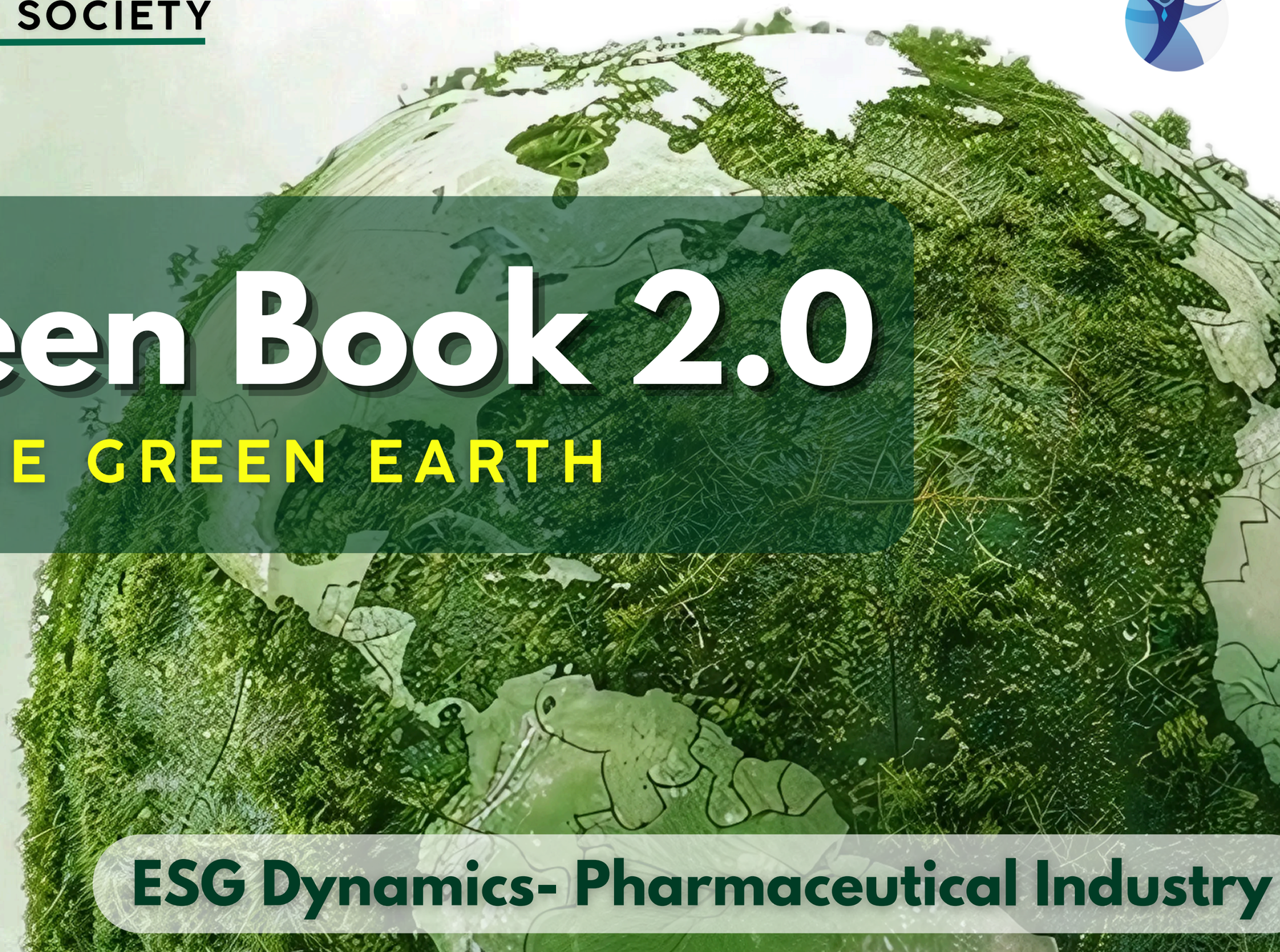
RAMJAS CONSULTING SOCIETY

The Green Book 2.0

TOWARDS THE GREEN EARTH



ESG Dynamics- Pharmaceutical Industry

INDUSTRY OVERVIEW

India's pharmaceutical market for FY 2023-24 is valued at **USD 42 billion** is projected to grow at a CAGR of over **10%**, reaching nearly **USD 130** billion by 2030.

38% of Indian pharmaceutical companies publish ESG/Sustainability reports since 2020.

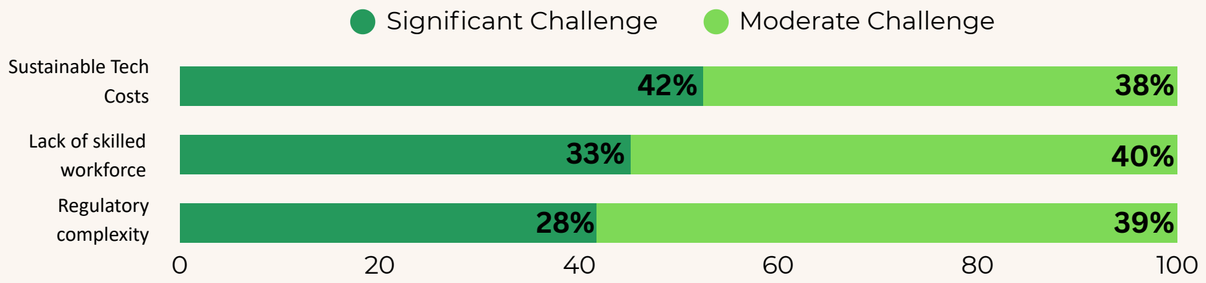
43% have ESG or Sustainability Governance Committees, mostly in MNCs.

