP/capita will grow at over 2% p.a.
- When regional and country mix is taken into account **overall underlying fertilizer growth of at least 2% p.a.**



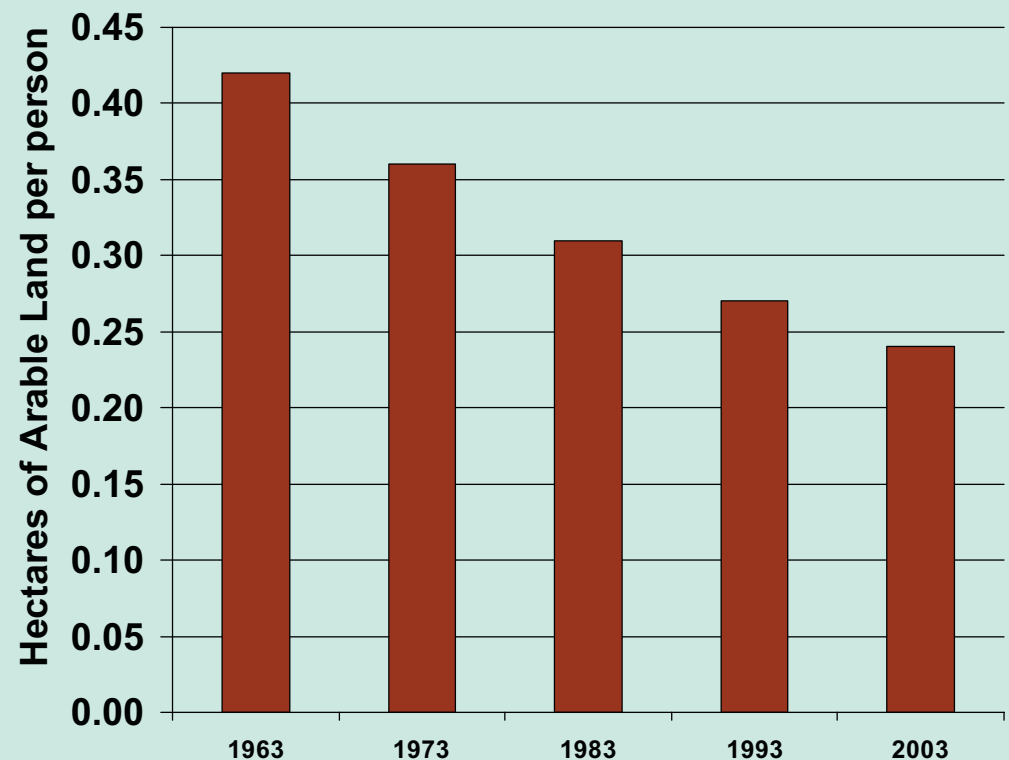
## Demand Drivers: Emerging markets importance increasing at an accelerating rate

% share of global GDP



## Demand Drivers: Arable Land per Capita continues to fall

- While Arable Land is expected to continue rising, albeit slowly, arable land per person will continue to fall
- This will necessitate increased productivity per unit of land

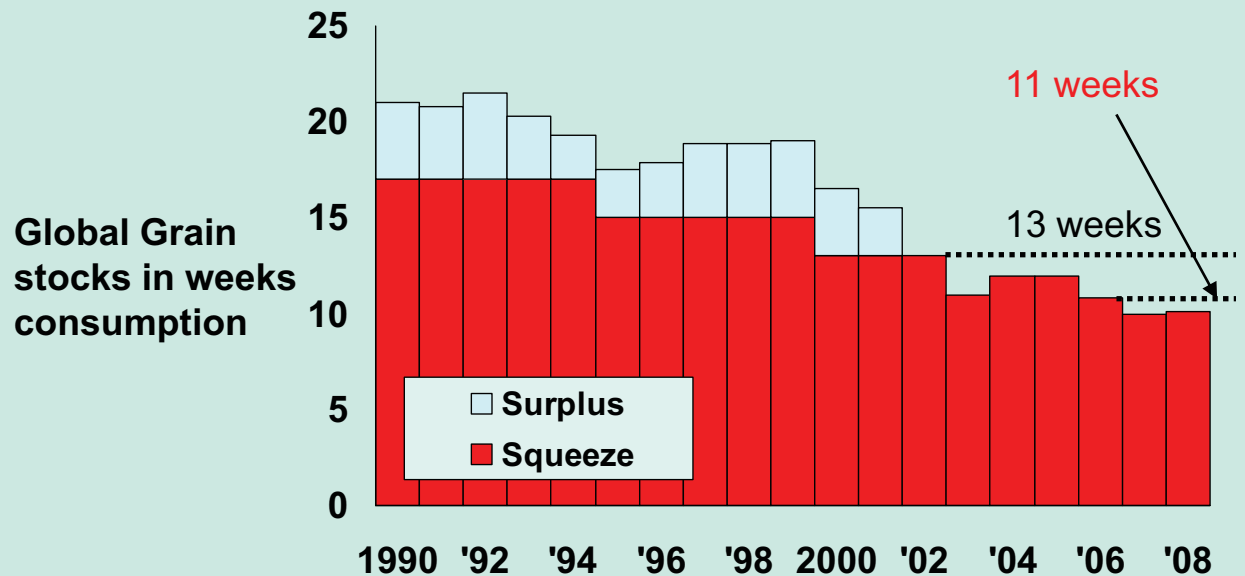


Source: FAO, UN



## Demand Drivers: Grain Stocks have fallen to historically low levels

- Global economic growth, while expected to slow considerably in the West, is forecast to rebound and remain relatively strong (particularly in developing economies), thus:
  - keeping grain stocks low
  - despite expectations for strong improvement in grain production

