

GCPMH 2023

Harnessing the Potential of Sustainable Manufacturing and Circular Economy in the Indian Chemical Industry

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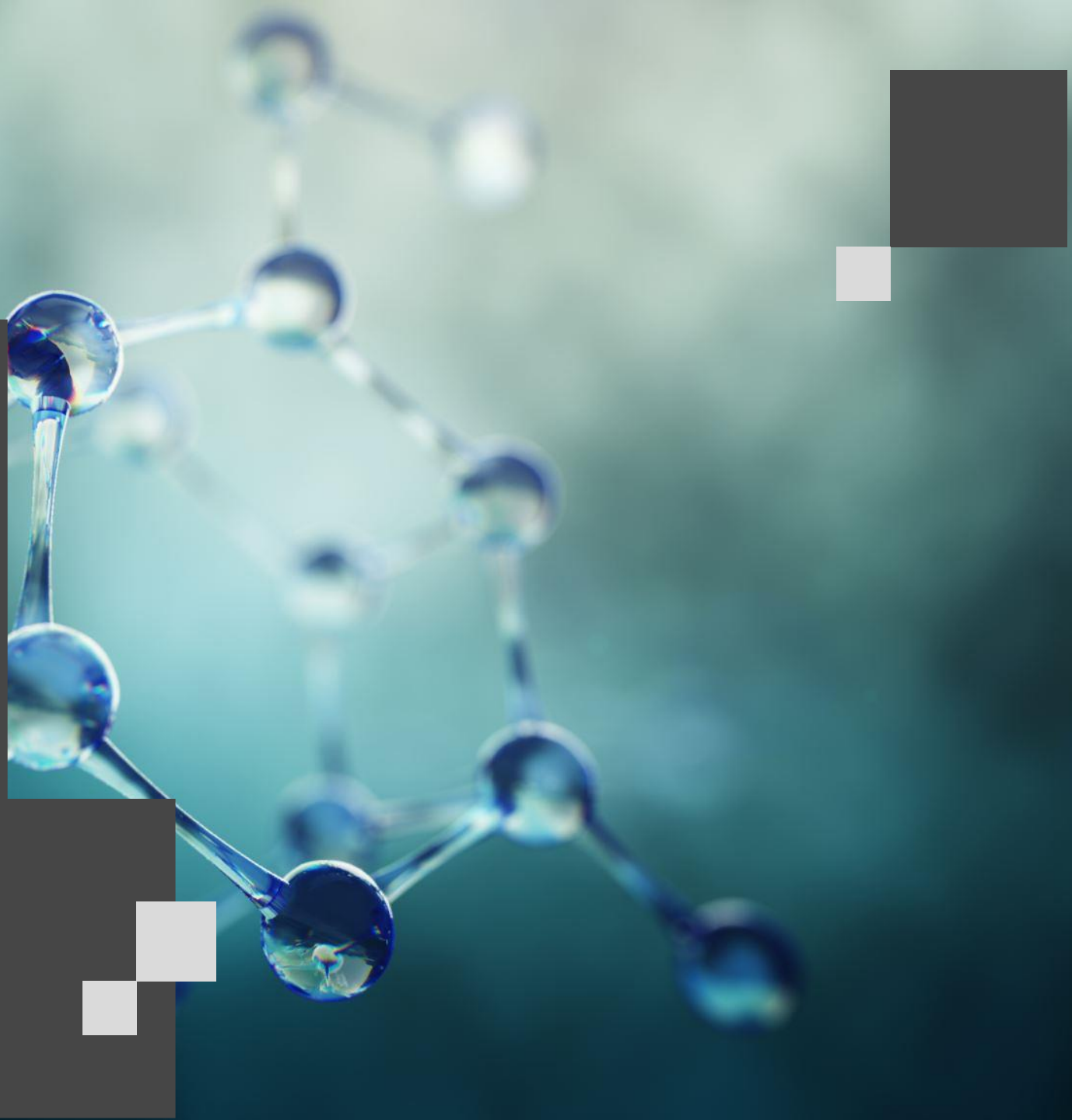


