

CHEMICALS



AUGUST 2013

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CHEMICALS



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EXECUTIVE SUMMARY

Leading position globally

- Indian chemical industry stood as 3rd largest producer in Asia in 2011 in terms of volume

High GDP share

- The chemical industry in India is a key constituent of Indian economy, accounting for about five per cent of the GDP

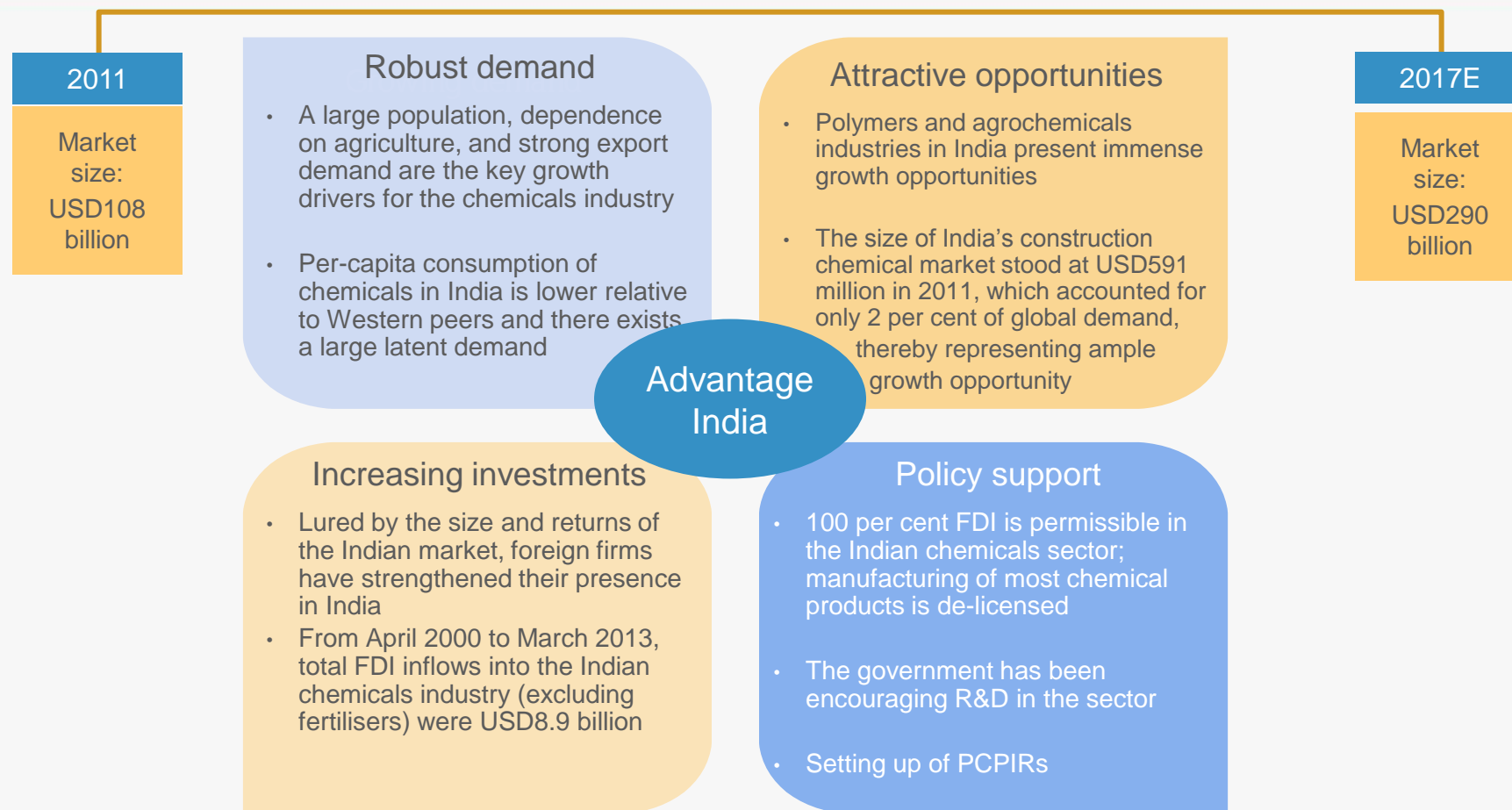
Global dye supplier

- India accounts for approximately 7 per cent of the world production of dyestuff and dye intermediates, particularly for reactive acid and direct dyes

Global player in specialty chemicals

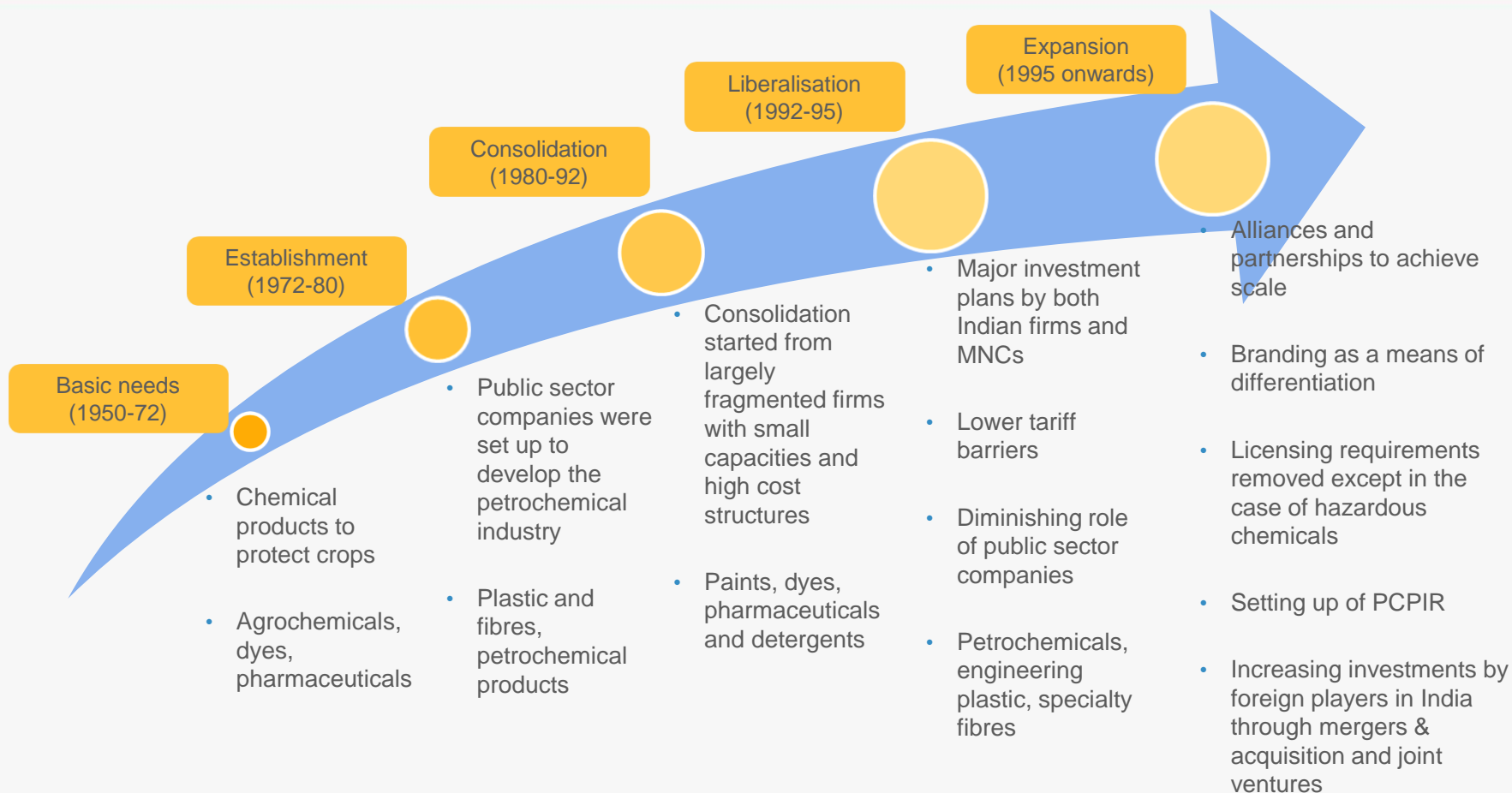
- India is currently the world's third largest consumer of polymers and fourth largest producer of agrochemicals

Source: TATA Strategic Management Group, Planning Commission, Department of Industrial Policy and Promotion (DIPP), Aranca Research
Notes: PCPIR - Petroleum, Chemicals and Petrochemical Investment Regions; E - Estimated,



Source: TATA Strategic Management Group, Planning Commission, Department of Industrial Policy and Promotion (DIPP), Aranca Research
Notes: PCPIR - Petroleum, Chemicals and Petrochemical Investment Regions; E – Estimated,

EVOLUTION OF THE INDIAN CHEMICAL INDUSTRY



Source: KPMG, Aranca Research
Notes: MNC – Multinational Corporation

MAJOR SEGMENTS OF THE INDIAN CHEMICAL INDUSTRY

Base chemicals

- Petrochemicals, man-made fibres, industrial gases, fertilisers, chlor-alkali, and other organic and inorganic chemicals

Specialty chemicals

- Dyes and pigments, leather chemicals, construction chemicals, personal care ingredients and other specialty chemicals

Pharmaceuticals

- Active Pharmaceutical Ingredients (APIs) and formulations

Agrochemicals

- Insecticides, herbicides, fungicides and other crop protection chemicals

Biotechnology

- Bio-pharma, bio-agri, and bio-industrial products

Source: TATA Strategic Management Group, Aranca Research

PRODUCT-WISE CLASSIFICATION OF THE INDIAN CHEMICAL INDUSTRY

Alkali chemicals

- Soda ash
- Caustic soda
- Liquid
- Chlorine

Inorganic chemicals

- Aluminum flouride
- Calcium carbide
- Carbon black
- Potassium chlorate
- Titanium dioxide
- Red phosphorus

Organic chemicals

- Acetic acid
- Acetone
- Phenol
- Methanol
- Ortho Nitro Chlorobenzene (ONCB)
- Isobutyl
- Para Nitrochlorobenzene (PNCB)
- Ethyl

Pesticides & Insecticides

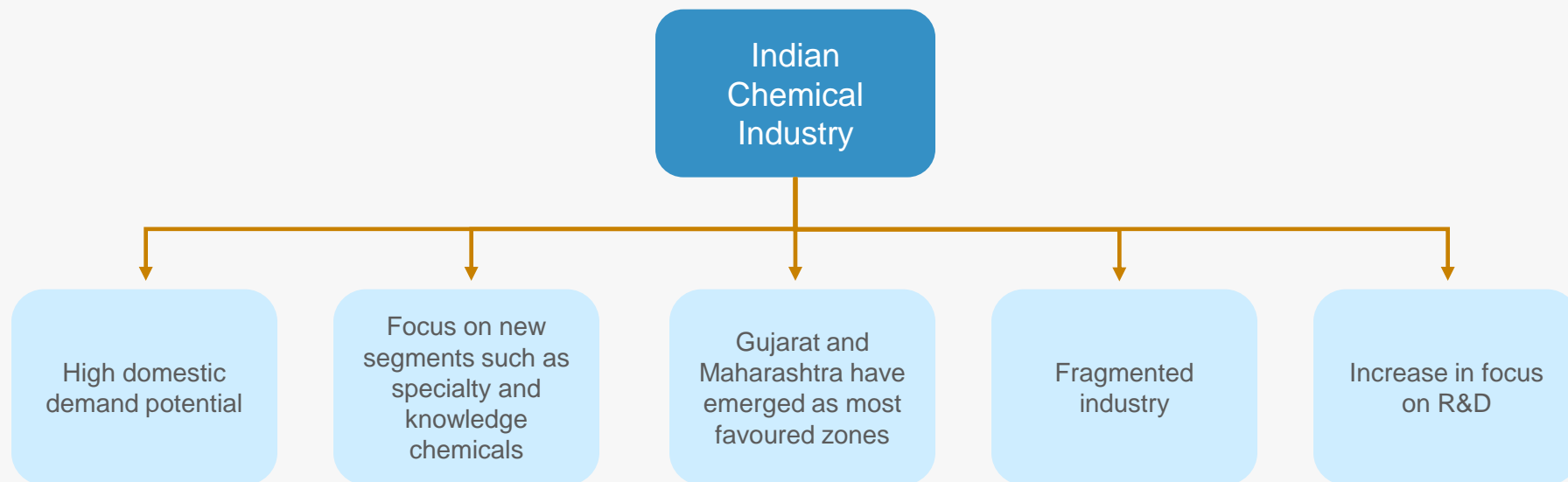
- Dichlorodiphenyltri-chloroethane (DDT)
- Malathion
- Parathion
- Ethicon
- Endosulphan
- Phosalone
- Phorate
- Acephate
- Fenvalerate