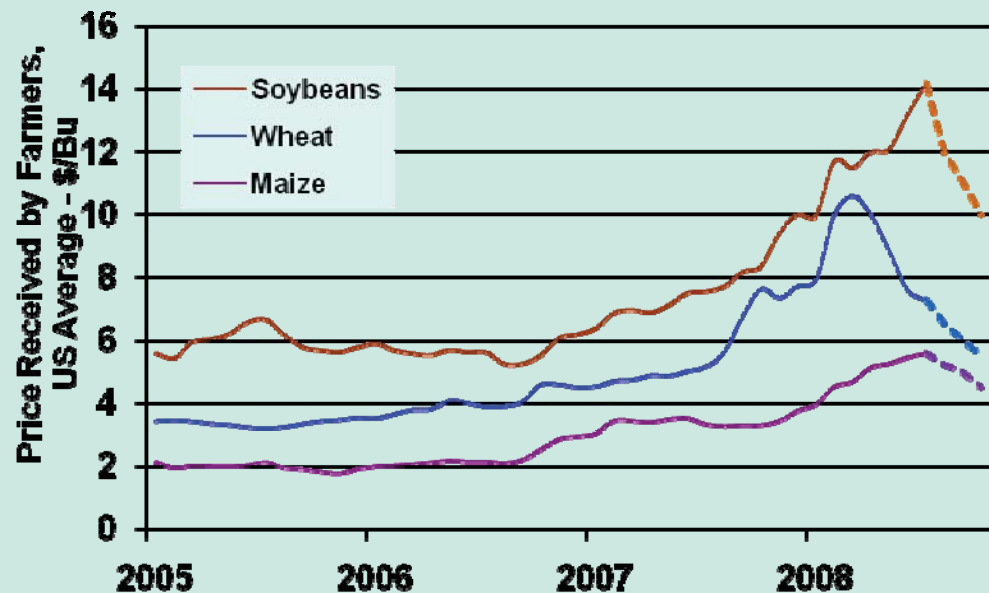


Source: FAO, USDA, British Sulphur



## Demand Drivers: Low Stocks mean high prices, at least they did until mid-2008

- Global economic growth, while expected to slow, is forecast to remain relatively strong (particularly in developing economies), thus:
  - keeping grain stocks low, and
  - keeping crop prices high
- **Uncertainty in the market, particularly as it pertains to global economic growth and thus food demand, has led to a sharp drop in prices over the past few months**

