



## Investing in a Sustainable Future

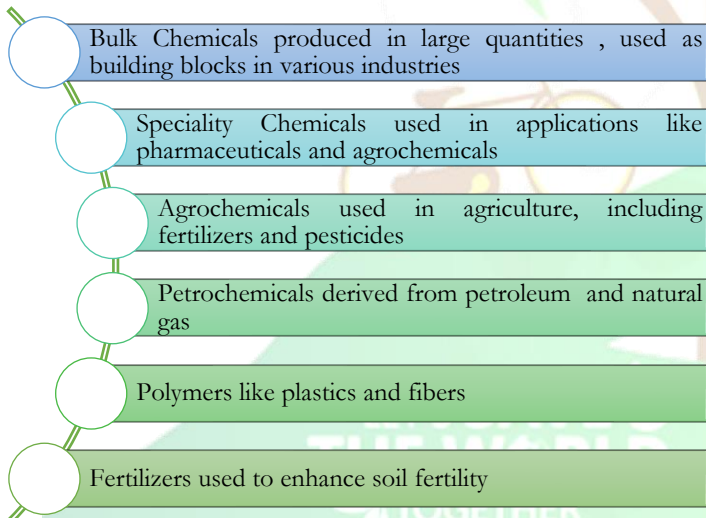
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### Editor's Nest

*Green Chemistry is power: crafting molecules that perform brilliantly and protect fiercely – John C. Warner, Co- Founder of green Chemistry Principles*

Happy new year to all our cherished readers! This year, we will be focusing on industry wise analysis of ESG issues. Let's kickstart this year off with understanding the nuances in the chemical industry focusing on sustainability, innovation, regulatory compliance, and the growing impact of ESG factors on the future of manufacturing.

The chemical industry in India has a rich history that dates back to the early 19th century, beginning with the production of basic chemicals like sulfuric acid and caustic soda. Post-independence, the industry witnessed a significant transformation, driven by the need for self-reliance and industrialization. The establishment of large public sector enterprises and the liberalization policies of the 1990s further accelerated its growth. Today, India stands as the sixth largest producer of chemicals globally, with a diverse portfolio that includes the following -



Though the industry's evolution has been marked by continuous innovation and technological advancements, it hasn't been without its challenges.

### Expert Speak

**Dr Ajay Ranka, Chairman Zydex Group**

Let us define "Sustainability in Chemicals & Material World" - Transition through innovation to replace limiting resources with abundant resources is priority one followed with complete recycling of resources used during our visit to the planet and ensuring it is economically viable or positive without affecting biodiversity and environment.

Examples of changes we are likely to witness in next two decades are the entire nitrogen, Phosphorous, Potassium and Micronutrients in Agriculture that can be replaced by Bio metabolites and recycling of manure and Agro waste by new technology of composting. Plastics getting replaced with Bioplastics and hybrid of Bio-Degradable Polymers, Slow release, Encapsulation technologies to reduce active ingredients. Compressed natural gas (CNG) replaced with Bio-Composting of Agro waste with super photosynthesis technology to capture sunlight received by earth and so on.

Common goal has to be reduced population on planet and achieve full sustainability before 21<sup>st</sup> Century ends. The goal is, for all limiting resources by innovating first to extend their life cycle and second to replace with abundant resources and ultimately complete recyclability. Any company which will follow this will be the winner in future and survive.

**Towards a Sustainable 2025 and beyond...**

As the year draws to a gentle close, we reflect on our journey, the highs and lows. In the tapestry of time, we've woven our part, with dreams of a world that's warm at heart.

The carbon footprints we've begun to erase, in the quest for a planet with a kinder face. Renewable energies light up our way, a beacon of hope for a brighter day.

Waste once destined for a forgotten heap, now finds new life in the promises we keep. With every effort to conserve and recycle, we move closer to a world that's vital.

Diversity blooms in our vibrant teams, fuelling innovation, sparking new dreams. Inclusion and equality guide our path, creating a workforce that forever lasts.

Governance stands tall with a watchful eye, guarding the principles we hold high. With every regulation, we commit to comply, upholding standards that never die.

As we step into a year so new, with promises to make and goals to pursue, let us lead with a vision, both bold and grand, towards a sustainable, flourishing land.

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## Sustainability Challenges in the Chemical Industry

The chemical industry in India faces significant environmental, social, and governance (ESG) challenges. Tackling these challenges is crucial for sustainable growth and aligning with global ESG standards. Key issue includes:

1. **Air Pollution:** Emissions of VOCs, NO<sub>x</sub>, and SO<sub>x</sub> degrade air quality and cause respiratory issues.
2. **Water Pollution:** Untreated wastewater with heavy metals, solvents, and POPs pollutes water bodies, harming aquatic life and human health.
3. **Soil Contamination:** Improper chemical waste disposal pollutes soil, disrupting ecosystems and posing health risks.
4. **Greenhouse Gas Emissions:** The industry emits significant CO<sub>2</sub> and CH<sub>4</sub>, driving global warming.
5. **Health and Safety:** Workers face health risks from hazardous substances, with accidents and spills causing injuries, burns, fatalities, and radiation exposure.
6. **Community Impact:** Chemical plants harm local communities through pollution, resource depletion, displacement, and exposure to toxic chemicals, causing health issues.
7. **Labor Practices:** The industry faces challenges with working conditions, fair wages, and a shortage of skilled labour.
8. **Regulatory Compliance:** The industry faces challenges with complex regulations, limited inspection funding, and under-reporting due to weak verification mechanisms.
9. **Corporate Governance:** Poor governance results in mismanaged risks, lack of transparency, ineffective grievance resolution, unclear ESG targets, and difficulty maintaining ethical standards.

Addressing these ESG issues requires integrating sustainability into core business strategies. Stay tuned for our next issue on how India's chemical industry can mitigate its impacts and foster a sustainable future.

## In Focus: Bhopal Gas Tragedy

The Bhopal Gas Tragedy occurred on the night of December 2-3, 1984, when a leak of methyl isocyanate (MIC) gas from the Union Carbide India Limited (UCIL) pesticide plant in Bhopal, Madhya Pradesh, exposed over 500,000 people to toxic fumes. The immediate impact was catastrophic, with around 3,800 people dying instantly and thousands more suffering from severe health issues. The disaster caused long-term health problems, including respiratory issues, eye disorders, and increased rates of cancer and birth defects among the affected population. The incident also highlighted significant lapses in industrial safety protocols and regulatory oversight, leading to widespread environmental contamination and ongoing legal and ethical challenges.

As per SEBI guidelines issued on December 20, 2024, the applicability of BRSR for the financial year 2024-25 is as follows:

- The top 1,000 companies by market capitalization are required to mandatorily include BRSR in their annual report
- For the top 250 listed entities by market capitalization, preparing disclosures and undertaking reasonable assurance on BRSR Core KPIs has been mandated starting FY 2024-25.
- While SEBI initially mandated the disclosure of value chain partner information in the BRSR Core on a "comply or explain" basis from FY 2024-25, this requirement has now been deferred to FY 2025-26, providing companies an additional year to comply.
- For further industry wise details refer to - <https://www.sebi.gov.in/legal/circulars/dec-2024/industry-standards-on-reporting-of-brsr-core-90091.html>

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