

India

World-Scale Ambitions

Reliance Industries' Jamnagar petrochemical and refinery complex.



The Indian chemical industry, largely unaffected by the global economic slowdown and European debt crisis, continues on its growth path. The country's petrochemical and specialty chemical sectors offer huge potential and are attracting further investments. And the industry is becoming increasingly conscious of environmental challenges and the need to employ green technology.

The chemical industry in India is expected to generate strong growth during the next few years, analysts say. "Demand for chemical products in India has been witnessing growth of around 10%-12% and it is expected to grow at a compound annual growth rate of 15% for the next 10 years," says Hema Thakur, industry manager/chemicals, materials, and foods practice, South Asia and Middle East at Frost & Sullivan (Mumbai).

India's chemical sector is expected to outperform the country's economy in 2012. The chemical industry in India will achieve double-digit growth in production in 2012, but India's economy is expected to slow with GDP

growth of 7%-8% forecast for the fiscal years ending March 31, 2012 and 2013, compared with growth of 8.5% in the year ended March 31, 2011, the Indian Chemical Council (ICC; Mumbai) says.

"Demand for chemical products in India will grow at around 1.5 times GDP growth," Thakur says. "Increased penetration into rural markets by major chemical companies, improved levels of disposable income in the Indian population, and increased exports are some of the main reasons why the chemical industry will outperform the economy. The chemical industry in India will continue to show steady growth over the coming years, with the petrochemicals sec-

tor one of the main contributors," Thakur says.

Indian Oil (New Delhi) expects further growth for the country's petrochemical industry (p. 21). "Growth of the petrochemical industry in India has been very exciting in 2010 and 2011, but growth in 2011 was affected by factors such as rising interest rates and the depreciation of the Indian currency, but the rupee is appreciating now," says Siddhartha Mitra, executive director/petrochemicals at Indian Oil. "Overall, the market remains positive, and certain sectors such as polymers are growing at over 15%/year and polyesters at more than 12%-14%/year. The petrochemical industry in India as a whole will grow at about 10%-12%

annually over the next five years.”

Indian Oil plans to expand its petrochemicals business. The company aims to invest Rs700 billion-Rs800 billion (\$14.17 billion-\$16.19 billion) in petrochemicals by 2022. Indian Oil's petrochemicals business had revenues of almost Rs57.47 billion in the fiscal year ended March 31, 2011, accounting for about 1.7% of Indian Oil's total revenues. “By 2022, we plan to increase the share of the petrochemicals business to about 10% of the company's total revenues,”

Mitra says. Indian Oil plans to expand in petrochemicals through a number of projects and investments. “We are looking at utilization of available streams at our refineries, particularly propylene,” Mitra says. “However, technology sourcing is a major issue here, as most products are under the portfolio of major players, who do not really want to share their technology on a third-party basis. So we have to look at a collaborative approach, if we find a project to be viable. We are looking at possible projects in various chemical segments including specialty chemicals as well as petrochemicals.” Mitra declined to disclose details of those projects.

Indian Oil signed a memorandum of understanding with BP last November to explore the potential for establishing a 50-50 joint venture to build a 1-million m.t./year acetic acid plant in the state of Gujarat. The plant would include associated gasification facilities for the production of synthesis gas. “The plant will be located near Indian Oil's refinery at Koyali. The feasibility study is in progress, and we aim to complete it by March or April 2013. The companies will then move to the detailing of the project and the initial investments will be made,” Mitra says.

Certain sectors of the Indian chemical industry are expected to grow faster than others, analysts say. “The pharmaceutical and polymer sectors will do well in the near future due to high growth of about 15% in end-use sectors such as packaging and construction,” Thakur says. “The specialty chemicals segment will also witness growth of about 15%-17% due to demand in the automotive, electronics, and construction industries.”

Multinational chemical companies such as Lanxess—which has a sizeable business in India—are expected to participate in growth

of the country's specialty chemicals market. “Against the backdrop of growth shifting from Western markets to Asia/Pacific and the growing consumer-driven industries in India such as construction, automotive, tires, and agchems, the country has the potential to build an \$80 billion-\$100 billion specialty chemicals industry by 2020,” Joerg Strassburger, managing director and country representative at Lanxess India said at a seminar held in New Delhi earlier this month.