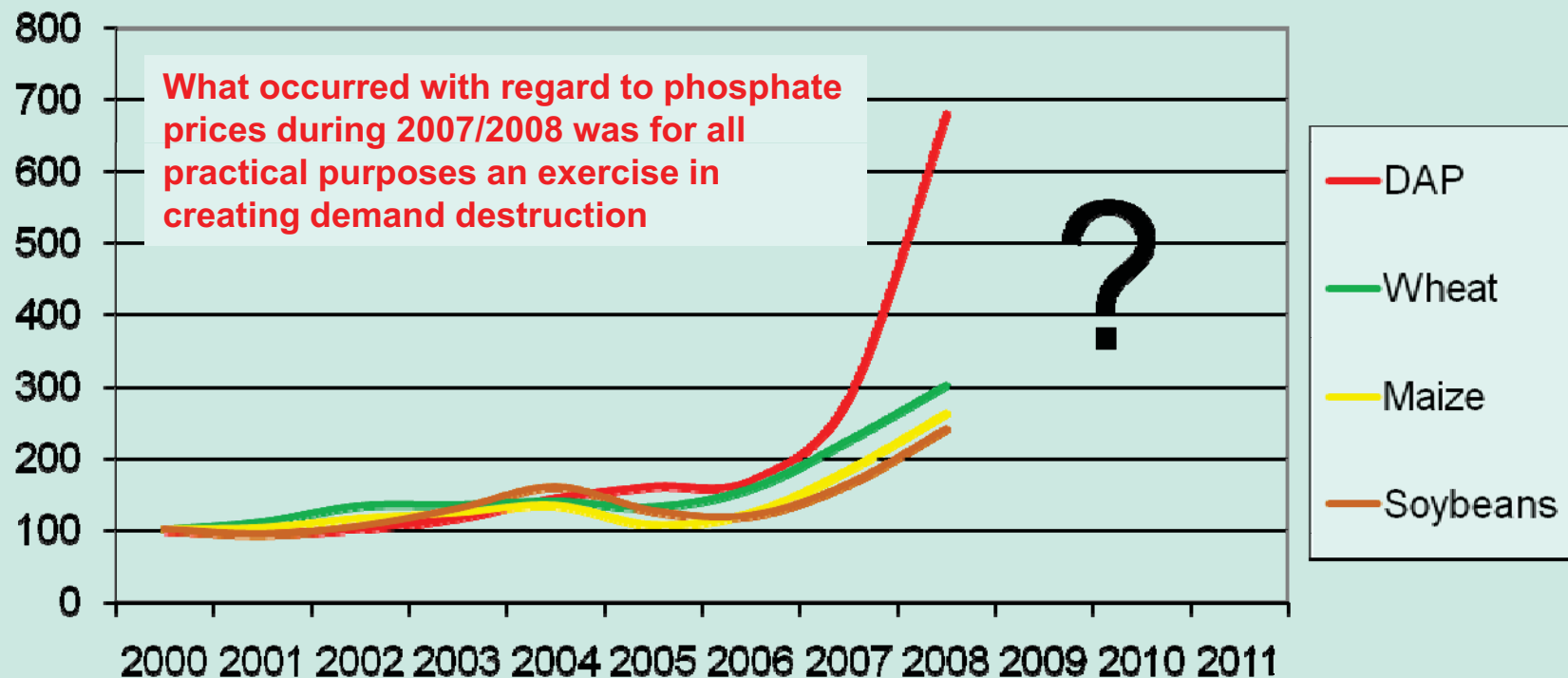


Source: USDA, BSC

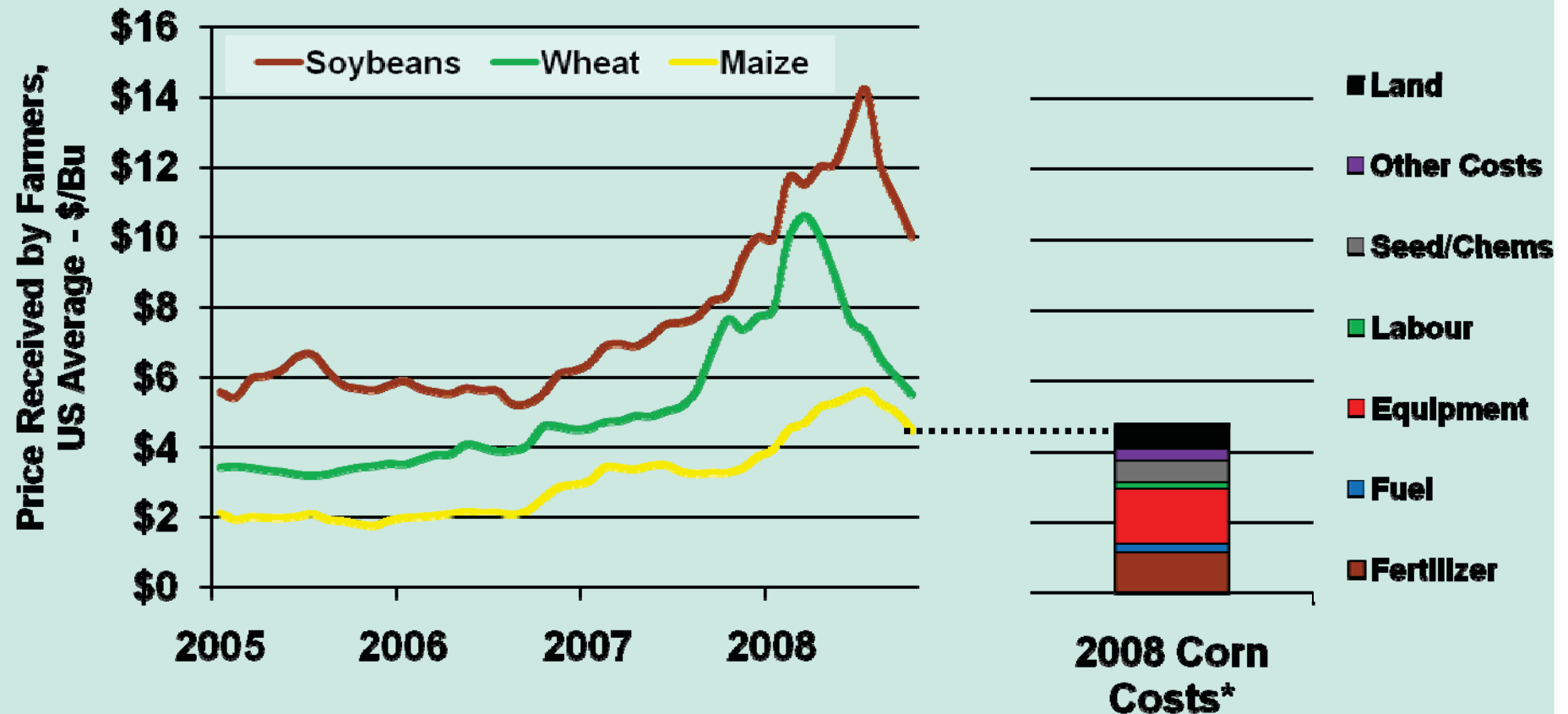


# Phosphate Fertilizer Price Increases Have Vastly Outpaced the Rise in Grain Prices

2000 = 100



## Demand Destruction: Fertilizer price increases have pushed farmer costs past break-even



Source: USDA, British Sulphur

\*at current prices/application rates/yields

\*does not include capital recovery (approx. \$0.50)