सत्यमेव जयते

रसायन एवं पेट्रो-रसायन विभाग

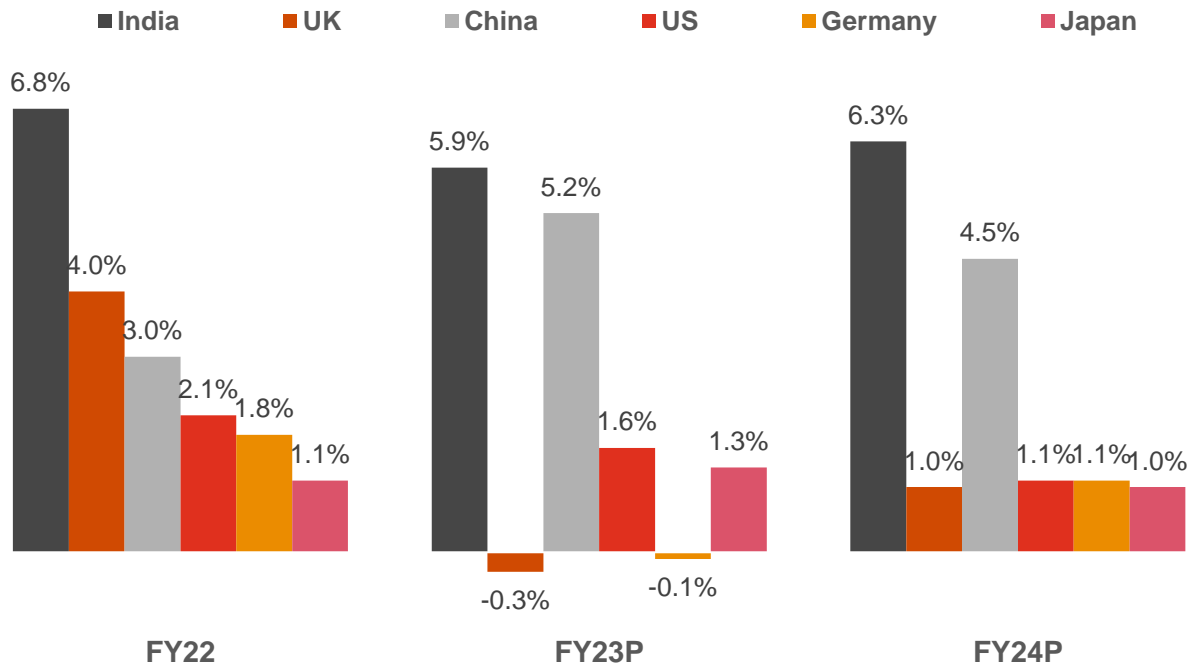
DEPARTMENT OF

CHEMICALS & PETRO-CHEMICALS

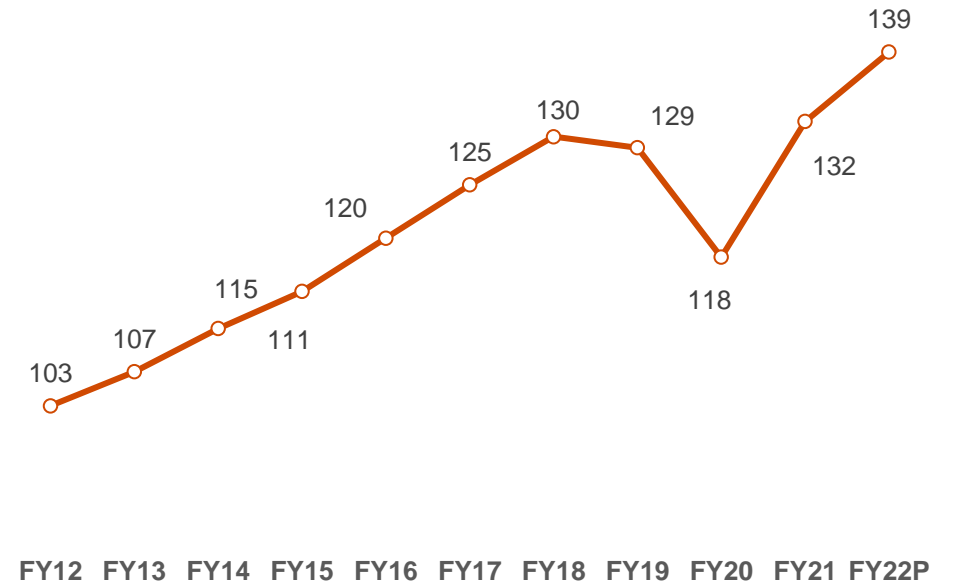


Indian economy has shown extreme resilience through global economic slowdown & current global geo-political scenario

