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The e-newsletter for the Indian Biotech industry
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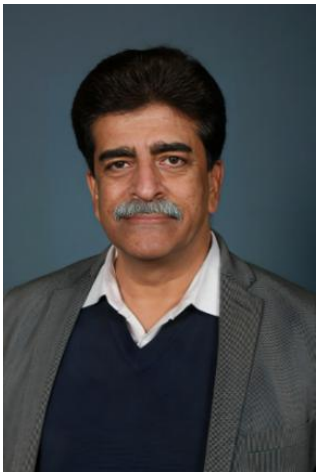
India BioEconomy nears $200 billion



Dear Members, Colleagues and Friends,

India's biotechnology sector has, over the past decade, evolved into a key driver of economic growth, innovation and sustainability. This transformation has been systematically captured through the **India BioEconomy Report (IBER)**, an initiative that began in 2016 as a focused effort by ABLE to assess the economic contribution of biotechnology across critical sectors. Building on ABLE's early vision articulated in 2012, the research team developed methodologies tailored to India's unique biotechnology landscape, drawing upon global academic and policy frameworks. The India BioEconomy Report 2026 marks the 10th edition of this flagship publication. Over the years, the analytical framework has matured into a robust and structured exercise, strengthened through sustained engagement with industry leaders, domain experts and policymakers. The report now comprehensively tracks biotechnology-enabled economic activity across BioPharma, BioAgri, BioIndustrial and BioServices, while also capturing the growth of India's expanding biotech startup ecosystem. We gratefully acknowledge the continued support of the Department of Biotechnology (DBT) and Biotechnology Industry Research Assistance Council (BIRAC).

As we mark this important milestone, ABLE remains committed to fostering cross-sectoral innovation. In this context, the Center of Excellence (CoE) Space Tech Foundation, in collaboration with ABLE, has launched the "Space to Society" webinar series to bridge the interface between the space sector and mainstream industries. The inaugural session on "Biomanufacturing in Space – India's Road to the Next Frontier" underscored emerging opportunities at this convergence.

Global engagement continues to remain a priority. We encourage stakeholders to participate in the **BIO International Convention 2026**, where ABLE is organizing the India Pavilion in collaboration with 3SMG Private Limited. The pavilion will provide a high-visibility platform for Indian companies to showcase innovations and build international partnerships. The steady expansion of India's BioEconomy reflects the collective efforts of academia, industry and government. ABLE remains committed to advancing this momentum and strengthening India's position as a global biotechnology leader.

G S Krishnan
Hon. President, ABLE

IN THIS ISSUE

India BioEconomy Report (IBER) 2026 Released

The **India BioEconomy Report (IBER) 2026** was officially released by **Dr. Jitendra Singh**, Hon'ble Minister of State (Independent Charge), Ministry of Science & Technology, on the occasion of **BIRAC's 14th Foundation Day**.

In his address, Dr. Singh highlighted the remarkable transformation of India's bioeconomy, which has grown to **$195.3 billion in 2025**—a nearly **20-fold increase** from $10 billion in 2014. He emphasized that this growth signals a larger global shift, with biotechnology poised to drive the next industrial revolution, positioning India as a key global leader. He also underscored the exponential rise in biotech startups, which have expanded from around **400 in 2014 to over 11,800 today**, reflecting the strength and maturity of India's innovation ecosystem.

The **Key Highlights from IBER 2026** was presented by **Mr. G. S. Krishnan, Hon. President, ABLE**

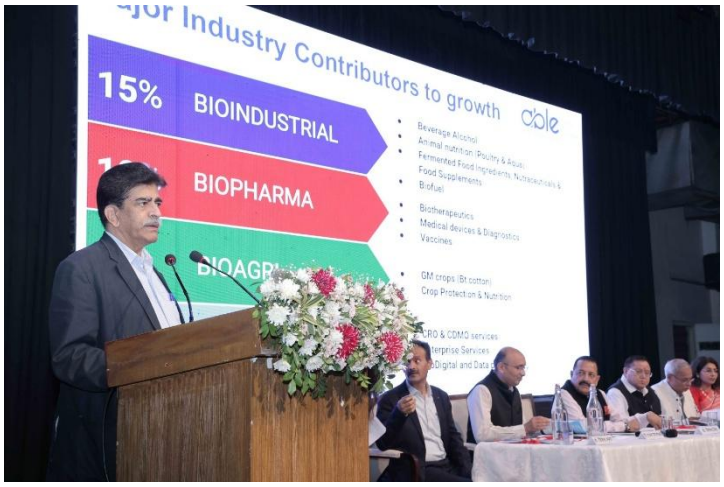
- Bioeconomy reached **$195.3 billion in 2025**, growing **18% year-on-year**
- Achieved a **CAGR of 17.8% (2020–2025)**
- Contribution to GDP increased to **4.8%**
- Total biotech startups reached **11,855**, with **1,780 new startups added in 2025**
- Key growth drivers: **BioPharma, BioAgri, BioIndustrial, and BioServices**, with **BioIndustrial** leading the sector