Dyes & Dyestuffs

- Azo dyes
- Disperse dyes
- Fast colour bases
- Ingrain dyes
- Naphthols
- Vat dyes
- Reactive dyes
- Pigment Emulsion

Source: Aranca Research

CHARACTERISTICS OF THE INDIAN CHEMICAL INDUSTRY



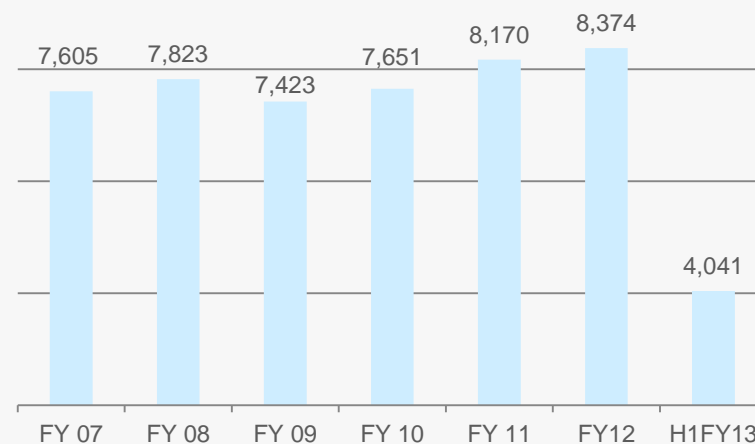
- The industry has changed over time to meet the dynamic needs of an emerging economy
 - Strong economic growth and rise in per-capita income has meant a steady increase in demand for chemicals
- The industry has left behind a low-growth and regulated environment to emerge more mature
- There is strong government support towards R&D; this would benefit the sector

Source: KPMG International 2011, Aranca Research
Notes: R&D – Research and Development

DOMESTIC AND EXTERNAL DEMAND DRIVING GROWTH IN THE SECTOR ... (1/2)

- * Total production in the Indian chemical industry was 8,374 MT in FY12, a 2.5 per cent rise over FY11
 - * During H1FY13, total chemical production stood at 4,041MT
- * Favourable demographics and strong economic growth are driving demand for chemicals
- * External demand and specialty chemicals have also contributed strongly to the growth of the industry
- * India's growing per capita consumption and demand for agriculture-related chemicals offers huge scope of growth for the sector in the future

Total production of major chemicals (000' MT)



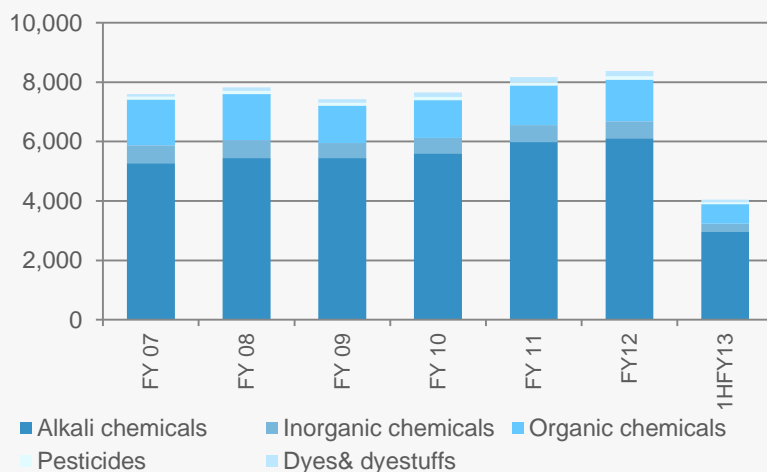
Source: Department of Chemicals and Petrochemicals,
Aranca Research

Note: MT - Metric Tonne, 1HFY13 - Data up to September 2012

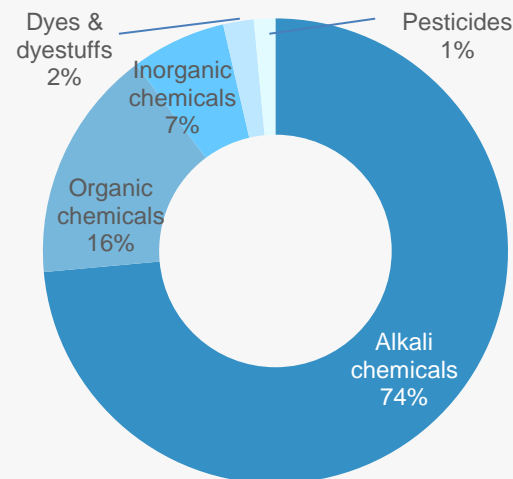
DOMESTIC AND EXTERNAL DEMAND DRIVING GROWTH IN THE SECTOR ... (2/2)

- * With 74 per cent of the total production share, alkali chemicals form the largest segment in the Indian chemical industry
- * During H1FY13, alkali chemicals' production stood at 2,973MT, nearly half of FY12 levels

Production of major chemicals (000' MT)



Production share of major chemicals during H1FY13

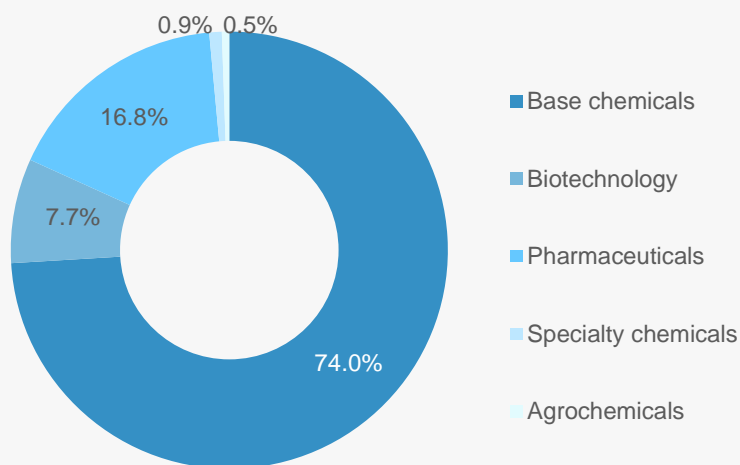


Source: Department of Chemicals and Petrochemicals, Aranca Research
Note: MT - Metric Tonne, 1HFY13 - Data up to September 2012, Kg - Kilo gram, CAGR - Compound Annual Growth Rate

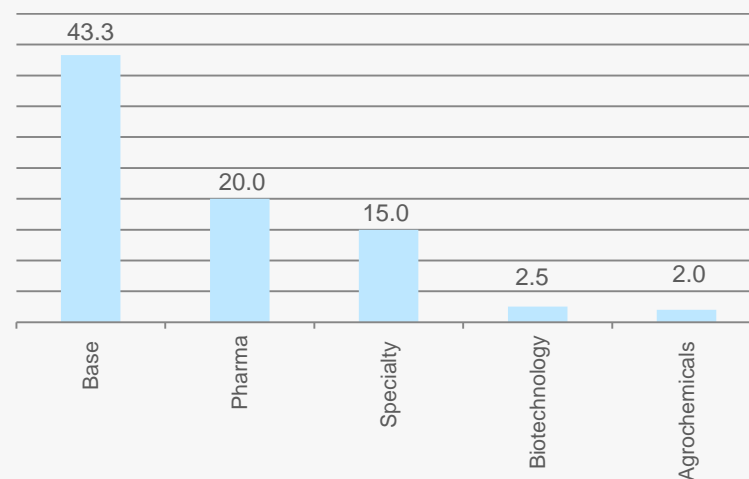
BASE CHEMICALS ACCOUNT FOR MORE THAN HALF OF THE TOTAL PRODUCTION

- * Base chemicals account for three fourth (74 per cent) of the Indian chemical industry, followed by pharmaceuticals (16.8 per cent) and biotechnology (7.7 per cent)
- * Agrochemicals and specialty chemicals are the minor components of the sector, accounting for 0.5 per cent and 0.9 per cent, respectively, of the total production in 1HFY12
- * Specialty chemicals are relatively high valued; their demand is rapidly growing, catering to a diverse end-product market

Shares in production in H1FY12



Production of chemicals in FY10 (USD billion)

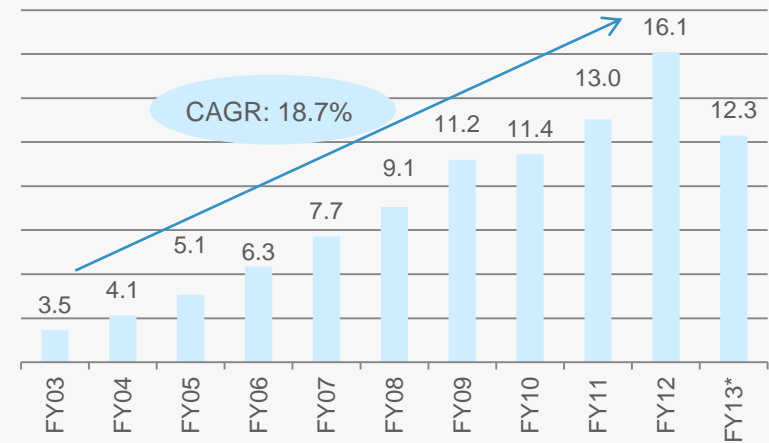


Source: Department of Chemicals and Petrochemicals, Aranca Research
Note: 1HFY12 – First six months of FY12 (Apr – Sep)

EXPORTS HAVE BEEN RISING OVER THE YEARS ...

- * Chemicals constituted 5.3 per cent of India's total exports in FY12
- * Total exports of chemicals grew from USD3.5 billion in FY03 to USD16.1 billion in FY12, a CAGR of 18.7 per cent
- * Exports of the Indian chemical industry stood at USD12.3 billion for the first nine months of FY13 (Apr–Dec 2012)

Chemical exports of India (USD billion)

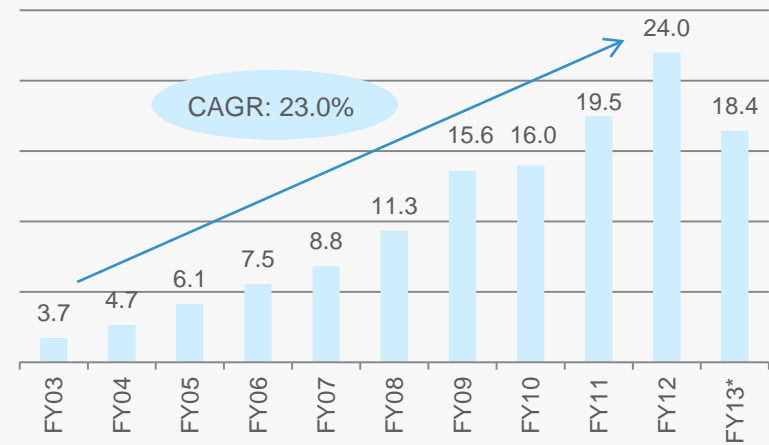


Source: Ministry of Commerce, Aranca Research
 Note : FY13* - Data for FY13 is up to December 2012,
 CAGR - Compound Annual Growth Rate

... BUT, INDIA IS A NET IMPORTER OF CHEMICALS

- * India has been a major importer of chemicals; the sector made up 5 per cent of India's total imports in FY12
- * Total imports of chemicals grew from USD3.7 billion in FY03 to USD24.0 billion in FY12, a CAGR of 23 per cent
- * Total imports of chemicals reached USD18.4 billion in the first three quarters of FY13

India's chemical imports (USD billion)

