

CPMA

**Chemicals & Petrochemicals
Manufacturers' Association, India**

AN OVERVIEW

INDIAN PETROCHEMICAL INDUSTRY 2025



INDIA COUNTRY REPORT

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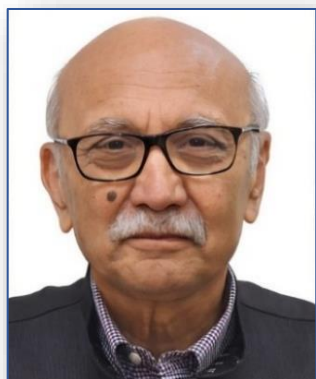
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Message from Kamal P. Nanavaty, President, CPMA, India



It is my privilege to present the *India Petrochemical Country Report 2025*, CPMA's flagship annual publication, which has established itself as an authoritative reference for professionals across the petrochemical value chain. This report provides a detailed review of the sector's performance and outlook, supported by comprehensive data on capacity, production, demand, imports, and exports of key petrochemical products.

CPMA remains committed to its role as the collective voice of the Indian petrochemical industry and a trusted partner to government agencies on matters related to the sector's growth and development. The year 2024–25 witnessed strong industry momentum, underpinned by India's robust economic trajectory and surging demand from end-use sectors such as construction, automotive, packaging, and textiles.

As one of the fastest-growing economies globally, India represents a significant growth frontier. The domestic petrochemical sector is entering a transformative phase, marked by new investments and large-scale capacity additions. These developments are reinforcing India's manufacturing strength and elevating its position in the global petrochemical ecosystem.

Equally important is the industry's evolving focus on sustainability. Companies across India and the broader Asian region are increasingly embracing environmentally responsible practices. Circular economy principles, especially within the polymer segment, are gaining traction, enabling material reuse, driving recycling initiatives, and reducing overall waste. This shift reflects a broader transition toward cleaner, smarter, and more sustainable industrial processes.

A noteworthy step in this direction is the implementation of the Government of India's Extended Producer Responsibility (EPR) framework, which is already delivering tangible societal benefits. India now recycles over 90% of PET bottles into value-added products, setting an example in resource efficiency and community impact.

Technological innovation is also playing a transformative role. The integration of digital tools, particularly artificial intelligence, is enhancing operational efficiency and sustainability. AI-driven predictive maintenance, process optimization, and advanced material innovations are reshaping how the petrochemical industry operates, making it more competitive and resilient.

Sustainability and responsible collaboration are emerging as the twin pillars of future growth. In alignment with the theme of India's G20 Presidency, "*One Earth, One Family, One Future*," the industry is committed to balancing economic progress with environmental stewardship to achieve shared and inclusive prosperity.

This year's report features a special chapter on sustainability, highlighting the industry's ongoing efforts to support government initiatives and transition toward a greener, more circular economy.

As we look ahead, the Indian petrochemical industry is well-positioned to lead by example, demonstrating that industrial growth and environmental responsibility can, and must, go hand in hand.

Thank you.

The Indian Economy: Review and Outlook

India's economy continues to grow at a steady and confident pace, standing out as the fastest growing major economy in the world. Gross Domestic Product (GDP) is a measure of the size and health of the economy. It is the total value of all the goods and services produced within a country. In 2024–25, real GDP growth was estimated at 6.5 per cent. The Reserve Bank of India expects the same rate to continue in 2025–26. This performance comes at a time when the global economy faces uncertainty, making India's steady momentum all the more significant.

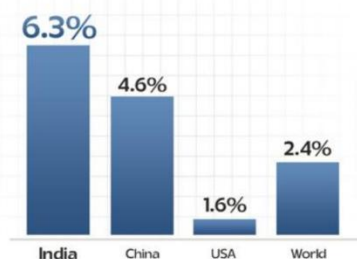
Supported by strong domestic demand, easing inflation, robust capital markets and rising exports, the broader economic picture is one of resilience and balance. Key indicators such as record foreign exchange reserves, a manageable current account deficit, and increasing foreign investment reflect growing global trust in India's long-term prospects. Together, these trends show an economy that is not only expanding but doing so with strength across sectors.

Snapshot of Key Indicators

i. Robust GDP Growth

India's growth story continues to draw global attention, backed by strong fundamentals and consistent performance. Real GDP, which measures the economy's output after removing the effects of inflation, expanded by 6.5 per cent in 2024–25. The Reserve Bank of India expects this pace to continue into 2025–26. Other projections echo this optimism, with the United Nations forecasting growth of 6.3 per cent this year and 6.4 per cent next year, while the Confederation of Indian Industry places its estimate slightly higher at 6.40 to 6.70 per cent.

Figure :1
Global Economic Growth
Projections for 2025



This sustained performance is being driven by strong domestic demand. Rural consumption has picked up, city spending is rising, and private investment is on the upswing. Businesses are expanding capacity, with many operating near their maximum output levels. At the same time, public investment remains high, especially in infrastructure, while stable borrowing conditions are helping firms and consumers make forward-looking decisions.

Global conditions, by contrast, remain fragile. The United Nations has described the world economy as being in a “precarious moment,” citing trade tensions, policy uncertainties, and declining cross-border investments. Amid this, India continues to stand out as a bright spot, with global institutions and industry bodies expressing confidence in its growth prospects.

Over the past decade, India's economic size has expanded sharply. In 2014–15, the GDP at current prices was ₹106.57 lakh crore. This figure is expected to rise to ₹331.03 lakh crore in 2024–25, nearly tripling in ten years. In the past year alone, nominal GDP increased by 9.9 per cent, while real GDP rose by 6.5 per cent, underscoring the economy's continued resilience and vigour.

ii. Annual Estimates and Growth Rates

Real GDP or GDP at Constant Prices is estimated to attain a level of ₹187.97 lakh crore in FY 2024-25, against the First Revised Estimates (FRE) of GDP for the FY 2023-24 of ₹176.51 lakh crore, registering a growth rate of 6.5%. Nominal GDP or GDP at Current Prices is estimated to attain a level of ₹330.68 lakh crore in FY 2024-25, against ₹301.23 lakh crore in FY 2023-24, showing a growth rate of 9.8%.

Real GVA is estimated at ₹171.87 lakh crore in the FY 2024-25, against the FRE for the FY 2023-24 of ₹161.51 lakh crore, registering a growth rate of 6.4%. Nominal GVA is estimated to attain a level of ₹300.22 lakh crore during FY 2024-25, against ₹274.13 lakh crore in FY 2023-24, showing a growth rate of 9.5%.

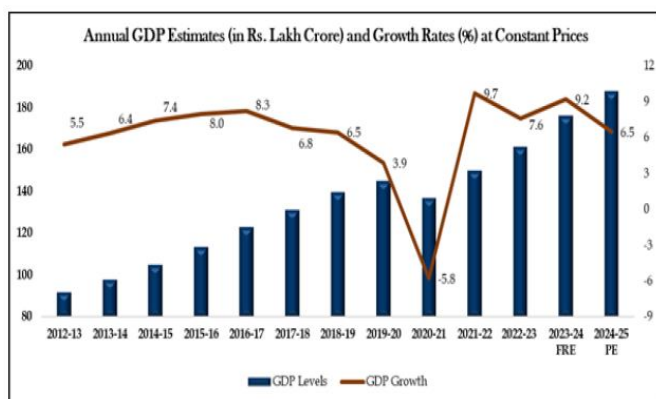


Figure :2

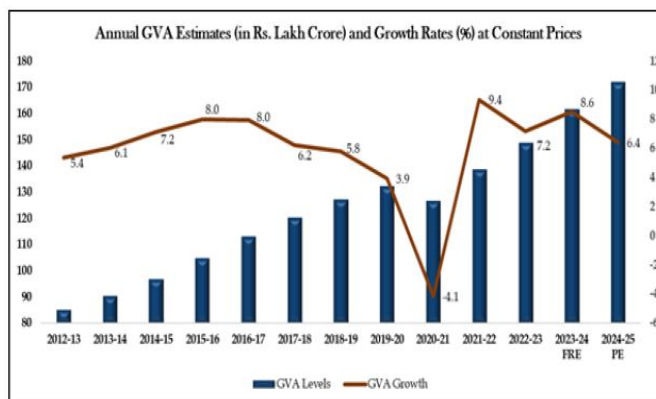


Figure :3

iii. Quarterly and Growth Rates

Real GDP or GDP at Constant Prices in Q4 of FY 2024-25 is estimated at ₹51.35 lakh crore, against ₹47.82 lakh crore in Q4 of FY2023-24, registering a growth rate of 7.4%. Nominal GDP or GDP at Current Prices in Q4 of FY 2024-25 is estimated at ₹88.18 lakh crore, against ₹79.61 lakh crore in Q4 of 2023-24, showing a growth rate of 10.8%.

Real GVA in Q4 of FY 2024-25 is estimated at ₹45.76 lakh crore, against ₹42.86 lakh crore in Q4 of FY 2023-24, registering a growth rate of 6.8%. Nominal GVA in Q4 of FY 2024-25 is estimated at ₹79.46 lakh crore, against ₹72.51 lakh crore in Q4 of FY 2023-24, showing a growth rate of 9.6%.

Figure :4

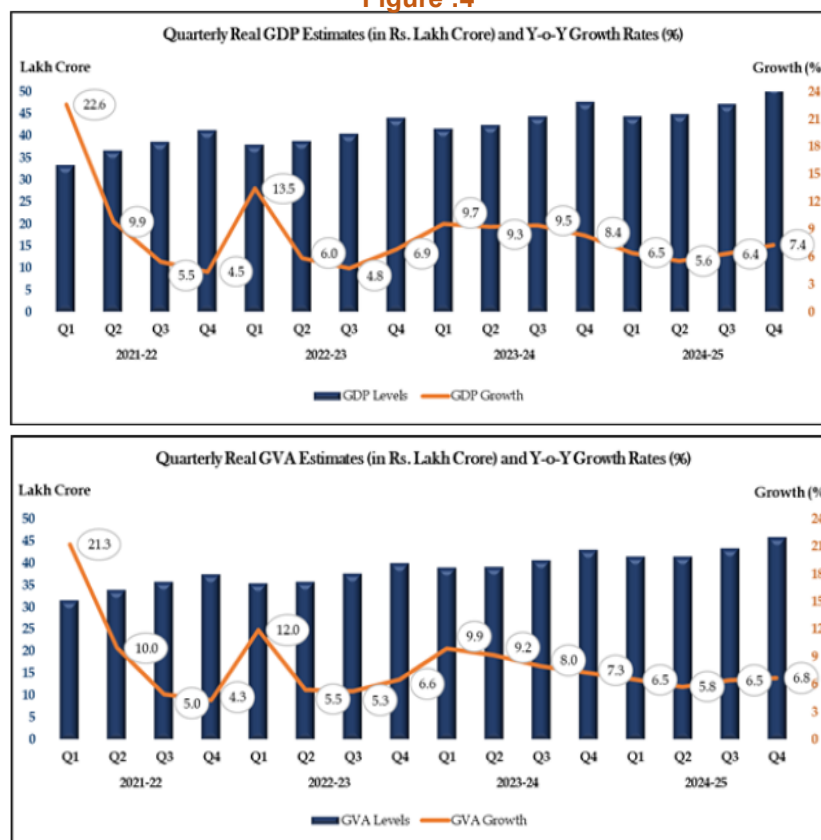


Figure :5

iv. Index Numbers of Wholesale Price in India

The annual rate of inflation based on all India Wholesale Price Index (WPI) number is 2.25% (F) for the month of March 2025 (over March 2024). Positive rate of inflation in March 2025 is primarily due to increase in prices of manufacture of food products, other manufacturing, food articles, electricity and manufacture of textiles etc. The index

for Primary Articles (Weight 22.62%) decreased by 0.7% to 185.5 in March 2025 from 186.8 for the month of February 2025. The index for Fuel & Power (Weight 13.15%) decreased by 0.85% to 152.1 in March 2025 from 153.4 for the month of February 2025. The index for Manufactured Products (Weight 64.23%) increased by 0.42% to 144.6 in March 2025 from 144.0 for the month of February 2025.

From High Prices to Stability: A Decade of Inflation Control

Over the last two decades, India has seen a remarkable transformation in its inflation landscape. Between 2004–05 and 2013–14, inflation averaged 8.2%, with several years experiencing double-digit rises, largely driven by surging food and fuel prices. This period put pressure on household budgets and created uncertainty for businesses.

However, from 2015–16 to 2024–25, inflation has moderated significantly to an average of

around 5%. This shift reflects strong policy interventions, including inflation-targeting by the Reserve Bank of India, improved supply chain management, and sound fiscal discipline by the Government. As a result, price stability has improved, boosting consumer confidence and supporting sustainable economic growth.

Retail inflation fell to 4.6% in 2024–25, the lowest since 2018–19, highlighting the success of RBI's pro-growth monetary policy in balancing growth and price stability.

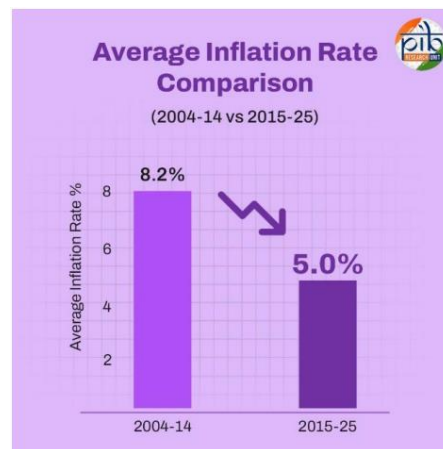


Figure :6

v. Index of Industrial Production

The IIP growth rate for the month of March 2025 is 3.9 percent year-on-year. The growth rates of the three sectors, Mining, Manufacturing and Electricity for the month of March 2025 are 1.2 percent, 4.0 percent and 7.5 percent respectively. The Index of Industrial Production stands at 166.3 against 160.0 in March 2024. The Indices for the Mining, Manufacturing and Electricity sectors stand at 158.1, 162.4 and 219.5 respectively. As per the use base classification, the indices stand at 169.5 for Primary Goods, 136.3 for Capital Goods, 175.6 for Intermediate Goods and 214.6 for Infrastructure/ Construction Goods for the month of March 2025. Further, the indices for Consumer durables and Consumer non-durables stand at 138.8 and 149.0 respectively. The corresponding growth rates of IIP as per Use-based classification in March 2025 over March 2024 are 3.9 percent in Primary goods, 3.6 percent in Capital goods, 3.8 percent in Intermediate goods, 9.9 percent in Infrastructure/ Construction Goods, 6.9 percent in Consumer durables and (-)4.0 percent in Consumer non-durables. Based on use-based classification, the top three positive contributors to the growth of IIP for the month of March 2025 are Infra/Construction, Consumer durables and Primary Goods.

vi. Performance of 8-Core Industries

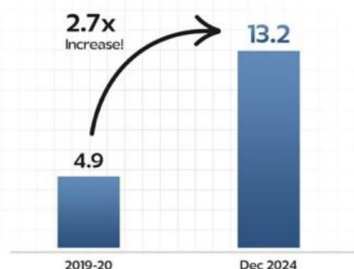
The ICI measures the combined and individual performance of production of eight core industries viz. Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement and Electricity. The Eight Core Industries comprise 40.27 percent of the weight of items included in the Index of Industrial Production (IIP).

The growth rate of Index of Eight Core Industries for March 2025 was observed at 4.5 per cent. The cumulative growth rate of ICI during April to March, 2024-25 is 4.5 per cent as compared to the corresponding period of last year. Coal production increased by 1.6 per cent in March 2025 over March 2024. Its cumulative index increased by 5.1 per cent during April to March, 2024-25 over corresponding period of the previous year. Crude Oil production declined by 1.9 per cent in March 2025 over March 2024. Its cumulative index declined by 2.2 per cent during April to March, 2024-25 over the corresponding period of the previous year. Natural Gas production declined by 12.7 per cent in March 2025 over March 2024. Its cumulative index declined by 1.2 per cent during April to March, 2024-25 over the corresponding period of the previous year. Petroleum Refinery production made up by 0.2 per cent in March 2025 over March 2024. Its cumulative index increased by 2.8 per cent during April to March, 2024-25 over the corresponding period of the previous year. Fertilizer production increased by 8.8 per cent in March 2025 over March 2024. Its cumulative index increased by 2.9 per cent during April to March, 2024-25 over the corresponding period of the previous year. Steel production increased by 8.7 per cent in March 2025 over March 2024. Its cumulative index increased by 6.8 per cent from April to March, 2024-25 over the corresponding period of the previous year. Cement production increased by 12.2 per cent in March 2025 over March 2024. Its cumulative index increased by 6.3 per cent from April to March, 2024-25 over the corresponding period of the previous year. Electricity generation increased by 7.5 per cent in March 2025 over March 2024. Its cumulative index increased by 5.2 per cent during April to March, 2024-25 over the corresponding period of the previous year.

vii. Market Confidence at Record Levels

India's capital markets are booming, and the confidence is visible. They have become a powerful engine for economic growth by turning household savings into investments. Despite global tensions and domestic uncertainties, the stock market maintained strong performance by December 2024. It outperformed many other emerging economies, showing how investors, both local and global, trust India's growth story.

Figure :7
Growth of
Retail Investors in India
(Numbers in Crores)



Retail participation has risen sharply. The number of retail investors jumped from 4.9 crore in 2019 to 13.2 crore by the end of 2024. This increase shows a growing public interest in equity markets and a belief in the country's long-term potential. More people now see the stock market as a way to build wealth, not just for large companies but for ordinary citizens too.

The primary market, where companies raise funds by selling shares to the public, has also been very active. Between April and December 2024, India saw 259 initial public offerings or IPOs. This was a 32.1 per cent rise compared to the same period the year before. The total money raised through these IPOs almost tripled, rising from ₹53,023 crore to ₹1,53,987 crore. India's share in global IPO listings rose from 17 per cent in 2023 to 30 per cent in 2024, the highest in the world.

viii. Strengthening External Sector

India's external sector continues to provide a strong cushion for the economy. With rising foreign exchange reserves, a manageable current account balance, and steady inflows of foreign investment, India is well placed to deal with global uncertainties. These indicators reflect growing international confidence in the country's economic policies and long-term stability.