- U.S. Consulate General in Mumbai partnered with ABLE to organize a Session by Dr. Ashley R. Styczynski, Medical Officer for International Infection Prevention and Control at the Centers for Disease Control and Prevention (CDC), USA
- Member News
- BioEnergy News

The sector-wise contribution to India's BioEconomy highlighted the dominance of **BioIndustrial**, accounting for **46% with a 15% growth**, followed by **BioPharma** contributing **33% with 10% growth**. **BioServices** had shown the fastest expansion with **66% growth**, contributing **13%**, while **BioAgri** accounts for **8% with an 8% growth**.

Regionally, the **Southern region leads with 48%**, followed by the **Western region at 31%**, the **Northern region at 15%**, and the **Eastern region contributing 6%**.

Among states, **Maharashtra ($40.42 billion)**, **Karnataka ($39.54 billion)**, and **Telangana ($21.29 billion)** emerge as the top contributors, collectively accounting for **over 50% of the national bioeconomy**.

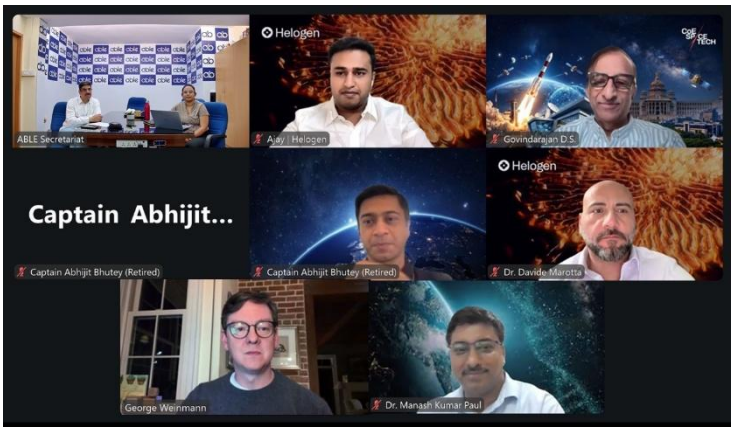


This milestone reinforces India's emergence as a **global biotechnology powerhouse**, driven by strong policy support, innovation-led growth, and a rapidly expanding startup ecosystem. The trajectory clearly indicates that the future of India's economy will be increasingly **biotech-driven**.

The event was attended by **Dr. Rajesh S. Gokhale** (Secretary, DBT; Director General, BRIC; Chairman, BIRAC), **Prof. Ashok Jhunjhunwala** (IIT Madras), **Dr. Jitendra Kumar** (Managing Director, BIRAC), along with senior scientists, policymakers, industry leaders, and startup stakeholders.

Click here to download the report

Highlights of the Webinar "Biomanufacturing in Space – India's Road to the Next Frontier"



The Center of Excellence (CoE) Space Tech Foundation, Bangalore, in collaboration with **ABLE**, successfully hosted a thought-provoking webinar on ***"Biomanufacturing in Space – India's Road to the Next Frontier."*** The session brought together leading experts from industry, academia, and the space ecosystem to explore the immense potential of space biotechnology and its role in shaping the future bioeconomy. The webinar highlighted how space biotechnology is emerging as a frontier domain, supported by progressive policy frameworks such as India's BioE3 policy. With increasing global interest and technological advancements, the convergence of biotechnology and space sciences is opening new avenues for innovation, commercialization, and global collaboration.

George Weinmann, Founder, Astroworks Ventures, the Moderator for the webinar, set the context by emphasizing the growing global momentum in space biomanufacturing and its commercial potential. He highlighted the importance of cross-sector collaboration between biotech, space agencies, and private players, and stressed that startups will play a crucial role in translating research into scalable business opportunities. He positioned space biotechnology as a key pillar of the future global bioeconomy.

Captain Abhijit Bhutey (Retd.), Co-Founder, Inbound Aerospace, shared insights into India's rapidly evolving space ecosystem and the increasing role of private participation. He highlighted the opportunities for conducting biotech experiments in microgravity and stressed the need for accessible infrastructure and space platforms for startups. He noted that India has strong potential to become a cost-effective global hub for space-based research, driven by collaboration across defence, aerospace, and biotech sectors.

Dr. Davide Marotta, Chief Science Officer, Helogen Corporation, discussed the scientific advantages of microgravity for biomanufacturing and drug development. He explained how space environments enable unique biological processes not possible on Earth, leading to breakthrough innovations. He also shared global examples of space-based R&D translating into commercial applications and emphasized the importance of industry-led innovation, investment, and international partnerships.

