

SITUATION AND PROSPECTS FOR THE MIDDLE EAST NITROGEN INDUSTRY

**Dr Omar Mababaya
Saudi Basic Industries Corporation
(SABIC)**

**2004 International IFA Production
& International Trade Conference
Dubai, UAE
3-5 October 2004**



TODAY'S PRESENTATION

- **Evolution of the urea international business**
- **Global urea supply capability: trend and outlook**
- **Update on the Middle East nitrogen capacity**
- **Overview of Middle East share in the ammonia and urea trade**
- **Future prospects of the Middle East nitrogen industry**



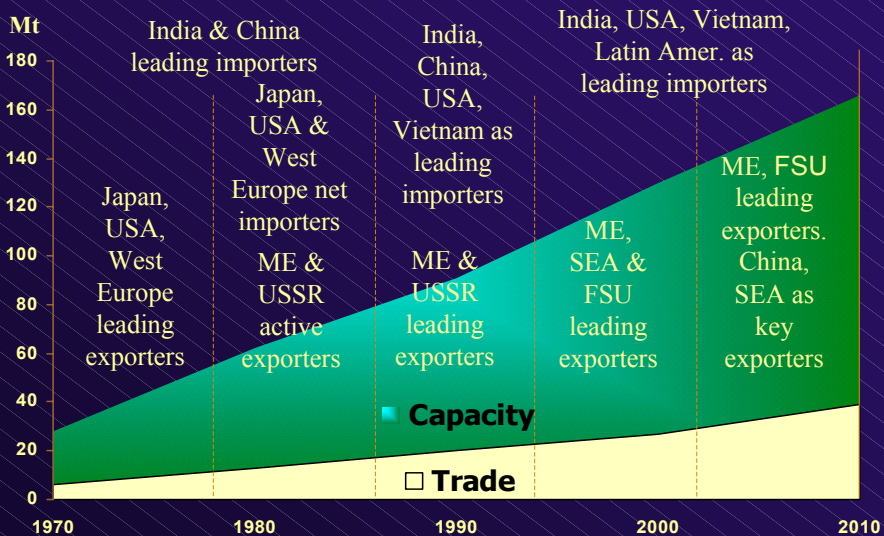
Map of the Middle East



Source: <http://www.infoplease.com/atlas/middleeast.html>



Evolution of the Urea International Business



TOP UREA EXPORTERS IN 1970-1990

1970 top exporters (6.2 Mt)

1. Japan – 2,076 Kt
2. NITREX – 1,900 Kt
3. USA– 339 Kt
4. Poland – 287 Kt
5. USSR – 224
6. Kuwait – 167
7. Romania - 167

1977 top exporters (9.1 Mt)

1. Japan – 1,089 Kt
2. Holland – 1,035 Kt
3. USSR – 961 Kt
4. Romania – 957 Kt
5. Kuwait – 565 Kt
6. Canada – 561 Kt
7. USA - 546 Kt

1981 top exporters (12.8 Mt)

1. NITREX – 3,437 Kt
2. USSR – 2,168 Kt
3. Romania – 1,593 Kt
4. USA – 1,432 Kt
5. PIC/ME – 1335 Kt
6. Japan – 756 Kt
7. L America – 278

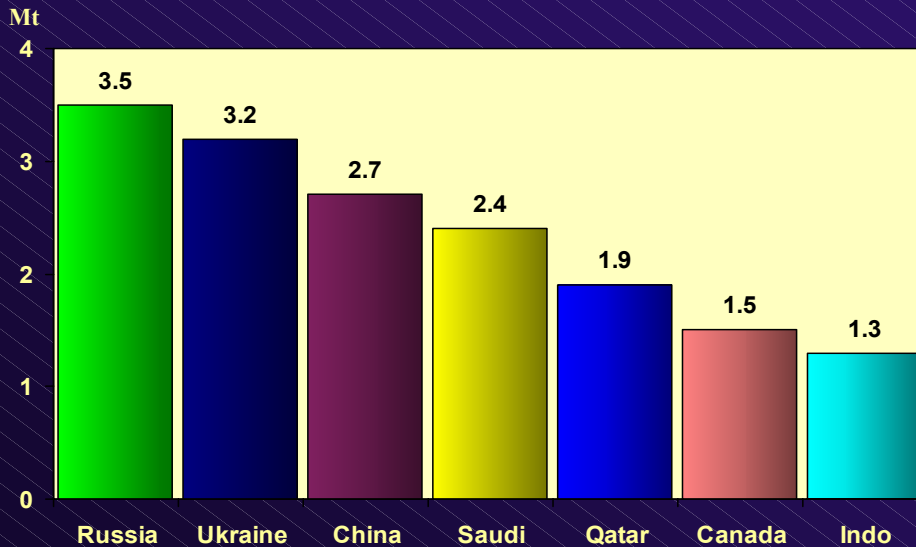
1990 top exporters (20 Mt)