Foreign Direct Investment

India continues to be a top choice for global investors. The country has an investor-friendly FDI policy, allowing 100 per cent foreign ownership in most sectors through the automatic route. As a result, FDI inflows rose to a USD 81.04 billion (provisional) in FY 2024–25, marking a 14 per cent increase from USD 71.28 billion in FY 2023–24. This is more than double the USD 36.05 billion received in FY 2013–14, showing long-term progress.

The services sector led the inflow of equity investments, attracting 19 per cent of total FDI in FY 2024–25. This was followed by computer software and hardware at 16 per cent, and trading at 8 per cent. FDI into the services sector grew by 40.77 per cent, reaching USD 9.35 billion, compared to USD 6.64 billion the previous year. In the manufacturing segment, FDI grew by 18 per cent, from USD 16.12 billion in FY 2023–24 to USD 19.04 billion in FY 2024–25.

Foreign Exchange Reserves

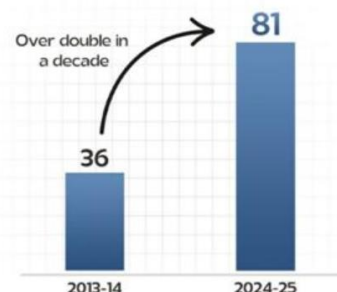
India's foreign exchange reserves stood at USD 697.9 billion as of 20 June 2025. These reserves are enough to cover more than 11 months of goods imports, providing a safety net in times of global shock. This means that even if exports slow down, India has enough foreign currency to pay for essential imports. At the same time, external debt remains at a moderate level, accounting for 19.1 per cent of the GDP as of March 2025. These numbers show that India's financial position with the rest of the world is healthy and stable.

Current Account Dynamics

India's current account balance recorded a surplus of USD 13.5 billion (1.3 per cent of GDP) in Q4:2024–25, compared with USD 4.6 billion (0.5 per cent of GDP) in the same quarter of the previous year. This improvement highlights the growing strength of India's export earnings and the stability of foreign inflows.

In FY 2024–25, the current account deficit was contained at just 0.6 per cent of GDP. The low deficit was mainly due to strong services exports and steady remittances from Indians living abroad.

Figure :8
India's FDI Inflows
(In USD Billion)

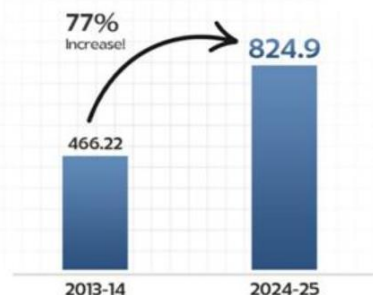


ix. Manufacturing and Exports

India's export performance continues to reflect the growing strength of its economy, particularly in services and high-value manufacturing. Over the past decade, the country has steadily expanded its footprint in global trade. This growth has been powered by stronger industrial capacity, greater competitiveness in services, and the rise of strategic sectors like defence production and electronics.

Figure :9

India's Export Growth Over the Decade (In USD Billion)



India's total exports touched a new high of USD 824.9 billion in 2024–25, growing by 6.01 per cent from USD 778.1 billion in 2023–24. This marks a sharp rise from USD 466.22 billion in 2013–14, underlining a decade of sustained export momentum.

Services exports remain a key contributor. In 2024–25, India exported USD 387.5 billion worth of services, a 13.6 per cent increase over the previous year's USD 341.1 billion. A decade ago, in 2013–14, services exports stood at USD 152 billion. This strong and consistent growth highlights India's ability to deliver high-quality services to global clients, particularly in IT, consulting, finance, and digital technologies.

Merchandise exports, excluding petroleum products, also achieved a record. In 2024–25, these exports reached USD 374.1 billion, growing by 6.0 per cent from USD 352.9 billion in the previous year. This is the highest non-petroleum merchandise export figure ever recorded. It also reflects a

significant improvement from USD 314 billion in 2013–14. Much of this growth has come from sectors such as machinery, chemicals, electronics, and defence equipment, which are gaining traction in global markets.

x. Production Linked Incentives

Figure :10



With an impressive outlay of ₹1.97 lakh crore (over US\$26 billion), the PLI Schemes focus on 14 critical sectors, each strategically chosen to enhance the country's manufacturing prowess, foster technological advancements, and elevate India's position in global markets. These sectors are aligned with the government's goal of strengthening domestic production and expanding exports, contributing to the broader vision of Atmanirbhar Bharat. The impact of PLI Schemes has been significant across various sectors in India. These schemes have incentivized domestic manufacturing, leading to increased production, job creation, and a boost in exports. They have also attracted significant investments from both domestic and foreign players.

PLI Schemes have transformed India's exports basket from traditional commodities to high value-added products such as electronics & telecommunication goods, processed food products etc. PLI Schemes have witnessed exports

surpassing ₹ 5.31 lakh crore (around US\$ 61.76 billion), with significant contributions from sectors such as Large-Scale Electronics Manufacturing, Pharmaceuticals, Food Processing, and Telecom & Networking products.

xi. Strengthening MSME sector

With over 6.3 crore enterprises, the MSME sector plays a vital role in employment generation and entrepreneurship, second only to agriculture. The government has supported the sector through initiatives focusing on credit access, technology, infrastructure, skill development, and market support, including for Khadi, Village, and Coir industries.

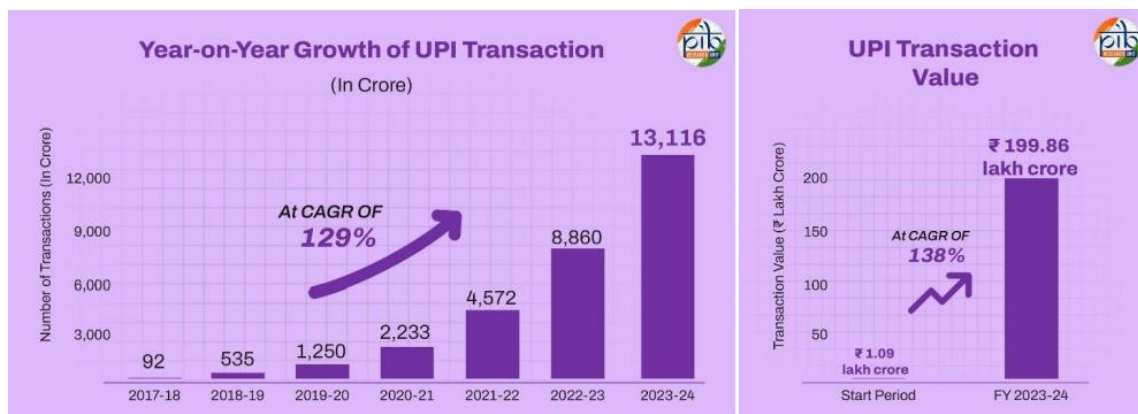
Key achievements

- Over ₹3.58 lakh crore sanctioned under the Emergency Credit Line Guarantee Scheme (ECLGS).
- MSME loans of over ₹2.39 lakh crore saved from becoming NPAs under ECLGS.
- 1.13 crore MSMEs benefited.
- Estimates show that this saved over 1.5 crore jobs, supported the livelihood of nearly 6 crore people.
- Guarantee cover enhanced up to ₹100 crore to boost credit access.

xii. Digital Transformation in Payments

- India has experienced a remarkable surge in digital payments, marking a pivotal shift towards a cashless economy. This growth has been enabled by government initiatives, collaborative stakeholder efforts, and robust digital infrastructure. At the centre of this transformation is Unified Payments Interface (UPI), alongside Immediate Payment Service (IMPS) and NETC FASTag, which have made transactions faster, safer, and more accessible.
- Revolution in Digital Transactions India's digital payment transactions have expanded at an exponential rate, reflecting increased digital adoption among individuals and businesses.
 - Digital payment transactions grew from 2,071 crore in FY 2017–18 to 18,737 crores in FY2023–24, achieving a Compound Annual Growth Rate (CAGR) of 44%.
 - Over the same period, the value of transactions rose from ₹1,962 lakh crore to ₹3,659 lakh crore, with a CAGR of 11%.
- UPI: The Flagship of India's Digital Economy. Unified Payments Interface (UPI) is a transformative digital payment system that integrates multiple bank accounts into one mobile application, offering seamless fund transfers, bill payments, and merchant transactions. It has not only made financial transactions fast, secure, and effortless, but also empowered individuals, small businesses, and merchants, driving the country's shift toward a cashless economy.

Figure :11



- IMPS and NETC FASTag: Enhancing Real-Time and Mobility Payments
 - While UPI dominates mobile-based peer-to-peer and merchant payments, Immediate Payment Service (IMPS) and NETC FASTag continue to play crucial roles in strengthening India's digital payments landscape.
 - IMPS, launched in 2010, is a real-time, 24x7 electronic funds transfer service supporting transactions across banks and financial institutions via mobile, internet banking, ATMs, and SMS.
 - Simultaneously, NETC FASTag, India's digital toll collection system, enables cashless toll payments directly from linked bank accounts, enhancing convenience for commuters.
 - Together, IMPS and FASTag are instrumental in expanding digital financial services beyond traditional transactions—driving seamless fund transfers and mobility-related payments across the country.

- Internationalization of Digital Payments: India's indigenously developed UPI and RuPay cards are world class platforms for enabling digital payments. Government is making efforts to promote these products globally. At present UPI is fully functional and live in UAE, Nepal, Bhutan, Singapore, Mauritius, France and Sri Lanka. RuPay cards acceptance is live in UAE, Nepal, Bhutan, Singapore and Mauritius. 49% of global real-time digital transactions happened in India (ACI Worldwide Report 2024).

xiii. Building Blocks of Inclusive Growth: A 11 Years of Financial Empowerment in India

Over the past eleven years, India has made remarkable progress in deepening financial inclusion and promoting grassroots entrepreneurship. A suite of flagship schemes launched since 2014 has significantly broadened access to banking, insurance, pensions, and credit. Together, they have laid the groundwork for a more resilient, inclusive, and opportunity-driven economy.

- Pradhan Mantri Jan Dhan Yojana (PMJDY).** Launched in August 2014 by the Prime Minister Narendra Modi as a National Mission for Financial Inclusion (NMFI), PMJDY aimed to bring the vast unbanked population into the formal financial system, ensuring that every citizen has the opportunity to manage their financial activities effectively.
 - The number of PMJDY accounts increased from 14.72 crore in 2015 to 55.17 crore by April 2025.
 - Total deposits in these accounts rose from ₹15,670 crore to ₹2.61 lakh crore, reflecting enhanced financial participation.
 - Over 30.80 crore accounts are held by women, promoting gender-inclusive financial empowerment.
 - Approximately 36.73 crore accounts are located in rural and semi-urban areas, ensuring outreach to underserved regions.

Figure :12



- Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY).** Announced in the 2015 Union Budget in response to the fact that only 20% of Indians had insurance coverage, PMJJBY offers annual renewable life insurance. Over 9 lakh families have received timely support, making it one of the most impactful public life insurance schemes globally.
 - As of March 2025, 23.36 crore individuals have enrolled in the scheme.
 - Out of 9,37,524 claims received, 9,05,139 have been successfully disbursed, amounting to ₹18,102.78 crore.
- Pradhan Mantri Suraksha Bima Yojana (PMSBY).** Since its launch on 9th May 2015, the Pradhan Mantri Suraksha Bima Yojana (PMSBY) has made remarkable strides in expanding affordable accident insurance coverage across India. With a nominal annual premium of ₹20 and easy bank-linked auto-debit enrolment, PMSBY has become a crucial instrument in providing financial protection to vulnerable sections, particularly in rural and low-income households.
 - As of April 2025, the scheme has achieved 50.99 crore cumulative enrolments.
 - Out of these, 23.82 crore women and 33.81 crore rural residents have benefitted, reflecting strong inclusivity.
 - The scheme has received 2,09,112 claims, with 1,56,428 claims disbursed.
 - Total claim payout stands at ₹3,106.58 crore.
- Atal Pension Yojana (APY).** To tackle longevity risks and the lack of retirement security in the unorganized sector, APY was launched in 2015. It provides a defined monthly pension linked to contribution and age of

entry. As of April 2025, the scheme has accumulated 7.65 crore subscribers and a total corpus of ₹45,974.67 crore. Women now constitute about 48% of all subscribers, a strong indicator of growing financial awareness and security among female workers.

- **Pradhan Mantri Mudra Yojana (PMMY).** Launched on 8 April 2015, Pradhan Mantri Mudra Yojana (PMMY), the Flagship Programme of the Prime Minister aimed at Funding the Unfunded micro enterprises and small businesses. By removing the burden of collateral and simplifying access, MUDRA laid the foundation for a new era of grassroots entrepreneurship. The scheme has ignited an entrepreneurial shift across India—from cities to villages, turning job seekers into job creators.
 - More than 52.77 crore loan accounts have been extended with sanction amount of Rs. 34.11 lakh crore and disbursed amount of Rs. 33.33 lakh crore, since launch of the scheme.
- **Stand-Up India Scheme.** Since its inception on 5 April 2016, the Stand-Up India Scheme has enabled SC, ST, and women entrepreneurs to launch greenfield enterprises by facilitating bank loans. It has empowered thousands to start and grow businesses, creating livelihood opportunities and driving inclusive economic participation.
 - Total accounts sanctioned (05.04.2016 to 31.03.2025): 2,73,607
 - Total amount sanctioned: ₹62,410.04 crore
 - Accounts sanctioned to SC/ST beneficiaries: 69,822
 - Amount sanctioned to SC/ST beneficiaries: ₹14,705.64 crore
 - Accounts sanctioned to women beneficiaries: 2,04,058
 - Amount sanctioned to women beneficiaries: ₹47,704.44 crore
- **PM Vishwakarma: Empowering India's Traditional Artisans.** Launched on September 17, 2023, the PM Vishwakarma Scheme is a landmark initiative aimed at supporting traditional artisans and craftspeople across 18 identified trades such as blacksmiths, carpenters, potters, tailors, barbers, cobblers, and others. The scheme provides holistic support, including skill training, collateral free credit, modern toolkits, market access, and incentives for digital transactions—helping integrate these artisans into the formal economy.



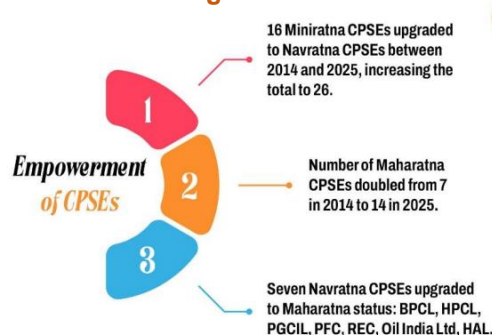
Figure :13

- **PM SVANidhi Scheme: Empowering Street Vendors with Affordable Credit.** The PM SVANidhi Scheme, launched by the Ministry of Housing and Urban Affairs on June 1, 2020, aims to empower street vendors by providing hassle-free access to affordable credit and promoting their digital onboarding for economic development. The scheme offers collateral-free working capital loans up to Rs. 50,000 in three tranches, along with a 7% per annum interest subsidy and cashback incentives of Rs. 1 per digital transaction (up to Rs. 1,200 annually). Initially valid until December 31, 2024, the scheme is currently under extension.
 - No. of Accounts Sanctioned: 9,836,781
 - Amount Sanctioned: Rs. 14,259 crores
 - No. of Accounts Disbursed: 9,604,650
 - Amount Disbursed: Rs. 13,782 crores

xiv. CPSEs: Catalysts of India's Economic Transformation

Central Public Sector Enterprises (CPSEs) play a critical role in India's economic and industrial development. As strategic national assets, they are not merely commercial entities but pillars of national growth, providing essential infrastructure, manufacturing capabilities, and services across a wide spectrum — from everyday household products like salt, tea, and paper to heavy machinery, electric vehicles, and components used in the construction of national infrastructure.

Figure :14



Indicator	2014	2024	Growth
Paid-up Capital	Rs 2 lakh crore	Rs 6 lakh crore	199% up
Gross Revenue	Rs 21 lakh crore	Rs 36 lakh crore	75% up
Net Profit (Operating CPSEs)	Rs 1.3 lakh crore	Rs 3.2 lakh crore	149% up
Profit (Profit-Making CPSEs)	Rs 1.5 lakh crore	Rs 3.4 lakh crore	130% up
Contribution to Central Exchequer	Rs 2.2 lakh crore	Rs 4.9 lakh crore	120% up
Net Worth	Rs 9.5 lakh crore	Rs 20 lakh crore	110% up
Capital Employed	Rs 17.5 lakh crore	Rs 43 lakh crore	145% up
Capital Expenditure (CPSEs)	Rs 1.9 lakh crore	Rs 3.3 lakh crore	74% up
Combined Capex (CPSEs + Railways + NHAI)	Rs 3.1 lakh crore (FY16)	Rs 8.1 lakh crore (FY25)	161% up

xv. Conclusion

India's economic performance over the past year reflects not just growth, but a deeper sense of stability and direction. With real GDP rising at 6.5 per cent and inflation easing to its lowest in years, the country has shown that it can balance expansion with price stability. At the same time, strong participation in capital markets, record levels of exports, and healthy foreign exchange reserves point to growing confidence both at home and abroad.

Key sectors such as manufacturing, services, and infrastructure are pushing ahead, supported by steady investment and policy focus. External risks remain, but India's fundamentals are sound. As the global economy continues to face challenges, India's consistent performance offers reassurance that it is well placed to lead from the front and keep building a stronger, more inclusive future.

xvi. Indian Petrochemical Industry Overview 2024-25

The Indian chemical and petrochemical industry is undergoing significant growth, contributes 7% to India's GDP with projections to reach a market size of \$300 billion by 2025, up from \$220 billion in 2024 and generating employment for over 5 million people. The expanding middle class, rapid urbanization, and industrial growth are driving increased demand for petrochemical products. The surge in demand for plastics, specialty chemicals, and engineered polymers further solidifies the industry's growth trajectory. The industry is also benefiting from increased investment, both domestic and foreign, and a planned focus on enhancing self-sufficiency. The demand for chemicals is predicted to nearly triple and the petrochemicals industry in India may reach US\$1 trillion by 2040.