Dr. Manash K. Paul, Associate Professor, Manipal School of Life Sciences, MAHE, highlighted the critical role of academia in advancing research in space biotechnology. He discussed opportunities in cell biology, cancer research, and

regenerative medicine under microgravity conditions, and emphasized the importance of skilling and training future scientists. He also stressed the need for stronger industry-academia collaboration to drive translational research and innovation.

The webinar highlighted space biomanufacturing as a transformative opportunity for India, emphasizing the need for strong collaboration between government, academia, industry, and startups. It underscored the importance of infrastructure, access to space platforms, global partnerships, and supportive policies in driving this emerging sector. Overall, the session positioned India as a promising global leader in space biotechnology and called for collective action to advance this high-potential frontier.

Click here to watch the recording: www.youtube.com/watch?v=dCX8voSxk8w

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'India Pavilion' at BIO International Convention 2026 in San Diego, USA

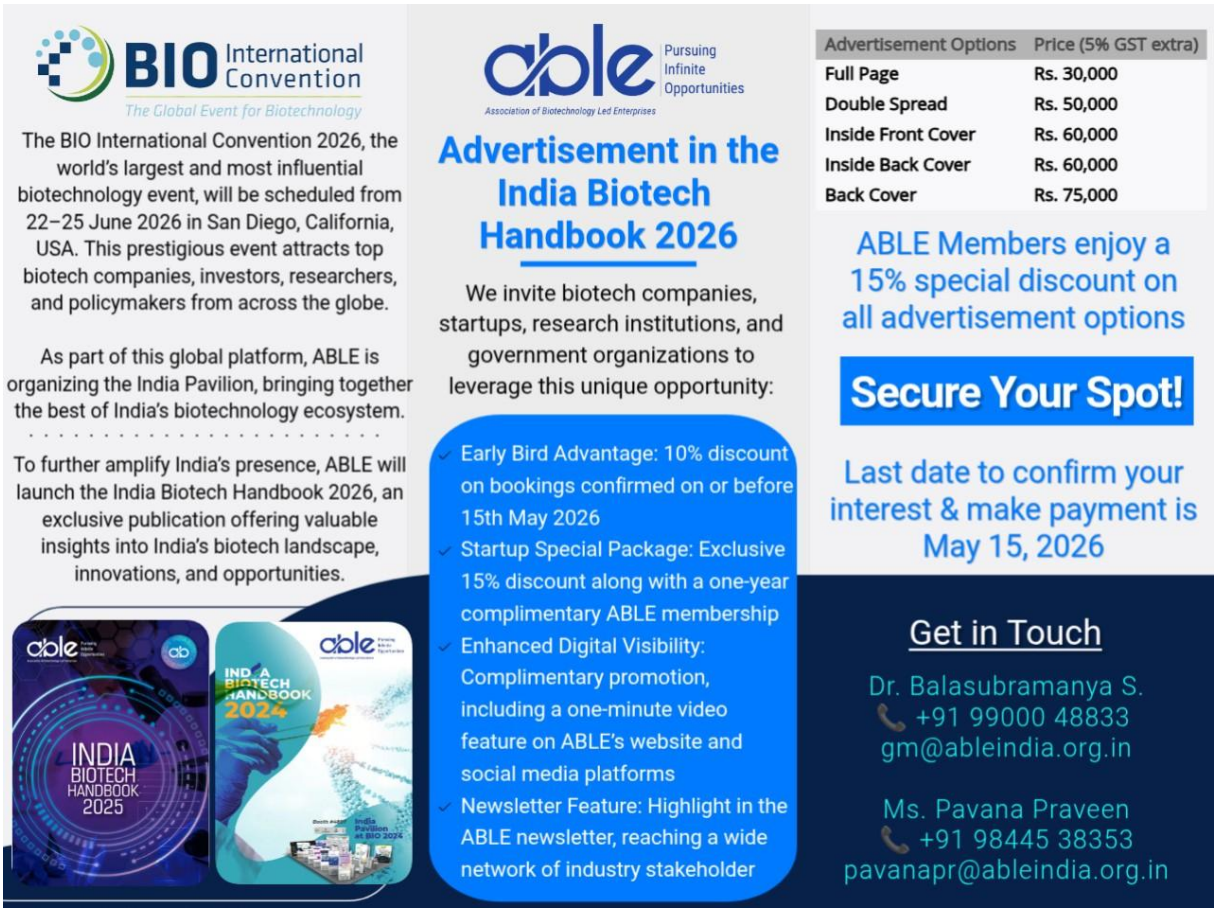
ABLE is organizing the **India Pavilion** at BIO 2026, scheduled from **22–25 June 2026 in San Diego, USA**, featuring an expanded **5,000 sq. ft. pavilion** at **Booth Nos. 3351 and 3551** in collaboration with **3SMG Private Limited**. The pavilion will provide Indian companies a high-visibility platform to showcase innovations, engage with global stakeholders, and explore international collaborations. **Booth No. 3351** has been **exclusively earmarked for ABLE members and previous exhibitors**, while **Booth No. 3551** is designated for **3SMG clients**.