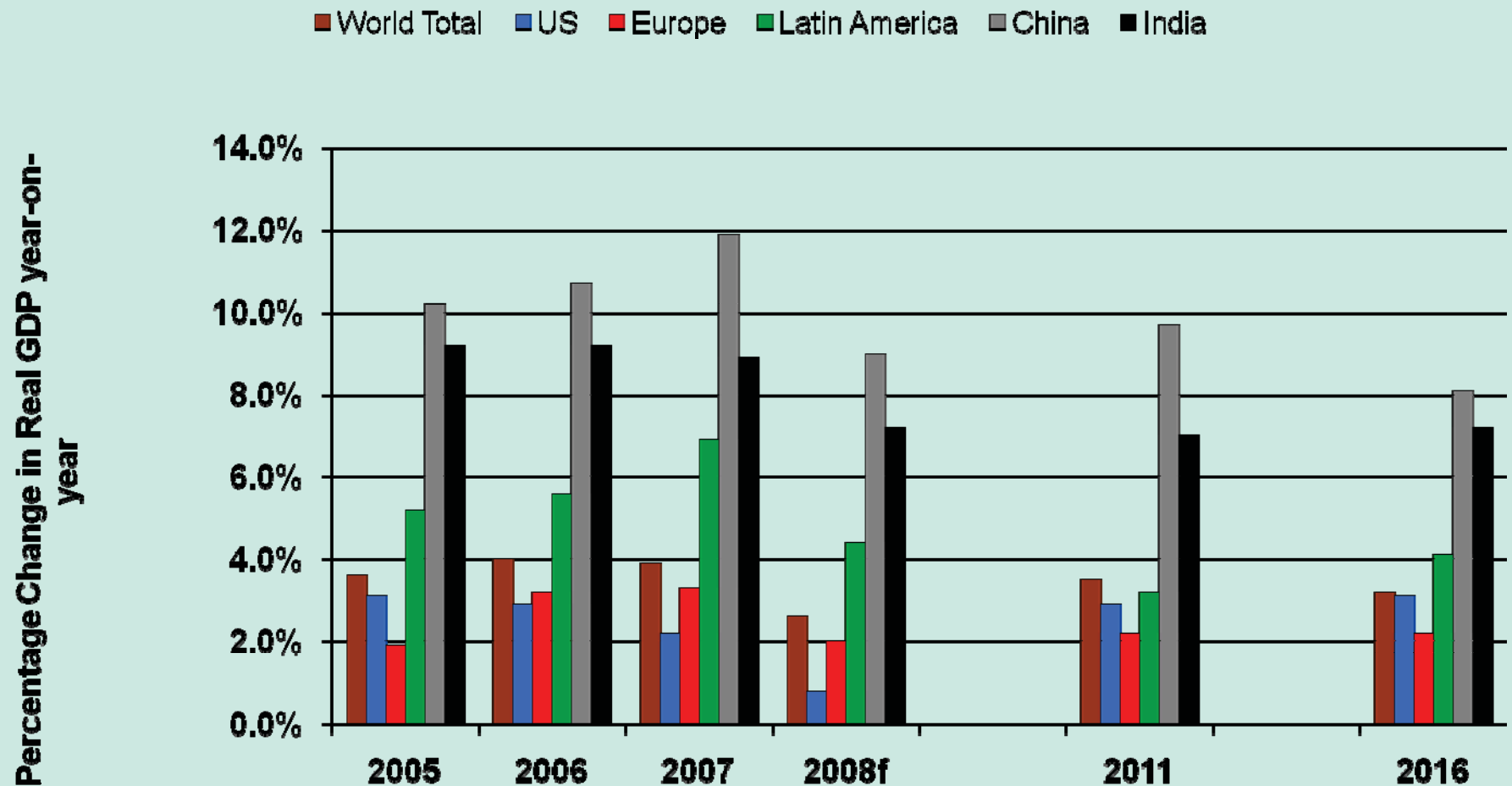


## Macroeconomic Overview:

- Impact of credit crunch takes on a whole new dynamic as confidence plummets.
- USA in recession, and will likely drag down the global economy.
- Rest of world slowing, as expected, but emergers not much (yet).
- Policy response may exacerbate inflation:
  - Rapid policy easing adding fuel to the fire
- Remedy will mean slower growth beyond post credit-crunch recovery.



## Demand Drivers: Economic Forecast



Source: CRU, Consensus forecasts, British Sulphur



# Presentation Agenda

- World Macro and Agricultural Forecasts
- World Phosphate Outlook
  - Phosphate Fertilizers
  - Phosphate Rock
  - Phosphoric Acid
  - Price Trend



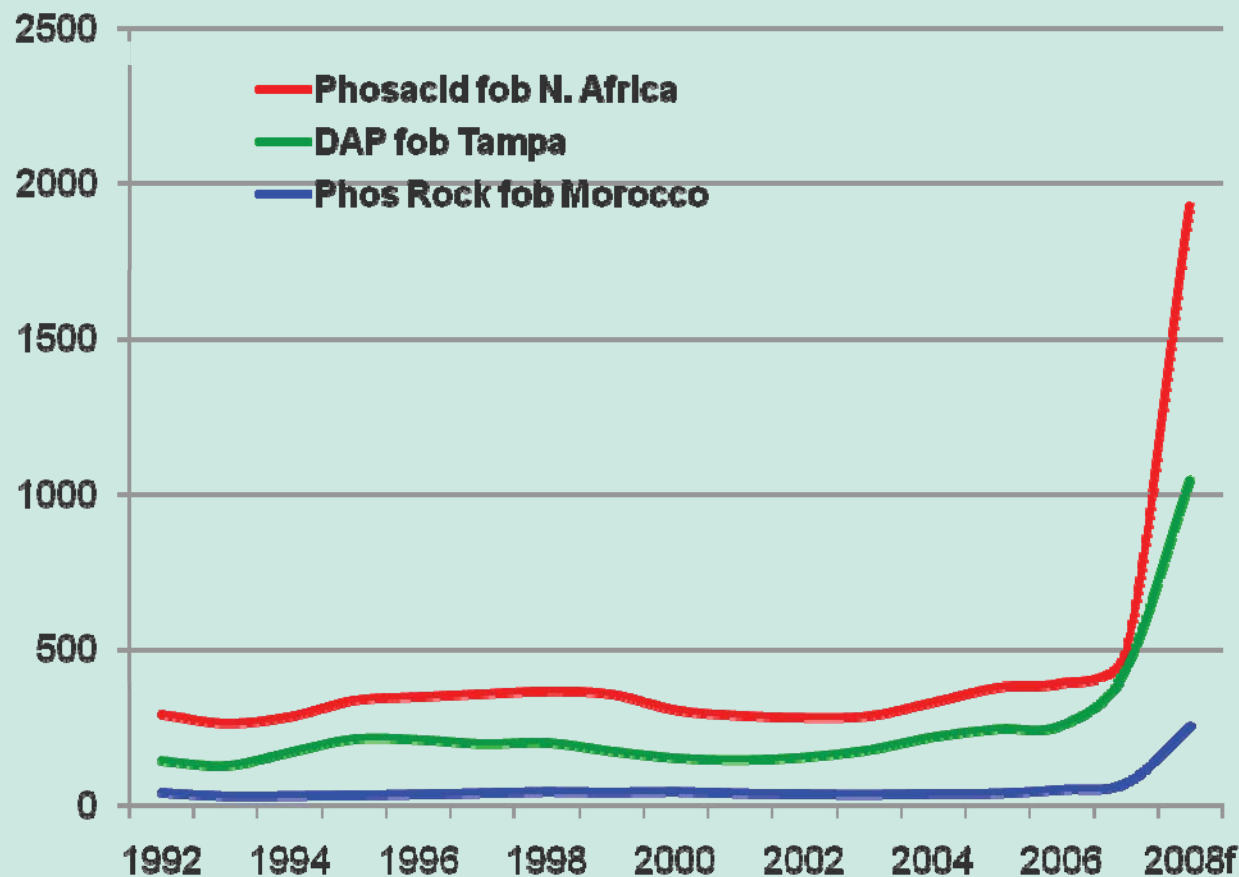
# World Phosphate Fertilizer Demand Outlook