1. USSR – 5,101 Kt
2. ME – 3,111 Kt
3. NITREX – 2,922 Kt
4. Indo/SEA – 2,259 Kt
5. L America – 1,593 Kt
6. USA – 790 Kt
7. Africa – 551 Kt

Source: FERTECON; SRI; in-house



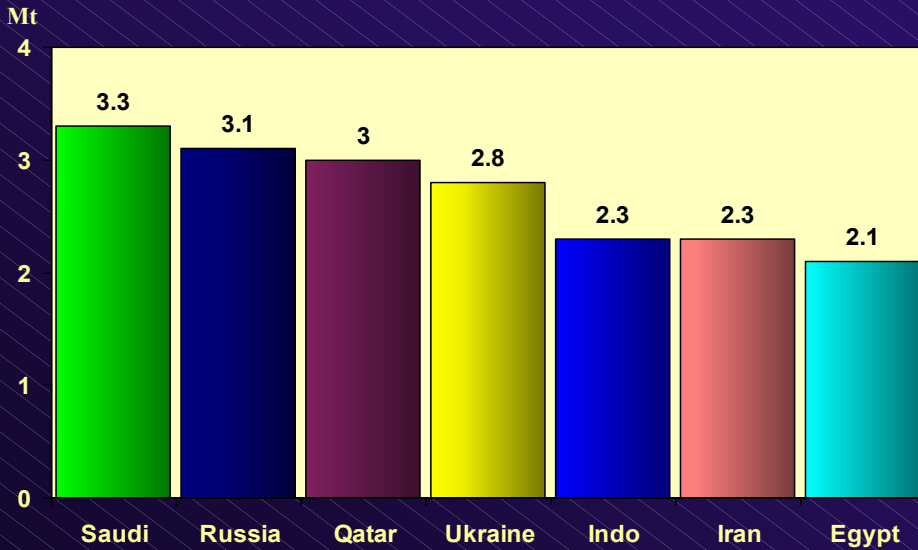
TOP UREA EXPORTERS IN 2003



Source: FERTECON; in-house



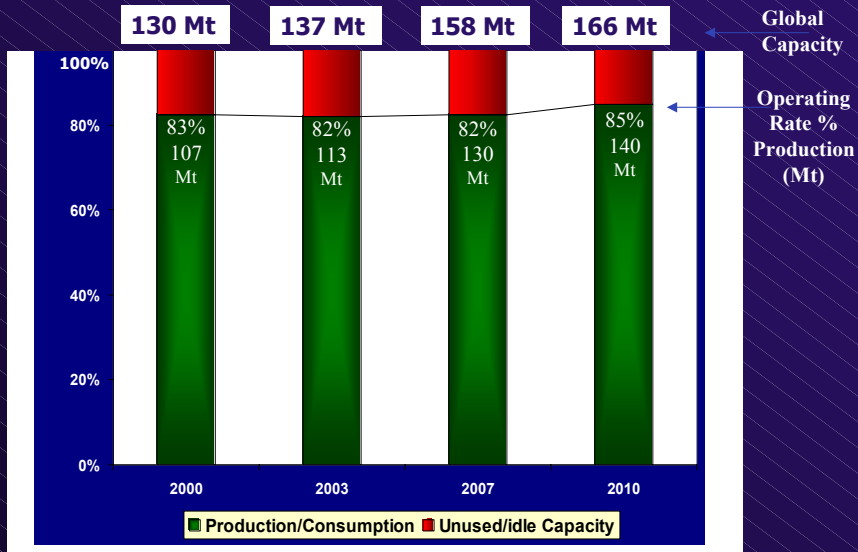
TOP UREA EXPORTERS BY 2007



Source: FERTECON; in-house

سابك
sabc

Global Urea Supply Capability: Trend & Outlook



Source: FERTECON; in-house

سابك
sabc

Global Urea Supply & Demand: Trend & Outlook

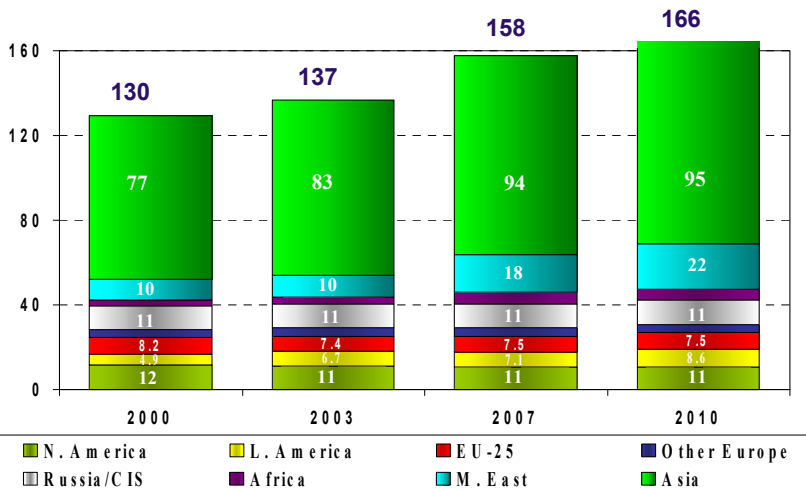
| | 1996 | 2000 | 2001 | 2002 | 2003 | Growth% | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | Growth% |
|--------------|--------------|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|-------|-------|---------|
| | (Mt Product) | | | | | | | | | | | | | |
| Capacity | 106.9 | 129.9 | 133.0 | 135.9 | 137.4 | 3.6 | 141.6 | 146.4 | 152.9 | 158.1 | 162.0 | 163.8 | 166.0 | 2.7 |
| Production | 93.9 | 107.5 | 106.2 | 112.0 | 112.4 | 2.6 | 115.3 | 120.2 | 126.5 | 130.3 | 133.2 | 136.8 | 139.5 | 3.1 |
| Oper. Rate % | 87.8 | 82.7 | 79.9 | 82.4 | 81.8 | -1.0 | 81.4 | 82.1 | 82.8 | 82.4 | 82.2 | 83.5 | 84.0 | 0.4 |
| Consumption | 94.4 | 107.1 | 106.3 | 112.2 | 112.7 | 2.6 | 115.3 | 120.2 | 126.6 | 130.4 | 133.4 | 136.9 | 139.7 | 3.1 |
| Trade | 23.7 | 26.7 | 25.5 | 25.9 | 28.4 | 2.6 | 29.2 | 30.7 | 32.7 | 35.0 | 36.5 | 37.3 | 38.4 | 4.4 |

Source: FERTECON

Source: FERTECON; in-house



