International Fertilizer Supply and Demand

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International Fertilizer Industry Association

World GDP growth (%)

Source: FAPRI
Harvested fruit/vegetable area in China

Equivalent to 40% of China's harvested cereal area

Source: FAO

Ethanol production - Evolution by country

Source: FAPRI
Relative evolution of world maize uses

Base 100 = 2003/04

Industrial, 172 Mt
Feed, 468 Mt
Food, 84 Mt

Source: IGC

World cereal production and utilization

Million tonnes

Production
Utilization
Trend

Small stocks
Large stocks

Source: FAO
World cereal stocks - Stock-to-use ratio

- 14.5% • lowest level for > two decades
- 53 days of consumption
- Wheat: 18%
- Rice: 17%
- CG: 11% (~40 days)

Source: FAO, USDA

Medium-term outlook - Global trends

- Continued world population growth: More food and fiber.
- Income growth: More meat, fish, fruits, vegetables, sugar and vegetable oils; less cereals and pulses per capita.
- High oil prices: Strong incentives for bioenergy production; ag commodity prices higher and more volatile.
- Limited immediately available additional arable land: Imperative to increase yields; larger cultivated area in South America and SE Asia.
- Growing environmental concerns: Increased recycling of organic nutrient sources; optimization of nutrient use efficiency.
- Improved technologies: Higher resource use efficiency.
World cereal consumption - Medium-term trend

Million tonnes

Source: USDA, FAPRI

World fertilizer demand forecasts

Million tonnes nutrients

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~70% of the total increase is expected to occur in East Asia and South Asia together.
Natural gas price trends

Sources: EIA, IEA, Cegidaz, GazProm, PotashCorp, ACC, Azotecon, CICCC, Platt’s, Total, OPZ

World ammonia capacity developments

<table>
<thead>
<tr>
<th>Region</th>
<th>2007</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Asia</td>
<td>66.0</td>
<td>77.8</td>
</tr>
<tr>
<td>EECA</td>
<td>25.0</td>
<td>27.5</td>
</tr>
<tr>
<td>South Asia</td>
<td>18.5</td>
<td>21.5</td>
</tr>
<tr>
<td>Europe</td>
<td>20.0</td>
<td>20.0</td>
</tr>
<tr>
<td>West Asia</td>
<td>12.5</td>
<td>18.9</td>
</tr>
<tr>
<td>North America</td>
<td>16.5</td>
<td>15.8</td>
</tr>
<tr>
<td>Latin America</td>
<td>10.5</td>
<td>11.5</td>
</tr>
<tr>
<td>Africa</td>
<td>6.2</td>
<td>10.0</td>
</tr>
<tr>
<td>Oceania</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Total</td>
<td>177.3</td>
<td>205.0</td>
</tr>
</tbody>
</table>
Seaborne ammonia developments

Million tonnes product

- Supply
  - West of Suez
  - East of Suez
- Demand

2005 2006 2007 2008 2009 2010 2011

- 12.7
- 4.9
- 13.5
- 6.7

World nitrogen supply / demand

Demand: 126.1 Mt (2007) to 137.2 Mt (2011) : + 9%
Supply: 131.1 Mt (2007) to 154.2 Mt (2011) : + 18%

- 5.0
- 17.0

- Other demand
- Fertilizer demand

Million tonnes

2007 2008 2009 2010 2011
### World urea capacity developments

<table>
<thead>
<tr>
<th>Region</th>
<th>2007</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Asia</td>
<td>68.2</td>
<td>83.7</td>
</tr>
<tr>
<td>South Asia</td>
<td>28.3</td>
<td>33.1</td>
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<tr>
<td>West Asia</td>
<td>15.2</td>
<td>23.6</td>
</tr>
<tr>
<td>EECA</td>
<td>12.7</td>
<td>14.8</td>
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<tr>
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<tr>
<td>Europe</td>
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<td>10.1</td>
</tr>
<tr>
<td>Africa</td>
<td>5.7</td>
<td>9.3</td>
</tr>
<tr>
<td>Latin America</td>
<td>5.6</td>
<td>6.8</td>
</tr>
<tr>
<td>Oceania</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>157.2</strong></td>
<td><strong>192.5</strong></td>
</tr>
</tbody>
</table>

*Million tonnes urea*

### World urea supply / demand balance

- **Supply:** +5.2% p.a.
- **Demand:** +3.4% p.a.

<table>
<thead>
<tr>
<th>Year</th>
<th>Surplus in million tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>1.9</td>
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<tr>
<td>2008</td>
<td>4.5</td>
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<tr>
<td>2009</td>
<td>8.4</td>
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<tr>
<td>2010</td>
<td>12.3</td>
</tr>
<tr>
<td>2011</td>
<td>15.1</td>
</tr>
</tbody>
</table>

*International Fertilizer Supply and Demand*
World phosphate rock supply

Million tonnes product

2006 production: 168
2007: 216
2008: 200
2009: 150
2010: 100
2011: 50

East. Asia
Others
W. Asia
Africa
L. America
N. America
Europe

World phosphoric acid supply / demand

Million tonnes P₂O₅

Supply: +4.2% p.a.
Demand: +3.6% p.a.
World capacity changes: 2006 - 2011

Russia  +4 Mt  MAP: +0.3 Mt
Uzbekistan
USA
Brazil
Venezuela
Algeria
Morocco
Saudi Arabia
Bangladesh
Pakistan
China

Million tonnes P₂O₅

World DAP: supply / demand

Million tonnes P₂O₅

2007  2008  2009  2010  2011

12.0  12.0  12.0  14.9

DAP consumption: +3.0% p.a.

Potential production
Potash capacity expansions

World potash supply / demand balance

Million tonnes $K_2O$

<table>
<thead>
<tr>
<th>Year</th>
<th>Surplus</th>
<th>Supply: $+3.2%$ p.a.</th>
<th>Demand: $+3.0%$ p.a.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>5.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>6.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CONCLUSIONS

- All supply and demand situations will be tight to balanced until 2009, due to stronger than expected demand.
- Except for the balanced years 2009-10 there will be a merchant ammonia surplus west of the Suez canal and a deficit to the east.
  - Urea supply will grow at a much faster rate than that of demand. A surplus is likely from 2009.
- Phosphate rock availability will increase but exports will grow only from a handful of countries. High quality rock will become scarcer.
  - DAP supply/demand will remain in balance until 2010.
- Potash supply will increase in China and in most exporting countries. A marginal growth in surplus will develop only in 2011.