India Real GDP Growth, by Countries, Annual % Change ¹



Index of Industrial Production, base as FY12=100 ²



6.8%
GDP Growth 2022-23

USD 26 billion
PLI Scheme –
14 sectors

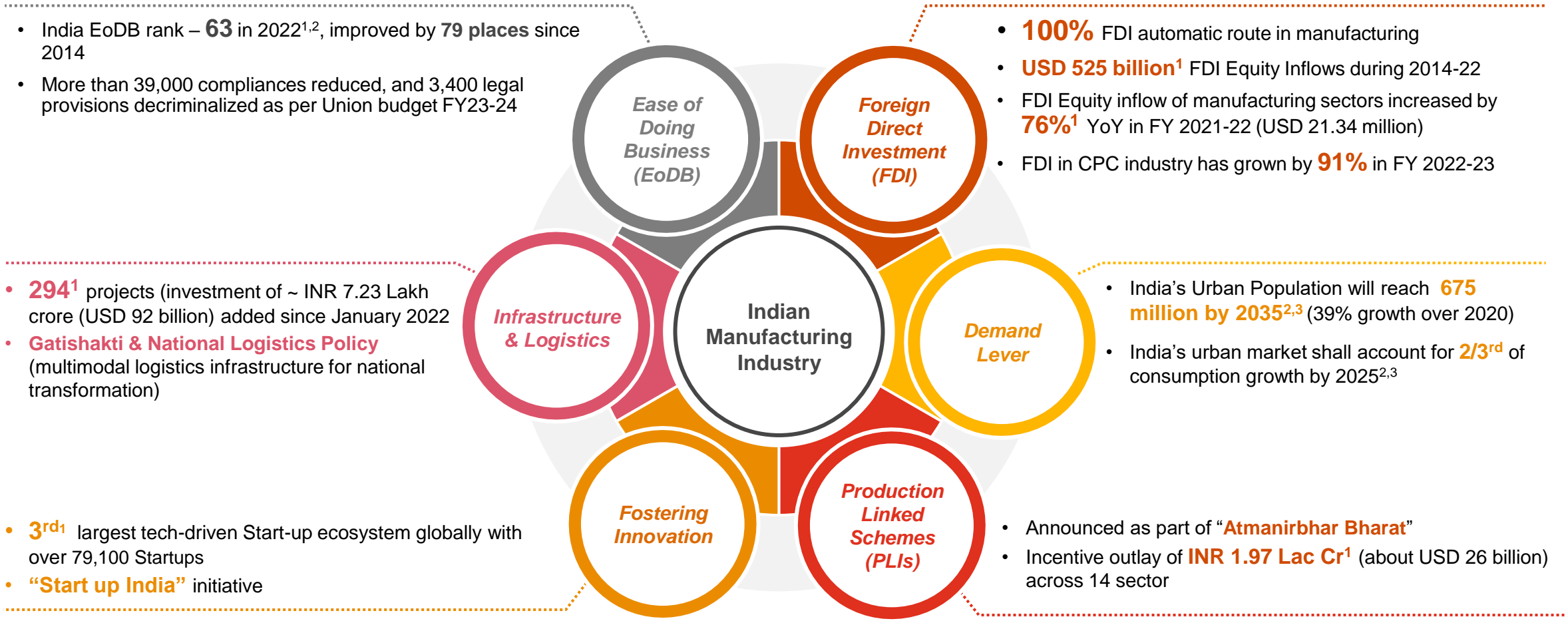
5th Largest
economy in the world

2/3rd of
consumption growth –
urban market

8.9%
Per capita GDP Growth FY
2022-27

Source: 1- IMF, 2-MoSPI, 3- World Bank; Government of India

Supported by the policy reforms plus increasing demand and innovation, India's outlook remains strong - to be a global manufacturing hub