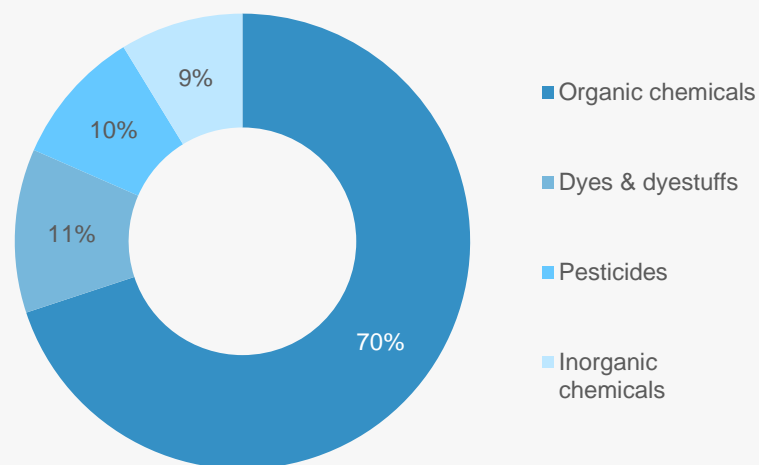


Source: Ministry of Commerce, Aranca Research
Note: FY13* - Data for FY13 is up to December 2012,
CAGR - Compound Annual Growth Rate

ORGANIC CHEMICALS DOMINATE BOTH EXPORTS AND IMPORTS ... (1/2)

- * During FY13, organic chemicals constituted 70 per cent of India's total chemical exports, followed by dyes & dyestuff at 11 per cent
- * Over FY03–13, organic chemicals exports rose at a CAGR of 19.6 per cent, followed by pesticides at a rate of 18.9 per cent during same period
- * Exports of inorganic chemicals and dyes & dyestuff grew at a CAGR of 14.6 and 13.1 per cent, respectively, during FY03–13

Shares in exports of chemicals in FY13

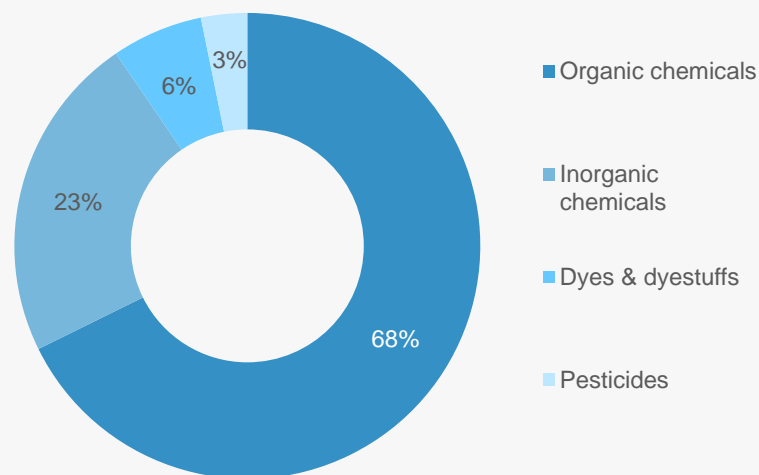


Source: Department of Chemicals and Petrochemicals, Aranca Research
Note: CAGR - Compound Annual Growth Rate

ORGANIC CHEMICALS DOMINATE BOTH EXPORTS AND IMPORTS ... (2/2)

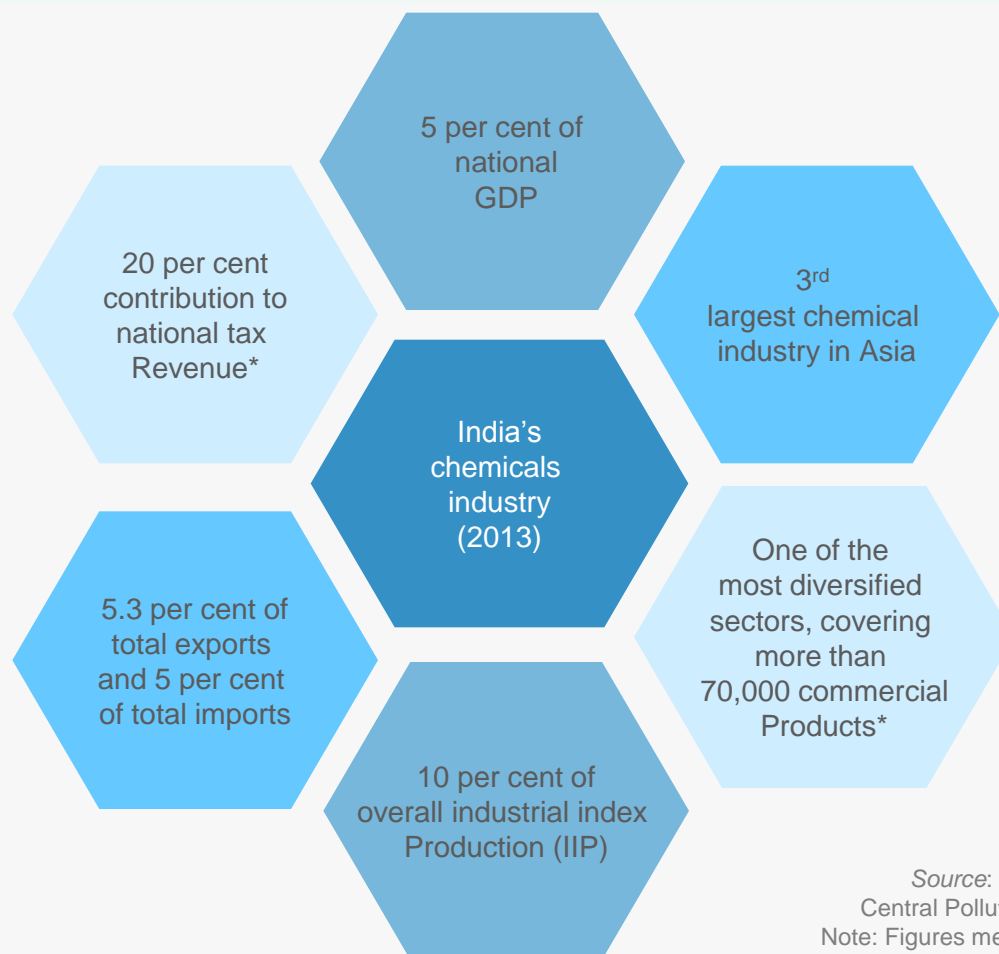
- * Organic chemicals also dominate imports, with a share of 68 per cent, followed by inorganic chemicals at 23 per cent in FY13
- * Over FY03–13, pesticides imports rose at a CAGR of 28.8 per cent, followed by organic chemicals at a rate of 21.7 per cent
- * Imports of dyes & dyestuff and inorganic chemicals grew at a CAGR of 18.1 and 16.4 per cent, respectively, during FY03–13

Shares in imports of chemicals in FY13



Source: Department of Chemicals and Petrochemicals, Aranca Research
Note: CAGR - Compound Annual Growth Rate

CHEMICAL INDUSTRY HOLDS A SIGNIFICANT POSITION IN THE ECONOMY



Source: Ministry of Environment and Forests,
Central Pollution Control Board, Aranca Research
Note: Figures mentioned above is taken from Dept. of
Chemicals and Petrochemicals;
* Data for 2011

HIGH GROWTH WOULD LEAD TO RISING GLOBAL POSITIONING

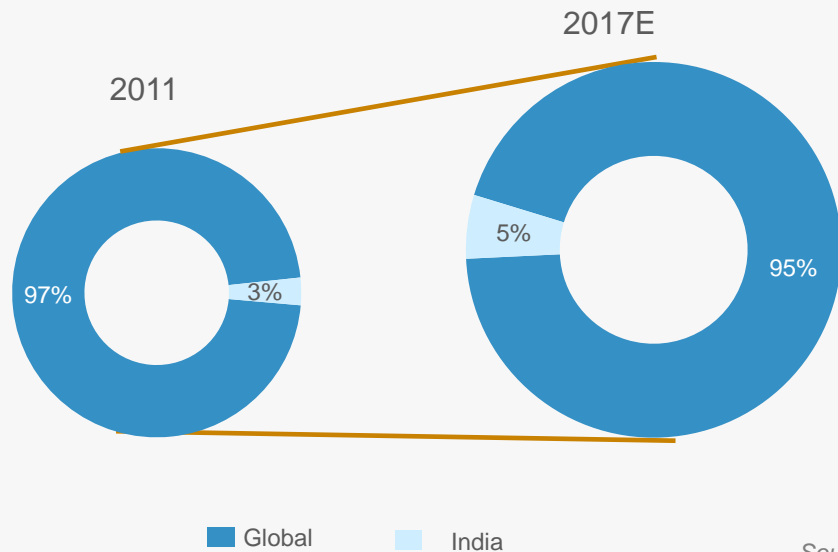
2011

- Global chemical industry: USD3.4 trillion
- India chemical industry: USD108 billion

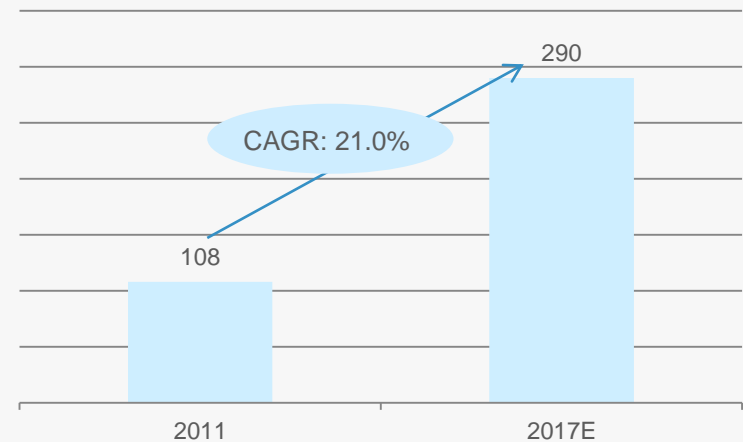
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- Global chemical industry: USD5 trillion
- India chemical industry: USD290 billion

Contribution to global chemical industry would increase



Strong growth outlook for the Indian chemicals industry

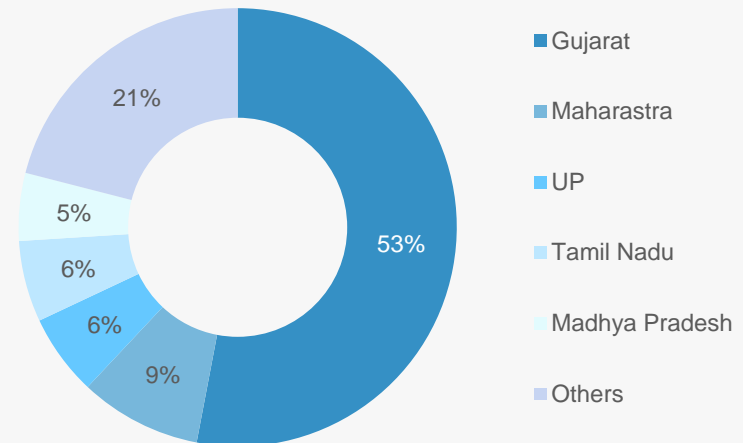


Source: TATA Strategic Management Group, Planning Commission, Aranca Research, CAGR - Compound Annual Growth Rate

WIDESPREAD CHEMICAL INDUSTRY INFRASTRUCTURE ACROSS INDIA ... (1/2)