Lanxess recorded sales of €184 million in India in the first nine months of 2011, and it employs about 861 people in the country. Full-year sales figures for 2011 have not yet been announced. Lanxess has invested about €150 million in India over the past three years.

Operating in India, however, is not without challenges, Strassburger says. “The challenges lie in the areas of infrastructure, manpower, and support from the administration,” he says. The availability of continuous power supply; availability of natural gas; connections to common sewage and effluent-treatment plants from the sites; and good connectivity to major industrial clusters by highways, ports, and airports are some of the basic infrastructure requirements that the industry presently has, Strassburger says. “Since there are very few sustainable chemical parks in India, availability of land is scarce for companies to set up plants,” he says. “On the raw materials front, higher costs and non-availability of feedstock is often a handicap for scaling up manufacturing operations. The complex tax structures, lack of a single-window clearance for necessary permits and approvals, and rising manpower costs are some of the additional challenges that a growing chemical company in India has to deal with,” Strassburger says.

Competition from chemical industries in other emerging economies is also a concern for India, analysts say. “The Indian chemical industry needs to improve domestic production capabilities across various sectors in order to compete with low-cost imports from China, Korea, and the Mideast,” Thakur says.

The textile chemicals segment in India has, in particular, been impacted by the global economic slowdown, experts say. “The textile chemicals segment has seen low levels of demand as exports contribute more than 40% of the textile industry's demand,” Thakur says. “The segment, however, is picking up and will have steady growth in the coming years.”

Most sectors of the Indian chemical industry are unaffected by global economic challenges such as the European debt crisis,



TATA BABRALA PLANT: *Awaiting clarity on gas allocation and pricing related to urea capacity increase.*

however, analysts say. “The impact of the debt crisis in Europe on the Indian chemical industry will be minimal,” Thakur says. “The only area where any impact would be visible is in exports. However, most end-use products exported from India to Europe are low-cost commodities, which are basic necessities and as a result, there will not be a drastic reduction in exports of these products.”

Tata Chemicals (Mumbai), a leading producer of inorganic chemicals and fertilizers, says Europe's debt crisis and other concerns in the global economy have not affected the company's operations. “There has been no visible impact of the European debt crisis on soda ash prices or demand,” says R. Mukundan, managing director of Tata Chemicals. “All our facilities are running at optimum levels and are booked due to long-term contracts. While the infrastructure sector will continue to support soda ash demand across emerging economies and to a certain extent in the developed economies too, especially the U.S., we may have to deal with some demand-supply mismatch in the next fiscal year if China's [growth] slows down.”

Tata Chemicals recorded sales of Rs110.6 billion in the fiscal year ended March 31, 2011 and the company aims to expand its business in the next few years. “On the basis of our existing plans, we shall double our turnover in the next five years,” Mukundan says. Tata Chemicals reported a 23% increase in sales in the first nine months of the current fiscal year ending March 31, 2012, compared with the year-ago period, to Rs103.3 billion.

The company is expanding its business in India as well as overseas. Tata Chemicals, in the quarter ended December 31, 2011, increased production capacity for single super phosphate by 50,000 m.t./year at the company's site at Haldia through debottlenecking. “We are also investing in a nutraceuticals plant in southern India,” Mukundan says.

Demand in India for soda ash, one of Tata



STRASSBURGER: *Specialty chemicals sector has huge potential.*

Chemicals' main products, "was and continues to be robust, resilient, and growing across all sectors," Mukundan says. "However, raw material and energy costs are challenging and unlikely to significantly abate going forward." There has been an improvement in profitability in the customized fertilizer business "on account of a steady rise in volumes and firm pricing," he says. "The company also plans to aggressively grow the specialty fertilizer business, which is currently seeing healthy volume growth."

Tata Chemicals, meanwhile, plans to increase urea capacity at its Babrala, India site. The company is awaiting confirmation from the Indian government of gas-supply commitments to feed the additional urea capacity. "Our planned investment at Babrala is pending government policy on investment, and we are awaiting clarity on gas allocation and pricing," Mukundan says.

Fertilizer prices have increased worldwide over the last few years and India, as a major importer, has felt the impact of the price rises. As a result, consumption patterns in India have changed to a certain extent, industry players and analysts say. "There has been a decrease in consumption of complex fertilizers recently and it may continue this year, due to the rise in prices in the international market," Mukundan says.