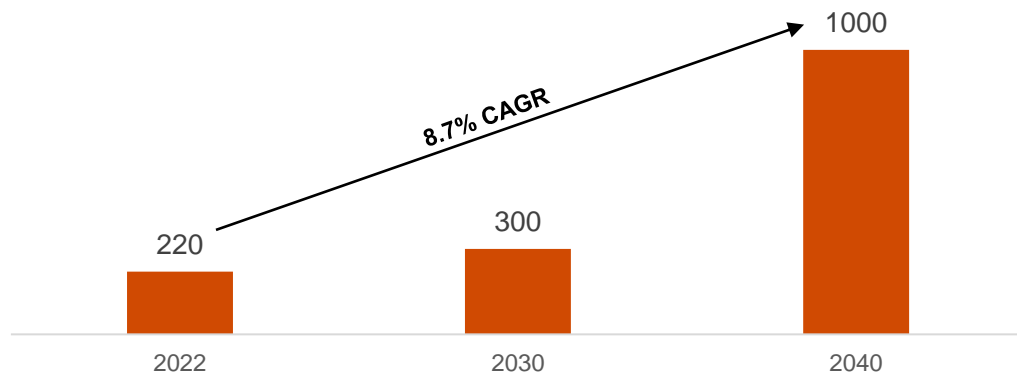
Source: 1- Press Information Bureau GoI, 2-World Bank, 3- UN Habitat World Cities Report 2022

Indian CPC industry has started playing a pivotal role in India's GDP

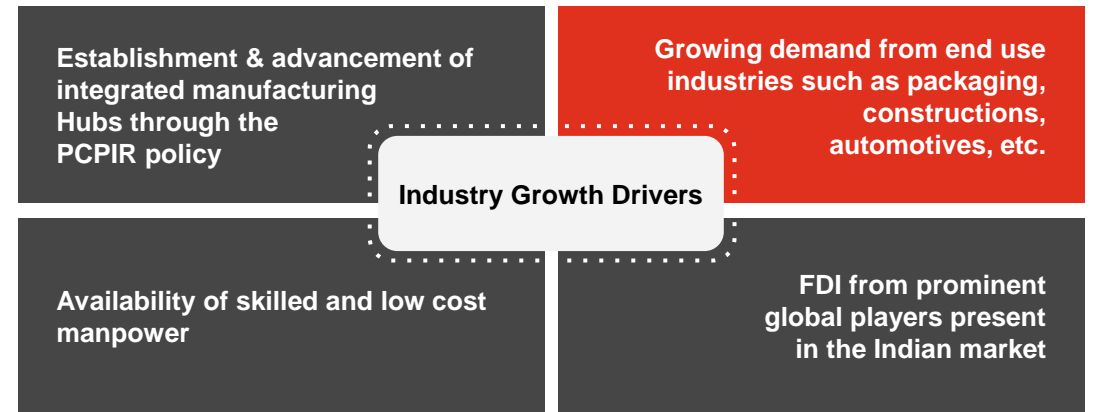
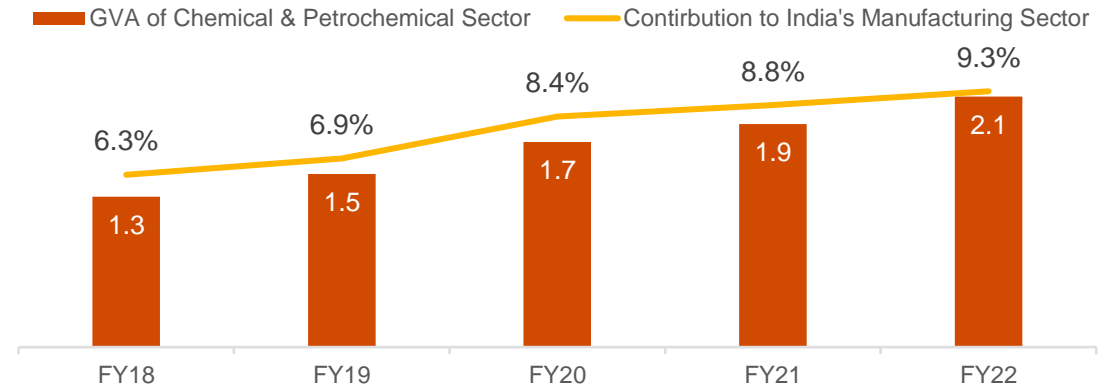
India Chemical and Petrochemical Industry