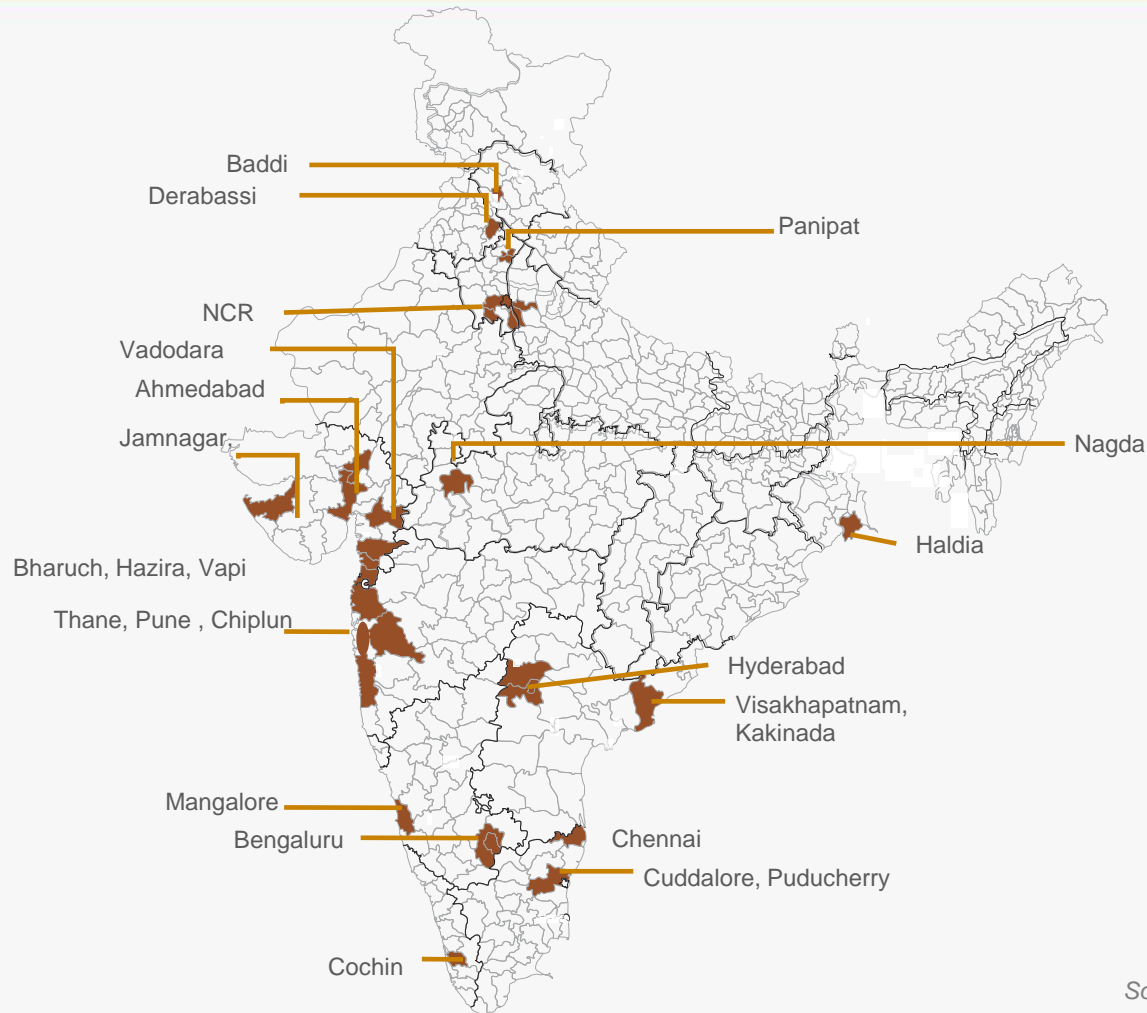
- * Though the sector is spread across the country, there is relatively high concentration along the West coast due to proximity to raw materials and ports
- * Gujarat alone is estimated to contribute about 53 per cent of the total production in the country
- * Gujarat and Maharashtra emerged as the most favoured zones for the industry, mainly because of government policies, strategic location, and availability of raw material

Regional concentration of basic chemical industry (FY11)



Source: India-Chem, TATA Strategic Management Group, Planning Commission, Aranca Research
Note: MoU - Memorandum of Understanding

WIDESPREAD CHEMICAL INDUSTRY INFRASTRUCTURE ACROSS INDIA ... (2/2)

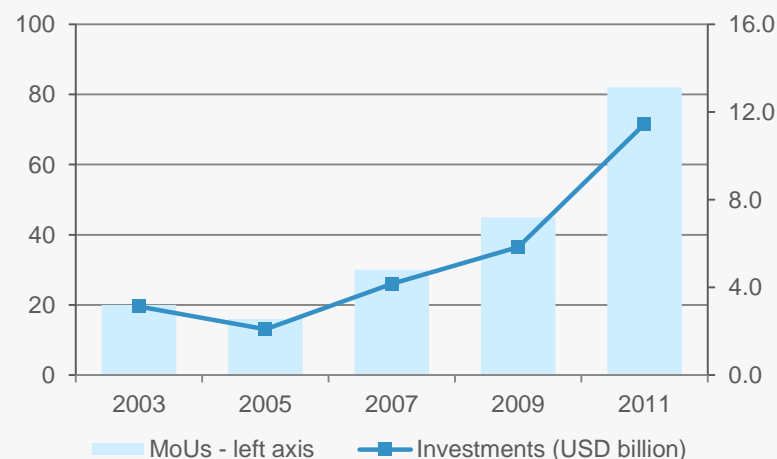


Source: D&B, Aranca Research

GUJARAT: THE CHEMICALS HUB OF INDIA

- * With the presence of world class manufacturing facilities of Indian and multinational chemical manufacturers, Gujarat houses 53 per cent of India's manufacturing capacity of chemicals
- * Reliance Industries, ONGC, Dow Chemicals, Cheminova, Lanxess, Gujarat State Fertilisers & Chemicals Ltd (GSFC), Gujarat Alkalis & Chemicals Ltd (GACL) and many other companies have their production facilities in Gujarat
- * Government support, world class infrastructure, strategic location, availability of skilled workforce and raw material makes Gujarat a preferred location for chemical plants
- * The Dahej PCPIR has been the most successful one; it is spread over an area of around 453 sq km and has attracted investments of around of USD25 billion
- * Badische Anilin- und Soda-Fabrik (BASF), a German chemical major aims to invest USD183.7 million for setting up a new manufacturing facility at Dahej in Gujarat by March 2014

Proposed investments by chemical manufacturers in Gujarat



Source: India Chem, Aranca Research
Note: PCPIR - Petroleum, Chemicals and Petrochemical Investment Regions

KEY DOMESTIC AND INTERNATIONAL PLAYERS IN INDIAN CHEMICAL INDUSTRY ... (1/2)

Domestic company	Sales in FY13 (USD billion)	Products
Tata Chemicals Limited (TCL)	2.8	Soda ash, salt, marine chemicals, caustic soda, cement, etc.
United Phosphorus Limited (UPL)	1.7	Agrochemicals
Nirma Ltd	1.2*	Alkyl benzene, alfa olefin sulphonate, sulfuric acid, soda ash
Gujarat Heavy Chemicals Ltd (GHCL)	0.45	Soda ash
Gujarat Alkalies and Chemicals Ltd (GACL)	0.35*	Caustic soda

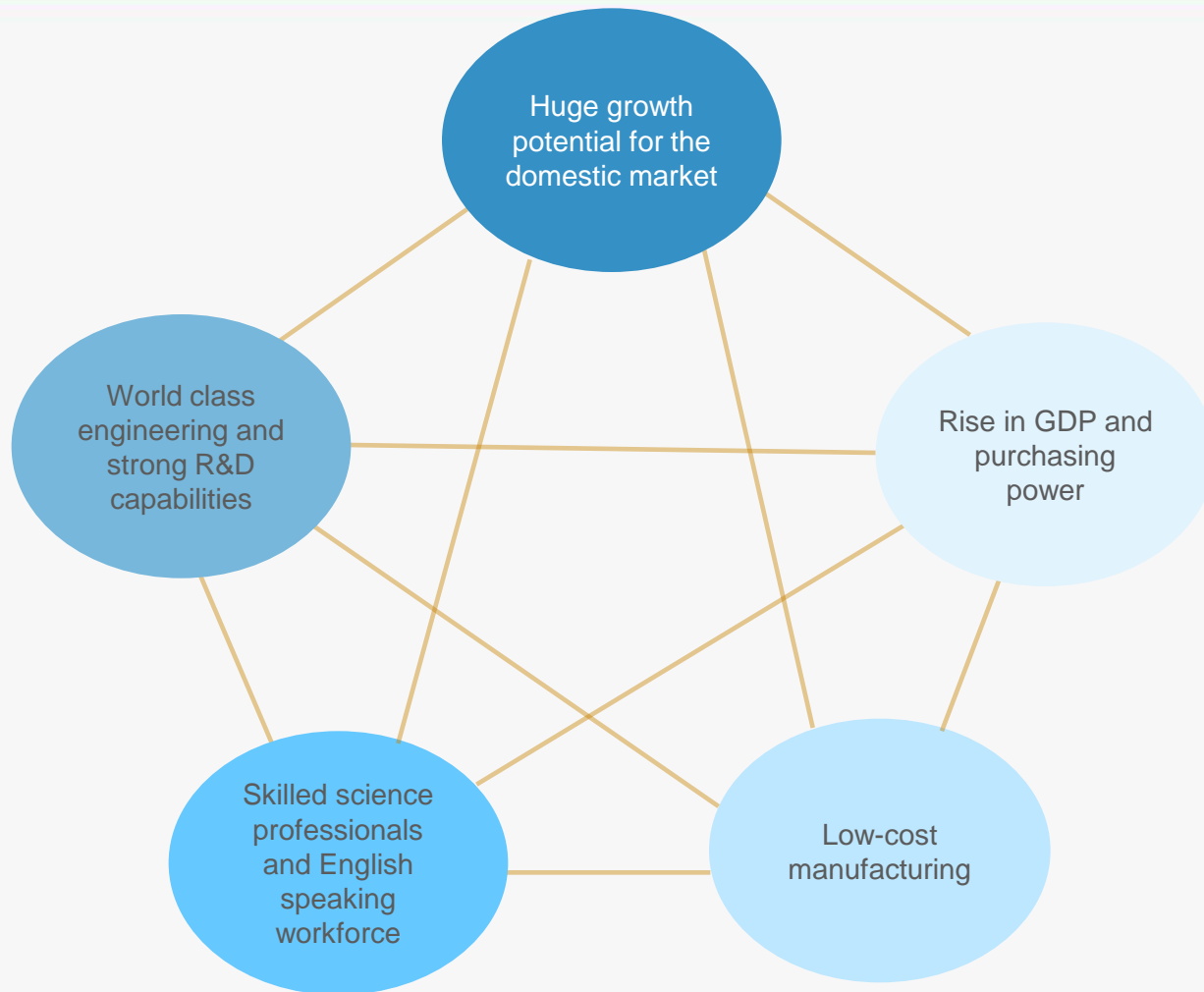
Source: Company Annual Reports, Aranca Research
Note: * - FY12,

KEY DOMESTIC AND INTERNATIONAL PLAYERS IN INDIAN CHEMICAL INDUSTRY ... (2/2)

International Company	Sales in 2012 (USD billion)	Products
BASF	92.8	Chemicals, plastics, performance and nutrition products
The Dow Chemicals	56.8	Specialty chemicals, agrochemicals and plastics
Bayer	19.3*	Agrochemicals, pharmaceuticals, polymers, technology services
E. I. du Pont de Nemours and Company	34.8	Specialty and fine chemicals
INEOS ABS India	16*	PVC films and specialty resins
AkzoNobel	21*	Coatings, decorative paints and specialty chemicals
Evonik Industries	17.3	Specialty chemicals
Lanxess	9.1	Plastics, rubber, specialty chemicals and intermediates
Wacker Chemie	6.0	Silicone, polymer, specialty and fine chemicals