World Urea Capacity (Mt) by Region, 2000-2010



Source: FERTECON; in-house



REGIONAL SHARE OF UREA CAPACITY (In Percent)

| | 2000 | 2003 | 2007 | 2010 |
|---------------------|------|------|------|------|
| N. America | 9.0 | 8.2 | 6.8 | 6.5 |
| L. America | 3.8 | 4.9 | 4.5 | 5.3 |
| EU-25 | 6.3 | 5.4 | 4.8 | 4.6 |
| Other Europe | 2.8 | 3.0 | 2.6 | 2.5 |
| Russia/CIS | 8.4 | 8.0 | 7.2 | 6.9 |
| Africa | 2.2 | 2.3 | 3.4 | 3.3 |
| M. East | 7.8 | 7.6 | 11.4 | 12.9 |
| Asia | 59.6 | 60.6 | 59.5 | 58.0 |
| | 100 | 100 | 100 | 100 |

Source: FERTECON; in-house

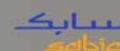


The Global Urea Industry (Mt) Growth (%)

| | 1996 | 2000 | 2001 | 2002 | 2003 | Growth% | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | Growth% |
|--------------|--------------|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|-------|-------|---------|
| | (Mt Product) | | | | | | | | | | | | | |
| Capacity | 106.9 | 129.9 | 133.0 | 135.9 | 137.4 | 3.6 | 141.6 | 146.4 | 152.9 | 158.1 | 162.0 | 163.8 | 166.0 | 2.7 |
| Production | 93.9 | 107.5 | 106.2 | 112.0 | 112.4 | 2.6 | 115.3 | 120.2 | 126.5 | 130.3 | 133.2 | 136.8 | 139.5 | 3.1 |
| Oper. Rate % | 87.8 | 82.7 | 79.9 | 82.4 | 81.8 | -1.0 | 81.4 | 82.1 | 82.8 | 82.4 | 82.2 | 83.5 | 84.0 | 0.4 |
| Consumption | 94.4 | 107.1 | 106.3 | 112.2 | 112.7 | 2.6 | 115.3 | 120.2 | 126.6 | 130.4 | 133.4 | 136.9 | 139.7 | 3.1 |
| Trade | 23.7 | 26.7 | 25.5 | 25.9 | 28.4 | 2.6 | 29.2 | 30.7 | 32.7 | 35.0 | 36.5 | 37.3 | 38.4 | 4.4 |