We are delighted to have **confirmed participation** from leading organizations including BIRAC, Biocon, Biological E, Shilpa Biologicals, Indian Immunologicals, IPCA Labs, Vimta Labs, Morepen, Ticel Bio Park, Clinexel Life Sciences, 4BaseCare, UR Therapeutics, Norwich Clinical Research, Amerging Technologies, Tenet Health Edutech, Vipragen and the Government of Karnataka.

Click here for more information

Please reach out to **Dr. Balasubramanya S**, General Manager, ABLE for detailed discussion (*Email: gm@ableindia.org.in , Mobile: 99000 48833*)

Showcase Your Brand at BIO 2026 San Diego by Advertising in the India Biotech Handbook 2026



The **India Biotech Handbook 2026**, which will be officially launched during the inauguration of the India Pavilion at BIO 2026. While we understand that not all organizations may be able to participate physically, ABLE offers a high-impact alternative to establish your global presence through the Handbook.

The handbook is designed to position India's biotech ecosystem on the global stage. Your organization will gain direct visibility among global decision-makers, as the handbook will be distributed at the India Pavilion and all India-focused engagements at BIO 2026, shared with international investors, policymakers, and industry leaders, promoted through ABLE's digital platforms (website, newsletter, social media) and circulated among global biotech agencies and partner ecosystems.

Exclusive Benefits

- Early Bird: 10% discount (till May 15, 2026)
- Startup Offer: 15% discount + 1-year ABLE membership
- Digital Boost: 1-minute video feature
- Newsletter Spotlight

Reach out to confirm your participation to **Dr. Balasubramanya S** (gm@ableindia.org.in) or **Pavana Praveen** (pavanapr@ableindia.org.in)

Applications Open for Indian Startup Delegations to the USA & UK – Life Sciences, MedTech & Healthcare Innovation

ABLE and **Carve Startup Labs** jointly invites Indian Life Sciences and Healthcare startups to join the upcoming international delegations to the United States and the United Kingdom in 2026. These curated programs are designed to provide Indian founders with structured access to leading global life sciences ecosystems, enabling meaningful cross-border collaborations, market insights, and growth opportunities.

Indian Startup Delegation to the United States (BIO 2026)

Location: San Diego, United States
Dates: June 22–26, 2026

The delegation includes participation in the **BIO International Convention 2026**, one of the world's largest biotechnology events, along with curated engagements across the U.S. life sciences ecosystem.

What the Delegation Offers:

- Structured participation at BIO 2026
- Access to BIO partnering platform for B2B meetings
- Curated engagements with biotech companies, research institutes, and innovation centers
- Insights into U.S. regulatory and market entry pathways
- Post-program follow-up support

Why BIO International Convention:

- 20,000+ attendees from 70+ countries
- 1,500+ exhibitors across biotech, pharma, MedTech, and digital health
- Participation from global industry leaders, investors, and policymakers

Eligibility: Growth-stage startups in Biotechnology, MedTech, HealthTech, Diagnostics, Therapeutics, and related healthcare domains.

Application Link: https://shorturl.at/JTbX6

Indian Startup Delegation to the United Kingdom

Locations: London, Cardiff, Edinburgh
Dates: June 29 – July 4, 2026

This multi-city delegation offers a structured gateway to explore the UK's highly innovation-driven life sciences ecosystem.

Why Join:

- Multi-city ecosystem access across England, Wales, and Scotland
- Engagements with leading UK life sciences associations and industry bodies
- Exposure to university-led research and commercialization pathways
- Insights into regulatory frameworks and market entry strategies (including UKCA)
- Connections with regional investment and soft-landing agencies
- Three months of post-program support

Why the United Kingdom:

- Home to 6,000+ life sciences companies
- Contributes over £90 billion annually to the economy
- Strong collaboration between academia and industry
- Established regulatory and healthcare innovation ecosystem
- Gateway to global partnerships

Eligibility: Indian startups in Life Sciences, Biotechnology, MedTech, Digital Health, and Healthcare Innovation. **Application Link:** https://shorturl.at/ybs1J

Important Information

- **Last Date to Apply: April 17, 2026**

- Startups will be selected based on relevance and alignment with program objectives
- Selected startups will be required to pay a delegation fee
- Visa, airfare, and accommodation are not included

If you are building in life sciences and ready to expand globally,
these delegations offer a unique opportunity to engage with two of the world's most advanced biotech ecosystems. We look forward to your participation.

India's Biotech Ecosystem Attracting Global Talent

India's biotechnology sector is increasingly capturing the attention of international students, who are keen to explore its growing opportunities in research, innovation and industry.

