

NITI Aayog launches 'Chemical Industry: Powering India's Participation in Global Value Chains'

NITI Aayog charts ambitious course for India to become a global chemical manufacturing powerhouse

From Potential to Powerhouse: Transforming India's chemical sector for Viksit Bharat @ 2047

India Eyes USD 1 Trillion Chemical Output by 2040

India set to increase its GVC share from 3.5% in 2023 to 5-6% by 2040 — Igniting India's Chemical transformation

Creating large employment opportunities: 7 lakh additional employment by 2030

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NITI Aayog released its report "Chemical Industry: Powering India's Participation in Global Value Chains". This report offers an extensive analysis of India's chemical sector, highlighting both opportunities and challenges, and outlining a pathway for positioning India as a key player in global chemical markets.

The global chemical industry is undergoing a major transformation, driven by shifting supply chains, demand for specialty and green chemicals, and heightened focus on innovation and sustainability. India's chemical sector, while significant in size and GDP contribution, remains fragmented and constrained by infrastructure gaps, regulatory inefficiencies, and low R&D intensity. India's 3.5% share in global chemical value chains and its chemical trade deficit at USD 31 billion in 2023, underscores its high dependence on imported feedstock and specialty chemicals. However, with targeted reforms encompassing a comprehensive range of fiscal and non-fiscal interventions will enable India to have a USD 1 trillion chemical sector and achieve 12% GVC share by 2040, thus becoming a global chemical powerhouse.

Challenges Facing India's Chemical Sector

India's chemical sector faces several structural challenges that constrain its global competitiveness. A key issue is the country's heavy reliance on imported feedstock, which contributed to a USD 31 billion trade deficit in 2023, stemming from limited domestic backward integration. Infrastructure gaps, outdated industrial clusters, and high logistics costs have created a cost disadvantage compared to global peers. Compounding this, India's low investment in R&D, with only 0.7% of investment against the global average of 2.3%, hampers indigenous innovation in high-value chemicals. Regulatory delays, especially in environmental clearances, further stifle industrial agility. Additionally, the sector is hampered by a 30% shortfall in skilled professionals, particularly in emerging areas such as green chemistry, nanotechnology, and process safety.

Proposed Interventions for Growth

NITI Aayog's report outlines several strategic fiscal and non-fiscal interventions aimed at enhancing India's global competitiveness in the chemical sector. These initiatives listed below aim to transform aspirations into actionable progress:

1. Establish world class Chemical Hubs in India through revamping existing clusters and developing new ones

1.1 Establishment of empowered committee at the Central level along with creation of a Chemical Fund under the empowered committee with a budgetary outlay for shared infrastructure development, VGF, etc.

1.2 Administrative body at the chemical hub level, which will handle the overall management of the hub

2. Develop existing port infrastructure

2.1 Composition of a Chemical Committee for ports to advise on and address infrastructural gaps in chemical trading at ports

2.2 Development of 8 high-potential clusters

3. Introduce a Opex subsidy scheme for chemicals

3.1 Incentivize incremental production of chemical based on import bill, export potential, single source country dependence, end-market criticality etc. The scheme proposes for incentives on incremental sales to selected participants for a fixed number of years

4. Develop and access technologies to enhance self-sufficiency and foster innovation

4.1 Disbursement of R&D funds to drive innovation with enhanced collaboration between industry and academia through creation of an interface agency in collaboration with DCPC and DST

4.2 Acquiring access to specific technologies available outside India through fostering MNC partnerships

5. Fast-track environmental clearance with transparency and accountability

5.1 Fast-track environmental clearance with transparency and accountability – Simplify and fast-track EC clearance process through setting up an audit committee under DPIIT to monitor timelines and compliance and publish periodic reports and give more autonomy to EAC

6. Securing FTAs to support Industry growth

6.1 Targeted FTA negotiations: Moving forward, India could negotiate FTAs that incorporate specific provisions for the chemicals industry. This can include incorporating industry focused protections such as tariff quotas or selective duty exemptions on critical raw materials and petrochemical feedstocks

6.2 Awareness and effective utilization of FTAs: Raising FTA awareness, simplifying procedures, and easing origin proofs can help more exporters access benefits and boost competitiveness

7. Talent and skill upgradation in the chemical industry

7.1 Expansion of ITIs and specialized training institutes: The expansion is essential to meet the growing demand for skilled labor

7.2 Upgrading faculty and teacher training: The effectiveness of vocational training programme is directly linked to the quality of instruction

7.3 Industry-academia partnership: These collaborations can introduce industry relevant courses in core areas like petrochemicals, polymer science, and industrial safety

Vision for 2030

The vision for 2030 is for India to become a global chemical manufacturing powerhouse with a 5%-6% share of the global chemical value chain. The sector aims to double its current production levels and reduce the trade deficit significantly from USD 31 billion in 2023 to reach a Net Zero trade balance in Chemicals. The initiative will generate an additional export of USD 35-40 billion generating around 7 lakh skilled jobs. This growth will be supported by the development of world-class chemical clusters, advanced technology adoption, streamlined regulatory processes, and a highly skilled workforce, positioning India among the top global leaders in the chemical industry.

Conclusion

India has significant potential to become a global leader in the chemical industry. Achieving this goal requires focused efforts from the central and state governments, as well as industry stakeholders. By addressing the existing challenges and leveraging the proposed interventions, India can enhance its competitiveness, attract investments, and build a robust chemical sector capable of leading the global value chain.

The link to the report can be found here:

<https://niti.gov.in/sites/default/files/2025-07/NITI-Aayog-Chemical-industry-report.pdf>

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