Development Opportunities of Fertilizer Market in China

Yang Yexin
China BlueChemical Ltd
3 November 2011
Hainan Sanya

Outline

- Existing Development of Fertilizer Industry in China
- Development Trends of Fertilizer Industry in China
- Policies of Fertilizer Industry in China
- Future Opportunities of Fertilizer Industry in China
- Development of Fertilizer Business of CNOOC

Introduction

■China is a country with high population and also a major agricultural country, ensuring food safety is thus of highest priority to the country

■Thanks to fertilizer, China uses only 7% of the world's arable land to feed 22% of the world's population

■After more than 60 years of continuous development, the fertilizer industry in China has made great progress. Currently China has become one of the worfertilizer countries in the production, consumption and trade of fertilizers. The production and market development of fertilizers have advanced to a new level

Existing Development of Fertilizer Industry in China

Supply and demand

■The fertilizer production capacity of China reached 63.8 million tones (nutrient, same below) in 2010 with an actual consumption of 58.8 million tones, representing an overall surplus of 8%, in which the production capacity of nitrogenous fertilizers, phosphates and potash was 45.2 million tonnes, 15.8 million tonnes and 2.8 million tonnes, representing surpluses of 9%, 22% and -50%, respectively.

■The fertilizer production capacity of China will reach 69.8 million tones (nutrient, same below) in 2015 with an actual consumption of 62.7 million tones, representing an overall surplus of 10%, in which the production capacity of nitrogenous fertilizers, phosphates and potash will be 48.0 million tonnes, 17.0 million tonnes and 4.80 million tonnes, with surpluses of 9%, 26% and -27%, respectively.

Existing Development of Fertilizer Industry in China

Production Capacity Distribution

■As at the end of 2010, there was a total of 1,057 basic fertilizer manufacturers in China, of which 472 are nitrogenous fertilizer manufacturers, 366 are sizable phosphate fertilizer manufacturers and 1,307 are compound fertilizer manufacturers.

■The average yield of above-scale enterprises is 23,400 tones and the average yield of ammonia enterprises is 117,300 tones, in which product capacity of large nitrogenous fertilizer manufacturers designated for only 1/3, while that of sizable phosphate compound fertilizer enterprises which have raw material resources designated for less than 10%.

■The production ratio of N: P2O5: K2O at 1:0.38:0.06, which still fell behind the global average of 1:0.38:0.28 miserably. Owing to a serious shortage of potassium resources, domestic potash supply satisfies 50% of the total demand.

Existing Development of Fertilizer Industry in China

Challenges

■Major resources in China such as oil, natural gas, coal and phosphorus minerals are subject to supply shortage and low grades, in particular, the shortage of sculpture and potassium, the supply of which is heavily dependent on imports.

■Technological innovation is generally inadequate. Investment in technology research equivalent to only 1/5 to 1/3 of developed countries. Technology innovation regimes in companies have not yet been established. Industrialization and commercialization of research deliverables is at low level of less than 30%.

■The chemical fertilizer industry is characterized by significant energy consumption. "12th FYP" has provided for more rigid standards of energy conservation and discharge reduction for the production of nitrogenous and phosphate fertilizers, giving rise to an enormous task for manufacturers concerned.

Existing Development of Fertilizer Industry in China

Trade, Distribution and Application

- With increased production capacity, China is able to export nitrogenous and phosphate fertilizers on top of meeting domestic demands, and has become a major net exporter with a stronger role in international trade.
- Market competition is intense as manufacturers, distributors and agricultural resources authorities operate with little coordination, characterized by numerous intermediaries vying for profit allocation, resulting in high fertilizer costs for end users.
- The application of fertilizers are carried out in an imprudent and unsophisticated manner, with a tendency to emphasize nitrogen and neglect phosphate, while the use of potassium is insufficient. There is serious pollution and wastage, with a fertilizer utilization rate of less than 30%, compared to over 60% in developed countries.