India being the Asia's third-largest economy, displays per capita consumption significantly lower than developed nations. Its petrochemical sector has vast potential with annual consumption between 25 to 30 million tons. This gap presents ample opportunities for demand growth and investment. As the sixth-largest chemicals producer globally, the country exports chemicals to over 175 countries, accounting for 15% of its total exports.

The growing Indian population with more citizens entering the middle class and rapidly expanding economy, demand for diverse range of products which are derived from petrochemicals are set to rise significantly. Country's petrochemical capacity, expected to increase from approximately 29.62 million tonnes to 46 million tonnes by 2030. India's integrated petrochemical capacity linked closely to its expanding refining capabilities. Projections indicate an increase from 257 MMTPA to 310 MMTPA by 2028, enhancing cost competitiveness.

Various initiatives are rolled out by Indian government to fast-track growth within the industry, includes the development of Petroleum, Chemicals and Petrochemicals Investment Regions (PCPIRs), Plastic Parks, and Textile Parks, along with easing Foreign Direct Investment (FDI) through automatic routes.

- Production Linked Incentive (PLI). The PLI scheme has attracted significant investments into specialty chemicals and petrochemical refining.
- Petroleum, Chemicals, and Petrochemical Investment Regions (PCPIRs). These are dedicated zones which promote investment in large-scale petrochemical industries with improved infrastructure and policy support.
- Make in India & Atmanirbhar Bharat. These initiatives aim to reduce import dependency and enhance domestic production.

The Indian government has implemented various strategic policies and incentives to bolster the petrochemical industry:

- Foreign Direct Investment (FDI). India's chemical sector attracted \$844 million in FDI for FY24. Planned partnerships with global players like Saudi Aramco, ExxonMobil, and BASF are facilitating advanced petrochemical production and technology transfer.
- R&D and Sustainability. Indian firms are investing in R&D and green initiatives to develop eco-friendly polymers, energy-efficient refining techniques, and circular economy models.

A. Petrochemical Downstream Industries

The Indian petrochemical industry is a dynamic sector that plays a vital role in various industries. The sector is divided into several key sub-segments, each with different production processes and applications.

- Polymers: In India, polymer production is driven by key players like Reliance Industries, Indian Oil Corporation, and GAIL, who operate large-scale polymerization plants. The Indian petrochemical production capacity is expanding to reduce import dependence, with polymer demand expected to grow at a rate of 7% in the year 2025. Polymers have widespread applications in diverse industries like packaging, automotives, textiles, electronics etc.

- **Synthetic Fibers:** India is among the top producers of synthetic fibers, with major production hubs in Gujarat and Maharashtra. Various applications of Synthetic Fibers include Clothing and Apparel, Home Furnishings and Industrial Use.
- **Elastomers:** The elastomer segment in India is witnessing steady growth, particularly in the automotive sector, which accounts for nearly 60% of elastomer consumption.
- **Surfactants:** Surfactants are synthesized from petrochemical feedstocks such as ethylene oxide and fatty alcohols. They are crucial in reducing surface tension between different substances, making them essential in cleansing and emulsification applications.
- **Industrial Chemicals:** This sub-segment supports a broad range of industries and is integral to manufacturing and industrial processes.

B. Investments

The Indian government, along with public sector units like ONGC and BPCL and private companies like Haldia Petrochemicals, is dedicated to significant investments, with approximately USD 45 billion in petrochemical projects in progress. An additional USD 100 billion is projected to meet rising demand, aligning with India's transition to a lower-carbon future. The petrochemical sector is projected to attract investments exceeding USD 87 billion in the next decade, representing over 10% of global petrochemical growth.

Under the new PCPIR Policy 2020-35, a combined investment of ₹10 lakh crore (approximately USD 142 billion) is targeted by 2025, underscoring the government's long-term vision for the industry. With collaboration from domestic and international investors, the petrochemical sector will contribute to India's goal of becoming a \$5 trillion economy and achieving "Viksit Bharat" status by 2047.

C. Sustainability

Indian Companies are taking Sustainable Initiatives and practices such as recycling plastic waste into usable petrochemical products. These initiatives are not only reducing the environmental impact but also creating new revenue streams. The adoption of digital technologies like AI, IoT, and blockchain is revolutionizing the petrochemical industry in the country. These technologies enhance operational efficiency, reduce costs, and improve supply chain transparency, positioning India as a leader in the global market.

India's petrochemical and green hydrogen sector is placed at the intersection of innovation, sustainability, and global competitiveness. Green hydrogen supports India's net-zero emission goals while attracting eco-conscious investors. The new policies introduced in 2024, particularly focused on green hydrogen and sustainable petrochemical production, are reshaping growth strategies, attracting global investors across the value chain.

D. Challenges

Import Dependency. Despite government efforts, India remains heavily dependent on imports for key petrochemical products, particularly for high-value specialty chemicals. Country requires long-term investments in domestic production capabilities.

High Operational Costs. The cost of logistics, raw materials, and regulatory compliance remains high in India, impacting overall profitability.

Global Competition. India's petrochemical sector faces competition from the global players in China, the US, and Europe. These competitors benefit from technological advancements, lower operational costs, and integrated infrastructure.

Market Volatility. Fluctuations in crude oil prices and geopolitical instability create supply chain disruptions, impacting raw material costs and profit margins.

Infrastructure and R&D Gaps. The lack of advanced petrochemical research facilities and insufficient infrastructure for large-scale production remain major hurdles.

Environmental Concerns and Sustainability Pressure: The Indian Petrochemical industry is under intense inspection for its environmental footprint. Companies must implement waste management, emissions control, and sustainable production methods to comply with global environmental standards.

Regulatory and Compliance Burden. The industry is subject to 635 compliance requirements, spanning factory safety, hazardous materials, environmental impact, and worker protection. Adhering to evolving global regulatory standards, such as EU REACH amendments, poses significant challenges for Indian petrochemical companies, necessitating continuous product and process modifications. Ministry of Environment, Forest, and Climate Change (MoEFCC) has introduced Chemical Management and Safety rules to mandate centralized inventory management, safety data sheets (SDS), and stricter labelling regulations. For labelling and packaging regulations, Companies must adhere to GHS-aligned hazard communication systems, including detailed safety documentation for every chemical product.

xvii. Outlook for 2025-26

The Indian petrochemical industry is poised for significant growth in the 2025-26 period, with projections indicating a rise to USD 300 billion by 2025. This growth is fueled by a combination of factors including increased domestic demand, a focus on sustainability, and strategic investments in capacity expansion. The sector offers various opportunities for investment and growth, including specialty chemicals, polymers, and other downstream products. Rise in demand from end-user industries such as food processing, personal care and home care is driving development of different segments in India's specialty chemicals market. Chemicals and petrochemicals demand in India is expected to nearly triple and reach US\$ 1 trillion by 2040. India's specialty chemicals companies are expanding their capacities to cater to rising demand from domestic and overseas. The Indian chemical industry is currently valued at US\$ 220 billion and is expected to reach US\$ 300 billion by 2030 and US\$ 1 trillion by 2040. This industry remains an active hub of opportunities, even in an environment of global uncertainty. An investment of Rs. 8 lakh crore (US\$ 107.38 billion) is estimated in the Indian chemicals and petrochemicals sector by 2025. Under the Union Budget 2025-26 the government allocated Rs. 1,61,965 crore (US\$ 18.7 billion) to the Ministry of Chemicals and Fertilizers.

xviii. Feedstock

A. Naphtha

Naphtha, a key feedstock for producing ethylene, propylene, and other petrochemical derivatives, is widely used by manufacturers to meet the increasing need for plastics, synthetic fibers, and other applications like packaging materials. With India's expanding middle class and rapid urbanization, consumption of petrochemical products continues to climb, enhancing naphtha consumption. Additionally, several new petrochemical plants and capacity expansions by major players are further fueling demand. Moreover, the petrochemical sector's reliance on naphtha is expected to remain strong in the near term, supporting steady market growth.

Table 1: Naphtha Demand Supply

● Actual

Naphtha (KT)	2022-23	2023-24	2024-25
Production	17036	18257	18308
Imports	897	1211	941
Exports	5714	5153	5169
Apparent Demand	12127	13861	13153
Demand Growth%	-14.9%	14.3%	-5.1%

The gradual shift toward alternative feedstocks, such as liquefied petroleum gas (LPG) and ethane, in petrochemical production is creating a positive India naphtha market outlook. India accomplished

successfully attaining a 15 percent ethanol blending rate in 2024, with a subsequent plan to hit 20 percent by 2025. Such a shift from naphtha and other fossil fuels will help reinforce energy security and sustainability in the Indian market. This shift is partly influenced by global market dynamics, where ethane-based crackers offer higher profitability. As a result, naphtha's share in feedstock usage is facing pressure, particularly in newer petrochemical projects. However, older plants still reliant on naphtha continue to sustain demand.

In FY25, Naphtha demand dipped slightly however the overall production was higher as compared to FY24. Additionally, the Indian government's push for cleaner energy and sustainable practices further accelerated this transition. While naphtha remains a significant feedstock, its long-term demand could be impacted by these changing industry preferences, prompting refiners to explore diversified product strategies.

Indian Oil Corporation (IOCL) in Jan 2025, announced an investment of USD 7.11 Billion for a naphtha cracker project at Paradip in Odisha. The formalization will happen at the 'Utkarsh Odisha Make in Odisha 2025' summit. Additionally, IOCL will also set up a yarn project at Bhadrak with an investment of USD 0.53 Billion and further develop India's naphtha-based petrochemical industry. On the other hand, Haldia Petrochemicals Ltd. (HPL) in June 2024, signed a long-term deal with Qatar Energy for the supply of up to 2 Million Tons of naphtha a year over 10 years, starting Q2 2024. The agreement, facilitated by HPL Global Pte Ltd., strengthens India's naphtha supply chain and reinforces Qatar's position as a key energy partner.

India's "Hydrocarbons Vision – 2025" continues to guide strategic planning, emphasizing indigenous production and reduced reliance on fossil fuel imports. However, the push toward **ethanol blending** and **alternative feedstocks** is gradually reshaping the energy mix. Nevertheless, naphtha's role in petrochemical manufacturing remains robust, especially as India expands its refining and polymer production capacities under the "Make in India" initiative.

B. Natural Gas

Natural gas is one of the most versatile fuels, used across households and industries alike—for powering vehicles, generating electricity, and serving as a key feedstock for products such as fertilizers and plastics. In the dynamic realm of energy, natural gas is fast becoming the backbone of India's transition to a cleaner, more resilient economy. As the country aims for a gas-based infrastructure and reduced carbon footprint, financial year 2024–25 has witnessed significant developments.

The government's commitment to a gas-based economy hinges on robust infrastructure. India's pipeline network has seen significant expansion, with 24,945 km of operational pipelines as of September 2024 and an additional 10,805 km under construction. This extended web is crucial for linking gas sources to consumers in far-flung regions.

Parallely, City Gas Distribution (CGD) networks have grown to cover 307 geographical areas, with ambitious plans targeting 100% population coverage. PNG (Piped Natural Gas) connections have surged past 1.36 crore, and the number of CNG stations has crossed 7,259, improving accessibility and supporting cleaner transport options.

India's natural gas strategy is intricately linked to its sustainability goals. Under the SATAT (Sustainable Alternative Towards Affordable Transportation) scheme, the government has promoted the production and use of Compressed Bio Gas (CBG). By FY 2024–25, 80 CBG plants have been commissioned, laying the foundation for mandatory CBG blending starting FY 2025–26.

India's natural gas consumption has continued its upward trajectory, fueled by growing industrial demand and enhanced city gas distribution networks. The Government of India has set an ambitious goal of increasing the share of natural gas in the country's energy mix from the current 6% to 15% by 2030.

Despite this rise, demand continues to outpace supply. India has had to supplement domestic production with substantial liquefied natural gas (LNG) imports. With range-bound prices, analysts expect the consumption to grow in the medium term. Moreover, the Central Electricity Authority expects the country's power demand to grow at a compound annual growth rate of 7% for the next five years. With renewable energy still not fully operational, the dependency on coal-based and gas-based plants is expected to increase to meet the incremental power demand.

Table 2: Natural Gas Demand Supply ● Actual

Natural Gas (mmscm)	2022-23	2023-24	2024-25
Production	33573	36423	36113
Imports	26304	31795	35720
Exports	0	0	0
Apparent Demand	59877	67518	71314
Demand Growth%	-6.7%	12.8%	5.6%

According to the International Energy Agency (IEA), India's LNG imports are expected to moderate in 2025, with growth projected to slow to 10%, compared to 21% in 2024. This slowdown is attributed to tempered demand growth and continued global competition for LNG cargoes.

The agency has projected an 8% increase in India's natural gas demand in 2025 (or an additional 6 billion cubic meters), supported by the country's expanding energy requirements and rapid economic growth.

In 2024, India became the world's fourth-largest LNG importer, accounting for 7% of global LNG imports. The growth in demand was primarily driven by the industrial and oil refining sectors, followed by residential, commercial, and transport sectors.

C. Methanol

Methanol has emerged as a pivotal component in India's energy and chemical landscape, especially in the financial year 2024–25, as the country accelerates its shift toward sustainable industrial practices and energy security.

India's current capacity is 0.8 MMT of methanol annually—far below its escalating demand, which is projected to reach around 5 MMT by 2030. This demand stems primarily from its extensive use in chemical manufacturing, transportation fuel, wastewater treatment, and power generation. The chemical sector extensively employs methanol as a raw material for producing formaldehyde, acetic acid, and other essential chemicals. Given its utility across these sectors, methanol stands as a versatile and cleaner alternative to petroleum-based products.

Table 3: Methanol Demand Supply ● Actual ● Estimates

Methanol (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	634	749	805	807	807
Production	156	157	200	201	250
Imports	2797	3147	2968	3200	3500
Exports	24	36	36	40	40
Apparent Demand	2929	3268	3132	3200	3400
Demand Growth%	-	11.57%	-4.16%	2.17%	6.25%

Yet, over 95% of India's methanol is imported, with an annual spending nearing ₹75 billion. This reliance exposes the nation to price volatility and strategic vulnerabilities. In response, the Indian government has initiated robust measures to boost domestic methanol production and reduce dependency on imports.

The potential for methanol in India's transport sector is especially promising. Mandating a 20% methanol blend in automotive fuels could slash crude oil import costs by an estimated ₹2,520 billion, while also cutting vehicular emissions. This would place methanol at the heart of India's energy security strategy and support global climate commitments.

At the heart of India's methanol push is NITI Aayog's Methanol Economy Programme, a flagship initiative aimed at reducing the nation's oil import bill and greenhouse gas emissions while promoting indigenous methanol production. The programme advocates for the deployment of methanol and its derivative, dimethyl ether (DME), across a broad spectrum of applications—transportation fuels, cooking energy, industrial boilers, and power generation. Fuel blends such as M15, M85, and M100 are being promoted for vehicles, while methanol stoves are being piloted to offer low-cost, clean cooking alternatives, particularly in rural India. In parallel, the Methanol Cooking Fuel Programme, initially launched by Assam Petrochemicals, has now scaled to over 100,000 households across ten states. This scheme not only provides a cleaner substitute to LPG and kerosene but also boosts local production and distribution capabilities.

A cornerstone of methanol production in India is coal gasification. Recognizing its potential, the government allocated ₹8,500 crore to incentivize coal and lignite gasification, especially using high-ash domestic coal. Public sector enterprises like BHEL, Thermax, and leading research institutes such as IIT Delhi are developing indigenous technologies for coal-to-methanol conversion, ensuring long-term self-reliance. Simultaneously, India is pushing the frontier on green methanol, with two pioneering projects now operational. The Singareni Thermal Power Station in Telangana and Vindhyachal Thermal Plant in Madhya Pradesh have initiated small-scale CO₂ capture and methanol synthesis units. These pilot plants demonstrate the feasibility of integrating carbon capture and green hydrogen with methanol production—a crucial step in decarbonizing the chemical and energy sectors.

D. Alternative Feedstocks

The exploration of alternative feedstock options gained momentum in 2024, driven by sustainability considerations, economic factors, and the imperative to reduce import dependency:

1. Bio-based Feedstocks:

- Several pilot projects for bio-naphtha production from agricultural residues were initiated, with a potential annual capacity of 0.5 million tonnes by 2027.
- Research on bio-ethanol and bio-methanol as petrochemical feedstocks advanced, with demonstration projects showing promising results.
- Challenges related to consistent supply chains, quality standardization, and cost competitiveness remained significant barriers.

2. Plastic Waste as Feedstock:

- Chemical recycling technologies to convert plastic waste into feedstock gained traction, with RIL's circular economy project leading the way.
- Pyrolysis oil from plastic waste emerged as a niche but growing feedstock option, with several small-scale facilities operational.
- Regulatory support and extended producer responsibility (EPR) frameworks enhanced the economic viability of these alternatives.

3. Coal-based Routes:

- Coal gasification projects for methanol and subsequent olefin production progressed, with government support for technology development.
- Environmental concerns and carbon footprint considerations remained significant challenges, necessitating carbon capture and utilization (CCU) integration.

- CBM production is projected to rise to 1.13 BCM in FY25. Methanol imports (~3 MT in FY24) dominate consumption, although green methanol is gaining traction for decarbonization and energy substitution.

4. Shale Gas/Oil:

- Exploration of domestic shale resources continued with limited success, with geological complexities and water requirements posing significant challenges.
- Long-term potential remained uncertain, with policy frameworks still evolving.

5. Hydrogen as Feedstock:

- Green hydrogen initiatives gained momentum as potential long-term solutions for sustainable petrochemical production.
- Several pilot projects exploring hydrogen utilization in various petrochemical processes were initiated, though commercial viability remained distant.