Source: Company ANR, Aranca Research
Note : * Sales data for 2011

GROWTH DRIVERS OF THE INDIAN CHEMICAL INDUSTRY

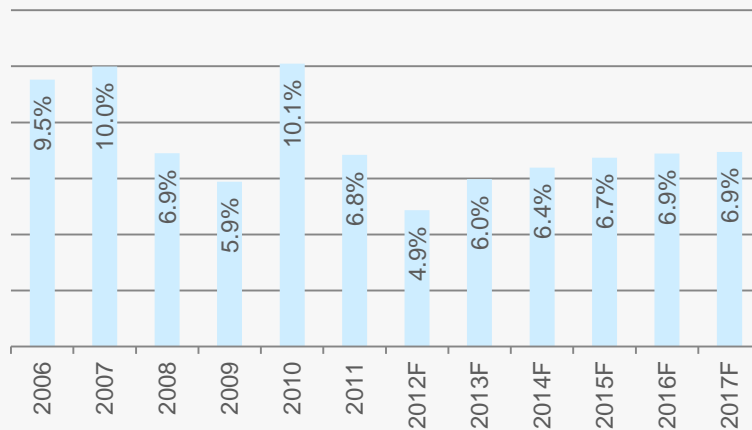


Source: Aranca Research

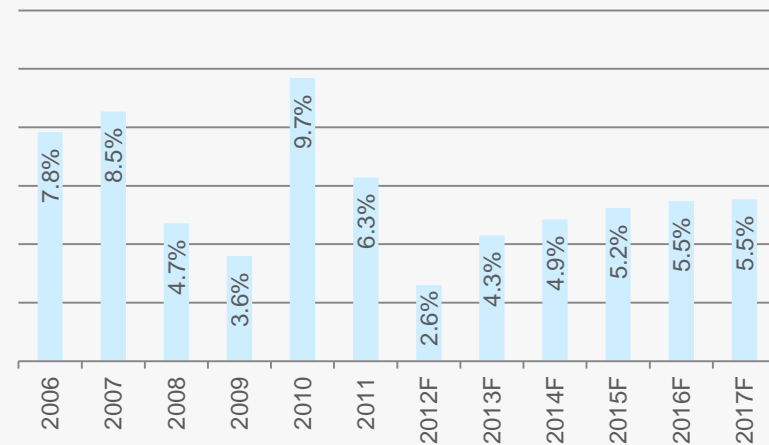
ECONOMIC EXPANSION WOULD CONTINUE TO DRIVE GROWTH IN THE CHEMICAL INDUSTRY

- * Being largely an intermediate product, strong economic growth is an important factor in sustaining demand for chemical products
- * Per capita consumption of most of the finished products under chemicals sector is far below the world average; this points to the vast potential for growth in the industry
- * As in a number of other industries in India, strong growth in discretionary income and changing lifestyles are counted as a few of the other major growth drivers of the chemicals sector

Real GDP growth



Per capita GDP growth

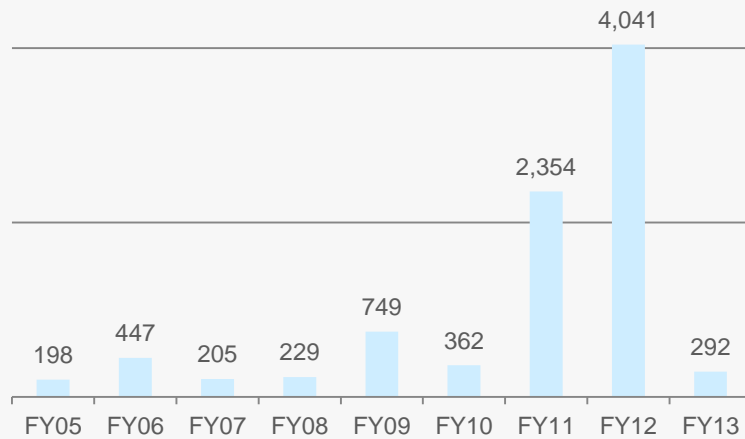


Source: IMF, Aranca Research

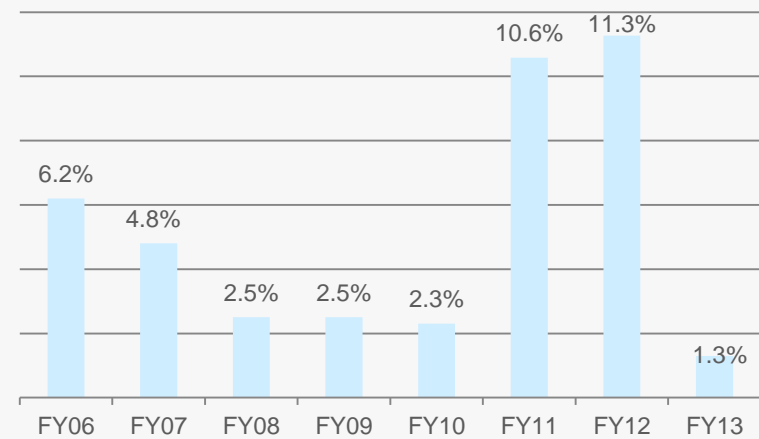
POLICY SUPPORT FOR FOREIGN INVESTMENT

- * FDI in chemicals (other than fertilisers) stood at USD292 million in FY13; cumulative FDI for the period April 2000–March 2013 stood at USD8.9 billion.
- * Procedures relating to FDI have been simplified; most of the items in the chemicals sector fall under the automatic approval route for FDI/NRI/OCB investment up to 100 per cent
- * The USD7.2 billion deal between Reliance Industries Limited and British Petroleum is the most significant deal in Indian chemical sector

Annual FDI inflow to the chemical industry
(excluding fertiliser)



Share of chemical industry in total FDI
inflow (excluding fertiliser)



Source: Department of Industrial Policy & Promotion, Ministry of Commerce and Industry, Aranca Research

GOVERNMENT SUPPORT TO THE SECTOR IS INCREASING ... (1/2)

All figures are in USD million					
Name of the scheme	XI Plan outlay (2007-2012)	Annual Plan FY11	Annual Plan FY12	Annual Plan FY13*	Annual Plan FY14*
Project based support to PSUs	29.1	4.3	0.0	5.4	1.9
Support to autonomous bodies	19.2	0.1	0.2	8.3	27.2
Other ongoing schemes	44.2	165.8	183.4	292.8	195.6
New schemes initiated in XI plan	25.0	17.9	10.1	-	-
Total	117.5	188.1	193.7	306.5	224.7

Source: Department of Chemicals and Petrochemicals, Aranca Research

Note: * - Revised estimate, FY14* - Budget estimate

GOVERNMENT SUPPORT TO THE SECTOR IS INCREASING ... (2/2)

All figures are in USD million					
Name of the scheme	Non Plan outlay (FY10)	Non Plan outlay (FY11)	Non Plan outlay (FY12)	Non Plan outlay (FY13)	Non Plan outlay (FY14)
Secretariat	2.21	2.52	2.79	2.3	2.4
Central Institute of Plastics Engg. & Technology (CIPET)	0.63	0.10	0.10	0	0
Bhopal Gas Leak Disaster	0	0	0	17.5	23.3
Institute of Pesticide Formulation Technology (IPFT)	0	0	0	0.6	0.6
Others	0.50	0.54	0.63	0	0
Total	3.34	3.16	3.52	20.4	26.3

Source: Department of Chemicals and Petrochemicals, Aranca Research

GROWTH, COMPETITIVENESS AND PROCESS INITIATIVES

- * The government has announced a number of measures to improve competitiveness in the sector
- * Industrial licensing has been abolished for most sub-sectors (except a small list of hazardous chemicals)
- * Approval is granted for FDI up to 100 per cent in the chemicals sector
- * The government is continuously reducing the list of reserved chemical items for production in the small-scale sector, thereby facilitating greater investment in technology up-gradation and modernisation
- * Policies have been initiated to set up integrated Petroleum, Chemicals and Petrochemicals Investment Regions (PCPIR). PCPIR will be an investment region spread across 250 square kilometres for manufacturing of domestic and export-related products of petroleum, chemicals and petrochemicals
- * New initiatives are likely to attract large investments, both domestic and foreign, with requisite improvements in infrastructure and competition

Industry-level initiatives

- The Indian Chemical Council (ICC) is the nodal agency/signatory representing India under the 'Responsible Care Initiative'
- ICC has prepared codes and guidance for implementation of process safety, employee health and safety, pollution prevention, emergency response, and product safety
- Member companies of ICC are encouraged to interact with local communities and groups such as students, teachers, fire/police personnel

Firm-level initiatives

- Indian chemical firms have strived to increase their market share through global presence
- They have in place technical agreements with multinational firms to keep abreast of technological progress in the global chemical industry

Source: EXIM Bank of India, Aranca Research, PCPIR - Petroleum, Chemicals and Petrochemicals Investment Regions

MILESTONES PROPOSED FOR 12th FIVE-YEAR PLAN

Infrastructure	Feedstock	R&D and Technology	Sustainability	Regulations
<ul style="list-style-type: none">• Make PCPIRs a reality• Provide infrastructure support to the industry by constructing roads, ports and other similar facilities	<ul style="list-style-type: none">• Implementation of strategy for sourcing and allocation of feedstock	<ul style="list-style-type: none">• Setting up of technology up-gradation fund of USD100 million• Allocation of 10 per cent share of the USD1 billion National Innovation Fund to chemicals	<ul style="list-style-type: none">• Development of the first set of chemical usage standards for the industry addressing key issues related to water supply, environmental impact, raw materials supply, safety over lifecycle, and energy use	<ul style="list-style-type: none">• Committee to frame regulatory structure and eliminate redundancies• Rationalisation of taxes and duties for the sector (to be implemented by 2014)• Setting up of a national chemical inventory

Source: Aranca Research

Note: PCPIR - Petroleum, Chemicals and Petrochemicals Investment Regions

RECENT MAJOR M&A DEALS IN THE INDIAN CHEMICAL INDUSTRY ... (1/2)

	Acquirer	Target/ JV partner	Valuation	Synergies/ drivers
Inbound				
September-12	Chemtura Corporation	Solaris Chemtech Industries	USD142 million	Increase in bromine production capacity
March-11	Bain Capital	Himadri Chemicals	USD89 million	Investments
April-11	Huntsman Corp	Laffans Petrochemicals	NA	To acquire ethylene oxide facility
July-10	Abott laboratories	Piramal's domestic formulations business	USD3.7 billion	Abott: Increased market share; Piramal: Focus on core business
Outbound				
November-12	Gulf Oil Corp Ltd	Houghton International Inc	USD1.1 billion	Specialty chemicals
April-12	Kanoria Industries Ltd	APAG Holding	USD1.6 million	Diversification into designing and engineering
July -11	United Phosphorus	DVA Agro- Brazil	USD150 million	Producing and marketing crop protection products
June -11	BASF India	Cognis chemicals	USD2.9 million	Specialty chemicals
April -11	Tata Chemicals	Gabon (Government project)	USD290 million	Access to huge potash reserves
Jun-10	United phosphorus	DuPont's fungicide Business	NA	UPL: Access to South and Central America DuPont: Focus on core business
May-10	Piramal	BioSyntech, Canada	USD3.7 million	Piramal: Access to technology

Source: Department of Chemicals and Petro Chemicals, Aranca Research

RECENT MAJOR M&A DEALS IN THE INDIAN CHEMICAL INDUSTRY ... (2/2)

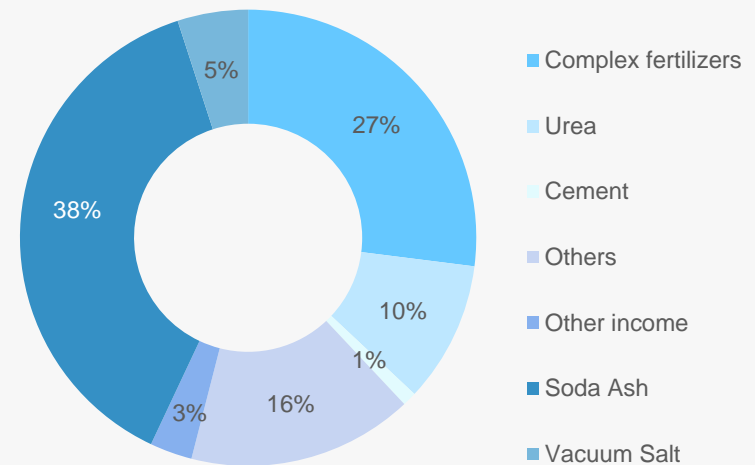
	Acquirer	Target/ JV partner	Valuation	Synergies/ drivers
Domestic				
April 11	Aditya Birla Group	Kanoria Chemicals	USD172 million	Increase in caustic soda capacity
May-10	Piramal	CIPLA's 'i-pill'	USD21 million	Piramal: Brand extension

Source: Department of Chemicals and Petro Chemicals, Aranca Research

TATA CHEMICALS: DIVERSIFYING THEIR WAY TO SUCCESS ... (1/3)

