



## Investing in a Sustainable Future

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### Editor's Nest

*Transforming chemicals sustainably transforms the world – Alexandra Hayes*

In our previous issue, we looked at the various environmental, social and governance (ESG) issues that plague the chemical industry. In this edition, we will now focus on how various companies across India have managed to solve the problems or what are they currently doing to solve the problems.

Reducing ESG impacts is crucial for the chemical industry not only to comply with regulations but also to foster sustainable growth and innovation. By implementing corrective and preventive measures such as adopting cleaner technologies, improving waste management and enhancing worker safety, chemical companies can significantly reduce their environmental footprint and mitigate social risks. These efforts lead to numerous benefits, including enhanced brand reputation, increased investor confidence, and operational efficiencies. Moreover, companies that prioritize ESG initiatives often experience better risk management and resilience, positioning themselves as leaders in sustainability and gaining a competitive edge in the global market. Embracing ESG principles is not just about compliance; it's about creating long-term value and ensuring a sustainable future for the industry and society at large.

**How can chemicals reduce their harmful ESG impacts?**



### Expert Speak

**Ashwin Shroff, Chairman, Excel Industries Limited.**

The chemical industry plays a vital role in economic growth of the world. However, it also poses significant environmental and social challenges. People see chemical industries as their avoidable neighbours. Therefore, all chemical industries have challenges across the world, which includes India. Chemical industry in order to achieve sustainability, must implement solutions for energy efficiency, water conservation, waste management, green chemistry, aligning with global sustainability goals.

Energy efficiency and GHG reduction can be achieved through renewable energy adoption, process optimization, and carbon capture technologies. Some goals include reduction in energy consumption, decreasing carbon intensity per ton of product, and increasing renewable energy share (SDG 7, 13).

Water management strategies like zero liquid discharge (ZLD), rainwater harvesting, waste water recycling are the easiest methods to manage water. Remember, fresh water is very scarce, and it is required for chemical industries to survive. There can be KPI's like percent of water recycled, COD/BOD/TDS reduction in wastewater and water use efficiency per ton of production (SDG 6, 12).

Waste reduction and circular economy initiatives, comes next where chemical industry faces quite a task for hazardous waste recycling, solvent recovery, and sustainable packaging. These can be tracked through rates of waste diversion, hazardous waste recycled, and by-product recovery rate (SDG 9, 12).

The adoption of green chemistry principles, focusing on reducing hazardous raw materials and process emissions, should be measured through percent of sustainable materials used and reduction in process emissions (SDG 9). Another commonly used term nowadays is Circular Economy, which focuses on reuse and recycling to reduce waste and pollution.

Employee health, safety, and diversity are critical, with auditors assessing LTIFR, safety training, and gender diversity (SDG 3, 5). Tracking Goals & KPIs enhances efficiency, compliance, and sustainability for a resilient future. Chemicals are vital for human survival; we all start and end our day with them.



## **Addressing ESG Challenges in the Chemical Industry: Pathways to a Sustainable Future**

The chemical industry faces significant challenges in addressing Environmental, Social, and Governance (ESG) issues. However, leading companies are implementing innovative solutions to meet these challenges and improve their ESG performance. Here's a detailed look at how top Indian chemical companies is addressing ESG issues and preparing for ESG audits.

### **Tata Chemicals**

**Environmental Solutions:** The company has implemented water conservation measures such as rainwater harvesting and wastewater recycling. These initiatives help Tata Chemicals meet stringent environmental regulations and improve its sustainability profile.

**Social Solutions:** Tata Chemicals is committed to community development and employee welfare. The company supports local education and healthcare initiatives and provides training and development opportunities for its employees. Tata Chemicals also emphasizes diversity and inclusion within its workforce.

**Governance Solutions:** Tata Chemicals maintains robust governance practices, ensuring regulatory compliance and ethical business conduct. The company has implemented comprehensive risk management systems to identify and mitigate potential risks. These measures help Tata Chemicals prepare for ESG audits by demonstrating a strong commitment to governance standards.

### **Reliance Industries**

**Environmental Solutions:** Reliance Industries is leading the development of green hydrogen to reduce carbon emissions and is actively involved in recycling and waste management, converting plastic waste into valuable products. These efforts are key to meeting environmental regulations and improving ESG ratings.

**Social Solutions:** Reliance Industries invests in community engagement programs, focusing on education, healthcare, and environmental sustainability. The company ensures safe working conditions and fair wages for its employees, which are essential for social audits.

**Governance Solutions:** Reliance Industries prioritizes regulatory compliance and ethical practices. The company has established a strong governance framework to guide its operations and decision-making processes. This framework is critical for passing governance audits and maintaining stakeholder trust.

### **UPL Limited**

**Environmental Solutions:** UPL Limited focuses on sustainable agriculture by developing eco-friendly crop protection products that reduce the environmental impact of farming.

**Social Solutions:** UPL engages extensively with local farmers, providing them with training and resources to adopt sustainable farming practices. The company also supports community development programs in education and healthcare. These initiatives are vital for social audits and improving community relations.

**Governance Solutions:** The company regularly reviews and updates its governance policies to align with best practices. This proactive approach helps UPL prepare for governance audits and maintain high ethical standards.

These efforts are crucial in driving the industry towards a more sustainable and responsible future and preparing for ESG audits.

Which of these innovative techniques can significantly reduce energy consumption in chemical processes?

- a) Using Nanocatalysts to boost reaction rates.
- b) Employing biocatalysts derived from enzymes.
- c) Implementing flow chemistry for precise control.
- d) All of the above.

Answer: d



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