- 9.3%** Contribution to India's **Manufacturing GVA**
- 12%** Average share in **total exports**
- 11%** Average share in **total imports**
- 6th** Largest **chemical producer** in world and 4th in Asia
- 3rd** Largest **consumer of polymer** in world
- 6th** Rank in world **exports of chemicals** excl. pharma
- 9th** Rank in world **imports of chemicals** excl. pharma
- 6th** Largest **chemicals market** in the world

Size of the Indian Chemical Industry (USD billion) ¹



GVA Trends from India's Chemical Industry (INR Lac Cr) ¹



Source: 1- MoSPI, DCPC, IMF, Industry Sources

Changing industry landscape is driving the Indian Chemical Industry towards the next wave of growth and presenting newer opportunities

Global Trends

Opportunities for Atmanirbhar Bharat

Development of alternate maritime trade routes

Trade conflicts cause uncertainty and shift in global supply chains

02

Shift of economic power

Emerging players drive consolidation and strive for self-sufficiency

01

Changing lifestyle impacting demand

Wide demographic profile impacting demand patterns

03

Accelerating integration

Consolidation for greater scale, portfolio prioritization downstream

04

05

Sustainability

ESG impact becomes management imperative, stricter regulations

Consistently changing lifestyle to drive shift in domestic demand of chemicals and polymers in end-use sectors

Greater economic influence of India at global level due to

- Government incentives and policies for Make in India
- Improved ease of doing business
- Rapid development of infrastructure to support manufacturing








Shift of trade route from Pacific to Indian Ocean Region expected by 2030

- India & China to become the largest manufacturing hub globally
- Ease of access to neighboring markets

Investments across integrated downstream opportunities (O2C) by Indian O&G players due to ease of feedstock challenges and scalability to fortify competitiveness

Continued dependence on crude-oil derived products by India and other developing nations due to rapid demand growth vs dawdling supply growth (low capital availability) compared to developed nations

High-growth prospects in different end-use sectors are expected to drive the demand for chemicals in the long-term

Sectors	GDP Share ^{1,2,3}	Sector Projected Growth ^{1,3,4}	Sector Growth trends
	2022	2022-30	
 Agriculture	18% <i>GVA share</i>	++	Demand growth from differentiated products
 Infrastructure & Construction	9% <i>GVA share</i>	+++	Accelerated capital investments through govt. initiatives
 Automotive	6%	++	Increase in market penetration, demand rise of rubber, FDI inflow
 Packaging	5%	++++	Variable consumer buying patterns, focus on exports to EU
 Electronics & Electricals	4%	++++	Govt. schemes, PLIs, large consumer base, 'Digital India' initiative
 Pharmaceuticals	2%	+++	Diverse consumer profiles and needs, lifestyle changes
 Chemicals	2% <i>GVA share</i>	+++	Focus on specialties & fine chem, demand from end-use sector