Outline

- Existing Development of Fertilizer Industry in China
- Development Trends of Fertilizer Industry in China
- Policies of Fertilizer Industry in China
- Future Opportunities of Fertilizer Industry in China
- Development of Fertilizer Business of CNOOC

Development Trends of Fertilizer Industry in China

Given restrictions in resources, surplus production capacity, the call for energy conservation and environmental protection, as well as the need for production efficiency under competitive pressure , the traditional model of large-scale construction and investment, unrestrained consumption of resources and imprudent fertilizer application is no longer feasible for the chemical fertilizer industry, and the crucial moment of impending change has come for China's chemical fertilizer industry. To achieve sustainable positive development, the industry has no other choice but to expedite industry restructuring, enhance technological innovation, improve management standards, strengthen cooperation with domestic / foreign partners and bolster competitive strengths.

Development Trends of Fertilizer Industry in China

- **Production:** currently in a period of transition from emphasizing quantity to quality; the general trend is underpinned by expansion in scale and consolidation of mineral fertilizers, while high-end slow / controlled-release fertilizers and new environmentally-friendly fertilizers represent some of the directions for development.
- **Trade:** With an increasing level of inter-dependence between the China market and the international market, the trade of chemical fertilizers will play an important role in balancing of supply and demand between china and other nations.
- **Distribution:** Solid strategic cooperation among manufacturers should be established to create novel distribution channels for agricultural resources and end sales service networks, while distribution, sales and servicing abilities and profitability should also be improved.
- **Application:** Meeting the needs of intensified and large-scale operation in modern agriculture, with emphasis on multiple elements and full-nutrient fertilization, while promoting allocation of fertilizers by soil testing and balanced fertilization with a view to increasing the utilization rate of fertilizers.

Outline

- Existing Development of Fertilizer Industry in China
- Development Trends of Fertilizer Industry in China
- Policies of Fertilizer Industry in China
- Future Opportunities of Fertilizer Industry in China
- Development of Fertilizer Business of CNOOC

Policies of Fertilizer Industry in China(1)

- The "3 Agricultural Issues" have been and will continue to top the agenda of the PRC government, as numerous preferential policies for the agricultural industry are being launched each year, within increasing government investment in agriculture each year.
- The policy of "Assisting large companies and discarding small ones" in connection with the restructuring of the chemical fertilizer industry has been confirmed, whereby restrictions have been imposed on "resource-oriented projects commanding high consumption and high pollution," while recycling, renewable energy and eco-friendly projects are being encouraged.
- Large-scale chemical fertilizer manufacturers and distributors and private capital with considerable size and strengths are encouraged to consolidate resources and develop intensified chain operations by way of mergers, acquisitions and reorganizations, etc.
- Export tariff policies are effective measures for stabilizing the market. While specific measures are subject to adjustments each year, the policy of imposing restrictive export tariff on urea and ammonium phosphate, being "resource-oriented products commanding high consumption and high pollution," should remain largely unchanged.

Policies of Fertilizer Industry in Chian(2)

- Nitrogenous fertilizers —— using coal as the major raw material, this sector looks to increase its level of intensification and expand in scale.
- Phosphate fertilizers —— focused on energy conservation and environmental protection; development and application of phosphorus resources should be on a recycled basis and no more approvals will be granted to "wet-method phosphoric acid projects."
- Potash —— capacity expansion on the basis of limited resources to increase the self-sufficiency ratio; the government has determined the "3-1/3" strategy.
- Compound fertilizers —— underpinned by multiple elements and compound high-end offerings, with an emphasis on increasing the utilization rate of fertilizers.

Outline

- Existing Development of Fertilizer Industry in China
- Development Trends of Fertilizer Industry in China
- Policies of Fertilizer Industry in China
- Future Opportunities of Fertilizer Industry in China
- Development of Fertilizer Business of CNOOC

Future Opportunities of Fertilizer Industry in China

- 10 million tones of grains production ramp-up is planned by the PRC government, representing a huge potential for fertilizer demand.
- Year on year demands are observed for high-end fertilizer and potash trading as their development are encouraged and supported by the government.
- The R&D and production of high-end fertilizers are specifically promoted by the government, ensuring room for cooperation.
- For the use of fertilizers and agricultural technology, the government actively advocates fertilizing in a scientific manner and introducing technologies.