However, analysts say fertilizer demand is unlikely to decrease substantially. "There is a very low likelihood of consumption of fertilizers decreasing in India, as awareness of how to optimally use farm inputs is still lacking," says Chaitra Narayan, program manager/chemicals, materials, and foods at Frost & Sullivan (Bangalore). "Farm input costs have gone up, but informed farmers are moving toward using alternative products like farm-based manures and specialty fertilizers, which require lower dosages."

The Indian government is not likely to intervene in domestic fertilizer markets by subsidizing retail prices to help farmers, despite the impact of rising prices in international markets, experts say. "It will be difficult for the government to balance both industry and farmer requirements," Narayan says. "In order to improve the returns, some food products may see retail price standardization, but that will depend on lot of factors other than just fertilizer prices."

Domestic prices of all nutrients other than

nitrogen were decontrolled in 2010 under the Indian government's nutrient-based subsidy (NBS) policy and producers do not expect the government to abolish this regulation. "It is unlikely that the government will take such a stand," Mukundan says.

There are even reports that the government may be planning to liberalize the nitrogen fertilizer market and increase urea prices, to lower the subsidy burden. The Indian government currently maintains the domestic market price of urea below production costs, and it pays the difference between production costs and the market price in the form of a subsidy. Tata Chemicals says it is awaiting a policy decision on a possible increase in urea prices.



MAHESHWARI:
More new customers.

Current annual demand for urea in India is about 28 million m.t., of which almost 22 million m.t. is produced domestically, reports say. "Urea

being the major fertilizer used in the country, the reduction in subsidy will have a large impact on the government subsidy bill," Narayan says. "A rise of even 10% in urea prices is expected to give the government savings of Rs12 billion on subsidies every year. As the cost of production and import of urea is much higher than the retail price, an increase of 10% is not expected to make any substantial difference to the manufacturer," Narayan says.

The chemical industry in India, as it achieves world scale and establishes itself internationally, is also becoming more environmentally responsible, analysts say. "Although there is increased awareness of the needs and benefits of green technology, Indian chemical companies—excluding Indian subsidiaries of multinational companies—have been less focused on innovation and development targeted at implementing green technology," Thakur says. "This is attributed to low interest from an end-user perspective in green products. Based on the current scenario, the Indian consumer still seems to prefer a high-performance product with low eco-friendly attributes than a product with marginally lower performance, but high eco-friendly attributes. This trend is, however, changing and over the next five years an increase in demand for green technology-based chemicals will be seen due to better end-user awareness," Thakur says.

Newreka Green Synth Technologies (Mumbai), a provider of green chemistry solutions to firms producing pharmaceuticals, specialty chemicals, fine chemicals, agchems, and dyes and pigments says its customer base is growing. Newreka has seen a 20%-25% rise in new customers in the last two years and, excluding pharma customers, the increase would be about 15% in the chemical industry alone, the company says. "One reason is that the chemical industry in India is poised to grow, and more chemical companies and manufacturing are moving to India," says Komal Maheshwari, green R&D manager at Newreka. "From the perspective of green chemistry, the main reason for this rise could be attributed to 'push' and 'pull' factors. There is a push from government bodies and pollution control boards in India, to encourage companies to adopt technologies that are more environmentally friendly and sustainable. The 'pull' factor is from international customers who demand to know the environmental footprint of products they outsource from India. And the level of awareness about the environment and green technology has also increased in the last 2-3 years in India," she says.

The Indian government has been contributing to this rising awareness and popularity of green chemistry, Newreka says. "The department of science and technology of the Indian government has an independent body called the green chemistry task force, which is a 13-member team of industry and academic representatives," Maheshwari says. "They are involved in collaborative research to find solutions for the industry, and are introducing technology implementation schemes. But the role of this task force in implementation has been limited. They are considering revamping their structure and making it more effective."

State pollution control boards throughout India, and the Ministry of Environment and Forest (New Delhi) have become more aware of the challenges and more aggressive in their policies. They have, however, changed their approach to "partnering" rather than "policing," Newreka says. "Until two years ago, the approach was focused on policing, where they would raid or fine manufacturers if norms are not met or would even seal a manufacturing unit for a certain period of time," Maheshwari says. "Now, they focus on connecting these manufacturers, who have an environmental challenge, with bodies such as Newreka who can provide solutions, so that the manufacturer is not forced to stop production and lose revenue."

—DEEPTI RAMESH