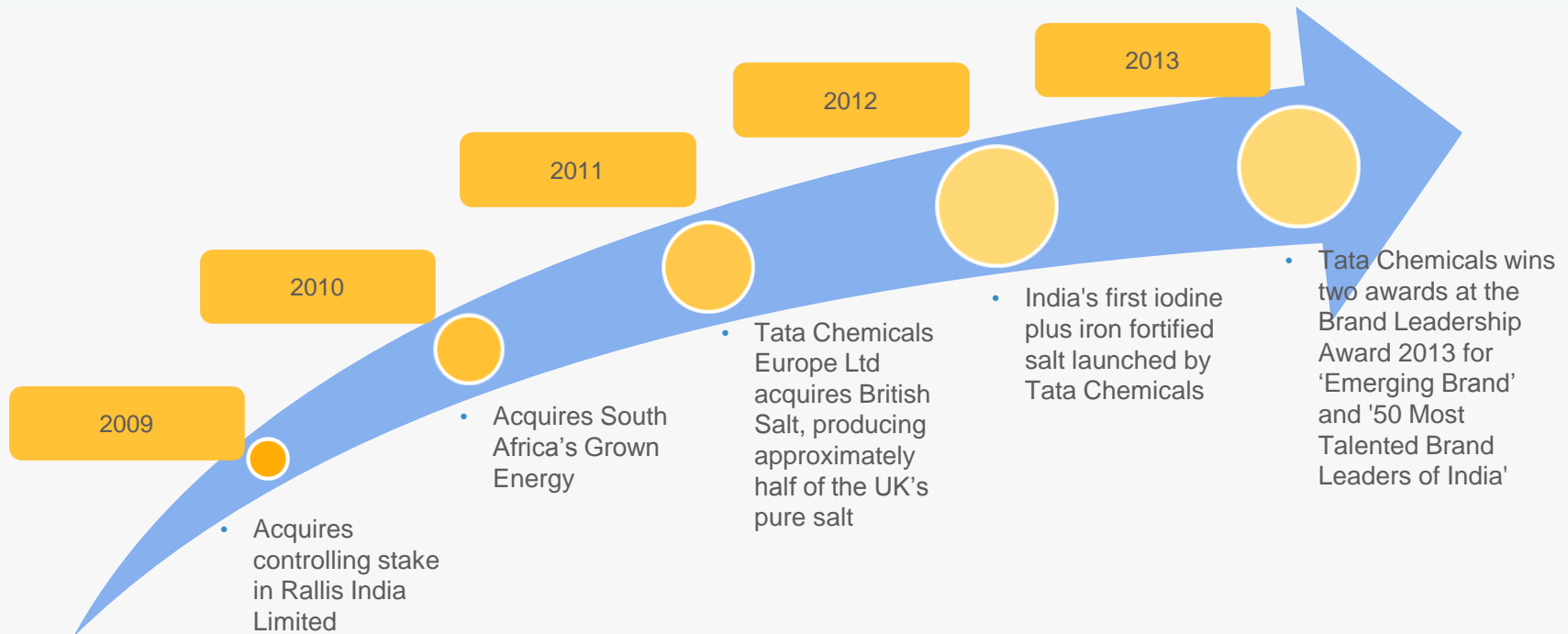
- * Tata Chemicals Limited (TCL) is one of the leading chemical companies in India, with significant operations in India and Africa
- * Second-largest soda ash producer in the world and the largest in India
- * A market leader in edible salt; largest STPP player in the country
- * Most energy-efficient urea fertiliser manufacturer in India; amongst the most efficient globally
- * 1/3rd stake holder in IMACID, Morocco, assured supply of key inputs

Revenue breakup of TATA chemicals (FY12)



Source: TATA Strategic Analysis, Aranca Research
Notes: STPP * - Sodium Tripolyphosphate
IMACID - Indo Maroc Phosphore S.A.

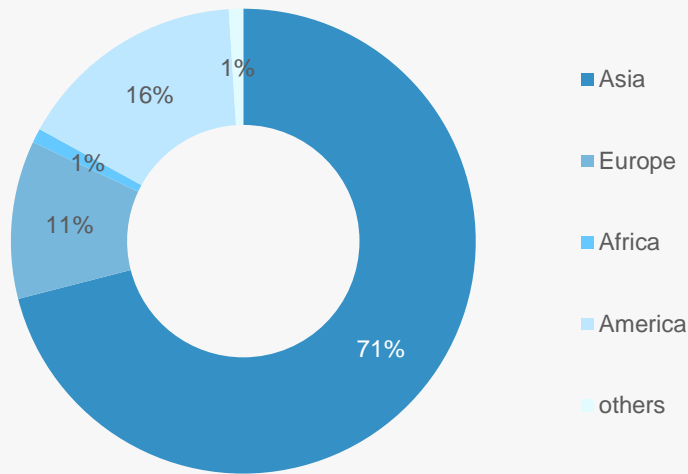
TATA CHEMICALS: DIVERSIFYING THEIR WAY TO SUCCESS ... (2/3)



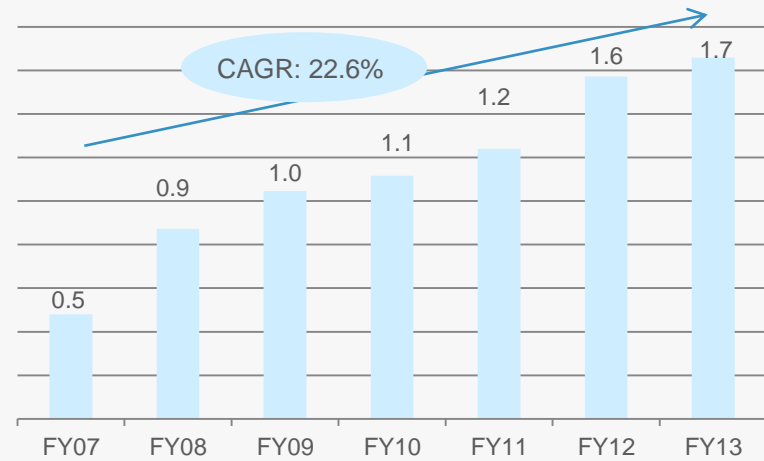
Source: Company Website, Aranca Research

TATA CHEMICALS: DIVERSIFYING THEIR WAY TO SUCCESS ... (3/3)

Geographical diversification (FY12)



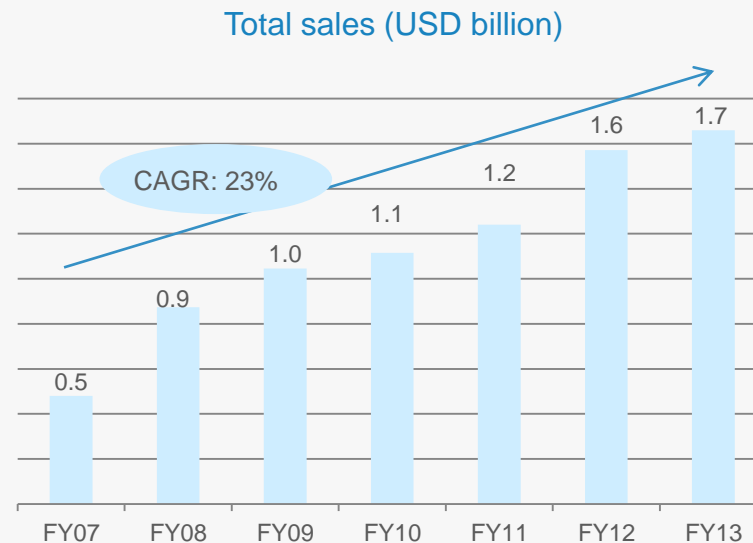
Turnover over the years (USD billion)



Source: Company Website, Aranca Research
CAGR - Compounded Annual Growth Rate
CAGR is calculated in Indian Rupee term

UNITED PHOSPHORUS LIMITED(UPL): AN AGROCHEMICAL SUCCESS ... (1/2)

- * UPL is mainly engaged in the business of agrochemicals, other industrial chemicals, and chemical intermediates
- * Agrochemicals account for 80 per cent of the total sales of the company, while the industrial chemicals and intermediates segments together account for 19 per cent
- * UPL has 23 manufacturing sites – nine in India, four in France, two in Spain, three in Argentina, and one each in UK, Vietnam, Netherlands, Italy and China
- * The company has also strengthened its distribution reach and access to new markets through strategic alliances with agrochemical manufacturers in other countries
- * The company is planning to launch innovative technology, farming solutions, and new products through its other arms such as Advanta and Golden Seeds

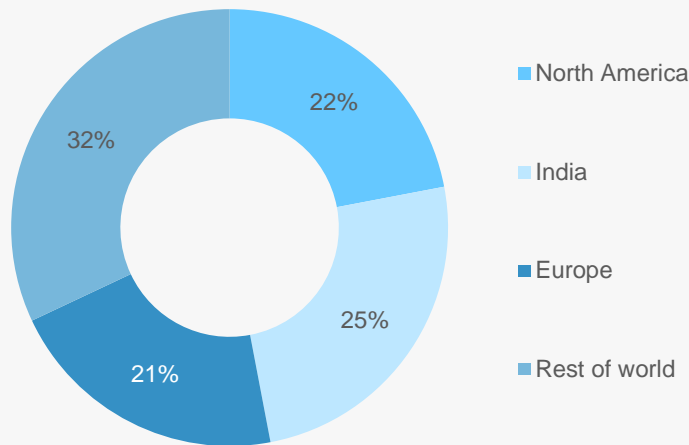


Source: United Phosphorus Limited (UPL) Annual Reports,
Aranca Research
Note: CAGR - Compound Annual Growth Rate

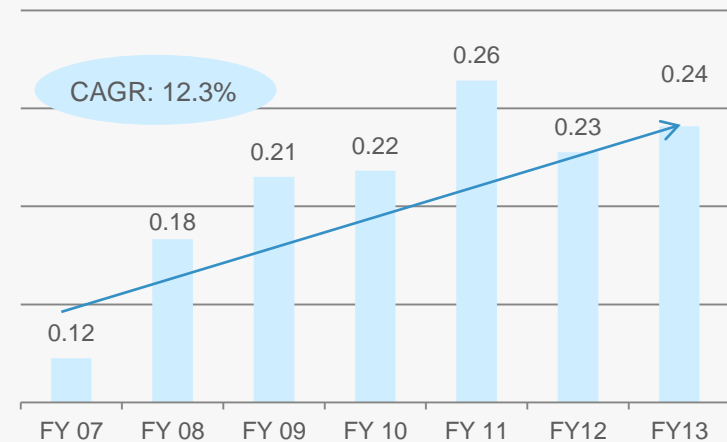
UNITED PHOSPHORUS LIMITED(UPL): AN AGROCHEMICAL SUCCESS ... (2/2)

- * With over 1000 registrations for its products worldwide, exports accounted for 52 per cent of UPL's total sales in FY12
- * In June 2012, UPL has acquired 100 per cent stake in Dutch company Agrichem, a subsidiary of Punjab Chemicals
- * UPL acquired DVA-Agro of Brazil in July 2011 for USD150 million; along with this and various other successful acquisitions, the company has gained access to global markets and is in a position to offer an extensive and balanced product portfolio to its customers worldwide

Income by region- FY12



EBIDTA (USD billion)