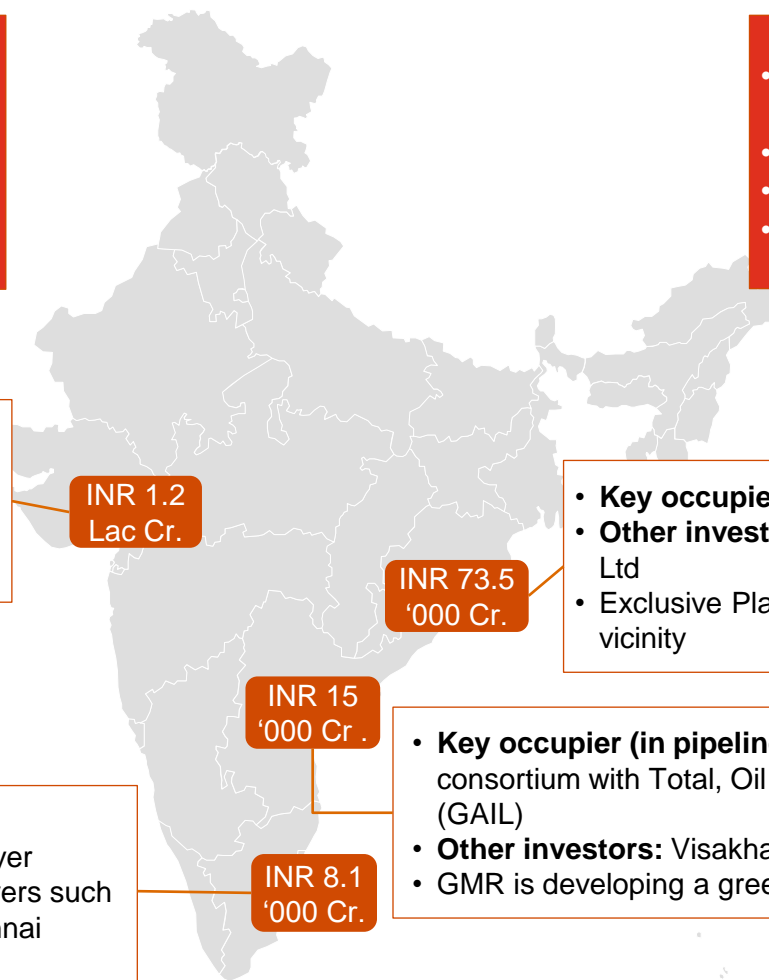
Source: 1- Press Information Bureau GoI, 2-Invest India Forum , 3- India Brand Equity Foundation, 4- PlastIndia, Industry sources



India is establishing itself as global manufacturing hub through earmarking strategic locations for integrated sustainable and circular PCPIRs

- Strategic locations at ports for domestic and global markets
- Availability of adequate land with govt. agencies/ developers
- Excellent connectivity
- Investments in utilities and services

- Institutional mechanism for management & implementation
- Deregulated industry with 100% FDI
- Ready availability of technical & skilled manpower
- Opportunities management through PPP



- **Key occupier:** ONGC Petro additions Limited (OPaL)
- **Other investors:** RIL, OPaL, ONGC, GACL, Petronet LNG, BASF, ABG, Adani, Welspun, Godrej & Boyce, GAIL, GSPC, Pidilite, Grasim, NOCIL, among others

- **Key occupier:** Indian Oil Corporation Ltd. (IOCL)
- **Other investors:** IFFCO, Paradip Phosphates Ltd, Paradip Carbon Ltd
- Exclusive Plastics Park at Paradip Gopalpur industrial area & SEZ in vicinity

