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China's Chemical Industry – The new forces driving change?

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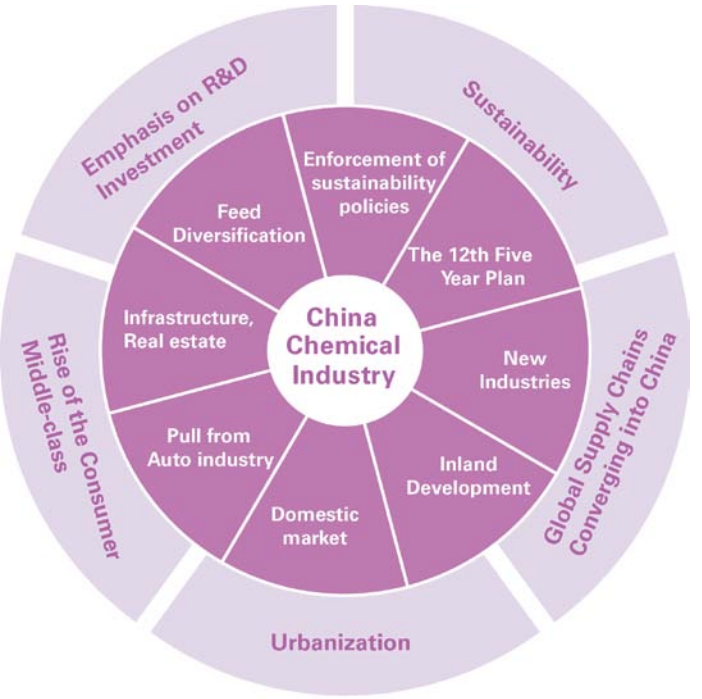
KPMG CHINA

China's traditional export driven business model, with its emphasis on cost competitiveness, standardisation and middle-to-low technological content, seems to be exhausting in China. In the chemical industry, a new business paradigm is emerging, we are seeing increased technological competence and deeper local customization. The passing of the 12th Five Year Plan in March 2011 heralds this new phase of development, which is quickly being embraced by the leading players in the industry.

Leading indicators

- On 14 March 2011, China's National People's Congress approved a new national development programme for the five years from 2011 to 2015. The plan emphasises "higher quality growth"; sustainability, R&D, development of hi-tech industries are key goals.
- The current 250 million plus consumer population is expected to reach 400 – 420 million by 2024.
- R&D is targeted to increase from the current 1.4 percent of GDP to 2.2 percent in 2015
- China approved its own version of REACH, the European Union guidelines on chemicals use and safety, in October 2010
- China's Aviation Industry Corporation announced in 2011 its agreement to supply mid-sized planes to Ryanair, a European low cost carrier



Which macro-trends affect the industry and how?

- Domestic consumption – the increasing contribution of domestic private domestic spending to the economy will continue shaping demand for chemicals. Over 50% of executives interviewed by KPMG indicate that the pull from local derivative demand will consistently outgrow export demand in the coming five years. You may expect further product localization and a reshuffle in supply chains. Food chemicals and packaging (PE, PP, LDPE, PET), will be positively affected
- Unrelenting urbanization - although far from the peaks of 2009, infrastructure spending will continue to remain at a solid pace. The effort will likely focus on the less developed western regions, currently growing at a faster pace than many coastal regions. Sub-sectors such as PVC are candidates for this kind of industrial relocation within China. Certain olefins projects in the coal-rich North West are another early indicator of this trend
- Sustainability and energy efficiency – a critical concept in the 12th Five Year Plan, sustainability initiatives will not only affect the demand side (water treatment chemicals, more efficient catalysts) but also the process side. Further, environmental and energy regulations will offer a tool for industry reorganization by helping retire less efficient capacity
- New supply chains gravitating to China – China is already winning industry market share in hi-tech intensive industries, while traditional lower cost manufacturers continue their move towards more cost effective countries (Vietnam, Thailand…). The change may negatively affect bulk polymer and resin manufacturers (e.g. those catering to the garment industry) but will bring in opportunities for electronics and specialty materials manufacturers, as well as performance plastics and composites
- Growth in R&D investment – China surpassed Japan in R&D expenditure in 2010. The traditional gap between low cost local manufacturer and technologically superior foreign player is now barely discernible in certain sectors. There is increasing dynamism all across the industry, but particularly in those niches whose derivative demand requires higher levels of specialization and customization

China's 12th Five-Year Plan: Seven Priority Industries	Chemical sectors affected (a sample)
1 New energy	• Strong potential for pull demand in performance materials and composites, as well bio-plastics (e.g. PA11)
2 Energy conservation and environmental protection	• Water-treatment chemicals, process improvement technologies, polymers (as a substitute for metals)
3 Biotechnology	• Potential push effect for catalysts, industrial cleaning technologies, bio-feedstock
4 New materials	• Rare earth chemistry and high-end semiconductors (silicon derivatives, specialty materials) specifically targeted
5 New IT	• Demand for performance materials and composites, performance resins and polymers, electronics materials
6 High-end equipment manufacturing	• Demand for performance materials and composites, performance resins and polymers, electronics materials
7 Clean energy vehicles	• Rare earth, TiO2, Lithium related chemistry. Performance polymers and resins, composites

What we may see in the next five years

- Emergence of new local majors in the agrochemicals sphere - this is a stated goal of the regulator and probably the only feasible way to deal with the over-capacity and sustainability issues in some parts of the sector
- Auto makers foraying into the chemical industry – Along the efforts to explore zero-emission technologies and alternative power sources, Chinese auto makers will have a compelling reason to get involved in the management of the research process. BYD has lead the way here with their entry into the battery business, and their competitors are sure to follow
- More local R&D by both multinationals and locals
- Chinese subsidiaries of multinationals becoming more self-sufficient - Chinese nationals will no longer be a novelty in the boards of European and American chemical corporations
- A reshaping of internal logistics and chemical geography – Gravitating mainly towards the North / Northwest
- Chinese majors continuing their international expansion – However, the emphasis will shift from a focus on securing feedstock towards the building of global businesses
- Adoption of sustainability reporting and other best practices by leading Chinese companies – Investors will become more interested in assessing sustainability concerns as a response to stricter enforcement of environmental standards by regulators

Chemical segments	Impact of mega-trends				
	Rise of consumer demand	Urbanization	Sustainability	Shift in supply chain	Enhanced local R&D
Olefins / BTX	↑↑	↔	↓	↓	↓
Fertilizers	↑↑	↑	↓	↔	↔
Pesticides	↑	↔	↓	↔	↔
Catalysts	↑	↔	↑	↑	↑
Chlor-alkali	↑	↑	↓	↔	↔
Electronic materials	↑↑	↔	↔	↑	↑↑
Fine chemicals	↑↑	↑	↑	↔	↑
Food chemicals	↑↑	↔	↔	↔	↔
Lubricants	↑	↑	↓	↑	↔
Paints and coatings (traditional)	↑	↑	↓	↔	↔
Polymers and resins	↑	↑	↓	↔	↓
Water treatment chemicals	↑↑	↑	↑↑	↔	↔
Bio-materials	↑	↑	↑↑	↔	↑↑
Advanced materials	↑	↔	↑	↑↑	↑↑

↑↑ Significant growth in demand

↑ Growth in demand

↓ Overall downward impact

↔ No significant direct impact

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This is an extract from our upcoming Thought Leadership Report on the status and trends of the chemical industry in China, to be released later this month. For copies, please contact candice.zhang@kpmg.com