These alternative feedstock options represent important long-term strategies for enhancing the sustainability and resilience of India's petrochemicals industry, though their immediate impact on feedstock dynamics remained limited in 2024.

xix. BUILDING BLOCKS

A. ETHYLENE & PROPYLENE

The ethylene and propylene markets in the near future are characterized by oversupply and regional disparities. While the U.S. benefits from low-cost feedstocks, Asia and Europe face challenges due to high energy costs and market saturation. Trade tensions between the U.S. and China add further complexity, potentially disrupting established supply chains. However, emerging markets like India offer growth opportunities, potentially offsetting some of the global demand shortfall.

The ongoing tariff war between the US and China has led to the imposition of additional retaliatory tariffs by China on imports of US propane and ethane. This has negatively impacted on the profitability of PDH (propane dehydrogenation) units and ethane-based crackers. However, recent news of ethane in the tariff exclusion list would negate the impact. Naphtha crackers are expected to benefit from this dynamic, with higher operating rates likely as they ramp up production to meet increased demand for both propylene and ethylene.

As a result of tariff conflict, a reconfiguration of global trade flows is possible, with the US redirecting more petrochemical exports to Southeast Asia, Europe, and Latin America, while China diversifies its suppliers.

Table 4: Ethylene & Propylene Demand Supply

● Actual ● Estimates

Ethylene (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	7853	8677	8677	8677	9567
Production	7312	6836	7579	7762	8331
Imports	77	70	55	65	98
Exports	52	52	16	33	111
Apparent Demand	7337	6854	7618	7794	8318
Demand Growth%	1.17%	-6.58%	11.15%	2.31%	6.72%
Propylene (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	7071	7502	7962	8430	10380
Production	5908	5735	6606	7218	8209
Imports	15	0	0	10	10
Exports	0	0	0	0	0
Apparent Demand	5923	5735	6741	7228	8219
Demand Growth%	1.04%	-3.17%	17.54%	7.22%	13.71%

Ethylene Capacity touched nearly 8.7 MMT in India in 2024-25 and is expected to increase to over 9.5 MMT by 2026-27. Ethylene consumption in the country stood at 7618 KT in 2024-25 and is forecasted to reach 8318 KT by 2026-27. Production is expected to increase to 8331 KT by 2026-27 from 7579 KT presently. Propylene demand has strengthened, reaching 6741 KT for 2024-25 and is expected to rise further to 8219 KT by 2026-27. Capacity is anticipated to grow from the current 7962 KT to 10380 KT by 2026-27. Production currently at 6606 KT is projected to grow to 8209 KT by 2026-27.

Indian Oil Corporation's (IOC) Gujarat Refinery at Vadodara is investing Rs 24,000 crore to help it diversify into the petrochemicals segment by commissioning two petrochemical units, Polypropylene (500 KTPA) and butyl acrylate (150 KTPA) by the end of 2025. The Gujarat Refinery, operating at a capacity of 13.7 million tonnes per annum (MMTPA) since 2001, is also set for a capacity upgrade to 18 MMTPA. This includes revamping existing operations and setting up new units.

Indian Oil Corporation Ltd. signed a Memorandum of Understanding (MoU) with the Government of Odisha to set up a world-class Petrochemical Complex at Paradip. With an investment of ~Rs 61,077 crores, this marks Indian Oil's largest-ever investment at a single location and a transformative step in India's petrochemical and industrial growth. The upcoming complex will house a 1500 KTA dual-feed cracker and associated downstream units to produce a wide range of petrochemicals, including Polypropylene (PP), Isopropyl Alcohol (IPA), High-Density Polyethylene (HDPE), Linear Low-Density Polyethylene (LLDPE), Polyvinyl Chloride (PVC), Phenol, and Butadiene.

Nayara recently announced a petrochemical expansion project with an investment of ~Rs 68,000 crores. It includes mix feed steam cracker with ethylene production capacity of ~1500 KTA and associated downstream units to produce wide range of petrochemicals including Polypropylene (PP), Phenol, High-Density Polyethylene (HDPE), Linear Low-Density Polyethylene (LLDPE), Low-Density Polyethylene (LDPE), and Butadiene.

Bharat Petroleum Corporation Ltd (BPCL) had announced and achieved financial closure for its Bina refinery expansion cum petrochemical project. The project, estimated to cost Rs 48,926 crores, aims to set up a petrochemical complex comprising a 1200 KTA ethylene cracker unit and increase the refinery's capacity from 7.8 MMTPA to 11 MMTPA. This expansion will enable BPCL to produce downstream petrochemical products such as Linear Low-density Polyethylene (LLDPE), High-density Polyethylene (HDPE), Polypropylene (PP), and other aromatics.

State-run Hindustan Petroleum Corporation (HPCL) expects the full commissioning of the refinery-cum-petrochemicals complex at Barmer (Rajasthan) by Q4 FY25-26. The oil marketing company expects full benefits of the refinery to accrue by March 2027. Complex will have a 9 MMTPA crude refining capacity, including 2.4 MMTPA of petrochemicals. Mechanical completion is estimated to be over by Q4 2025. The complex will produce petrochemical products such as Polypropylene, Butadiene, LLDPE, HDPE, Benzene, and Toluene.

State-owned GAIL (India) Limited successfully erected the Product Purge Bin in the Polypropylene Unit, marking an engineering milestone from the PDH-PP Project at USAR. GAIL is working to set up a 500 KTA polypropylene plant at Usar, near Alibag, at an estimated investment of Rs 11,000 crore. This significant expansion is expected to be ready by 2025.

GAIL (India) Limited, Oil and Natural Gas Corporation (ONGC), and Shell Energy India (SEI) Private Limited signed a tripartite memorandum of understanding (MoU) to explore opportunities for the import of ethane and other hydrocarbons. The companies said the MoU inter alia includes cooperation with a focus on developing ethane import facilities after a gap assessment in existing Shell Hazira Terminal facilities and usage of existing pipeline routes and facilities.

Haldia Petrochemicals Limited (HPL) is investing Rs 5,000 crore to establish India's largest Phenol & Acetone plant. The project is currently in the construction phase and will produce 345 KTA of Phenol and 214 KTA of Acetone.

Deepak Chem Tech Ltd (DCTL) plans to set up a manufacturing complex at Dahej to produce phenol, acetone, and isopropyl alcohol (IPA) at a cost of ~Rs 3500 crores. The company will build a 300 KTA phenol unit, a 185 KTA acetone plant, and a 100 KTA IPA line at Dahej, Gujarat. DCTL is a wholly owned subsidiary of Deepak Nitrite Limited. The new capacity of phenol and acetone would be integrated to produce polycarbonate (PC) resins. In November 2024, DCTL announced plans to build a new 165 KTA PC plant in Dahej using technology from US-based engineering materials producer Trinseo. To make its Dahej complex fully integrated, DNL's wholly owned subsidiary Deepak

Phenolics Ltd (DPL) entered into a 15-year agreement with Petronet LNG for the procurement of 250 KTA of feedstock propylene and 11 KTA of hydrogen in Oct 2024.

B. BUTADIENE

The Indian Butadiene market is experiencing significant growth, driven by the swelling demand from the automotive industry for synthetic rubber production, particularly in tires. This growth is further powered by the expanding construction, paints & adhesives, and consumer goods sectors.

Butadiene and butadiene derivative production in the APAC region remains dominated by India. Butadiene capacity additions in the last decade outpaced investments in derivatives, enabling India to become a significant exporter of butadiene. In contrast, India continues to import cheaper PBR and SBR from Iran and Russia. SBR import volumes have declined with the start-up of new SBR plants by Reliance and IOCL, but they will increase again as strong automotive production is expected throughout the forecast period. It is vital to mention that APAC will remain a key region concerning butadiene production and associated rubber consumption.

Table 5: Butadiene Demand Supply

● Actual ● Estimates

Butadiene (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	605	605	603	603	662
Production	462	500	496	510	530
Imports	0	0	0	0	0
Exports	150	183	151	145	139
Apparent Demand	312	317	345	365	391
Demand Growth%	-8.77%	1.60%	8.83%	5.80%	7.12%

India has an installed capacity of over 600 KTA with RIL, IOCL, OPAL, and Haldia as leading producers. Approximately 65% of capacity is captive, while Haldia and OPAL are major exporters as they do not have downstream units. A competitor is expected to come up with a 100 KTA BD unit in CY25, according to ICIS. Indian exports of Butadiene clocked 151 KT in 2024-25, down by 17% YoY due to a combination of factors, including global economic uncertainties, increased domestic demand, and potentially, changes in international market dynamics.

Butadiene prices have dropped significantly -6%/-18% MoM in the first 2 months of FY25. The drop is mainly tied to uncertainties around new Tariff announcements from the Trump administration, which has disturbed the downstream activity. PMI indexes overall rolled in the contraction territory, dampening the overall business sentiment. Going forward, Butadiene prices are anticipated to remain rangebound as supply is expected to be ample with fresh Butadiene units kicking off in China.

C. EDC & VCM

The EDC market in FY 2024-25 faced a series of fluctuations driven by both regional dynamics and global factors. Early in the fiscal year, from April to May, the market experienced an oversupply situation that led to a softening of prices. In APAC, the Indian market was heavily impacted by weak demand in downstream domestic PVC production due to margin pressure. Suppliers were cautious, leading to slower buying activity, and India's imports reflected this, remaining muted. This was largely driven by improved downstream domestic PVC demand due to high PVC prices owing to the Red Sea issue.

A tightening supply also contributed to the price recovery, as some key producers reduced their operating rates in response to a soft market earlier in the year. In India, PVC producers increased their EDC imports again in November '24 to ensure continuity in the production of PVC, which was bolstered by a seasonal rise in demand.

The KemOne-Olin agreement in mid-2024 added another layer to the supply chain. This tolling arrangement between Olin Corporation (US) and KemOne (France) saw Olin exporting EDC to KemOne for conversion into PVC, and in return, KemOne sent the finished PVC back to the US. This agreement had some impact to global EDC availability, especially those from the US to Asia, affecting APAC supply-demand dynamics. However, in the second half of 2024, especially August to October, oversupply conditions once again reasserted themselves in the APAC region, leading to downward pressure on prices. In India, PVC demand softened post-festival season, leading to reduced EDC imports.

Table 6: EDC Demand Supply

● Actual ● Estimates

EDC (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	247	247	325	325	1065
Production	265	265	320	320	1065
Imports	525	487	482	510	515
Exports	0	0	0	0	0
Apparent Demand	790	752	802	830	1580
Demand Growth%	7.63%	-4.81%	6.65%	3.49%	90.36%

By the final quarter of the fiscal year (January to March 2025), the market saw a marginal rebound due to inventory restocking and year-end procurement. However, geopolitical factors, particularly the US-China trade tensions, began to create uncertainty for global trade. While these issues began to affect the market more noticeably in early 2025, it was evident that global trade shifts could impact APAC and India's supply chains moving forward, as tariffs and trade disputes would affect EDC prices and imports.

Table 7: VCM Demand Supply

● Actual ● Estimates

VCM (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	1031	1031	1060	1060	2210
Production	945	900	1030	1060	2210
Imports	545	500	555	570	625
Exports	0	0	0	0	0
Apparent Demand	1490	1400	1585	1630	2835
Demand Growth%	5.30%	-6.04%	13.21%	2.84%	73.93%

The VCM market in FY 2024-25 witnessed demand growth from 1.4MMT in the year 2023-24 to nearly 1.6MMT in the year 2024-25. This increase was primarily driven by strong downstream PVC demand, geopolitical issues such as freight surge, and a tightened supply situation caused by shutdowns in key plants in Northeast Asia, especially in China and Japan. These disruptions in production led to reduced availability of VCM, prompting VCM imports into India to rise as PVC producers secured their supply in anticipation of higher demand in the coming months. However, from July to October, the market saw a correction. Prices began to soften as demand from the construction and automotive sectors in APAC weakened. Oversupply conditions in South Korea and other regional markets put downward pressure on prices. In India, weaker demand from the PVC sector led to slower procurement of VCM, and the overall economic uncertainty across the region further pressured the market sentiment, contributing to a price decline.

An important development during FY 2024-25 was China's adjustment of trade policies, particularly its suspension of preferential tariffs on VCM imports from Taiwan. This policy change, effective from January 1, 2024, impacted the broader regional trade dynamics, although it did not directly affect VCM imports into China, as China has historically sourced its VCM mainly from Northeast Asia, particularly Japan and South Korea. By the final quarter of FY25, the VCM market reached a level of relative stability, though price volatility continued due to fluctuating feedstock costs.

and the geopolitical uncertainties that persisted in global trade. In India, VCM imports stabilized as the supply-demand balance gradually improved. However, traders remained cautious, closely monitoring potential geopolitical risks that could affect future market conditions, particularly as global trade flows continued to adapt to shifting regional dynamics.

With the majority of EDC and VCM in India being used by integrated PVC producers, the market, particularly non-integrated manufacturers, relies entirely on imports for these essential building blocks. In FY 2024-25, EDC demand grew by 6.6%, with a more modest 3.5% increase projected for the next year, while VCM saw a significant rise of 13.2%, followed by a projected 2.9% growth in the following fiscal. These trends may be influenced by factors such as oversupply in the downstream PVC sector and shifting global trade dynamics.

D. AROMATICS – PX

The Indian paraxylene (PX) market is experiencing substantial growth, driven by increasing demand for polyester and its derivatives, particularly in packaging and textiles. The market is projected to reach 2,874 thousand metric tonnes by 2030, with a CAGR of 3.08%. Key players are investing in capacity expansions and technological advancements to meet this rising demand.

The capacity of approx. 6 million metric tons in 2024-25 is expected to grow to 6.5 million metric tons in 2026-27. With Capacity addition by IOCL in 2026-27.

Indian PX demand is expected to grow with the upcoming IOCL's capacity addition of 1200 KTA PTA, along with RIL's capacity addition of 3 MMTA PTA. India is competitively placed to supply to Southeast Asia and Western markets.

● Actual ● Estimates

Table 8: Paraxylene Demand Supply

PX (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	5900	5900	5900	5900	6530
Production	3756	3400	3244	3268	4389
Imports	540	852	932	880	855
Exports	600	213	214	240	200
Apparent Demand	3696	4039	3888	3908	5044
Demand Growth%	-0.81%	9.28%	-0.40%	0.50%	29.07%

India's exports have declined significantly to 214 KT in 2024-25, from 600 KT in FY2023. Weak global demand and poor margins are mainly responsible for the steep downward trend. In 2024-25, India exported to Southeast Asia, the US, and China. Poor demand for imports from China and healthy gasoline margins have resulted in the decline of PX exports. PX imports have increased from 540 KT in 2022-23 to 932 KT in 2024-25. This has largely been sourced from the Middle East and Southeast Asia.

The Paraxylene market in India is expected to grow driven by the increasing demand for polyester and its various applications. Investments in infrastructure and the expansion of downstream industries will further contribute to the market's expansion. However, the market may also face challenges related to global oversupply and the growing awareness of plastic alternatives.

xx. INTERMEDIATES

A. FIBER INTERMEDIATES

India's push toward petrochemical self-reliance is reshaping the MEG landscape. As a critical raw material in the production of polyester fibers, PET resins, and automotive coolants, MEG plays a foundational role in India's textile, packaging, and automotive sectors. The commissioning of Indian Oil Corporation's MEG plant at Paradip Refinery in Odisha in March 2024 marks a significant milestone. This facility is designed to supply raw materials to textile parks

in Bhadrak and Paradip, reducing import dependency and stabilizing supply chains. The move aligns with broader government initiatives to strengthen domestic manufacturing and reduce exposure to global price volatility. Reliance Industries and India Glycols continue to be key players, with established production capacities and integrated supply networks.

● Actual ● Estimates

Table 9: MEG Demand Supply

MEG (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	2279	2705	2705	2705	2705
Production	1642	1948	2168	2224	2136
Imports	1400	1130	1127	1223	1464
Exports	20	18	24	24	24
Apparent Demand	3022	3060	3272	3423	3576
Demand Growth%	4.50%	1.26%	6.91%	4.63%	4.47%

MEG snapshot: Capacity 2.7 MMT vs demand 3.3 MMT → imports 1.1 MMT (similar YoY) as Middle East/US gas-based suppliers have an inherent feedstock advantage.

Investment headwinds: Global oversupply (Asia surplus, +14 MMT new Chinese, + 2 MMT Middle East, + 1 MMT US, MEG 2023-35) keeps re-investment economics weak.

The textile industry remains the largest consumer of MEG, accounting for a substantial share of demand through polyester fiber and yarn production. With India's textile exports projected to grow and domestic consumption rising, MEG demand is expected to increase proportionally. The packaging sector, fueled by the proliferation of PET bottles and containers, also contributes significantly to MEG consumption. Additionally, the automotive industry's reliance on MEG for engine coolants and antifreeze supports steady demand growth.

Emerging applications in battery production and industrial chemicals are further expanding MEG's relevance. As India accelerates its electric vehicle adoption and renewable energy integration, MEG's role in lithium-ion battery electrolytes is gaining attention. Bio-based MEG is also gaining traction, with research and pilot projects exploring renewable feedstocks. These innovations are expected to reshape the competitive landscape and attract investment from sustainability-focused stakeholders.

India's strategic positioning in the global MEG trade is evolving, with increased focus on export potential and regional supply chain integration. The Paradip petrochemical complex, with its planned 400,000-tonnes-per-year cumene unit, is expected to enhance India's capacity to produce ethylene, polypropylene, and MEG, reinforcing its role as a regional hub.

PTA is primarily used as a feedstock for producing polyester fibers, polyethylene terephthalate (PET) resins and films. The demand is heavily driven by the textile and packaging industries.

Demand is strongest in Asia-Pacific, especially China and India, due to robust polyester consumption. Emerging economies are becoming increasingly important due to urbanization and rising disposable incomes. China is the leading producer, accounting for ~65% of global PTA production capacity at ~88 MMTA. Most PTA producers are vertically integrated with upstream paraxylene (PX) and downstream polyester manufacturing, enhancing cost competitiveness, with the top 10 producers accounting for 87% of total Chinese capacities.