- Essentially, there was the proverbial ‘perfect storm’ of conditions pushing phosphate prices higher
  - Relatively low carryover stocks in 2006
  - Depreciation of the US\$
  - Pumped up soft commodity prices – driven initially by fundamentals, followed by speculation
  - Restriction of Chinese exports of DAP/MAP and rock
  - Feedback loop whereby higher downstream prices promoted higher raw material prices and vice versa
- **It was never likely that this confluence of factors was sustainable over the medium to longer term**



## Phosphate Prices Moved Substantially Higher in early 2008: Primary driver was strong demand

US\$/t



- Some of the price spike in 2007 and 2008 was the result of higher raw material costs
- Depreciation of US\$ also contributed
- Limitations on Chinese exports as well



# World Phosphate Fertilizer Demand Outlook

- All world regions forecast to have steady or higher demand going forward, following a rebound from the current economic downturn – growth will be led by Brazil and Asia.
- Growth in ethanol/biofuels, particularly in the US and EU is expected to promote demand there, though modestly.
- Overall, global phosphate demand growing at 2.1% per year over the medium term, slowing down over the long-term with improved technology/efficiency.



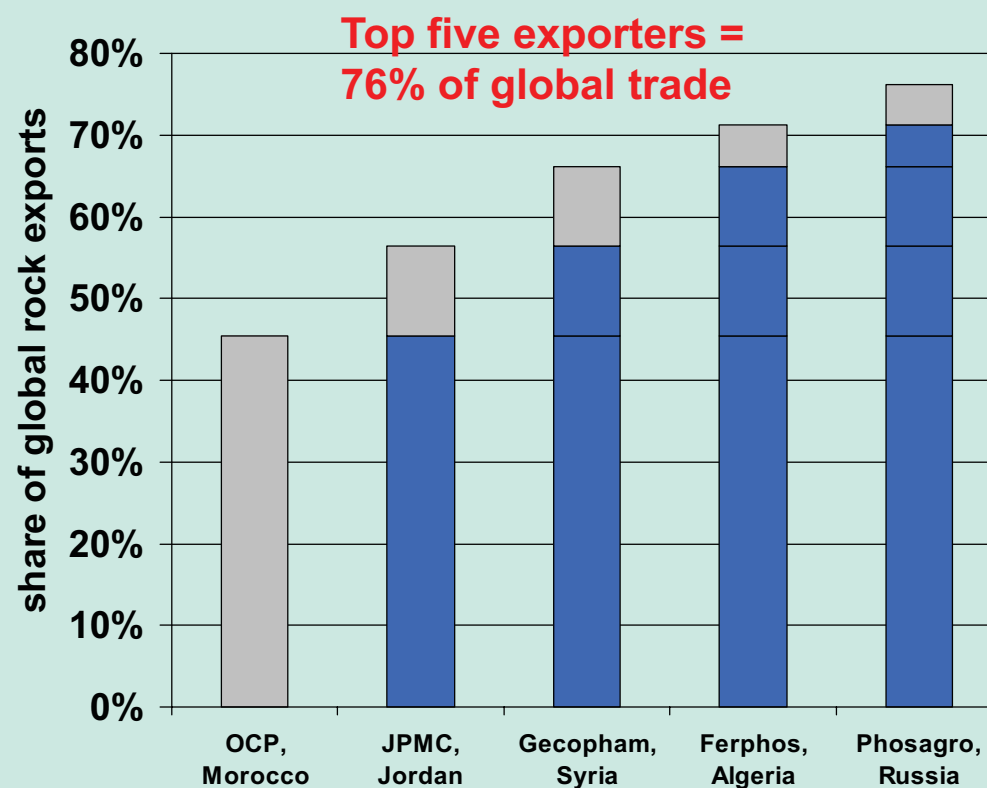
# Presentation Agenda

- World Macro and Agricultural Forecasts
- World Phosphate Outlook
  - Phosphate Fertilizers
  - Phosphate Rock
  - Phosphoric Acid
  - Price Trend