Source: FERTECON

Source: FERTECON; in-house



The Middle East Urea Industry (Mt) Growth (%)

| | 96 | 00 | 01 | 02 | 03 | Gr % | 04 | 05 | 06 | 07 | 08 | 09 | 10 | Gr % |
|------------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|------|
| Capacity | 8.1 | 10 | 10 | 10 | 10 | 4 | 12 | 14 | 15 | 18 | 20 | 20 | 22 | 12 |
| Production | 6.4 | 8.5 | 8.9 | 9.1 | 8.5 | 4 | 9.7 | 12 | 14 | 16 | 18 | 19 | 21 | 14 |
| Op. Rate % | 79 | 84 | 89 | 89 | 82 | 1 | 83 | 87 | 89 | 89 | 90 | 92 | 94 | 2 |
| Cons. | 2.5 | 3.3 | 3.6 | 3.7 | 2.7 | 1 | 3.2 | 3.4 | 3.8 | 3.9 | 3.8 | 3.9 | 4 | 6 |
| Imports | 0.2 | 0.5 | 0.4 | 0.4 | 0.4 | 10 | 0.8 | 0.7 | 0.8 | 0.8 | 0.9 | 0.5 | 0.6 | - |
| Exports | 4.2 | 5.7 | 5.8 | 5.8 | 6.3 | 6 | 7.3 | 9.1 | 10 | 13 | 14 | 15 | 18 | 16 |
| Net Trade | 4.0 | 5.2 | 5.4 | 5.4 | 5.9 | 6 | 6.5 | 8.4 | 9.2 | 12 | 13 | 14 | 17 | 17 |

Source: FERTECON; IFA; in-house



Update on the Middle East Nitrogen Capacity, 2004-2010 (9.1 Mt NH₃ and 11.5 Mt Urea)

| Country/ Company/ Plant | Product | Capacity Kt Product | Status | Date |
|--|-----------------|------------------------|-------------|------|
| Qatar QAFCO/QAFCO4 QAFCO 5 | NH ₃ | 610 | Operational | 2004 |
| | Urea | 1,100 | Operational | 2004 |
| | NH ₃ | 1,100 | Plan | 2010 |
| | Urea | 1,100 | Plan | 2010 |
| Saudi Arabia SABIC/SAFCO 4 SABIC | NH ₃ | 1,100 | UCT | 2006 |
| | Urea | 1,100 | UCT | 2006 |
| | NH ₃ | 1,100 | Under Study | 2010 |
| | Urea | 1,100 | Under Study | 2010 |
| UAE/Dubai SPIC | NH ₃ | 230 | UCT | 2006 |
| | Urea | 400 | UCT | 2006 |

Source: FERTECON; IFA; in-house; etc.



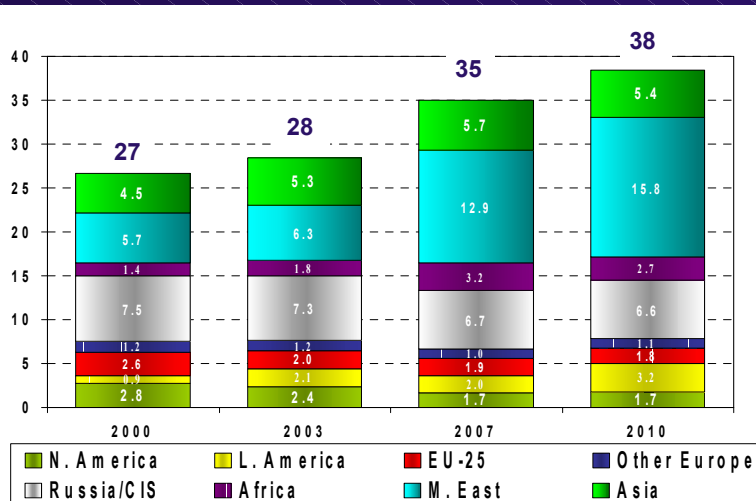
Update on the Middle East Nitrogen Capacity, 2004-2010