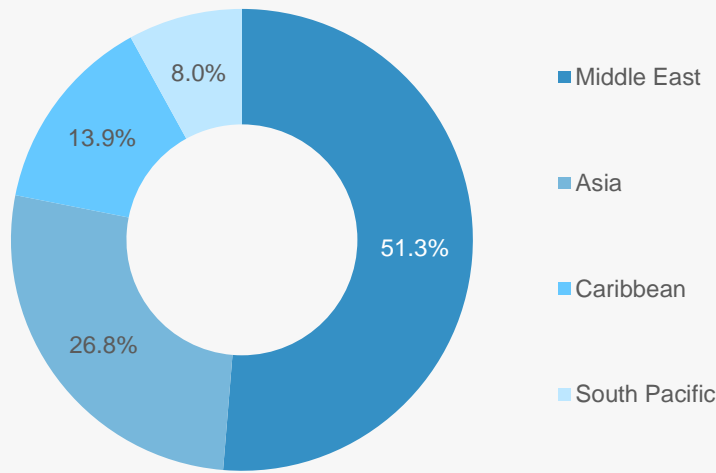


Notes: EBIDTA - Earnings Before Interest, Taxes, Depreciation and Amortisation

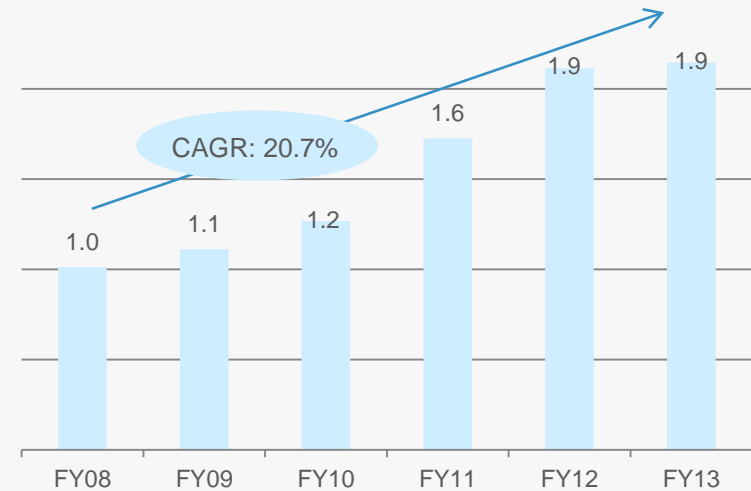
ASIAN PAINTS: A COLORFUL GROWTH PATH

- * In 1942, Asian Paints started manufacturing in a Mumbai garage; now, with total installed capacity of nearly 1 million kilo-litre, Asian Paints is amongst the largest paint manufacturing companies in the world
- * Asian Paints has grown at an excellent pace over the years; a CAGR of 20.7 per cent from FY08–13
- * The company's seventh and largest decorative paint manufacturing plant with an installed capacity was commissioned in February 2013
- * The company has a wide presence across all home decorative products across geographies; the company featured in Forbes Asia's Fab 50 List (2012)

Asian Paints geography wise sales (FY12)



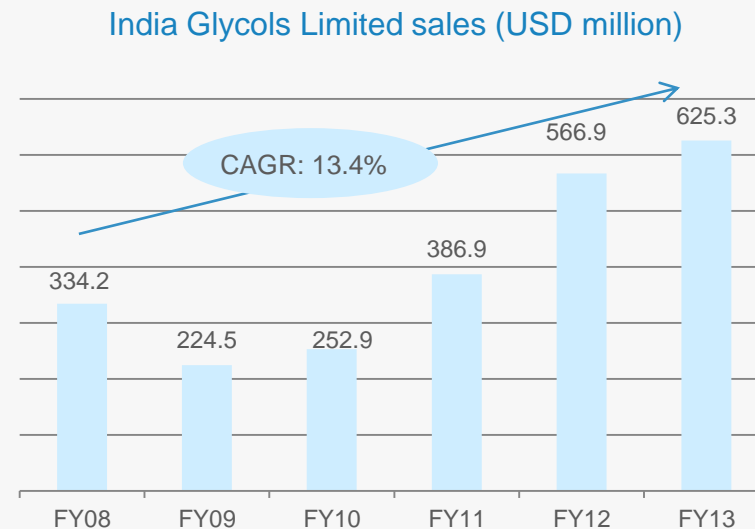
Asian Paints sales (USD billion)



Source: Company Annual report, Aranca Research;
Note: KL - Kilo Litre, CAGR - Compound Annual Growth Rate

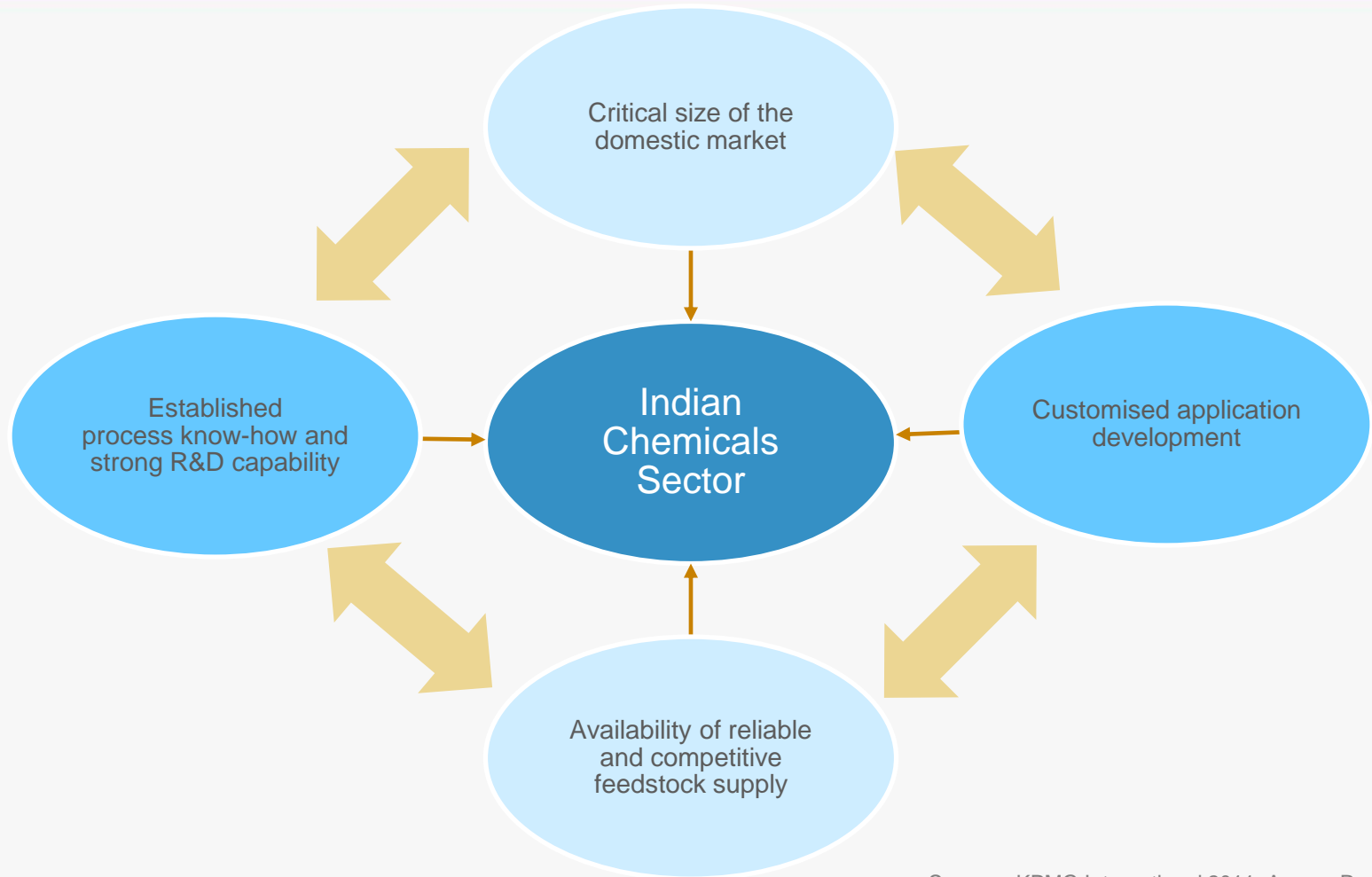
INDIA GLYCOLS LIMITED

- * Established in 1983, India Glycols is the only company that manufactures green technology-based bulk, specialty and performance chemicals and natural gums, spirits, industrial gases, sugar and nutraceuticals in India
- * The company operates in five segments, including Chemicals which form the largest segment
- * The company exports to more than 40 countries including the US, Japan, and countries in Europe and Latin America
- * During FY08–13, the company's sales have grown at a CAGR of 13.4 per cent to USD625.3 million



Source: Company Annual report, Aranca Research;
Note: CAGR - Compound Annual Growth Rate

GROWTH VALUE PROPOSITION OF THE INDIAN CHEMICAL INDUSTRY

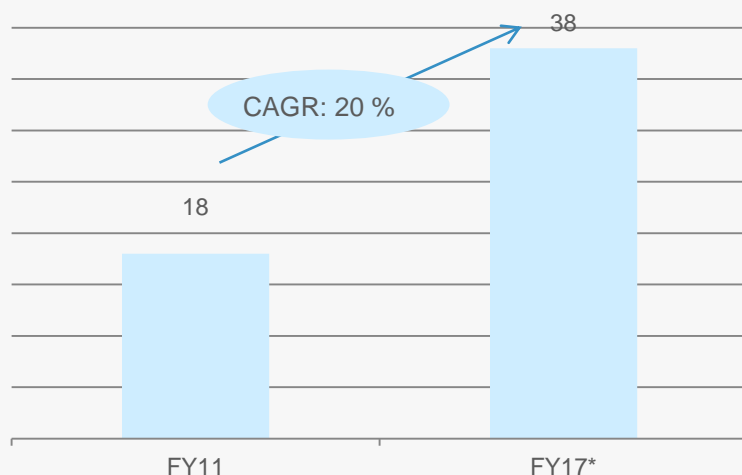


Sources: KPMG International 2011, Aranca Research

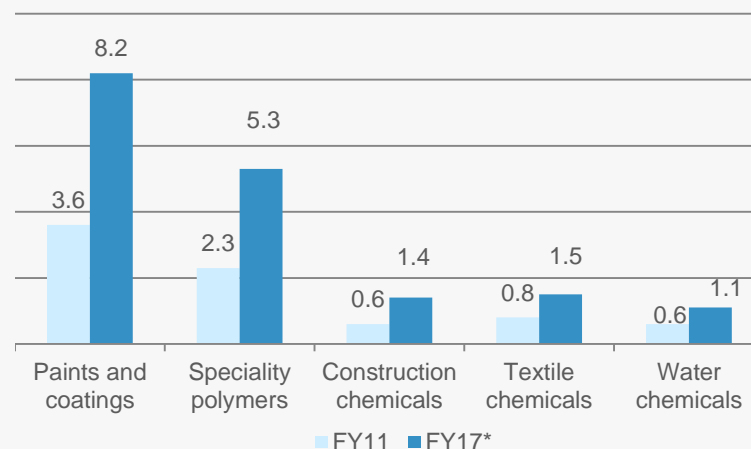
SPECIALTY CHEMICALS: LUCRATIVE OPPORTUNITIES IN THIS SEGMENT

- * Specialty chemicals market has expanded at a CAGR of about 13 per cent over FY07–11; the figure is expected to rise to 20 per cent over the next five years to reach USD38 billion by FY17
- * The Indian middle-class household is expected to grow from 31 million in 2008 to 148 million by 2030, leading to a huge demand for specialty chemicals in automotives, water treatment and construction
- * Compared to developed markets, current usage of specialty chemicals in India is very low, with an increased focus on improving products and usage intensity of specialty chemicals, the industry is poised for strong growth in future
- * During the 12th Five-Year Plan, an investment of USD7–10 billion is estimated in this segment

Specialty chemical growth outlook (USD billion)



Major sub-segments and their growth outlook by FY17 (USD billion)

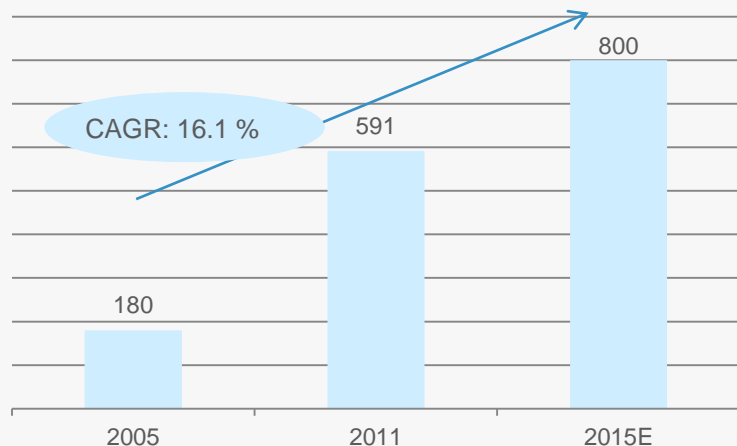


Source: Dept. of Chemicals and Petrochemicals, Planning Commission, Aranca Research, Note: * - Estimates