● Actual ● Estimates

Table 10: PTA Demand Supply

PTA (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	6440	6440	6440	6830	9820
Production	5645	5734	5829	6490	9330
Imports	1550	1562	2153	1800	1200
Exports	2	0	0	0	0
Apparent Demand	7193	7296	7982	8430	8830
Demand Growth%	4.05%	1.43%	9.40%	5.61%	4.74%

India is second second-largest PTA producer, with Reliance Industries, IOCL, and MCPI being the domestic producers. The total PTA capacity in India stood at around 6.5 million tonnes per annum, with 5.5 MMTA expected to

come online in the next 2-3 years, almost doubling current PTA capacity, making India self-sufficient in PTA production in the upcoming years. The demand for PTA in India is driven primarily by the polyester industry (especially polyester fiber and PET bottles), with domestic demand is expected to witness moderate growth due to increasing polyester demand, at a CAGR of around 5–6% expected over the next few years. Government policies such as import tariffs and anti-dumping duties will play a critical role in helping the development of the domestic industry and attracting future investments.

Overcapacity, especially in China, has pressured margins, as well as Volatility in feedstock prices (PX and crude oil) creates uncertainties in cost structures. The PTA market is expected to grow, and strategic investments and capacity rationalization will help balance the global supply-demand dynamic in the coming years.

xxi. POLYMERS

India's GDP grew at 6.5% in FY24–25 as the economy expanded faster than expected, surpassing market predictions (of ~6.3%) and defying concerns about softer performance amid global uncertainties. While the full-year GDP growth of 6.5% marks a four-year low compared to the robust 8.2% in FY23–24, however, India maintained its position as the fastest-growing economy globally and remains on course to become the world's fourth-largest economy later this year, overtaking Japan.

The Q4'FY25 particularly stood out with GDP growth accelerating to 7.4%, suggesting strong investment momentum, increasing business confidence, and expansion plans across industries. However, challenges remain in achieving sustained private sector investment participation across all sectors. The investment outlook continues to face headwinds from global uncertainties, including potential impacts from US trade policy changes that could force investors to postpone investment decisions.

In the second half of FY25, rural demand picked up sharply, benefiting consumer goods and automobile firms. Supportive factors included expectations of a strong Rabi crop, improved farm income, and election-season consumption tailwinds.

The Construction/Infrastructure Sector emerged as a standout performer, registering a remarkable growth of 9.4% for the full financial year as spending rebounded in the second half of the year post-election/weather delays. Performance accelerated further in Q4, reaching an impressive 10.8% growth rate driven by high government capital expenditure. The robust construction activity reflects the government's continued focus on infrastructure development and has been a crucial pillar supporting overall economic expansion.

Automobile Sector retail sales in India rose by 6.46% in FY25. Rural markets (+7.55%) outpaced urban (+5.14%) according to FADA. Notably, rural vehicle sales reached record levels, signaling renewed economic confidence in the hinterlands. Passenger vehicles record 4.3 million units sold (+2% YoY), driven heavily by SUVs, while the small car segment declined by ~14.4. Tractors & 3W continued double-digit gains in rural sales. 2W sales growth is 7.7%. Passenger vehicle exports surged ~14.6% to 770k units; overall vehicle exports up ~19.2% y-o-y.

The appliances industry maintains its high growth trajectory, showing an estimated 12-14% value-based growth in 2024 and estimates 10-15 per cent growth in 2025 on the back of the premiumisation trend, which is driven by rising incomes, changing preferences towards energy-efficient, and connected products with innovative features. The hot summers in recent times have accelerated Refrigerator, AC, & Coolers sales & PPCP demand thereof.

Agriculture & Allied Activities grew by ~3.8 % in FY 25, up significantly from just 1.4 % in FY 24. Benefitting from a near-normal monsoon, record Kharif output, rising tractor and rural wages, and sharper FMCG and two-wheeler sales in villages. The FMCG sector also witnessed a healthy revival in rural consumption, supported by easing inflation and a shift toward premium products. The packaging sector, a key downstream consumer of polyethylene (PE), remained vibrant. Food packaging, essential goods, and personal care products led the growth, while manufacturers expanded their small pack SKUs to reach price-sensitive rural and low-income consumers.

In the Housing Sector, India registered record-breaking sales in Q4 FY25, with over 135,000 units sold across the top 7 cities, a ~4% increase YoY. Total sales for FY25 crossed 510,000 units, marking a ~3.5% annual rise despite the election-related slowdown in early quarters. This sustained momentum boosted demand for cement, paints, and consumer durables, further stimulating polymer consumption.

xxii. POLYOLEFINS

The PE industry remained stable in FY25 on a y-o-y basis. The HDPE industry contracted by 11%, while LLDPE grew by 7%, and LDPE maintained stability. FY25 saw regular material availability and smooth operations due to the stabilization of new capacity additions in the domestic industry. An ample supply of LLD/ HD in the market (due to the full operation of a new player in the market, HMEL) triggered a predatory pricing strategy among domestic players to retain market share. Improved domestic availability led to a 29% y-o-y reduction in import volume.

Table 11: HDPE Demand Supply

● Actual ● Estimates

HDPE (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity (HD Dedicated)	1330	1780	1780	1780	1780
Production	2049	2609	2764	2753	2748
Imports	1289	1595	921	937	1897
Exports	31	126	136	120	120
Apparent Demand	3288	4012	3557	3983	5100
Demand Growth (%)	12.00%	22.00%	-11.00%	12.00%	28.00%

The HDPE industry witnessed a de-growth of 11% on a y-o-y basis, mainly on account of lower demand in the Pipe & Monofilament sectors. In the HD key segment Pipe Industry had de-grown by 30%. Demand from the Monofilament segment was bearish in Q2 and Q3, recovery was observed from Q4. The injection moulding segment witnessed growth from household and crates catering to e-commerce, modern trade, agriculture, and aquaculture. The HD Blow Moulding sector witnessed flat growth as export orders in the chemical segment suffered a slowdown (primarily from the Eurozone). Lube oil sector demand had witnessed an organic growth of 5-6% aligned with petro-products consumption growth. The Jal Jeevan Mission (JJM) has successfully provided tap water connections to over 15.44 crore households, which accounts for 79.74% of all rural households in India. Consumption is expected to pick up during FY'26 in the states where the implementation has been low.

Table 12: LLDPE Demand Supply

● Actual ● Estimates

LLDPE (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity (HD/ LL Swing)	3530	4330	4330	4330	5170
Production	2049	2671	3110	3052	3117
Imports	868	898	694	675	798
Exports	102	173	229	230	210
Apparent Demand	2812	3350	3601	3769	4100
Demand Growth (%)	6.00%	19.00%	7.00%	5.00%	9.00%

The LLDPE industry grew by 7.0% y-o-y, driven by steady packaging demand from **FMCG, snack food & industrial packaging** segments. With income growth & better infrastructure, rural households expanded their average FMCG basket size by 60% over the last 2 years. While general trade in the FMCG segment has been under pressure during the year, alternative channels like modern trade, e-commerce, and quick commerce posted strong growth. **LL Drip irrigation** segment demand remained muted during H1 on account of Central & State elections, extended monsoon, and delayed payments from state agencies. Demand started picking up in December. Over the last three years, an average of 11 lac hectares have been covered under this subsidy-based Micro Irrigation Scheme.

Table 13: LDPE Demand Supply

● Actual ● Estimates

LDPE (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	650	650	650	650	650
Production	624	582	618	620	620
Imports	348	487	494	517	650
Exports	49	24	27	0	0
Apparent Demand	933	1071	1083	1164	1300
Demand Growth (%)	8.00%	15.00%	1.00%	7.00%	12.00%

LDPE industry y-o-y growth was stable, with steady growth witnessed across the sectors, driven by **LD AL, LD HD, and LD IM segments**. The Wire and Cable industry is growing at a healthy rate of 13%, and the sector is expected to get a further boost with the entry of Aditya Birla and the Adani group. (Capex outlay of Rs 10,000 crores by W&C companies expected in the next three years). M/S Amul – a major processor in the dairy segment is consistently investing in production facilities in Gujarat, Madhya Pradesh, and Andhra Pradesh. **LD AL segment** witnessed a consolidation with a takeover of Kurlon by Sheela Foams.

PP demand growth has a strong correlation with GDP, having a long-term elasticity of 1.2 with GDP. The PP industry demand in India witnessed a growth of 8% in FY25 (vs FY24) to 7.6 MMTA, supported by strong demand from core consuming industries like Infrastructure, Automotive, FMCG, and Consumer durables. Amongst the end-use sectors, impact copolymer, BOPP, Fibre & Filament, Raffia, and RCP showed a strong growth trajectory (showing growth of 13%, 13%, 11%, 8%, and 8% respectively).

Table 14: PP Demand Supply

● Actual ● Estimates

PP (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	6355	6570	7020	7080	9180
Production	5215	5897	6619	6849	7448
Imports	1482	1472	1329	1413	1415
Exports	176	305	338	204	174
Apparent Demand	6429	7026	7600	8121	8689
Demand Growth%	6.00%	9.29%	8.17%	6.86%	6.99%

The **random copolymer** witnessed strong growth driven by the demand from Transparent Containers used for packaging purposes, the medical industry (Syringes, IV Fluid and Medicine bottles), and stational items. The revival of the FMCG segment is driving up BOPP demand. **The FMCG sector** signalled a steady recovery from a sharp FY23 slump with 4% consumption growth in FY25. Improved demand for packaging came mainly from the FMCG, Textiles, increased exports & product innovations to improve penetration of packaging material in newer horizons. **Bulk packaging** growth was driven by exports of FIBC's which registered YoY 20% growth. Cement demand witnessed a moderate growth rate of 4.5 % in FY25 & expected to expand by 6-7.5% in FY26, with some uptick already seen in the second half of FY25 with a pick-up in the construction and infrastructure activities.

PP imports shrank by 10% in FY25 (vs FY24) due to improved domestic availability supported by new capacity additions of 0.45 KTA. PP import is expected to further reduce with further upcoming local PP capacities on stream during FY'26 onwards.

Indian PP demand is expected to grow at 7.2% CAGR to 10 MMTA by 2030. India is expected to witness strong capacity addition of 4.1 MMT to reach 11.1 MMTA, growing by 9.7% CAGR till 2030, surpassing the demand growth. This will prompt localisation and support the exports of both finished products and PP granules from the country.

Table 15: Polyolefins Demand Supply

● Actual ● Estimates

Polyolefins (PE+PP+EVA)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	11865	13330	13780	13840	16780
Production	9937	11759	13111	13274	13933
Imports	4193	4687	3736	3752	5030
Exports	358	628	730	554	504
Apparent Demand	13668	15694	16139	17397	19609
Demand Growth%	7.46%	14.82%	2.84%	7.79%	12.71%

xxiii. VINYLs: Polyvinyl Chloride (PVC)

The PVC market reached USD 7.2 billion, growing at 7.1%. Construction and infrastructure development remain the primary demand drivers, with the government's focus on housing and urban development initiatives providing further impetus.

India's PVC suspension resin sector is currently grappling with a pronounced supply-demand mismatch. While the country has an installed production capacity of approximately 1.6 million metric tons annually, domestic consumption has surged to around 4.5 million metric tons annually, creating a significant shortfall that has been increasingly met through imports. This structural gap has positioned India as the largest PVC resin importer globally, with imports making up nearly two-thirds (66%) of its total demand last fiscal year, equivalent to roughly 3 million metric tons.

One of the key challenges facing the industry is the stagnation in domestic production capacity over the past several years. As a result, import dependency has become structurally embedded in India's PVC supply chain. Interestingly, despite the influx of imported resin, India continues to absorb surplus global material with remarkable ease, underpinned by steady growth in construction, agriculture, and infrastructure activities.

Major exporting countries such as China, Taiwan, South Korea, Japan, and the United States collectively contribute to about 90% of India's PVC imports, with China alone accounting for an overwhelming 47% share. Major domestic players have recognized the urgency to localize PVC supply.

Reliance Industries has committed to expanding its capacity by 1.2 million tons annually, while the Adani Group has announced plans for a 1 million tons per annum facility to be added over the next 2-3 years. These expansions could more than triple India's domestic production and reduce import reliance to a more manageable level. Indian Oil Corporation has also proposed a 200 KTA capacity addition by FY28, though project timelines remain uncertain.

Although there are significant capacity additions, they may only temporarily narrow the gap between supply and demand. Given the country's expanding infrastructure needs and strong economic momentum, especially in downstream sectors like real estate, irrigation, and urban utilities, PVC demand is likely to continue outpacing supply in the medium to long term.

Non-traditional applications such as pharmaceutical-grade PVC, profiles, and OPVC pipes are also projected to contribute an increasing share to overall demand. India's PVC consumption patterns also highlight a notable divergence from global trends. Around 80% of the country's resin usage is concentrated in pipes and fittings for agriculture and construction, compared to a global average of about 45%. Furthermore, India's per capita PVC usage, although having improved from 2.4 kg to 3.1 kg year-on-year, still trails far behind other industrialized nations like China (15.4 kg) and the United States (13.3 kg), indicating substantial headroom for growth.

In this context, policy support to incentivize domestic PVC manufacturing could prove to be a game-changer. Facilitating investment, easing regulatory processes, and ensuring feedstock availability are all crucial steps toward achieving long-term supply sustainability. As India continues to play a central role in the global PVC trade, both as a major consumer and importer, it must balance its immediate import dependency with a long-term vision for domestic supplies.

The PVC market experienced remarkable momentum in 2024-25, registering a robust growth rate of 14%, with total demand, covering both suspension and emulsion PVC, reaching approximately 4,670 KTA. This was mainly because of the addition of downstream capacities supported by end-product growth. Looking ahead, the industry is projected to expand at a more moderate pace of around 6.5% in 2025–26, pushing overall demand to an estimated 4,970 KTA. During this period, imports are expected to remain high at about 3,350 KTA. However, with the anticipated addition of new domestic production capacities, import volumes are forecast to decline to nearly 2,450 KTA by 2026-27, easing India's reliance on overseas supply.

Table 16: PVC Demand Supply

● Actual ● Estimates

PVC (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	1617	1672	1672	1672	2820
Production	1487	1390	1576	1622	2820
Imports	2248	2700	3096	3347	2450
Exports	0	0	0	0	0
Apparent Demand	3734	4082	4672	4970	5270
Demand Growth (%)	31.8%	9.3%	14.5%	6.4%	6.0%

The 'Har Ghar Nal se Jal' initiative (meaning "Water from a tap in every household") is expected to significantly drive demand for PVC pipes across India. As of now, 15.60 crore rural households out of a total of 19.26 crore have been connected to tap water under this mission. In the Union Budget for 2025-26, the central government has earmarked ₹67,000 crore for the Jal Jeevan Mission (JJM). With 80% of rural households now having access to tap water, the ongoing efforts to expand and maintain rural water supply systems are anticipated to boost demand for essential construction materials such as pipes, cement, bricks, sand, steel, motors, and fixtures. Additionally, the large-scale implementation of these projects is generating employment opportunities across different skill levels = unskilled, semi-skilled, and skilled - thereby contributing to rural income growth and supporting the broader rural economy.

Red Sea issue in Q1 and the container inventory issue in June / July 2024 created an upsurge in freight rates, driving the PVC prices to peak with an increase in domestic demand. On the other hand, Q3 FY25 saw very high growth in imports owing to anticipated BIS implementation. However, demand in Q4 came down due to high inventory levels.

Demand remained moderately positive across all sectors. In the downstream industry, close to half a million MT of capacity was added in the country in 2024-25, with approx. 50% in pipe segment (non-OPVC). 10% of this addition happened in the O-PVC segment (~47 KT) and is steadily rising with more players entering the O-PVC segment.

Today, India is amongst the largest consumers of CPVC, primarily in the form of hot water plumbing and fittings, and growing needs for clean water in all residential and commercial buildings will drive continued growth. India is now witnessing a wave of domestic manufacturing investments. Major domestic developments include the upcoming expansion of 35 KTA by Epigral Ltd (formerly Meghmani Finechem) at Dahej by FY26, at Gujarat in addition to its existing 75 KTA CPVC facility. DCW Ltd had announced an expansion to 40 KTA at Sahupuram, Tamil Nadu, on its existing 20 KTA facility, and the expansion is underway. Lubrizol & Grasim (Aditya Birla Group JV) Vilayat, Gujarat, will double its CPVC compounding capacity to 140 KTA at Dahej. Phase 1 of 50 KTA is likely to commence by Aug 2025. RIL announced CPVC resin capacity of 286 KTA and compounding capacity of 110 KTA to come in phases at Dahej, Gujarat. Phase 1 of 11 KTA resin is expected by Q3 FY26. With rising domestic capacities, growing awareness of CPVC's benefits, and a strong pipeline of infrastructure and industrial projects, the CPVC market in India is set to scale new heights. Local production will lead to cost efficiencies, an increase in employment & economy, improved availability of raw material, a boost to downstream manufacturing, and reduced dependence on volatile global supply chains. These trends are reinforcing industry confidence in CPVC as a sustainable, high-performance polymer for modern infrastructure needs.

xxiv. PET

In FY24- 25, the estimated PET domestic demand was 1.9 MMT with ~11% YOY growth. Post-COVID, the Industry observed steady growth in demand in the domestic market, and producers operated at an average of 76% in FY24-25. China's continuous capacity addition in CY24 ~ 3 MMT and low demand in Europe & America suppressed the export margins and restricted Indian exports~ 0.3 MMT. Imports estimated at 0.3 MMT in FY24-25, remained stable YOY basis.

Major exporting countries to India are China, 66%; Vietnam, 22%; Bangladesh, 5% & Thailand 4%. The demand drivers are primarily downstream consumption growth YOY basis in different application segments like carbonated soft drink - 13%; packaged water -14%; juice & energy drink - 17%; which is propelled by increased on the go consumption backed by strong seasonal demand during summer last year, escalated tourism, major festivities & marriage season.