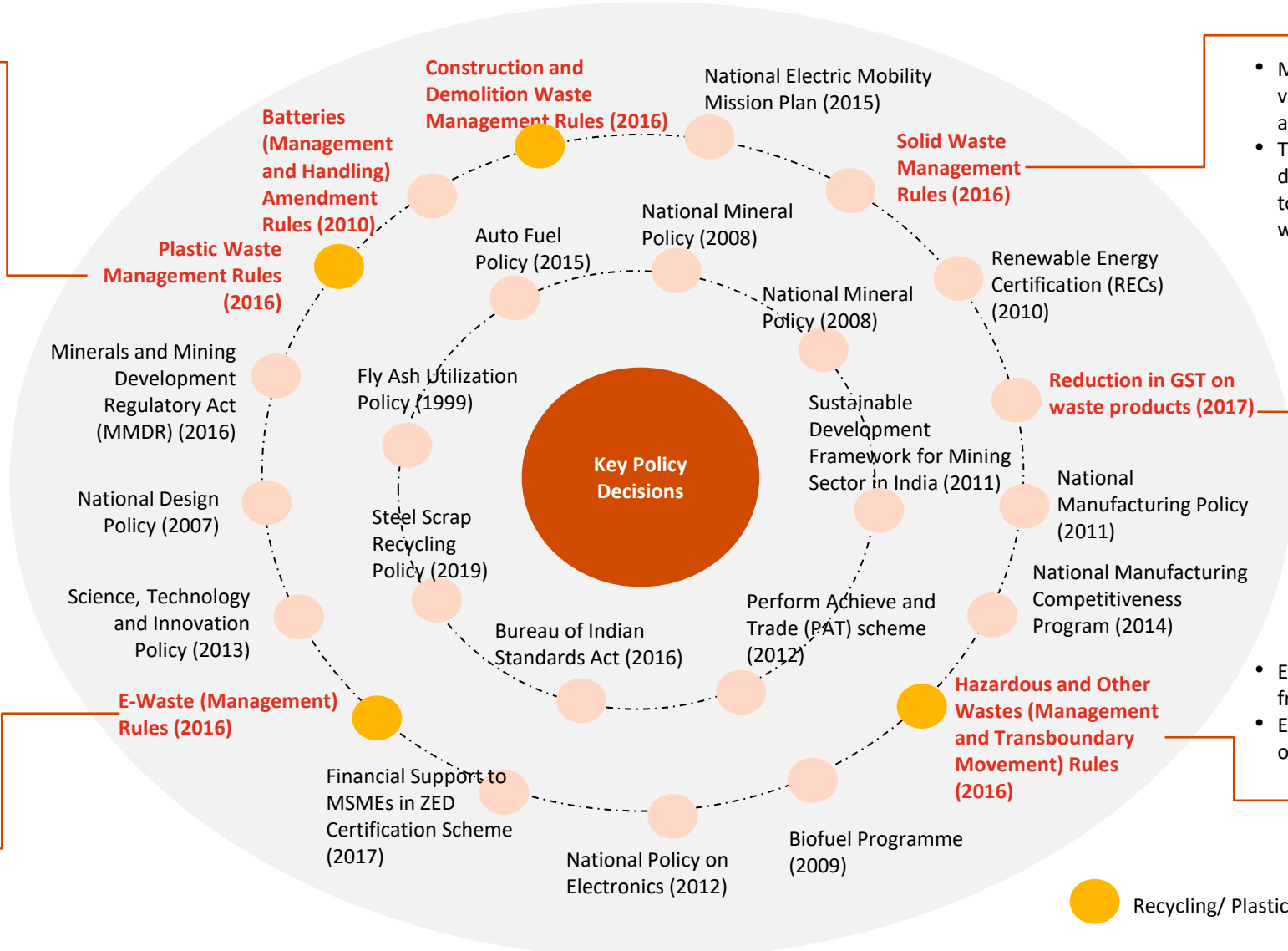
- **Key occupier (in pipeline):** Hindustan Petroleum Corporation Ltd. (HPCL) led consortium with Total, Oil India, Saudi Aramco and Gas Authority of India Ltd. (GAIL)
- **Other investors:** Visakha Refinery
- GMR is developing a greenfield captive port at Kakinada

- **Key investors:** Tanfac Industries, Asian Paints, Bayer Material Science, Chemplast in Cuddalore, and players such as Saint Gobain, Asahi in Sriperumbudur near Chennai

 Investments

Indian government has also undertaken multitudes of initiatives to develop ecosystem for adoption of circular economy

- Mandate on producers and brand owners to introduce collect back systems as per EPR
 - Increase in minimum thickness of plastic bags to reduce free distribution by retailers
 - Ban and penalties on manufacture of multi-layer plastic (non-recyclable or non-energy recoverable or with no alternate use) packaging
 - Plastic waste management fee through pre-registration of the producers, importers and vendors
-
- Responsibility to collect and recycle e-waste generated during manufacture process
 - EPR to collect end-of life E-waste and properly store, transport and treat it before recycling or disposal



- Mandate on source segregation of waste for value addition and promote recovery, reuse and recycle
- The industrial estate/SEZ/industrial park developers need to allocate at least 5% of the total project area for resources recovery from wastes and build recycling facility.
- Reduction in GST rates on electronic waste from 28% to 5%
- Reduction in GST rates from 18% to 5% on plastic wastes as well as other waste or scrap of glass and rubber waste
- Emphasis on recovery and reuse of materials from hazardous and other waste materials
- Ensuring management of all hazardous and other waste materials

● Recycling/ Plastic conversion related regulations/ policies

Thank You