ABLE has emerged as a key point of contact, providing a unified platform for students and others to understand India's biotech landscape, connect with industry stakeholders and explore academic and career pathways.

As India continues to strengthen its position as a global biotech hub, this rising interest reflects both the country's scientific advancements and the expanding opportunities within its BioEconomy.

U.S. Consulate General in Mumbai partnered with ABLE to organize a Session by Dr. Ashley R. Styczynski, Medical Officer for International Infection Prevention and Control at the Centers for Disease Control and Prevention (CDC), USA

The **U.S. Consulate General in Mumbai, in partnership with ABLE**, organized a focused session on **"Addressing AMR with US AI Tools"** featuring **Dr. Ashley R. Styczynski**, Medical Officer for International Infection Prevention and Control at the Centers for Disease Control and Prevention (CDC).

Dr. Styczynski, who leads antimicrobial resistance (AMR) studies across multiple countries and supports global infection prevention programs, engaged with ABLE's network to share insights on how U.S. stakeholders are leveraging artificial intelligence and advanced technologies to address the growing challenge of AMR. Dr. Styczynski during her talk emphasized the role of next-generation AI platforms in transforming drug development and their broader implications for tackling AMR at a global scale. The discussion that followed highlighted the need for AI-driven approaches to accelerate antibiotic discovery.

ABLE played a pivotal role in convening industry experts and facilitating meaningful dialogue, strengthening international collaboration in addressing one of the most pressing public health challenges.

Member News

ABLE member DRL leads the Indian charge with GLP-1 weight loss drugs in March 2026

7 generic versions of Semaglutide launched in one week to make it affordable for Indian patients. Exports too likely

By Narayanan Suresh

As expected, India's biotech major and ABLE Patron Gold member, **Dr Reddys Laboratories** set the country's weight-loss drugs market with the launch of its Obeda (Semaglutide) within hours of its patent expiry on March 21.

Obeda is a once-weekly pen and the medication will cost ₹ 4,200 for a month's treatment. DRL got the regulatory approval after conducting phase 3 clinical trials on 312 patients.

"Our foray into GLP-1 therapies reflects our capabilities in complex product development and peptide science," Dr Erez Israeli, CEO of Dr. Reddy's, said." "As part of phase-1 launch, we aim to introduce generic semaglutide in several countries and, through our 'One Product, One Quality' approach, we are committed to ensure the same high-quality product across all markets, Dr. Israeli added.

While DRL got off the block first, the market frenzy of GLP-1 (semaglutide) continued with 6 companies—Emcure Pharma, Natco Pharma, Sun Pharma, Zydus Lifesciences, Glenmark Pharma and Hetero Drugs—launching their own generic versions of Novo Nordisk's blockbuster Ozempic within a few days.

Mumbai-based **Glenmark Pharma** stirred the market with its launch of GLIPIQ® (semaglutide) - at a weekly treatment cost starting as low as Rs325. This is the lowest price among the country's 8 launches. Glenmark's GLIPIQ comes with two formulations—vials and pre filled pens. Glenmark announced that it has conducted Phase 3 comparative, active-controlled clinical trials before getting the regulatory approval.

With a differentiated offering of the drug in concealed-needle pen, Sun Pharma's rollout of Noveltreat and Sematrinity comes with 2 dosage options. The weekly costs will range from ₹ 900 to 2000 for Noveltreat and ₹ 750-1300 for Sematrinity, based on the dosages.

The company is also leaning on device innovation: Noveltreat uses a concealed needle pen to ease injection anxiety, while Sematrinity's multi dose pen offers flexible, dial based dosing. Together with a newly launched patient support programme, Sun Pharma is aiming to position itself not just as another entrant, but as a full stack GLP 1 provider backed by its long manufacturing pedigree.

Ahmedabad-based **Zydus Lifesciences** offers three semaglutide brands—SEMAGLYN™, MASHEMA™, and ALTERME™—launched immediately upon patent expiry on March 20. Zydus version come with a reusable, multi dose pen that works

with a 15 mg/3 ml cartridge, allowing clinicians to select multiple strengths from the same device.

Natco Pharma, based in Hyderabad, has introduced 2 brands, SEMANAT and SEMAFULL. Its multi dose vials, available from day one, use customized syringes to bring monthly treatment costs down to Rs1,290 for 2 mg and 4 mg doses, and Rs1,750 for the 8 mg strength. Natco plans to introduce pre-filled pens too soon. ABLE member, s versions are not just for India but also for 75 countries where its products are available. Hetero's injectable semaglutide therapies will be marketed under the brand names Truglyx, Rolmodl and Moto G across markets. Hetero hit the markets on March 27,2026.