| Country/ Company/ Plant | Product | Capacity Kt Product | Status | Date |
|--|---------|------------------------|---------|--------------|
| Oman Omifco Sohar/SIUCI | NH3 | 1,200 | UCT | 2005 |
| | Urea | 1,660 | UCT | 2005 |
| | NH3 | 660 | Delayed | 2006 → 08(?) |
| | Urea | 1,160 | Delayed | 2006 → 08(?) |
| Iran NPC-Assaluyeh1 NPC-Assaluyeh1 NPC-Assaluyeh2 NPC-Assaluyeh2 KPIC-Kermansha KPIC-Kermansha NPC-Razi III NPC-Shiraz NPC-Shiraz | NH3 | 680 | UCT | End04/1Q05 |
| | Urea | 1,070 | UCT | End04/1Q05 |
| | NH3 | 680 | PLAN | 2008 |
| | Urea | 1,070 | PLAN | 2008 |
| | NH3 | 396 | UCT | 2005/06 |
| | Urea | 660 | UCT | 2005/06 |
| | NH3 | 680 | UCT | 2005 |
| | NH3 | 680 | PLAN | 2007/08(?) |
| | Urea | 1,070 | PLAN | 2007/08(?) |

Source: FERTECON; IFA; in-house; etc.



World Urea Exports (Mt) by Region, 2000-2010



Source: FERTECON; in-house



SUPPLIERS SHARE OF UREA MARKET

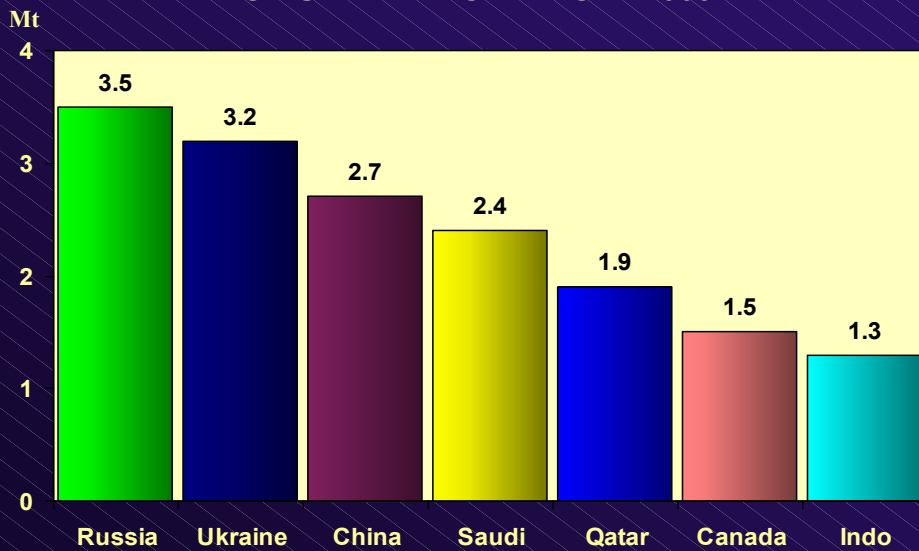
(In Percent)

| | 2000 | 2003 | 2007 | 2010 |
|--------------|------|------|------|------|
| N. America | 10.3 | 8.4 | 4.8 | 4.5 |
| L. America | 3.4 | 7.2 | 5.7 | 8.4 |
| EU-25 | 9.9 | 7.0 | 5.5 | 4.6 |
| Other Europe | 4.6 | 4.3 | 2.9 | 2.9 |
| Russia/CIS | 28.0 | 25.8 | 19.0 | 17.3 |
| Africa | 5.4 | 6.4 | 9.0 | 7.0 |
| M. East | 21.2 | 22.1 | 36.7 | 41.3 |
| Asia | 17.0 | 18.8 | 16.3 | 14.0 |
| | 100 | 100 | 100 | 100 |