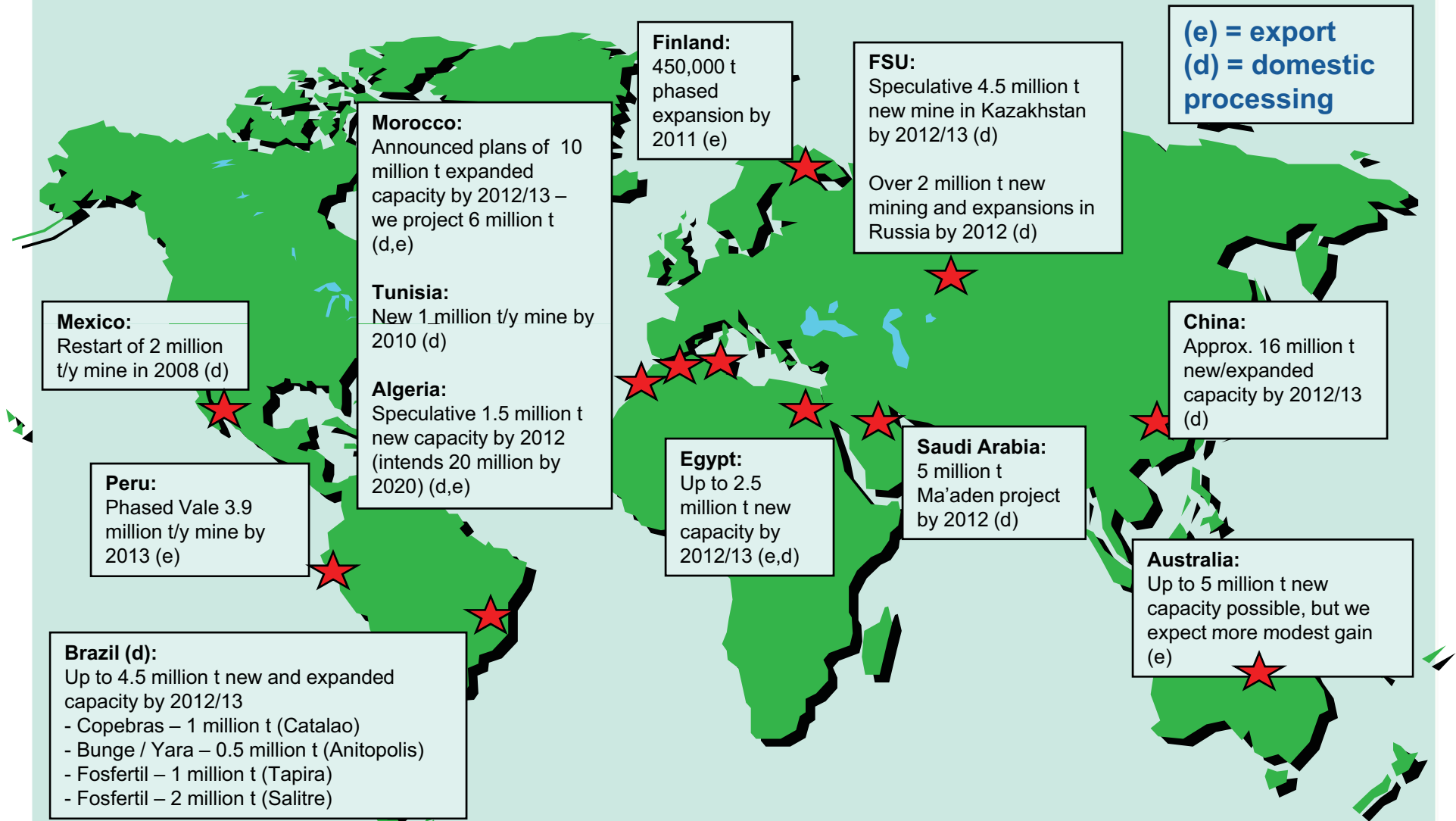


## Phosphate Rock Price Driver: High Industry Concentration has helped to enable prices to move higher

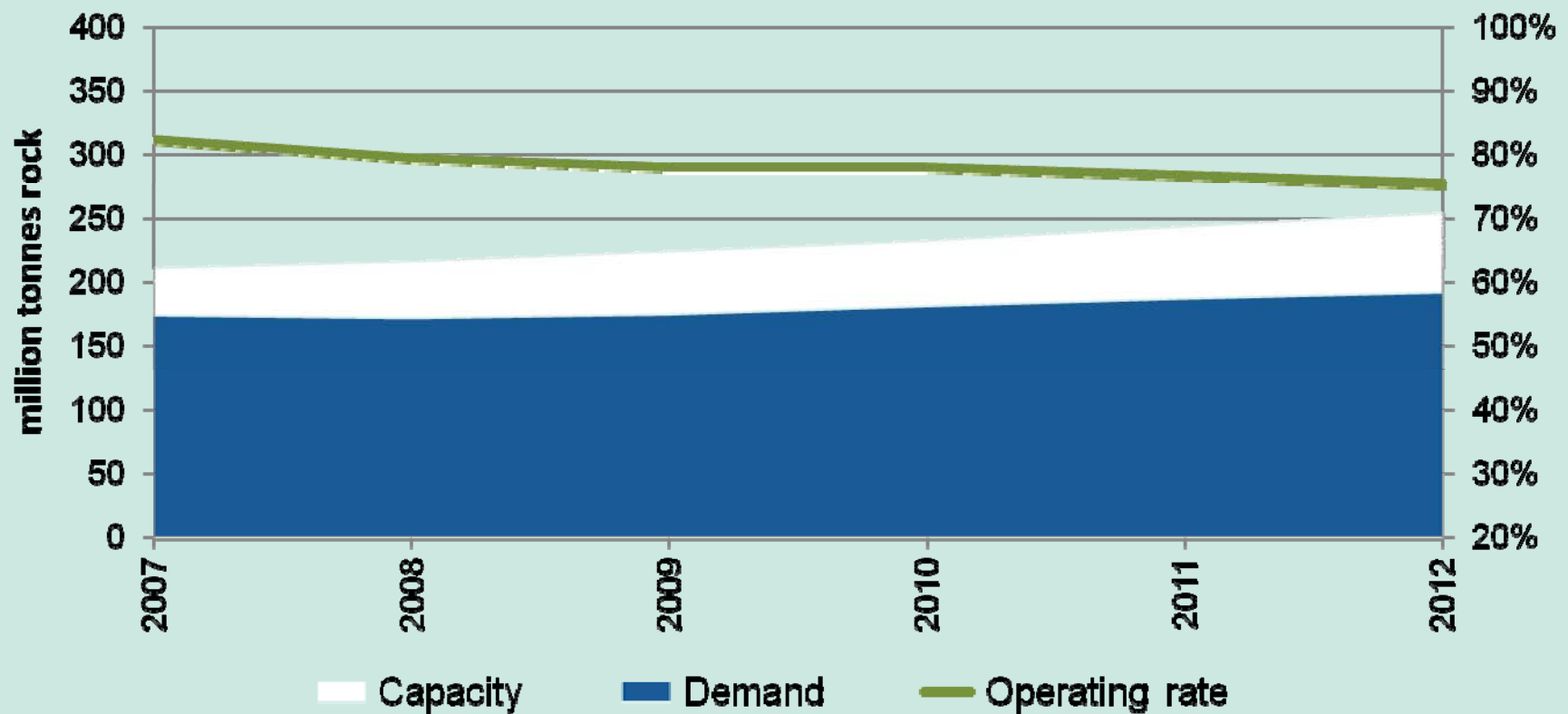
- We believe there has been a fundamental upward shift in the value of phosphate resources and hence phosphate fertilizers.
- This is partly a function of high concentration in the phosphate rock / phosphoric acid industries, particularly in the export markets.