Dr. Vamsi Krishna Bandi, MD, Hetero, said: "With this launch, our goal is to offer a high-quality, affordable generic semaglutide to patients across emerging markets. We have developed a single, global-quality product platform, reflecting our capabilities in advanced product development and the manufacturing of complex generics. Leveraging our established commercial networks across Asia, the Middle East, Africa, and Latin America, we remain focused on expanding access to high-quality therapies in the diabetes and metabolic care space, while ensuring a consistent global supply."

The portfolio will be available in multi-dose disposable pen devices designed in line with innovator formats, and across multiple dose strengths including 0.25 mg, 0.5 mg, 1 mg, 2 mg, 1.7 mg and 2.4 mg, supporting both type 2 diabetes and weight management, and enabling flexible, patient-centric dosing.

The 7th product offering came from Pune-based **Emcure Pharmaceuticals** that announced the commercial launch of Poviztra, a semaglutide injection, across India. With this launch, Emcure becomes the first Indian company to exclusively distribute and commercialise Poviztra, a second brand of Novo Nordisk's semaglutide injection for weight management.

Poviztra is available in a once-weekly pen device in five strengths of 0.25 mg, 0.5 mg, 1.0 mg, 1.7 mg and a maintenance dose of 2.4 mg. The product is priced starting at ₹8,790 per month for four weekly doses. The injection is provided in a pen device designed for administration and dosing.

Launching the product, Mr Satish Mehta, CEO and MD, Emcure Pharma said, "India is facing a significant obesity crisis, having nearly 254 million people living with generalised obesity and an additional 351 million living with abdominal obesity. 5 The introduction of Poviztra® marks an important step in expanding equitable access to scientifically validated weight-management solutions. Through our strong distribution capabilities and pan-India reach, we aim to ensure that more patients can benefit from advanced therapies like semaglutide."

In the coming months, lot more Indian companies are likely to introduce their own versions of Semaglutide with innovative delivery mechanisms and pricing models. The annual market for this drug is expected to be at least ₹ 1600 crore in the first

year, despite massive price reductions compared to the originator Novo Nordisk product. The higher sales are expected from market expansion due to affordability.

Govt steps in after LPG diversion triggers near-crisis in pharma supply chain

The move choked the production of a key solvent— isopropyl alcohol or IPA—used in essential medicines and life-saving drugs, and forced top drugmakers to warn of disruptions to medicine supplies, according to documents reviewed by Mint and three people familiar with the matter.

Companies have been asked to share current stock levels, indicate how critical each chemical is and suggest alternative sourcing or substitutes.

A government push to divert petrochemical feedstocks for domestic LPG (liquified petroleum gas) supply—in the wake of a cooking gas supply squeeze from the West Asia war—triggered a near-crisis in India's pharmaceutical sector last month.

The move choked the production of a key solvent—isopropyl alcohol or IPA—used in essential medicines and life-saving drugs, and forced top drugmakers to warn of disruptions to medicine supplies, according to documents reviewed by Mint and three people familiar with the matter.

According to industry stakeholders, the crisis has been averted after the Centre stepped in April 1, 2026 with emergency measures, allowing the reallocation of a 'certain minimum' quantum of critical refinery inputs such as propylene and propane to DFPCL and other suppliers for priority sectors including pharmaceuticals, food and distribution and petrochemicals.

The supplies for these sectors would be based on allocations by the Centre for High technology under the petroleum ministry, even as the priority on supply of these molecules for LPG production continues.

Further, according to a communication issued to pharmaceutical associations such as Indian Drugs Manufacturers Association (IDMA) and three industry people familiar with the matter, the Department of Chemicals & Petrochemicals has launched an emergency audit of 11 key chemicals.

The audit would focus on petrochemical and crude oil derivatives used to make essential medicines, including ethanol, acetone, aniline, and para-aminophenol—the essential precursor for manufacturing paracetamol—among others.

Companies have been asked to share current stock levels, indicate how critical each chemical is, and suggest alternative sourcing or substitutes.

“This audit is a mirror held up to a structural vulnerability India has known about but not urgently acted on—the near-complete dependence on petrochemical and natural gas feedstocks that run through concentrated geographies,” said Mr Hari Kiran Chereddi, MD & CEO of Hyderabad-headquartered HRV Pharma.

He noted that when 11 chemicals (including solvents) sit at the foundation of antibiotics, analgesics, antifungals, and tablet formulations, “any supply disruption isn’t a business problem, it’s a public health event”.

However, early signs suggest the situation has stabilized. A spokesperson for Zydus Lifesciences said while this was an industry-wide concern in early March, the company is now able to source IPA, and its operations are now on track. “There is no disruption in the production or supplies of formulations or APIs across any of the manufacturing plants,” the spokesperson said in an emailed response to Mint’s queries.