Table 17: PET Demand Supply

● Actual ● Estimates

PET (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	2208	2541	2613	2613	2613
Production	2015	1964	2111	2160	2230
Imports	113	307	312	214	180
Exports	603	328	311	420	475
Apparent Demand	1525	1732	1918	1815	1793
Demand Growth%	28.91%	13.57%	10.74%	-5.37%	-1.21%

- As per Government of India regulation: Min 30% rPET by FY26 & going up to 60% by FY29.
- Food Grade rPET requirement is calculated at 80% of Total PET consumption as 20% of PET goes into non-Food application.
- The domestic market will need additional virgin capacity by FY30.

Going forward, YOY growth is estimated for FY25- 26 ~10% (inclusive of rPET). As per GoI regulation: Min 30% rPET by FY26 & going up to 60% by FY29. The PET market is expected to continuously rise in India in the FY25- 26, owing to the high demand from packaging.

Brand owners stayed active in launching different variants with new PET applications.

- Reliance Consumer Private Limited introduced Campa, Raskik, and Spinners
- Archian Foods launched Lahori Gimbo, Imli Banta
- Dabur is going to launch a Coconut drink in their new PET Aseptic line

The main driver behind India's PET demand growth is the more widespread use of PET packaging in the beverage sector in India. The outlook of the domestic industry is very positive, with an estimated growth of 10% in the next year. Several trends are shaping the Indian beverage market, including a strong preference for traditional Indian flavors, a growing interest in functional and healthy drinks, and a rise in the popularity of ready-to-drink cocktails and craft beers. The industry is also witnessing a shift towards more convenient and premium offerings, along with a focus on sustainability and health-conscious choices.

- Traditional Flavors & Nostalgia:** Indian consumers are increasingly drawn to traditional Indian flavors like hibiscus, tamarind, and spices, often incorporating them into modern drink formulations. This trend reflects a desire to reconnect with cultural heritage and explore unique regional profiles.
- Functional and Healthy Beverages:** The demand for functional and healthy beverages is on the rise, driven by increased health awareness and the desire for convenient, ready-to-drink options. This includes beverages like kombucha, protein-rich drinks, and low/no-sugar alternatives.
- Ready-to-Drink (RTD) and Craft Beers:** RTD cocktails and craft beers are gaining popularity, appealing to consumers who seek convenient, high-quality, and diverse options.
- Premiumization:** The beverage market is seeing a rise in premium sips, with consumers increasingly willing to pay for higher-quality ingredients and unique flavor profiles.
- Health and Wellness Focus:** Consumers are prioritizing health and wellness in their beverage choices, leading to a demand for organic, natural, and immunity-boosting drinks.

- Convenience and Online Retail: The convenience factor is driving the growth of packaged beverages and e-commerce platforms, allowing consumers to easily access a wide range of drinks.
- Sustainability: Sustainability is becoming an important consideration for both consumers and beverage companies, with a growing emphasis on eco-friendly packaging and reducing waste.
- Digital Transformation: Brands are leveraging digital platforms to engage with consumers, build loyalty, and offer personalized drink experiences.

xxv. STYRENICS:

Styrene, a versatile petrochemical used in the production of plastics, resins, and rubber, plays a critical role in sectors ranging from packaging and construction to automotive and electronics. As India continues its trajectory toward becoming a global manufacturing hub, the demand for styrene is expected to rise steadily, despite the country's current dependence on imports.

Styrene's versatility makes it indispensable across multiple sectors. The largest share of demand comes from the Polystyrene segment, which is widely used in packaging applications—particularly for dairy products, vegetables, poultry, and ready-to-eat meals. The rise of cold storage facilities and the growing popularity of convenience foods have further amplified the need for durable and hygienic packaging solutions.

The Indian **Polystyrene (PS)** market is experiencing significant growth, with projections indicating a market value of USD 4,485.3 million by 2030. The market is expected to grow at a CAGR of 4.6% from 2024 to 2030. The market generated a revenue of USD 3,122.9 million in 2022 and is expected to reach USD 4,485.3 million by 2030. India's polystyrene market accounted for 7.3% of the global market in 2022.

Table 18: Polystyrene Demand Supply ● Actual ● Estimates

PS (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	320	400	400	420	475
Production	250	283	302	310	320
Imports	75	69	51	70	60
Exports	22	42	36	50	40
Apparent Demand	303	310	317	330	340
Demand Growth%	26.25%	2.31%	2.26%	4.10%	3.03%

The domestic PS market is experiencing capacity expansions driven by growing domestic demand and companies like Supreme Petrochem and Styrenix are leading the charge with significant investments in expanding their production capabilities. Supreme Petrochem Ltd (SPL) commands the Indian polystyrene landscape, with a capacity of around 300 KT. SPL's dominant market presence—capturing over 50% share in domestic PS production—and its expertise across PS variants position it as a key strategic player. Supreme Petrochem Ltd has been the traditional exporter of PS to more than 100 countries, both general purpose grades as well as Speciality grades for different customers. Meanwhile, Styrenix Performance Materials (SPM) formerly known as INEOS Styrolution India—is investing nearly Rs 650 crore in brownfield expansions in Gujarat. Over the next 3–4 years, SPM plans to elevate its PS capacity from 66 KT to 150 KT. These expansions, slated for Dahej and Nandesari, aim to meet surging demand across automotive, medical devices, household appliances, and electronics. Polystyrene, a versatile thermoplastic available in several forms, each with unique properties and applications. The main types include General Purpose Polystyrene (GPPS), High Impact Polystyrene (HIPS), Extruded Polystyrene (XPS) and Expanded Polystyrene (EPS).

General Purpose Polystyrene (GPPS) is clear, rigid, and brittle. It is known for its clarity and low cost. Packaging, household items, medical devices, and transparent sheet are some of its applications. Key players include Supreme Petrochem Ltd., which is a large producer in India offering various grades for different applications like injection molding, extrusion, and thermoforming.

High Impact Polystyrene (HIPS) is toughened by blending with rubber, making it more impact-resistant than GPPS. It is used in Electronics, toys, refrigerator liners, packaging, and various components like camera and printer parts. HIPS is a cost-effective plastic material, making it attractive for various applications.

Extruded Polystyrene (XPS) is known for high insulation properties. It is primarily used in construction for insulation purposes.

Expanded Polystyrene (EPS) is another major application, especially in the construction industry. EPS is valued for its insulation properties and is used in structural panels, roofing, and wall insulation. As India's infrastructure sector experiences a boom—driven by government investments in highways, metro systems, and smart cities—the demand for EPS is expected to surge. The market in India is experiencing significant growth, driven by increasing demand across various sectors.

Table 19: Expandable Polystyrene Demand Supply ● Actual ● Estimates

EPS (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	160	178	250	352	382
Production	120	131	141	149	157
Imports	0.5	0.5	1	1	1
Exports	2	3	3	4	5
Apparent Demand	119	129	139	146	153
Demand Growth%	6.67%	8.40%	7.75%	5.04%	4.79%

The market is projected to reach US\$ 1,735.6 million by 2030, with a compound annual growth rate (CAGR) of 9.9% from 2024 to 2030. Supreme Petrochem increased its expandable polystyrene (EPS) capacity from 50 KT to 85 KT. They also increased EPS production at their Manali plant from 24 KT to 33 KT, according to Indian Chemical News.

Collectively, the 2024–25 fiscal year marks a strong inflection point for India's polystyrene sector. The convergence of rising demand—from packaging, construction, automotive, and cold-chain segments—with aggressive capacity augmentation by SPL and SPM is creating a growth engine that is likely to boost domestic supply, foster technological sophistication in specialized PS grades, and reduce reliance on imports.

Acrylonitrile Butadiene Styrene (ABS), which is a plastic resin produced from acrylonitrile, butadiene and styrene serve as a key material in the automotive and electronics sectors due to its strength, durability, and aesthetics. ABS is used for manufacturing home appliances, consumer durables, dashboards in automobiles, instrument panels, and various consumer electronics casings. The Indian market is experiencing substantial growth, driven by rising demand across various sectors.

Table 20: ABS Demand Supply ● Actual ● Estimates

ABS (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	190	190	270	270	340
Production	160	170	210	240	295
Imports	110	122	105	96	65
Exports	-	-	-	-	-
Apparent Demand	270	292	315	336	360
Demand Growth%	15.88%	8.15%	7.88%	6.67%	7.14%

The market is projected to reach USD 2,435.9 million by 2030, with a CAGR of 5.3% from 2025 to 2030. One of the primary growth drivers is the Indian automotive sector, particularly the rapid adoption of electric vehicles (EVs). ABS, being lightweight and durable, is extensively used in manufacturing interior trims, battery housings, and structural components. The electronics and home appliances sectors are also contributing significantly to ABS consumption due to its excellent moldability, surface finish, and electrical insulation properties. Further, the healthcare segment is

emerging as a niche but important application area. To meet this rising demand, several key expansion projects are underway. Styrenix Performance Materials is investing in expanding its ABS capacities in Gujarat. The ABS capacity will increase to 210 KT from the current 85 KT. Bhansali Engineering Polymers Ltd. is also executing a major capacity expansion plan to increase its ABS production from 75 KT to 200 KT.

Styrene Acrylonitrile (SAN) is a polymerized plastic resin produced from styrene and acrylonitrile, and mainly used for products such as lighting, stationery, novelties, refrigerators and cosmetic packing. The demand of SAN in FY2021 was 260.81 thousand tones and a projected increase to 437.28 thousand tones by FY2030, exhibiting a CAGR of 5.91%.

Table 21: SAN Demand Supply

● Actual ● Estimates

SAN (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	170	170	175	175	175
Production	111	145	150	155	165
Imports	14	16	20	40	60
Exports	-	-	-	-	-
Apparent Demand	125	161	170	195	225
Demand Growth%	15.88%	28.80%	5.59%	14.71%	15.38%

The growth is driven by the increasing demand for SAN in various sectors, including electronics and healthcare, due to its properties like high rigidity, heat resistance, and chemical resistance make it suitable for various applications. The increasing use of SAN in packaging, particularly for food and beverage applications, is also contributing to market expansion. Several companies are expanding their SAN production capacities to meet this rising demand. Bhansali Engineering Polymers is undertaking capacity expansions. It is expanding its SAN capacity at its Abu Road complex in Rajasthan to 25 KT, a significant increase from its current capacity of 7 KT, according to an ICIS report.

Despite its growing demand, India remains fully import-dependent for styrene. This reliance on imports exposes the market to global price fluctuations and supply chain disruptions. Recognizing this vulnerability and the strategic importance of reducing import dependency, **Indian Oil Corporation (IOCL)** has announced a significant investment of nearly 4,500 crore rupees to become the first domestic producer of styrene monomer at its Panipat Refinery & Petrochemical Complex in Haryana. This project aligns with the government's "Atmanirbhar Bharat" initiative and marks a pivotal moment in India's industrial evolution. Once operational, IOCL will emerge as the dominant player in the styrene monomer segment, reshaping the supply landscape and stabilizing domestic prices.

xxvi. SYNTHETIC FIBERS

Synthetic fibres are artificially created materials derived from petrochemicals through chemical processes. These fibers are designed to have specific properties such as elasticity, durability, moisture-wicking capabilities, and wrinkle free characteristics. Key types of synthetic fibres include polyester, nylon, acrylic, and spandex. These are widely used in various sectors, like apparel, home textiles, and industrial products, due to their versatility and superior performance compared to natural fibers.

The Indian man-made fibre (MMF) industry is a significant contributor to the country's economy, with India being the second-largest producer of MMF globally. The industry covers a wide range of fibers, including polyester, viscose, acrylic, and polypropylene. It plays a crucial role in the textile sector, accounting for a substantial portion of textile exports and providing employment to millions.

The total market volume of Indian Synthetic Fibre Market was 4.52 Million Metric Tonnes in 2024 and is expected to reach 6.21 Million Metric Tonnes by 2030 with a CAGR of 5.64% during 2025 to 2030. The market has been experiencing significant growth, driven by increasing demand in sectors such as apparel, automotive, home textiles, and industrial applications. India ranks as the second-largest global producer of both polyester and viscose. The

growth of this market is further supported by expanding manufacturing capabilities, rising textile exports, and a growing middle class with increased disposable incomes.

Growing Demand in Textiles

Demand for clothing and textile products is increasing with large and expanding population. It even rises more as urban areas develop and which leads to increasing demand for diverse clothing options, which boosts synthetic fibre market. Urbanization leads to fast life-style changes and individuals seek more modern and stylish clothing. Synthetic fibers can be engineered to replicate the look and feel of natural fibers while providing additional benefits. The popularity of athleisure has further increased for synthetic materials that offer comfort, stretch, and moisture management.

Growth in e-commerce has expanded access to a wider range of textile products, with synthetic fibers playing a vital role in offerings. Online platforms provide a vast selection of synthetic clothing, allowing for convenient browsing and buying. Technological advancements have led to the creation of specialized synthetic fibers with benefits like UV protection, moisture-wicking, and antimicrobial properties, addressing specific consumer needs and driving further demand.

Rising Demand for Technical Textiles

Technical textiles are used in automotive, healthcare, construction, and defense applications, where durability, strength, and functionality are essential. India's synthetic fibre market is witnessing strong growth due to the increasing demand for technical textiles across various industries. The government's push for infrastructure development, advancements in fiber technology, such as high-performance synthetic materials with enhanced properties like fire resistance, water repellency, and durability, are driving market growth. The rising adoption of smart textiles in the defense and medical sectors is contributing to market expansion.

Segmental Insights

Based on Type, Polyester Staple Fiber (PSF) emerged as the dominating segment in the Indian market. PSF is utilized across various industries, including apparel, home textiles, and industrial applications. The growth of PSF market in India is supported by robust polyester production infrastructure encompassing fiber manufacturing, spinning, and weaving. These combined factors establish Polyester Staple Fiber as the leading segment in the Indian synthetic fiber market.

Based on Application, Apparel has developed as the fastest growing segment in the Indian market. The rising focus on health and fitness has resulted in increase in demand for athleisure and active wear.

Based on Region, South India emerged as the leading region in the Indian market. States such as Tamil Nadu and Karnataka are recognized as major textile hubs, boasting significant manufacturing capabilities for synthetic fibers and textiles. The combination of manufacturing prowess, urban demand, and technological progress positions the Southern region as the leading region in the Indian synthetic fiber market.

Government Initiatives

The government is actively implementing policies not only to foster growth and innovation in the synthetic fibre sector but also position India as a competitive player in the global textile market.

- The Production-Linked Incentive (PLI) Scheme for Textiles targets the expansion of the MMF and technical textiles segments within the textile value chain. Over five years, USD 1.34 billion in incentives will be allocated for the manufacturing of designated MMF fabrics and apparel.
- The Prime Minister and the Cabinet Committee on Economic Affairs (CCEA) approved the establishment of a National Technical Textiles Mission with a budget of USD194 million for a four-year implementation period from FY 2020-24.
- CCEA launched the Remission of Duties and Taxes on Exported Products (RoDTEP) scheme to promote exports and generate employment opportunities.
- Various incentives like duty drawbacks and export promotion schemes help ease the financial burden on exporters, facilitating their entry into global markets.

- The government has also proposed the Mega Investment Textiles Parks (MITRA) scheme to enhance global competitiveness, attract significant investments, and boost employment and exports.
- The creation of Special Economic Zones (SEZs) for textiles encourages investment by offering benefits like tax exemptions and simplified regulatory compliance, attracting both domestic and foreign businesses.
- The government runs skill development programs tailored for the textile industry, focusing on training workers in modern manufacturing techniques and sustainable practices.
- Specific initiatives to support Micro, Small, and Medium Enterprises (MSMEs) in the textile sector, providing access to financing, technology, and markets.

Table 22: Synthetic Fibers Demand Supply

● Actual ● Estimates

PSF (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	2303	2339	2431	2606	2632
Production	1742	1792	1940	1995	2110
Imports	95	56	78	90	90
Exports	240	208	281	244	251
Demand	1598	1640	1737	1841	1949
Demand Growth (%)	16.03%	2.65%	5.94%	5.97%	5.87%
POY (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	3570	3887	4207	4262	4262
Production	2931	2957	3260	3360	3494
Imports	162	231	45	57	50
Exports	86	55	71	75	64
Demand	3007	3117	3230	3343	3480
Demand Growth (%)	9.07%	3.66%	3.63%	3.49%	4.11%
PTY (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	3115	3335	3645	3645	3745
Production	2817	2943	3044	3152	3290
Imports	17	54	94	94	94
Exports	338	298	398	400	400
Demand	2496	2699	2740	2846	2984
Demand Growth (%)	26.66%	8.14%	1.53%	3.88%	4.83%
IDY (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	69	72	95	98	101
Production	56	61	78	88	95
Imports	50	41	45	45	45
Exports	8	3	3	3	3
Demand	98	98	121	130	137
Demand Growth (%)	6.52%	0.17%	22.79%	7.86%	5.38%
FDY (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	1349	1400	1455	1473	1473
Production	990	1072	1147	1320	1360
Imports	235	149	43	47	55
Exports	14	7	3	3	3
Demand	1214	1215	1196	1364	1412
Demand Growth (%)	17.41%	0.08%	-1.56%	14.05%	3.52%

xxvii. SYNTHETIC RUBBER

Synthetic rubber is an artificial polymer material designed to reproduce the properties of natural rubber derived from latex found in certain plants. Common synthetic rubber types include styrene-butadiene rubber (SBR), polybutadiene rubber (BR), and ethylene-propylene rubber (EPR). These materials offer advantages over natural rubbers such as enhanced durability, resistance to heat and chemicals, and improved enduring properties.

Indian synthetic rubber market size reached USD 1.1 Billion in 2024, experiencing robust growth, driven by increasing demand from the automotive and transportation industries, particularly for tires. Looking forward, IMARC Group expects the market to reach USD 1.9 Billion by 2033, exhibiting a growth rate (CAGR) of 6.08% during 2025-2033. This growth is fueled by rising vehicle production, replacement demand, and the adoption of electric vehicles. The automotive industry's persistent expansion, emphasized by the increasing demand for tires, has contributed to the market's upward path.