Outline

- Existing Development of Fertilizer Industry in China
- Development Trends of Fertilizer Industry in China
- Policies of Fertilizer Industry in China
- Future Opportunities of Fertilizer Industry in China
- Development of Fertilizer Business of CNOOC

Development of Fertilizer Business of CNOOC

Basic Information

China Blue Chemical Ltd. ("China BlueChem"), a subsidiary of CNOOC, is principally engaged in the R&D, production and sale of fertilizers, with its reach to chemicals sector. Established in July 2000 and listed in September 2006 in Hong Kong, the Company achieved rapid development by way of both organic growth and mergers and acquisitions over 11 years since its inception. The fertilizer business of CNOOC has an array of products comprising annual production capacity of 2 million tones of urea, 1.75 million tones of phosphate compound fertilizers, 1.60 million tones of methanol, 60 K tones of POM, and ancillary coal mines, phosphate mine and port resources. The assets of China BlueChem amount to RMB16 billion with a market capitalization of HK$30 billion.

Development of Fertilizer Business of CNOOC

Target Position

■Objective: establish itself as a leading fertilizer enterprise with an annual production capacity over 8 million tones and annual supply capacity over 10 million tones.

■Positioning: focus on fertilizer operation while extending its reach to related chemicals in line with national strategies. Pursing effective growth with low carbon emission, the Company is committed to establishing itself as a leading fertilizer enterprise through resources acquisition, scale expansion, enhanced management, improved services and innovative R&D. On this basis, leveraging restructuring of fertilizer industry, the Company strives to gain control in the fertilizer market and encourage farmers to use fertilizers in a scientific manner, contributing to the development of modern agriculture in the PRC.

Development of Fertilizer Business of CNOOC

Production capacity distribution

Heilongjiang	coal mine	0.52 million tones of urea
Inner Mongolia	coal mine and natural gas	0.60 million tones of urea / 0.20 million tones of methanol / 60k tones of POM
Hebei	outsourcing	1.20 million tones of compound fertilizers
Shanxi	coal mine	0.52 million tones of urea/ 0.52 million tones of urea
Hubei	phosphate mine	0.50 million tones of phosphate fertilizers/ 0.50 million tones of phosphate fertilizers
Guizhou	phosphate mine	0.90 million tones of wet-method phosphoric acid and ancillary project
Hainan	natural gas	1.40 million tones of urea/ 1.40 million tones of methanol

Development of Fertilizer Business of CNOOC

Competitive strengths

- Development achieved over the past 11 years with quality assets and relatively strong sustainability
- Better foundation comprising certain control over resources and completion of strategic layout of projects and markets
- Attain overall first tier level for its facility scale, product brand names, operating efficiency and technology and equipment
- Competitive advantages in strategies, personnel, management and financing

Development of Fertilizer Business of CNOOC

External cooperation

- **Shareholding participation: invest in potash projects to secure stable supply of potash.**
- **Plant construction: construct fertilizer , methanol and related chemical production facilities with overseas resources.**
- **Trading expansion: step up fertilizer and methanol trading with a target scale of 3 – 5 million tones.**
- **Technological cooperation: introduce technologies for high-end fertilizer production and related ancillary agricultural services.**

Conclusion

China's fertilizer industry is undergoing transformation. With inelastic demand derived from food production, the Chinese fertilizer market provides substantial room for development and invaluable business opportunities in various areas such as resource development, project construction, technological research and development, trade cooperation, networking, technical services, etc. On the basis of mutual benefit to facilitate better communication and solid cooperation, China BlueChem would like to work with international counterparts in promoting of sound development of China's fertilizer industry as well as modern agriculture, making greater contribution to food safety in China and the world.

Recommendations

- Propose that IFA strengthens its cooperation with China's industry associations and government agricultural authorities.
- Propose that IFA recommends more advanced fertilizer production and application technologies to its members.
- Propose reduction in membership fee for domestic industry players, thereby encouraging more fertilizer enterprises to join IFA and share information and experience.