Source: FERTECON; in-house



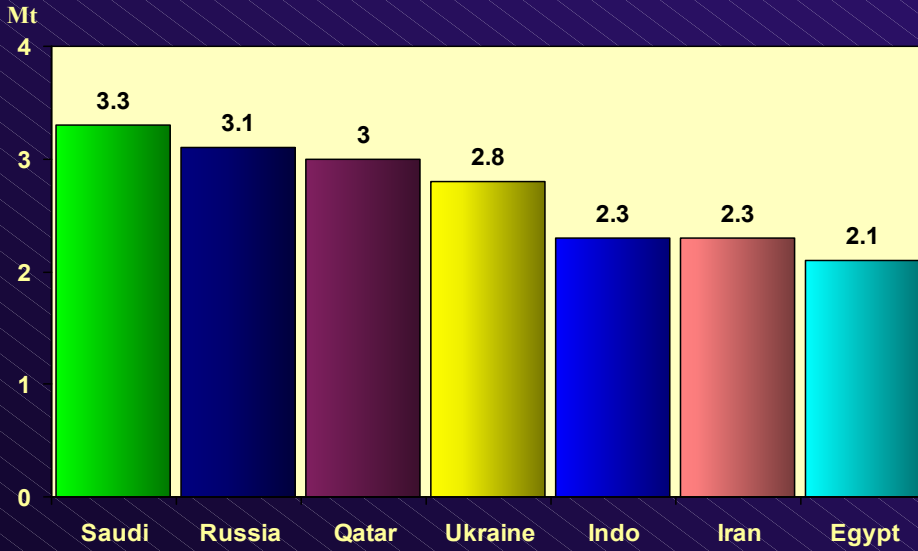
TOP UREA EXPORTERS IN 2003



Source: FERTECON; in-house



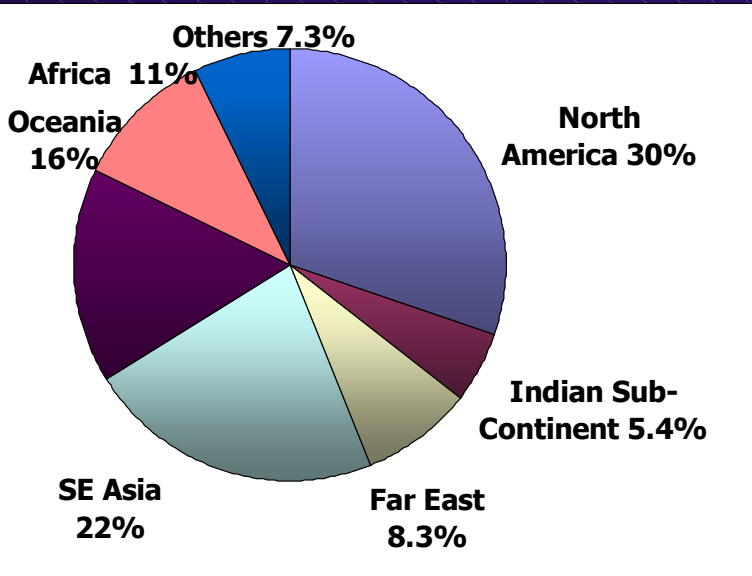
TOP UREA EXPORTERS BY 2007



Source: FERTECON; in-house



Middle East Urea Exports by Region, 2003



Source: IFA; in-house



International Nitrogen Trade Outlook

- International trade in ammonia and urea will grow in response to capacity closures in the USA, Europe and elsewhere.
- Asian demand for ammonia and urea will grow as industries rationalize in India, China and the Far East, and as food requirements increase in line with population growth.
- As more rationalization measures take place in North America, West Europe and elsewhere, due to environmental reasons, and rising energy costs, nitrogen imports will increase.
- Ammonia and urea will replace some of nitrogen products which will be affected by environmental restrictions and cost competitiveness.
- Expected expansion of demand for ammonia and urea for industrial and other applications will have positive impact on international nitrogen trade.

Prospects for the Future

- The Middle East region has abundant and competitive hydrocarbon resources.
- The location advantage of the Middle East at a strategic mid point between the East and the West.
- The Middle East nitrogen industry enjoys excellent and modern infrastructure.
- The nitrogen industry in several important consuming countries depends on gas that is limited in supply and where the underlying competition is strong.
- The United States and West Europe will continue to rationalize their nitrogen plants due to high raw material costs.
- Gas supplies in the FSU and Central Europe will have better added value in other economic sectors.
- Middle East gas-based nitrogen plants are much more competitive than those plants that depend on naphtha and coal.

Conclusions

- **Nitrogen producers in the Middle East have enjoyed greater competitive advantages than other regional suppliers to the international market.**
- **Even when prices are low, most urea capacity in the region will continue to be operated at high utilization rates. In contrast, nitrogen capacity in other regions like North America will have to be curtailed as and when international urea prices weaken significantly.**
- **The rationalization and structural changes in North America, Europe and elsewhere will continue in the foreseeable future.**
- **As high-cost producers continue resorting to plant closures, either temporarily or permanently, it is natural that competitive producers in the Middle East will have to continue to fill in the demand-supply gap, and hence promote international market stability and growth.**