# World Phosphate Rock Supply Outlook to 2012



Forecast Phosphate Rock Supply/Demand Balance: the bottom line is that new capacity is expected to exceed new demand

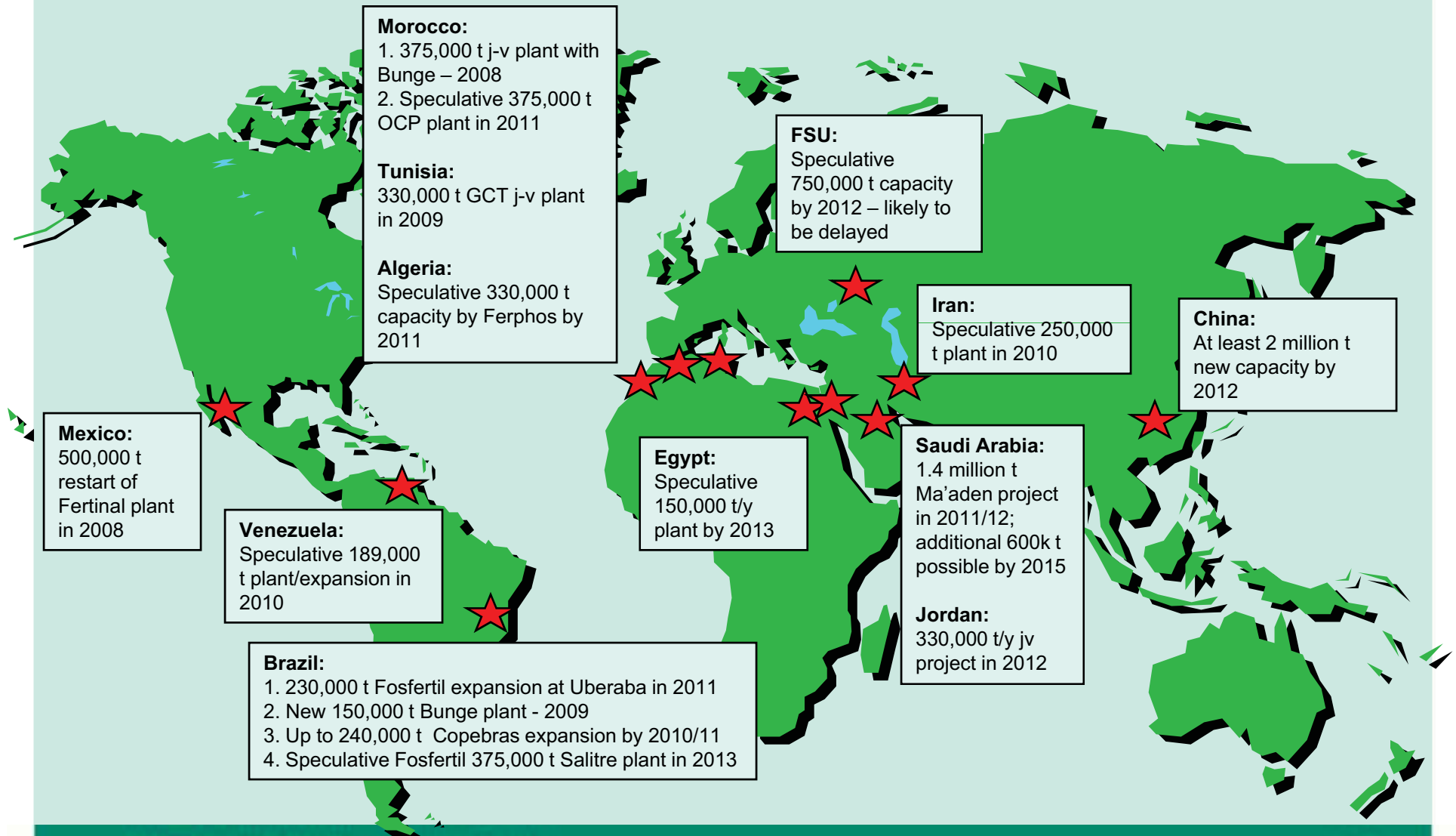


# Presentation Agenda

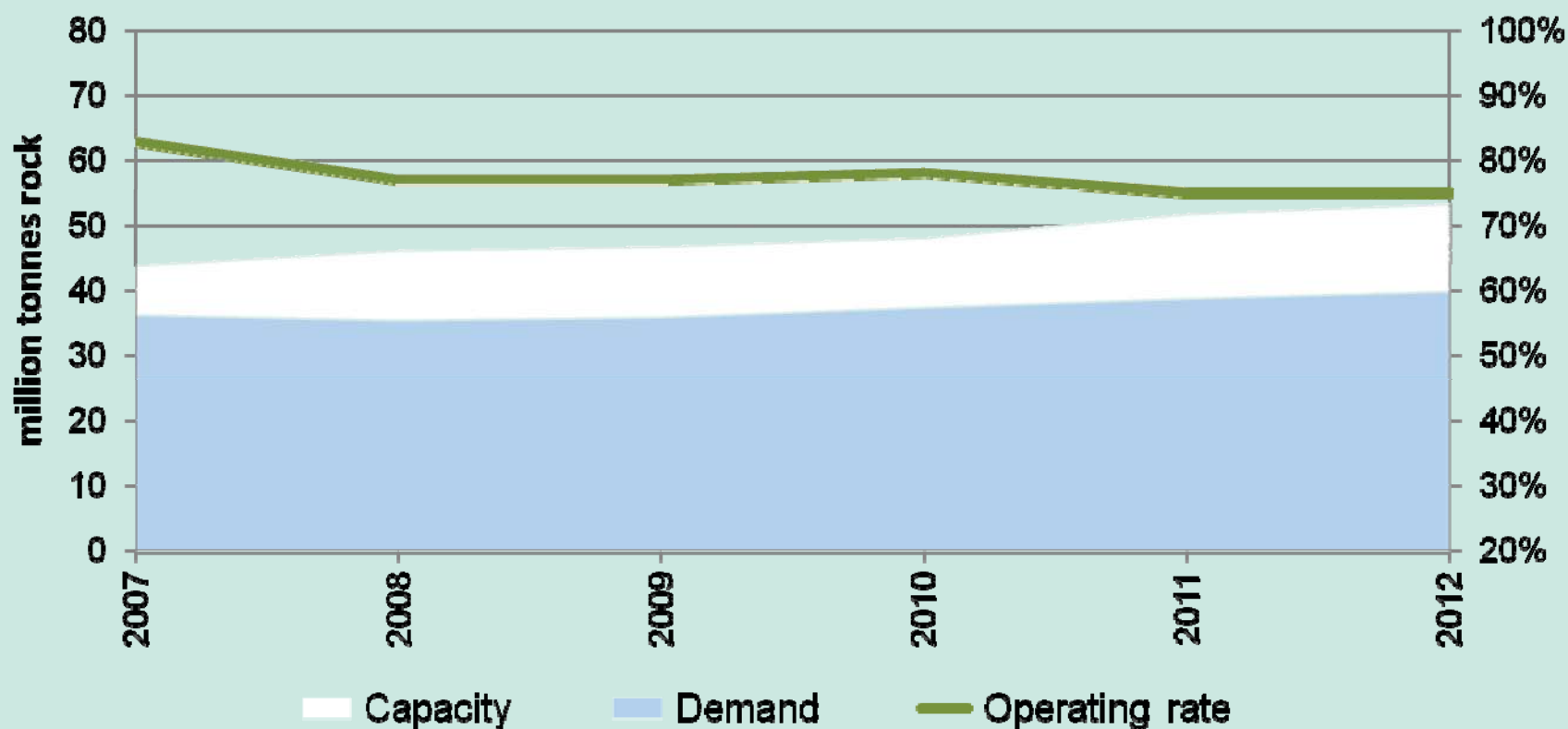
- World Macro and Agricultural Forecasts
- World Phosphate Outlook
  - Phosphate Fertilizers
  - Phosphate Rock
  - Phosphoric Acid
  - Price Trend



# Main Phosphoric Acid Expansions to 2012



Forecast Phosphoric Acid Supply/Demand  
Balance: as with phosphate rock, new capacity is  
expected to exceed new demand



## Supply/Demand Balance Summary

- Firm new phosphate rock capacity is expected to exceed demand growth, and there remains a risk that an oversupply situation could occur, particularly if North African producers meet stated expansion intentions.
- Firm new phosphoric acid capacity should meet or exceed demand growth.
- **These developments have put downward pressure on pricing.**



# Presentation Agenda

- World Macro and Agricultural Forecasts
- World Phosphate Outlook
  - Phosphate Fertilizers
  - Phosphate Rock
  - Phosphoric Acid
  - Price Trend



# Phosphates Price Outlook

- **Prices are trending downward – now it is just a matter of whether prices ease gradually or crash**
- All of the recent Positive Drivers now have significant caveats:
  - Strong global demand, but demand destruction has finally shown itself
  - High capacity utilization (likely to slip as new capacity in 2008-2012 should ease the supply crunch)
  - Historically high input costs are trending lower
  - Tight crop stocks (expectations for increase in planted area with conservation land being put back into production in the US and EU, as well as new land in Brazil and FSU; forecast for a strong harvest this year; easing off of demand growth due to global economic slowdown)
  - Increased industry concentration in the rock export market remains, though will diminish with new projects





# Phosphate Industry Outlook



## THANK YOU

Andy Jung

British Sulphur Consultants

November 2008

LONDON | MINNEAPOLIS | RALEIGH | WASHINGTON | SINGAPORE | BEIJING