The expanding e-commerce sector in India is driving the demand for tires in commercial vehicles, as more companies invest in logistics fleets. The increasing adoption of electric vehicles is creating a specific demand for specialized tires designed for optimal performance and efficiency in EVs. Urbanization, increasing disposable incomes, and the growth of the middle class are contributing to higher vehicle ownership, further boosting tire demand. India's tire exports are also on the rise, indicating a strong performance of the domestic tire industry on the global stage.

Non-tire applications like automotive mats, wires and cables, and industrial rubber goods are indeed significant drivers of the rubber market growth in India. These sectors contribute substantially to the demand for rubber products beyond tires. Car floor mats, both for original equipment (OEM) and aftermarket sales, are a significant market within the automotive sector. They are crucial for vehicle interiors, offering protection from dirt and moisture, and enhancing aesthetics. The increasing demand for electricity and communication networks, fueled by infrastructure development and renewable energy projects, drives the need for wires and cables in India. Industrial Rubber Goods includes items like conveyor belts, hoses, and gloves, which are essential in various industries including manufacturing, construction, and mining. The growth of these industries, along with infrastructure projects, directly impacts the demand for these rubber products.

In addition to the automotive sector, the construction industry's burgeoning development plays a crucial role in propelling the synthetic rubber market forward. With a surge in infrastructure projects in India, the demand for sealants, adhesives, and other construction materials incorporating synthetic rubber has risen substantially. Furthermore, the consumer goods sector, including the production of footwear and industrial goods, has become a prominent driver. The southern and western regions are major hubs for tire production in India. The concentration of tire manufacturing plants in these regions directly translates to higher demand for synthetic rubber in these areas. These companies utilize synthetic rubber, often mixed with natural rubber, in tire production.

The PBR (Polybutadiene Rubber) market in India is experiencing substantial growth. The market is expected to reach USD 387.00 million by 2033, with a Compound Annual Growth Rate (CAGR) of 4.93% between 2025 and 2033. IndianOil is one of the key players in the Indian PBR market, with plans to expand its PBR production capacity. BALAJI INDUSTRIES is also listed as a supplier and importer of PBR in India.

The India Styrene-Butadiene Rubber (SBR) market is experiencing growth, driven by the expanding automotive industry and increasing demand for tires. The market is projected to grow at a CAGR of 5.30% from 2025-2033, reaching a value of USD 587.36 million by 2033. Key factors include rising vehicle production, the popularity of electric vehicles, and the need for durable and high-performance tires.

The Indian butyl rubber market driven primarily by the automotive industry and increasing applications in pharmaceuticals and construction is experiencing robust growth. The market is projected to grow at a CAGR of 5.8% between 2024 and 2034.

Government Support for EVs:

Government policies supporting electric vehicles are further boosting the demand for synthetic rubber in the automotive industry.

The Indian government is actively supporting the adoption of electric vehicles (EVs) through various schemes and incentives. The primary focus is on enhancing affordability, promoting domestic manufacturing, and building a robust charging infrastructure.

PM E-DRIVE Scheme: This scheme, with a substantial outlay of Rs. 10,900 crore, aims to accelerate EV adoption and develop charging infrastructure. It provides subsidies to EV buyers, including those purchasing two-wheelers.

The scheme is effective from October 1, 2024, to March 31, 2026. The scheme encompasses previous initiatives like EMPS-2024 for e-2W and e-3W, effective from April 1, 2024, to September 30, 2024.

Production Linked Incentive (PLI) Scheme for Auto: This scheme, with a budgetary outlay of Rs. 25,938 crore, focuses on boosting domestic manufacturing of EVs, including cars. It provides financial incentives to manufacturers of Advanced Automotive Technology products.

National Programme on Advanced Chemistry Cell (ACC) Battery Storage: This scheme aims to support the development of battery storage manufacturing capabilities in India. Batteries are a crucial component of EVs, and this scheme helps ensure a reliable domestic supply chain.

FAME (Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles) Scheme: FAME-II, currently in its second phase, is a flagship scheme for promoting electric mobility in India. It provides incentives for the purchase of electric vehicles, including two-wheelers, three-wheelers, and four-wheelers. The scheme also supports the deployment of electric buses.

Telangana's EV Policy: Telangana has its own Electric Vehicle & Energy Storage Policy (2020), which focuses on promoting e-mobility and creating a conducive environment for EV adoption.

Tax Credits and Incentives: Some states offer tax credits and incentives for purchasing EVs, in addition to the central government schemes.

Sustainability Focus:

There is a growing trend towards using bio-based and recycled rubber materials to mitigate environmental concerns associated with traditional rubber production. This shift is driven by the desire to reduce reliance on fossil fuels, minimize waste, and lower the overall environmental footprint of the rubber industry and promote a circular economy.

Moreover, the increasing importance of sustainable and eco-friendly practices has led to a surge in the adoption of green tires, which are mainly made from synthetic rubber. This shift towards eco-conscious alternatives acts as a pivotal driver in steering the synthetic rubber market.

Table 23: Synthetic Rubber Demand Supply

● Actual ● Estimates

PBR (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	135	135	135	135	195
Production	126	134	132	141	160
Imports	120	99	134	139	160
Exports	2	4	2	6	4
Apparent Demand	244	229	259	277	291
Demand Growth (%)	17.31%	-6.15%	12.93%	7.14%	4.85%
SBR (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	270	270	270	270	270
Production	198	234	242	243	246
Imports	94	87	92	101	115
Exports	6	5	9	9	7
Apparent Demand	286	316	325	339	355
Demand Growth (%)	-6.23%	10.49%	2.76%	4.27%	5.00%
BUTYL RUBBER + HALO BUTYL RUBBER (IIR & HIIR)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	120	120	120	120	120
Production	78	94	116	114	120
Imports	61	60	58	48	49
Exports	17	21	26	13	15
Apparent Demand	122	133	148	149	154
Demand Growth (%)	5.17%	9.02%	11.20%	0.54%	3.56%

xxviii. SURFACTANTS

Linear Alkyl Benzene (LAB) is a key raw material in the production of synthetic detergents, primarily due to its versatility and effectiveness in forming high-quality surfactants. 100% of India's LAB goes into surfactants manufacturing for fabric and home care. It is a vital component in the formulation of a wide range of detergents and cleaning agents for both industrial and domestic use. Indian domestic LAB demand is expected to grow at ~3% CAGR over the next 3 years, in line with the increase in per capita consumption of detergent in India.

Industrial applications of LAB are also expanding. LAB-derived sulfonates are used in **lubricant additives**, **emulsifiers**, and **agrochemical formulations**, offering superior thermal stability and dispersion properties. The textile and leather industries, which are projected to grow substantially by 2030, are increasingly incorporating LAB-based surfactants to improve product quality and processing efficiency.

To meet rising demand and reduce import dependency, Indian petrochemical companies are investing heavily in LAB production. For instance, **Tamilnadu Petroproducts Ltd. (TPL)** announced significant investment to expand its LAB and caustic soda capacities by 2026. These expansions are expected to strengthen domestic supply chains and stabilize pricing. Additionally, TPL's partnership with EY-Parthenon to develop a carbon-neutral roadmap reflects the industry's shift toward sustainable manufacturing practices.

Table 24: LAB Demand Supply

● Actual ● Estimates

LAB (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	572	572	572	578	597
Production	400	474	447	482	508
Imports	333	251	282	270	265
Exports	0	1.2	0.02	0	0
Apparent Demand	733	724	729	752	773
Demand Growth%	0.69%	-1.26%	0.72%	3.16%	2.79%

As of 2024, the Indian Linear Alkyl Benzene (LAB) market is supply-deficient, with a total demand of approximately 730 KTPA for FY'25. The name plate capacity of LAB production stands at 572 KTPA. The market is primarily served by four major domestic producers: IOCL, RIL, TPL (Tamilnadu Petroproducts Limited), and Nirma. Imports for FY'25 stood at 282 KTA, with the majority sourced from the Middle East. TPL is expected to commission its DBN project, which will add 25 KTPA to its existing capacity, increasing it to 145 KTPA in Q-3 FY'26.

As a reactive and versatile compound, EO serves as a crucial building block for producing a wide array of downstream derivatives, including ethylene glycol, ethanolamines, and ethoxylates—all indispensable in industrial and consumer applications.

One of the principal drivers of EO demand is the textile industry, which utilizes monoethylene glycol (MEG)—a key EO derivative—for producing polyester fibers and polyethylene terephthalate (PET) resins. The surge in India's textile exports and the growing domestic appetite for polyester-based fabrics have placed sustained pressure on EO supply. Simultaneously, the packaging industry, backed by e-commerce growth and retail modernization, is driving the demand for PET-based materials, further increasing MEG consumption.

Table 25: EO Demand Supply

● Actual ● Estimates

EO (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	336	376	380	380	400
Production	296	321	344	354	379
Imports	0	0	0	0	0
Exports	1	1	1	0	0
Apparent Demand	295	320	343	354	379
Demand Growth%	-1.99%	8.47%	7.19%	3.21%	7.06%

In 2024-25 India maintained its self-sufficiency in EO with production and demand of around 340KT. This demand is expected to grow in years to come on account of multiple factors. The **healthcare sector** has emerged as another high-growth segment for EO applications, particularly in the sterilization of heat-sensitive medical equipment and

surgical tools. In the **automotive segment**, ethylene glycol functions as a coolant and antifreeze agent, supporting the maintenance of thermal stability in vehicle engines. EO is also essential in the **agrochemical sector**, where its derivatives—such as ethanolamines and ethoxylates—are used in pesticide formulations, emulsifiers, and fertilizer additives. As India intensifies its focus on agricultural productivity and sustainability, EO-based intermediates are becoming increasingly relevant.

xxix. OTHER KEY PETROCHEMICALS

A. Benzene

Benzene, a foundational aromatic hydrocarbon, plays a pivotal role in the production of plastics, synthetic fibers, resins, and pharmaceuticals. The nameplate capacity of 2.3 million metric tons in 2024 is expected to grow to 2.9 million metric tons in 2030. Capacity increases are expected from HPCL Refinery, BPCL, and IOCL. The primary sources of supply are reformat, pyrolysis gasoline (pygas), and toluene/C9 trans alkylation. Together, these sources account for 98% of benzene production in 2024.

Table 26: Benzene Demand Supply

● Actual ● Estimates

Benzene (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	2470	2470	2470	2650	2750
Production	1766	1706	1810	1891	2016
Imports	0	0	0	0	0
Exports	950	986	980	1050	1045
Apparent Demand	816	720	830	841	971
Demand Growth%	32.47%	-11.76%	15.28%	1.33%	15.46%

Domestic demand has gradually increased in alignment with recovering operations associated with most derivatives and is expected to be approximately 830 KT in 2024-25 from 720 KT in 2023-24. The bulk of regional benzene demand derives from cumene, which represented 37% of total benzene demand in 2024. The second and third-largest derivatives were alkylbenzene and chlorobenzene, which represented 31% and 17% of the total 2024 benzene demand, respectively.

Benzene export volume has increased steadily during 2022-2024 and is approximately 1.0 million metric tons in 2024. The forecast decline will likely be due to reduced PX operations resulting from squeezed margins and reduced pygas-based benzene, as crackers are operating at reduced rates.

B. Toluene

Toluene, an aromatic hydrocarbon derived primarily from petroleum sources, remains a cornerstone of the Indian chemical industry. In fiscal year 2024–25, the outlook for the toluene market in India appeared optimistic, driven by robust industrial demand and evolving trade dynamics. Its widespread application in paints, coatings, adhesives, pharmaceuticals, and petrochemical derivatives ensures continued relevance across key sectors.

Table 27: Toluene Demand Supply

● Actual ● Estimates

Toluene (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	175	175	175	175	175
Production	100	125	125	140	140
Imports	554	550	533	565	575
Exports	11	15	19	0	0
Apparent Demand	643	660	639	705	715
Demand Growth%	4.89%	2.64%	-3.18%	10.33%	1.42%

Toluene continues to be imported in India, with ~ 533KT Toluene imported in FY'25. Major exporters of Toluene were Korea, Thailand, China and Philippines.

C. Mixed Xylenes

Mixed xylenes, a group of aromatic hydrocarbons comprising ortho-, meta-, and para-xylene isomers, are vital intermediates in India's chemical and petrochemical industries. As the country continues its industrial expansion, the outlook for mixed xylenes in 2024–2025 was marked by steady growth, driven by rising demand from paints, coatings, packaging, and polyester manufacturing. The paints and coatings industry remain the largest consumer of mixed xylenes in India. Mixed xylenes serve as solvents in high-performance coatings, adhesives, and sealants, making them indispensable in both residential and industrial applications. The automotive sector further amplifies demand, with mixed xylenes used in vehicle coatings that offer durability and corrosion resistance.

In the petrochemical domain, mixed xylenes are critical feedstocks for producing **para-xylene**, which is used to manufacture **polyethylene terephthalate (PET)** and **polyester fibers**. India's packaging and textile industries rely heavily on these derivatives, and the country's petrochemical sector is undergoing significant expansion to meet this demand. The electronics industry also contributes to the rising demand. Mixed xylenes are used in the production of printed circuit boards and electronic components, and with India's electronics manufacturing output rising multifold, the need for high-purity solvents has intensified.

Table 28: MXS Demand Supply

● Actual ● Estimates

MXS (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	90	90	95	115	115
Production	96	98	84	110	110
Imports	140	161	178	171	185
Exports	0	0	0	0	0
Apparent Demand	230	259	262	281	295
Demand Growth%	5.00%	12.61%	1.16%	7.25%	4.98%

Despite its promising trajectory, the mixed xylene market faces challenges. Price volatility of raw materials like reformate and toluene affect production costs. Environmental regulations targeting volatile organic compounds (VOCs) are prompting manufacturers to adopt cleaner production methods and explore low-aromatic alternatives. Import dependency remains a concern, with supply chain disruptions influencing availability and pricing. Nevertheless, the industry is responding with innovation and sustainability. Companies are investing in eco-friendly formulations, vapor recovery systems, and bio-based alternatives. The rise of **bio-xylene**, though currently more expensive, is gaining traction in paints and coatings, signalling a shift toward greener chemistry.

D. Orthoxylene

Ortho-xylene (o-xylene), one of the three isomers of xylene, is a key petrochemical intermediate used primarily in the production of phthalic anhydride—a compound essential for manufacturing plasticizers, resins, and dyes. With India's industrial and infrastructure sectors expanding, the need for ortho-xylene is expected to rise accordingly.

Table 29: Orthoxylene Demand Supply

● Actual ● Estimates

Ortho-Xylene (KT)	2023-24	2024-25	2025-26
Capacity	450	450	450
Production	344	207	350
Imports	122	269	269
Exports	16	0	0
Apparent Demand	455	476	631
Demand Growth%		4.58%	32.56%

In 2024, 130 KTA of new Phthalic Anhydride capacities were commissioned in India. As a result, OX imports have more than doubled compared to 2023. The production for o-xylene dipped in FY25 in contrast to FY24 however the demand saw a marginal growth of nearly 5%.

The growth in demand of ortho-xylene is largely attributed to the increasing consumption of phthalic anhydride in the production of polyvinyl chloride (PVC) products, alkyd resins for paints, and flexible packaging materials. The paints and coatings industry, in particular, is a major consumer of ortho-xylene, with demand fueled by urbanization, real estate development, and automotive manufacturing. India's agrochemical sector also plays a significant role in driving ortho-xylene demand. The compound is used as a solvent and intermediate in the formulation of herbicides, fungicides, and pesticides. As the country seeks to improve agricultural productivity and food security, the need for efficient agrochemical solutions is expected to grow.

xx. Plastics Recycling in India: A Positive Outlook

1. Introduction

Plastics have become an indispensable part of modern life due to their versatility, durability, and cost-effectiveness. However, the rapid increase in plastic consumption has led to concerns about waste management and sustainability. India, recognizing these challenges, has made significant strides in plastics recycling through regulatory frameworks, industry-led initiatives, and technological innovations. This report provides an optimistic view of plastics recycling in India, highlighting successful policies, achievements, and opportunities for growth.

India generates approximately 3.5 million tonnes of plastic waste annually. While this poses a significant environmental challenge, it also presents an opportunity to develop a thriving recycling industry. With increasing awareness and technological advancements, India is leveraging its vast waste collection network and regulatory measures to enhance plastic waste recycling, reducing environmental impact while creating economic value.

2. India's Progress in Plastics Recycling

India has one of the highest plastic recycling rates globally, with approximately **60% of its plastic waste being recycled**, compared to the global average of around 9%. The success can be attributed to a well-established **informal waste management sector** that efficiently collects, segregates, and processes plastic waste. The role of ragpickers and waste aggregators cannot be overstated, as they ensure that plastic waste is channeled into the recycling value chain instead of ending up in landfills or oceans. Another factor driving India's high recycling rate is the increasing investment in **mechanical and chemical recycling technologies**. These technologies help convert post-consumer plastics into reusable raw materials, reducing dependency on virgin plastic production. Various companies in the sector are investing in large-scale recycling plants to process different types of plastics, such as PET, HDPE, and multi-layered plastics.

Public awareness campaigns and extended producer responsibility (EPR) frameworks are also playing a crucial role in ensuring that plastic waste is collected, processed, and reintegrated into the supply chain efficiently. With government regulations becoming more stringent and corporate commitments to sustainability increasing, India is on the right path toward a circular economy for plastics.

Key Achievements:

India's plastics recycling landscape has witnessed several milestones in recent years:

High PET Bottle Recycling Rate: India has achieved an **85-90% recycling rate** for PET bottles, mainly used for beverages. This success is driven by an efficient collection system and strong demand for recycled PET in the textile and packaging industries.

Expansion of Recycling Infrastructure: Various companies in the sector are investing in large-scale recycling facilities to process various plastic waste streams.

Startups Driving Innovation: Numerous innovative enterprises are creating recycled plastic products, such as furniture, construction materials, and packaging solutions.

Government-Led Initiatives: Various state governments have implemented waste management strategies that encourage source segregation, thereby improving the efficiency of recycling operations.