What the industry told government

Through the first half of last month, India’s leading pharmaceutical companies — including Serum Institute of India, Sun Pharmaceutical Industries Ltd, Zydus Lifesciences, Hetero Labs, Aurobindo Pharma, and Glenmark Pharmaceuticals—sent urgent representations to the Prime Minister’s Office, the petroleum ministry, and to the country’s top IPA supplier, Deepak Fertilisers and Petrochemicals Corporation Limited (DFPCL).

Their pleas warned that “not exempting will force (them) to shut down India's essential medicine supply chain”, will “jeopardize the production of life-saving medicines, creating critical and potentially life-threatening shortages for patients”, and that IPA is a “critical raw material for the manufacturing of essential pharmaceutical formulations, including products that support hospitals, emergency care, and public health requirements”.

The crisis was presented by DFPCL on 26 March before a Joint Working Group (JWG) on petrochemicals comprising officials from the Department of Chemicals and Petrochemicals, and the petroleum ministry.

“Seventy-five percent of all the IPA consumed in India goes to the pharmaceutical sector for producing essential medicines in the form of bulk drugs, and formulations,” the company’s representation to the government said, and warned that “failing which the pharmaceutical drug formulators producers will have to stop the production of many of the essential medicines”.

Mr Raghunath Kelkar, president - industrial chemicals, at DFPCL, said the company had demonstrated to the government that it services 75% of domestic pharma’s IPA demand. “We have formally committed to the government that, upon the restoration of our feedstock, 100% of our IPA production will be dedicated exclusively to the

pharmaceutical sector to prevent a national scarcity of life-saving medicines and ensure health security," he said.

Kelkar noted that DFPCL's plant needs to operate at a minimum 80% capacity to convert propylene into a high-purity solvent that meets strict pharmacopoeia specifications, "a grade that cannot be replicated by bulk imports which suffer from contamination and lack of traceability".

The background

The crisis traces back to a government mandate to divert petrochemical feedstocks for LPG blending after a domestic cooking gas supply squeeze triggered by the West Asia conflict. This disrupted the supply of propylene—a key input for producing isopropyl alcohol (IPA)—bringing domestic production of the solvent to a near standstill. The entire requirement of IPA is supplied by domestic producers such as DFPCL and others.

IPA is a critical pharmacopoeia-grade solvent used in the manufacturing of a wide range of essential medicines. It is indispensable for producing drugs listed under the National List of Essential Medicines (NLEM), including treatments for diabetes, cardiovascular diseases, infections, and pain management, as well as key antibiotics, antivirals and antifungals.

The disruption is significant not just for India's $50 billion pharmaceutical market—the third-largest globally by volume—but also for global supply chains, given that Indian manufacturers account for about 20% of the world's generic medicines and 60% of its vaccines.

Industry executives said the feedstock diversion led to shutdowns across upstream chemical plants, with cascading effects on downstream drug manufacturing. Mr Mr Jaijit Bhattacharya, president of the Centre for Digital Economy Policy Research, said the halt in propylene and IPA production could make it impossible to manufacture critical drugs such as those used for diabetes and epilepsy.
The impact has also been felt across the broader chemical's ecosystem. Mr Shivarama Narayanan, CEO of Manali Petrochemical Ltd, said the company was forced to declare force majeure in March after its propylene supplies were cut off, disrupting production of propylene glycol, a key ingredient in cough syrups.

At the same time, rising input costs have compounded the pressure. Mr Vijay Mamania, vice-president at Aarti Industries, said prices of key feedstocks such as benzene and ammonia have surged sharply in recent weeks, adding strain to both pharmaceutical and agricultural supply chains. Aarti Industries manufactures 70% of the domestic supply of para nitro chloro benzene (PNCB), which is used extensively in paracetamol production.
(Courtesy: Mint newspaper)

BIOENERGY NEWS

India's bioenergy capacity to touch 15.5 GW by 2032

India's bioenergy capacity is expected to expand significantly over the next decade, reaching 15.5 GW by FY32 from 11.58 GW in FY25, driven by stronger policy support, rising availability of agricultural residue and growth in waste-to-energy projects, according to a report by CARE Analytics and Advisory Pvt Ltd.

The report noted that bioenergy accounted for 11.6 GW of India's renewable energy mix as of March 2025, with bagasse-based cogeneration continuing to dominate the segment, supported by biomass power and waste-to-energy (WtE) projects.
Over the past five years, the country added around 868 MW of biomass power and cogeneration capacity, along with 693 MW of WtE capacity, reflecting continued government support.

India's total bioenergy capacity rose from 10.53 GW in FY21 to 11.58 GW in FY25, marking a compound annual growth rate of 2.24%. Biomass power and bagasse cogeneration increased from 9.37 GW to 9.82 GW during this period, while non-bagasse biomass cogeneration rose from 0.77 GW to 0.92 GW.