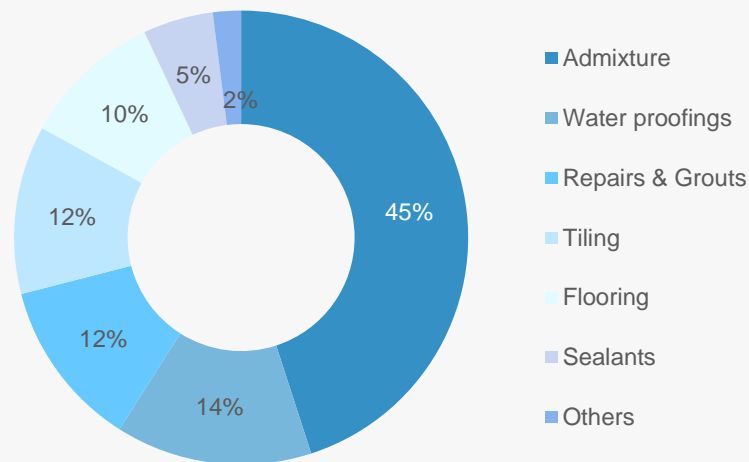
WITHIN SPECIALTY CHEMICALS, CONSTRUCTION CHEMICALS IS LIKELY TO SHINE

- * The size of India's construction chemical market stood at USD591 million in 2011, which accounted for only 2 per cent of the global demand, thereby representing ample growth opportunity
- * With the construction sector expected to pace ahead due to strong economic growth, the fundamentals for construction chemicals are sound
- * By 2015, the construction chemicals sector is set to touch USD800 million, up from USD400 million in 2010
- * India's construction chemical sector consists of a variety of products ranging from admixtures to sealants. Admixtures form the largest segment with a 45 per cent share, followed by water proofing chemicals (14 per cent)

Construction chemical growth outlook
(USD million)



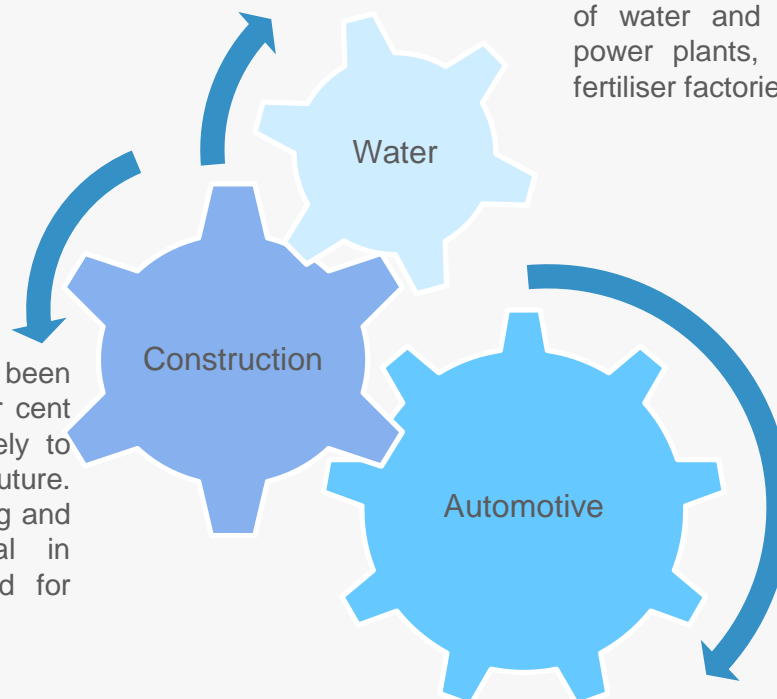
Specialty Chemicals segments in 2011
(USD million)



Source: TATA Strategic Analysis, Aranca Research

KEY GROWTH DRIVERS OF SPECIALTY CHEMICALS

Construction industry in India has been registering a CAGR of about 16 per cent over the last few years and is likely to gather momentum in the near future. Adoption of advanced coating, ceiling and polymer-based reinforcing material in construction will drive the demand for related chemicals



Water treatment chemicals are widely used in purification of water and also in large power plants, refineries and fertiliser factories

Automotive sector in India has been expanding at a CAGR of 10 per cent over the last five years. Automotive sector growth will drive demand for automotive components and consequently for plastics, paints and coatings used in their production

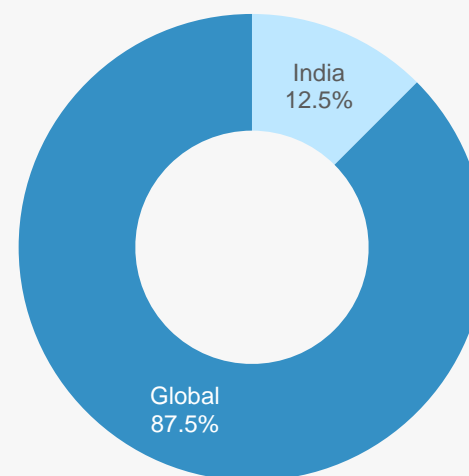
Source: Aranca Research

COLOURANT MARKET ON HIGH GROWTH PHASE

Colourant chemicals

- * Indian colourants industry is valued at USD3.4 billion, with exports accounting for nearly 68 per cent
- * India accounts for 12.5 per cent of the global share and is expected to increase further as production in the traditional markets has been declining in recent years
- * The Indian pigment market size stands at USD20.5 million, with a production capacity of 0.7million tonnes per annum in FY10
- * Carbon black and TiO₂ account for the 90 per cent of the total pigment demand

Colourant market share in FY10



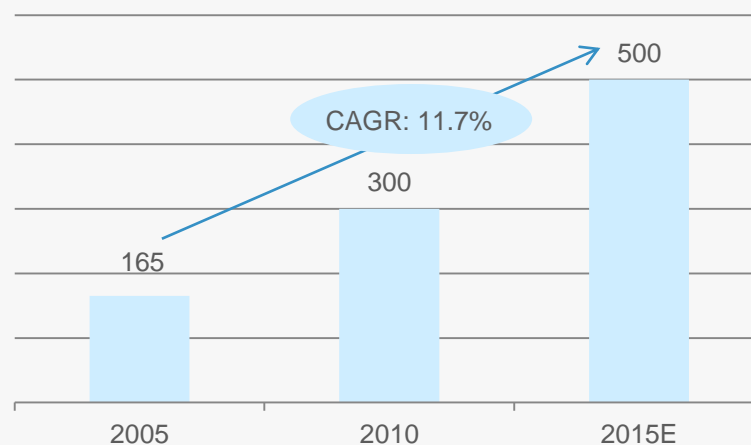
Source: India Chem., Aranca Research

POLYMER CHEMICALS WILL BE YET ANOTHER KEY SEGMENT OF SPECIALTY CHEMICALS

Polymer chemicals

- * India is currently the world's third largest consumer of polymers, behind China and the US, with a global share of 5.7 per cent in the 2011; an increase from 3.5 per cent share during 2000
- * The Indian polymer chemical market has expanded at a CAGR of 10.5 per cent in the last five years
- * Polymer market is expected to expand at a CAGR of 11.7 per cent over 2005-15 to USD 500 million
- * The sector is expected to grow at a higher rate due to growth in plastic demand resulting from increased usage in packaging, construction and automotive sectors
- * Due to increasing environmental concerns and cost, replacement of wood, metal and glass by plastic will also augment demand

Polymer chemical growth outlook (USD million)

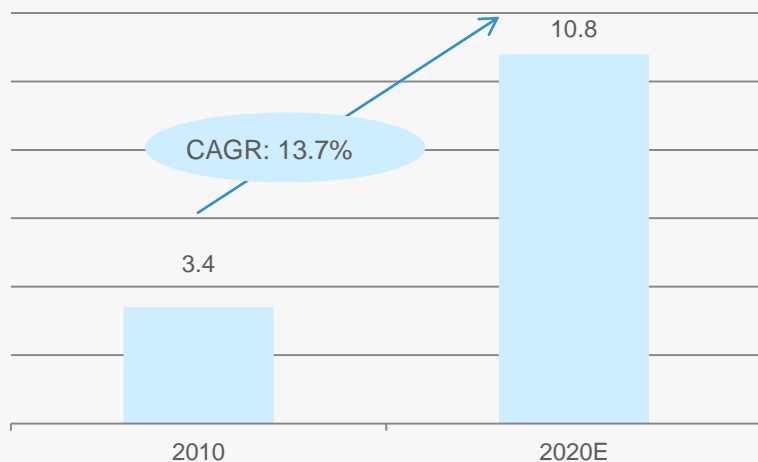


Source: TATA Strategic Analysis, Aranca Research
Note: E - Estimates, CAGR - Compound Annual Growth Rate

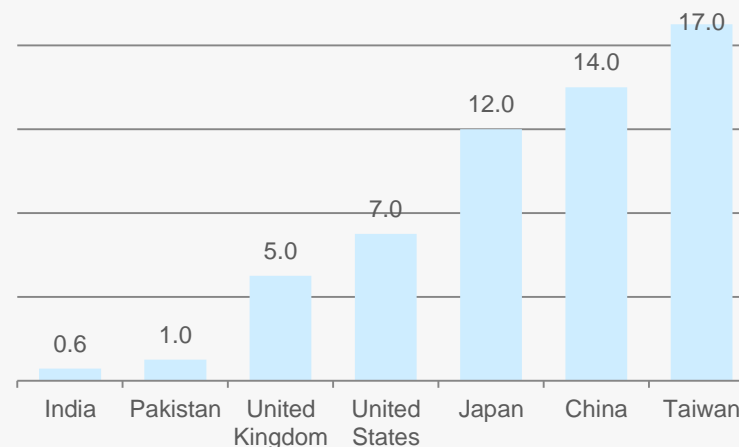
AGROCHEMICALS: THE FUTURE LOOKS BRIGHT

- * India is the fourth largest producer of agrochemicals globally
- * Agrochemical industry in India is set to grow at a significant pace; increasing population, decreasing per capita availability of arable land and focus on increasing agricultural yield will fuel the demand for agrochemicals
 - * India's per hectare agrochemical consumption is set to rise in the coming years, given the above-mentioned factors
- * India exports about 50 per cent of its current production; exports are likely to remain a key component of the industry
- * Insecticides India Ltd, a leading agrochemical company plans to invest USD22.9 million in the next two years to expand its production capacity

Agrochemical industry growth outlook
(USD billion)



Average crop protection consumption (kg/ha)



Source: India Chem, Aranca Research
Note: E - Estimates, CAGR - Compound Annual Growth Rate

Indian Chemical Council

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Phone: 91 22 22047649/ 22846852
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Alkali Manufacturers Association of India

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Vikas Marg, New Delhi – 110092
Phone: 91 11 22432003, 22410150, 55253401
Fax: 91 11 22468249
Website: www.ama-india.org

Indian Specialty Chemical Manufacturers' Association

1156, Bole Smruti, Suryavanshi Kshatriya Sabhagriha Marg,
Off. Veer Savarkar Marg, Dadar (West)
Mumbai – 400 028
Tel: 91 22 2446 5003
Website: www.iscma.in

- * **OCB:** Overseas Corporate Bodies
- * **NRI:** Non-resident Indian
- * **FY:** Indian financial year (April to March)
 - * So FY10 implies April 2009 to March 2010
- * **NA:** Not Available
- * **STPP:** Sodium tripolyphosphate
- * **MT:** Metric tonnes
- * **USD:** US Dollar
- * Wherever applicable, numbers have been rounded off to the nearest whole number

EXCHANGE RATES

Exchange Rates (Fiscal Year)

Year	INR equivalent of one USD
2004-05	44.95
2005-06	44.28
2006-07	45.28
2007-08	40.24
2008-09	45.91
2009-10	47.41
2010-11	45.57
2011-12	47.94
2012-13	54.31

Exchange Rates (Calendar Year)

Year	INR equivalent of one USD
2005	45.55
2006	44.34
2007	39.45
2008	49.21
2009	46.76
2010	45.32
2011	45.64
2012	54.69
2013	54.45

Average for the year

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