Plastic Recycling Progress in India

Parameter	India	Global Average
Plastic Waste Generated Annually	3.5 million tonnes	-
Plastic Recycling Rate	60%	9%
PET Bottle Recycling Rate	85-90%	~50%
Informal Sector Contribution	High	Moderate
Government Regulations (PWM, EPR)	Stringent	Varies by country

3. Domestic Regulations Supporting Plastics Recycling

3.1 Plastic Waste Management Rules, 2016 (Amended 2022)

The **Plastic Waste Management (PWM) Rules** mandate several measures to ensure effective waste management. These rules include banning single-use plastics, promoting source segregation of waste, and implementing **Extended Producer Responsibility (EPR)**. These initiatives have led to an increase in the collection and processing of plastic waste while encouraging industry participation in recycling efforts.

3.2 Targets for Extended Producer Responsibility and Obligations $Q\ 1\ (in\ MT) = (A + B) - C$

1. 'A' average weight of plastic packaging material (category-wise and state wise) sold in the last two financial years
2. 'B' average quantity of pre-consumer plastic packaging waste in the last two financial year
3. 'C' the annual quantity supplied to the Large Brand owners in the previous financial year.

Year	EPR Targets	Recycling Obligation Excluding EOL				Recycled Content			Reuse	
		Cat. I	Cat. II	Cat. III	Cat. IV	Cat. I	Cat. II	Cat. III	Cat. IA	Cat. IB
2021-22	25									
2022-23	70									
2023-24	100									
2024-25		50	30	30	50					
2025-26		60	40	40	60	30	10	05	10	70
2026-27		70	50	50	70	40	10	05	15	75
2027-28		80	60	60	80	50	20	10	20	80
2028-29 Onwards		80	60	60	80	60	20	10	25	85

Category I – Rigid Plastic, Category II- Flexible Plastic, Category III- Multi-Material Plastic, Category IV- Compostable Plastic,

Category IA (0.9 liter or kg but less than 4.9 liters or kg), Category IB (> 4.9 liters or kg)

3.3 Extended Producer Responsibility (EPR) Compliance

Under EPR regulations, manufacturers, brands, and importers are responsible for collecting and recycling the plastic they introduce into the market. Companies are required to:

- Establish **collection and recycling partnerships** to ensure proper waste management.
- Submit detailed **recycling progress reports** to regulatory authorities.
- Incorporate **recycled content in packaging** to promote circularity.

Many multinational corporations have partnered with local recyclers to ensure compliance with EPR guidelines. Such collaborations have facilitated the growth of India's formal recycling sector, ensuring higher efficiency and traceability.

Table 2: Key EPR Requirements in India

Requirement	Description
Collection Targets	Producers must collect a percentage of the plastic they introduce into the market.
Recycling & Processing	Companies need to ensure proper recycling through certified recyclers.
Reporting & Compliance	Periodic reporting to regulatory authorities is mandatory.
Incentives for Sustainable Packaging	Encouragement to include recycled content in new products.

3.4 Swachh Bharat Mission and Plastic Waste Initiatives

The **Swachh Bharat Mission** has played a significant role in improving waste collection and segregation across the country. Many urban local bodies (ULBs) have initiated public-private partnerships for efficient plastic waste management. Additionally, plastic roads and waste-to-energy projects have been implemented to provide sustainable end-use solutions for non-recyclable plastics.

3.5 State-Level Bans and Recycling Incentives

Several Indian states, including Maharashtra, Tamil Nadu, and Karnataka, have imposed restrictions on plastic carry bags while promoting alternative materials and recycling efforts. These bans, coupled with incentives for businesses that adopt recycled plastics, have accelerated the transition towards a more sustainable plastic ecosystem.

4. Global Regulations Impacting Plastics Recycling in India

4.1 Basel Convention on Plastic Waste Trade

India has **ratified the Basel Convention amendments**, ensuring responsible plastic waste imports and promoting domestic recycling. These amendments have led to improved waste management systems, ensuring that plastic waste is processed efficiently within the country rather than being exported unsustainably.

4.2 European Union (EU) Circular Economy Package

India aligns with EU regulations by adopting **sustainable packaging solutions and higher recycled content mandates** for plastic products. This alignment helps Indian exporters meet global sustainability standards while encouraging domestic innovation in recycling technology.

4.3 United Nations Global Plastic Treaty (In Progress)

India is actively contributing to the negotiations for a **legally binding treaty** to combat plastic pollution while balancing the interests of developing nations. The country is advocating for policies that promote sustainable plastic management while protecting domestic economic interests.

5. Future Opportunities and Way Forward

India is well-positioned to become a global leader in plastics recycling by leveraging its robust waste management ecosystem, policy support, and technological advancements. Key opportunities include strengthening infrastructure, increasing investments in digital tracking systems for waste, expanding consumer participation, and enhancing global collaboration for knowledge exchange.

By embracing innovation and regulatory advancements, India is transforming plastic waste from an environmental challenge into an economic opportunity, setting a global benchmark for responsible plastics recycling. With continued efforts in sustainability, India's plastic recycling industry has the potential to significantly reduce plastic pollution while fostering economic growth and job creation.

XXI. STATISTICAL APPENDIX:

FEEDSTOCK:

Naphtha (KT)	2022-23	2023-24	2024-25		
Production	17036	18257	18308		
Imports	897	1211	941		
Exports	5714	5153	5169		
Apparent Demand	12127	13861	13153		
Demand Growth%	-14.9%	14.3%	-5.1%		
Natural Gas (mmscm)	2022-23	2023-24	2024-25		
Production	33573	36423	36113		
Imports	26304	31795	35720		
Exports	0	0	0		
Apparent Demand	59877	67518	71314		
Demand Growth%	-6.7%	12.8%	5.6%		
Methanol (KT)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	634	749	805	807	807
Production	156	157	200	201	250
Imports	2797	3147	2968	3200	3500
Exports	24	36	36	40	40
Apparent Demand	2929	3268	3132	3200	3400
Demand Growth%	-	11.57%	-4.16%	2.17%	6.25%

BUILDING BLOCKS (KT):

Ethylene	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	7853	8677	8677	8677	9567
Production	7312	6836	7579	7762	8331
Imports	77	70	55	65	98
Exports	52	52	16	33	111
Apparent Demand	7337	6854	7618	7794	8318
Demand Growth%	1.17%	-6.58%	11.15%	2.31%	6.72%
Propylene	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	7071	7502	7962	8430	10380
Production	5908	5735	6606	7218	8209
Imports	15	0	0	10	10
Exports	0	0	0	0	0
Apparent Demand	5923	5735	6741	7228	8219
Demand Growth%	1.04%	-3.17%	17.54%	7.22%	13.71%
Butadiene	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	605	605	603	603	662
Production	462	500	496	510	530
Imports	0	0	0	0	0
Exports	150	183	151	145	139
Apparent Demand	312	317	345	365	391
Demand Growth%	-8.77%	1.60%	8.83%	5.80%	7.12%

EDC	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	247	247	325	325	1065
Production	265	265	320	320	1065
Imports	525	487	482	510	515
Exports	0	0	0	0	0
Apparent Demand	790	752	802	830	1580
Demand Growth%	7.63%	-4.81%	6.65%	3.49%	90.36%
VCM	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	1031	1031	1060	1060	2210
Production	945	900	1030	1060	2210
Imports	545	500	555	570	625
Exports	0	0	0	0	0
Apparent Demand	1490	1400	1585	1630	2835
Demand Growth%	5.30%	-6.04%	13.21%	2.84%	73.93%
PX	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	5900	5900	5900	5900	6530
Production	3756	3400	3244	3268	4389
Imports	540	852	932	880	855
Exports	600	213	214	240	200
Apparent Demand	3696	4039	3888	3908	5044
Demand Growth%	-0.81%	9.28%	-0.40%	0.50%	29.07%

INTERMEDIATES (KT):

MEG	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	2279	2705	2705	2705	2705
Production	1642	1948	2168	2224	2136
Imports	1400	1130	1127	1223	1464
Exports	20	18	24	24	24
Apparent Demand	3022	3060	3272	3423	3576
Demand Growth%	4.50%	1.26%	6.91%	4.63%	4.47%
PTA	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	6440	6440	6440	6830	9820
Production	5645	5734	5829	6490	9330
Imports	1550	1562	2153	1800	1200
Exports	2	0	0	0	0
Apparent Demand	7193	7296	7982	8430	8830
Demand Growth%	4.05%	1.43%	9.40%	5.61%	4.74%

POLYOLEFINS (KT):

HDPE	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity (HD Dedicated)	1330	1780	1780	1780	1780
Production	2049	2609	2764	2753	2748
Imports	1289	1595	921	937	1897
Exports	31	126	136	120	120
Apparent Demand	3288	4012	3557	3983	5100
Demand Growth (%)	12.00%	22.00%	-11.00%	12.00%	28.00%
LLDPE	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity (HD/ LL Swing)	3530	4330	4330	4330	5170
Production	2049	2671	3110	3052	3117
Imports	868	898	694	675	798
Exports	102	173	229	230	210
Apparent Demand	2812	3350	3601	3769	4100
Demand Growth (%)	6.00%	19.00%	7.00%	5.00%	9.00%
LDPE	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	650	650	650	650	650
Production	624	582	618	620	620
Imports	348	487	494	517	650
Exports	49	24	27	0	0
Apparent Demand	933	1071	1083	1164	1300
Demand Growth (%)	8.00%	15.00%	1.00%	7.00%	12.00%
PP	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	6355	6570	7020	7080	9180
Production	5215	5897	6619	6849	7448
Imports	1482	1472	1329	1413	1415
Exports	176	305	338	204	174
Apparent Demand	6429	7026	7600	8121	8689
Demand Growth%	6.00%	9.29%	8.17%	6.86%	6.99%
EVA	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	0	0	0	0	0
Production	0	0	0	0	0
Imports	206	224	298	320	352
Exports	0	0	0	0	0
Apparent Demand	206	224	298	320	352
Demand Growth%	13.2%	8.7%	33.0%	7.4%	10.0%
Polyolefins (PE+PP+EVA)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	11865	13330	13780	13840	16780
Production	9937	11759	13111	13274	13933
Imports	4193	4687	3736	3752	5030
Exports	358	628	730	554	504
Apparent Demand	13668	15694	16139	17397	19609
Demand Growth%	7.46%	14.82%	2.84%	7.79%	12.71%

VINYL (KT):

PVC	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	1617	1672	1672	1672	2820
Production	1487	1390	1576	1622	2820
Imports	2248	2700	3096	3347	2450
Exports	0	0	0	0	0
Apparent Demand	3734	4082	4672	4970	5270
Demand Growth (%)	31.80%	9.30%	14.50%	6.40%	6.00%

PET (KT):

PET	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	2208	2541	2613	2613	2613
Production	2015	1964	2111	2160	2230
Imports	113	307	312	214	180
Exports	603	328	311	420	475
Apparent Demand	1525	1732	1918	1815	1793
Demand Growth%	28.91%	13.57%	10.74%	-5.37%	-1.21%

STYRENICS (KT):

PS	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	320	400	400	420	475
Production	250	283	302	310	320
Imports	75	69	51	70	60
Exports	22	42	36	50	40
Apparent Demand	303	310	317	330	340
Demand Growth%	26.25%	2.31%	2.26%	4.10%	3.03%
EPS	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	160	178	250	352	382
Production	120	131	141	149	157
Imports	0.5	0.5	1	1	1
Exports	2	3	3	4	5
Apparent Demand	119	129	139	146	153
Demand Growth%	6.67%	8.40%	7.75%	5.04%	4.79%
ABS	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	190	190	270	270	340
Production	160	170	210	240	295
Imports	110	122	105	96	65
Exports	-	-	-	-	-
Apparent Demand	270	292	315	336	360
Demand Growth%	15.88%	8.15%	7.88%	6.67%	7.14%
SAN	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	170	170	175	175	175
Production	111	145	150	155	165
Imports	14	16	20	40	60
Exports	-	-	-	-	-
Apparent Demand	125	161	170	195	225
Demand Growth%	15.88%	28.80%	5.59%	14.71%	15.38%

SYNTHETIC FIBERS (KT):

PSF	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	2303	2339	2431	2606	2632
Production	1742	1792	1940	1995	2110
Imports	95	56	78	90	90
Exports	240	208	281	244	251
Demand	1598	1640	1737	1841	1949
Demand Growth (%)	16.03%	2.65%	5.94%	5.97%	5.87%
POY	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	3570	3887	4207	4262	4262
Production	2931	2957	3260	3360	3494
Imports	162	231	45	57	50
Exports	86	55	71	75	64
Demand	3007	3117	3230	3343	3480
Demand Growth (%)	9.07%	3.66%	3.63%	3.49%	4.11%
PTY	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	3115	3335	3645	3645	3745
Production	2817	2943	3044	3152	3290
Imports	17	54	94	94	94
Exports	338	298	398	400	400
Demand	2496	2699	2740	2846	2984
Demand Growth (%)	26.66%	8.14%	1.53%	3.88%	4.83%
IDY	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	69	72	95	98	101
Production	56	61	78	88	95
Imports	50	41	45	45	45
Exports	8	3	3	3	3
Demand	98	98	121	130	137
Demand Growth (%)	6.52%	0.17%	22.79%	7.86%	5.38%
FDY	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	1349	1400	1455	1473	1473
Production	990	1072	1147	1320	1360
Imports	235	149	43	47	55
Exports	14	7	3	3	3
Demand	1214	1215	1196	1364	1412
Demand Growth (%)	17.41%	0.08%	-1.56%	14.05%	3.52%

SYNTHETIC RUBBER (KT):

PBR	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	135	135	135	135	195
Production	126	134	132	141	160
Imports	120	99	134	139	160
Exports	2	4	2	6	4
Apparent Demand	244	229	259	277	291
Demand Growth (%)	17.31%	-6.15%	12.93%	7.14%	4.85%

SBR	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	270	270	270	270	270
Production	198	234	242	243	246
Imports	94	87	92	101	115
Exports	6	5	9	9	7
Apparent Demand	286	316	325	339	355
Demand Growth (%)	-6.23%	10.49%	2.76%	4.27%	5.00%
BUTYL RUBBER + HALO BUTYL RUBBER (IIR & HIIR)	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	120	120	120	120	120
Production	78	94	116	114	120
Imports	61	60	58	48	49
Exports	17	21	26	13	15
Apparent Demand	122	133	148	149	154
Demand Growth (%)	5.17%	9.02%	11.20%	0.54%	3.56%

SURFACTANTS (KT):

LAB	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	572	572	572	578	597
Production	400	474	447	482	508
Imports	333	251	282	270	265
Exports	0	1.2	0.02	0	0
Apparent Demand	733	724	729	752	773
Demand Growth%	0.69%	-1.26%	0.72%	3.16%	2.79%
EO	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	336	376	380	380	400
Production	296	321	344	354	379
Imports	0	0	0	0	0
Exports	1	1	1	0	0
Apparent Demand	295	320	343	354	379
Demand Growth%	-1.99%	8.47%	7.19%	3.21%	7.06%

OTHER KEY PETROCHEMICALS (KT):

Benzene	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	2470	2470	2470	2650	2750
Production	1766	1706	1810	1891	2016
Imports	0	0	0	0	0
Exports	950	986	980	1050	1045
Apparent Demand	816	720	830	841	971
Demand Growth%	32.47%	-11.76%	15.28%	1.33%	15.46%
Toluene	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	175	175	175	175	175
Production	100	125	125	140	140
Imports	554	550	533	565	575
Exports	11	15	19	0	0
Apparent Demand	643	660	639	705	715
Demand Growth%	4.89%	2.64%	-3.18%	10.33%	1.42%

MXS	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	90	90	95	115	115
Production	96	98	84	110	110
Imports	140	161	178	171	185
Exports	0	0	0	0	0
Apparent Demand	230	259	262	281	295
Demand Growth%	5.00%	12.61%	1.16%	7.25%	4.98%
Ortho-Xylene	2022-23	2023-24	2024-25	2025-26	2026-27
Capacity	-	450	450	450	-
Production	-	344	207	350	-
Imports	-	122	269	269	-
Exports	-	16	0	0	-
Apparent Demand	-	455	476	631	-
Demand Growth%	-		4.58%	32.56%	-

CPMA MEMBERS

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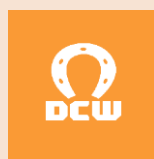
PVC



Chemplast Cuddalore Vinyls Limited



DCM Shriram Limited



DCW Limited

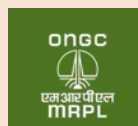


Finolex Industries



Adani Petrochemicals Pvt Ltd

PP



Mangalore Refinery & Petrochemicals Limited

OTHERS



Gujarat State Fertilizers & Chemicals Limited



MCPI Private Limited



Tirumalai Chemicals Limited



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CPMA

Chemicals & Petrochemicals Manufacturers' Association

CPMA is the apex forum representing the Indian Petrochemical Industry, established in 1993, and the Association offers its members a podium to collectively present their ideas, voice their concerns and offer suggestions on relevant issues. It provides a linkage between the industry, the Government and society. It interacts with policy makers and industry associations to develop and maintain harmonious and conducive business conditions.

The Association, registered under the Indian Societies Act, is widely recognized as one of the national apex bodies of the Indian Petrochemical Industry by all Ministries and Departments of Government of India, apex Chambers of Commerce and Industry and other related Associations in India and abroad. CPMA is affiliated to the Confederation of Indian Industry (CII). The Association is also a Steering Committee Member of the Asia Petrochemical Industry Conference (APIC) and had successfully hosted the annual APIC 2010 conference on May 13-14, 2010 in Mumbai.

CPMA has various sub-committees constituted to effectively focus on key areas within petrochemicals like Polyolefins, Vinyl's, Styrenics, Glycols, Elastomers, Fibre Intermediates and Surfactants. CPMA has also taken the lead to set up and promote the India Centre for Plastics in the Environment (ICPE) to deal with all environmental issues connected with the usage of plastics.

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14	Chemplast Cuddalore Vinyls Limited		
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