Waste-to-energy emerged as the fastest-growing segment, nearly doubling from 0.17 GW in FY21 to 0.31 GW in FY25, driven by policy focus on converting municipal and agricultural waste into energy and reducing landfill dependence.

India generated around 750 million tonnes of agricultural residue in FY24, including wheat straw, rice straw and sugarcane bagasse. Wheat residue accounted for nearly 25% of the total, while rice residue contributed about 24%.
Surplus biomass availability was estimated at 250 million tonnes in FY24, enough to support nearly 28 GW of energy generation. This is expected to rise to 295 million tonnes in FY25, with total biomass availability projected to increase by nearly 27% to 948 million tonnes. As a result, potential bioenergy generation could reach 35 GW.
The report highlighted that India's large biomass surplus—estimated at over 230 million tonnes annually—offers significant potential to scale up biomass-based power, pelletisation, cogeneration and co-firing in thermal plants.

Government initiatives such as the National Bioenergy Programme, Waste-to-Energy Programme Guidelines and biomass co-firing policy are supporting project development through financial incentives, technology support and long-term offtake mechanisms.

Beyond power generation, bioenergy projects can help reduce stubble burning, cut emissions, improve soil health and provide additional income streams for farmers.

They also support decentralised power supply in rural areas and generate employment across the biomass supply chain.

However, the sector continues to face challenges including seasonal availability of biomass, fragmented supply chains, high logistics costs and competition from cheaper solar and wind power.

The report emphasised the need for organised biomass supply networks, digital logistics systems, long-term procurement contracts and multi-supplier sourcing strategies to address these issues.

Investment in bioenergy projects is expected to rise steadily, with annual opportunities projected to increase from Rs 50.6 billion in FY25 to Rs 58.7 billion by FY30.

While biomass-based projects are more capital-intensive—requiring Rs 6.97–7.44 crore per MW compared to Rs 4–4.5 crore per MW for solar—they offer shorter payback periods of four to five years, compared to eight to ten years for solar and wind.

Tanvi Shah, Senior Director at CARE Analytics and Advisory Pvt Ltd, said treating agricultural residue as a valuable resource rather than waste could unlock significant economic and environmental benefits.

Nitu Singh, Associate Director at the firm, said a coordinated policy approach, supported by better biomass mapping and stronger institutional alignment, would be essential to fully realise the sector's long-term potential.
(Courtesy: BioEnergy Times)

Bioenergy Installed Capacity and Generation

As of 28 February 2026, India's bioenergy sector has expanded across biomass, waste-to-energy (WtE), and biogas plants, contributing significantly to renewable energy generation:

Year	Installed Capacity (MW/MWe)	Annual Generation (Million Units)
2020-21	Biomass 7.05, WtE 41.75, Biogas 23,019	Biomass 3,512.98, Bagasse 11,302.85
2021-22	Biomass 60, WtE 80.16	Biomass 3,482.70, Bagasse 12,573.88
2022-23	Biomass 42.4, WtE 75.69, Biogas 9,627	Biomass 3,161.32, Bagasse 12,863.16
2023-24	Biomass 107.3, WtE 35.37, Biogas 13,219	Biomass 3,417.19, Bagasse 10,825.59
2024-25	Biomass 387.8, WtE 254.41, Biogas 12,067	Biomass 3,738.67, Bagasse 9,335.32

Since the inception of biomass co-firing in thermal power plants (TPPs) in FY 2019–20, approximately 5.7 million metric tonnes of carbon dioxide emissions have been avoided, while also reducing fossil fuel consumption and improving regional air quality.

Key Barriers

The government identifies feedstock availability and high capital cost per MW as major challenges in scaling bioenergy projects.

Government Initiatives to Promote Bioenergy

1. **MNRE National Bioenergy Programme (NBP):** Provides Central Financial Assistance (CFA) for biomass power plants, briquette/pellet manufacturing, and compressed biogas (CBG/BioCNG) plants.
2. **Crop Residue Management (CRM) Scheme, MoAF&W:** Offers 50% financial assistance to farmers for CRM machinery and up to 80% support to rural entrepreneurs, cooperatives, SHGs, and FPOs. Paddy supply chain projects receive 65% support up to Rs. 1.5 crore.
3. **Central Pollution Control Board (CPCB):** Provides one-time financial support for pelletization and torrefaction plants.
4. **Biomass Aggregation Machinery (BAM) Scheme, Ministry of Petroleum & Natural Gas:** Supports CBG producers in procuring machinery for efficient biomass collection and utilization, preventing open-field burning.
5. **Swachh Bharat Mission-Urban 2.0, MoHUA:** Offers CFA for various waste processing facilities, including Material Recovery Facilities, Waste-to-Compost, Bio-methanation, Waste-to-Electricity, Refused Derived Fuel, Construction & Demolition, sanitary landfills, and CBG plants.

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