ESG-related job postings in pharmaceutical industry rose **14.25%** since March 2023.

Key ESG Performance Indicators

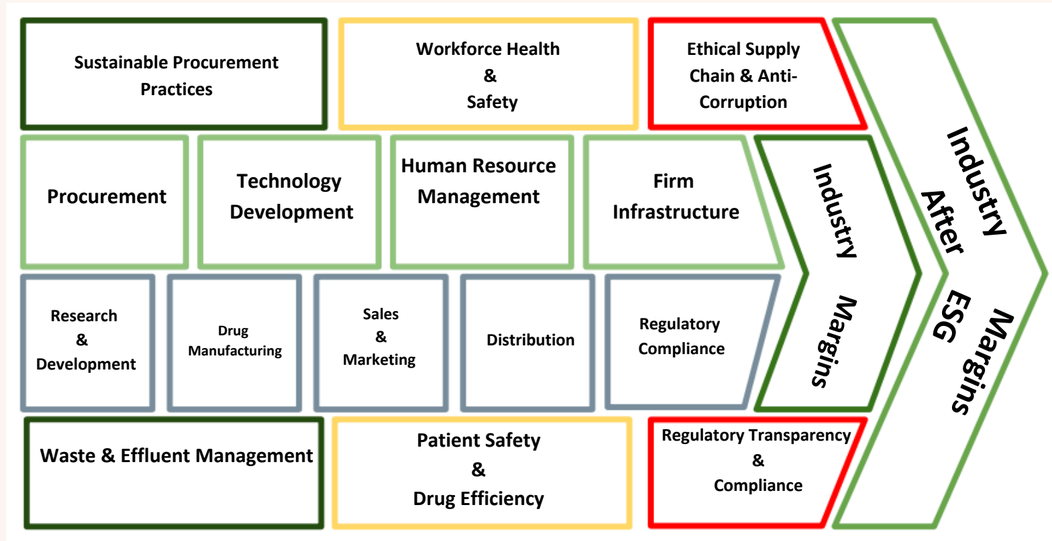
- **Environmental Footprint**
- **Access to affordable healthcare**
- **Employment Health and Safety**
- **Ethical Governance and Compliance**

ESG Compliance Challenges in Indian Pharmaceutical Industry

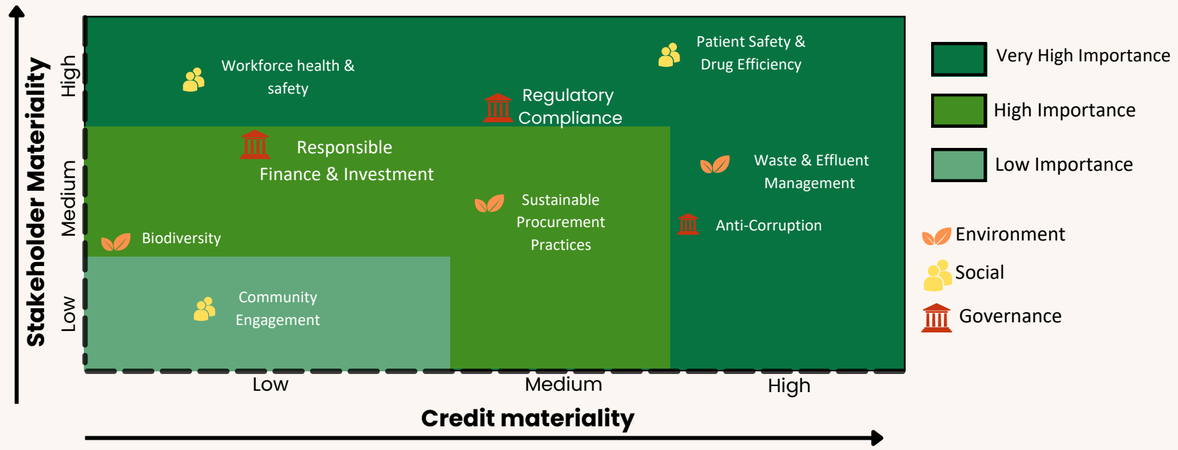


VALUE CHAIN

ESG Initiatives



ESG Initiatives



INDUSTRY OVERVIEW

ESG Frameworks

Sustainability Accounting Standards
develops and shares sustainability accounting standards for meaningful disclosures by public companies

Global Reporting Initiative
provides free sustainability guidelines to enable all organizations to report their ESG performance

Business Responsibility and Sustainability Reporting
is SEBI's mandatory ESG reporting framework for top Indian companies, aligning disclosures with national sustainability guidelines.

Future-Facing ESG Growth Levers

- **L** — **Lowering** Costs & Carbon emissions by technology & innovation
- **E** — **Enabling** better ESG & regulatory compliance
- **V** — **Value creation** for all stakeholders across the value chain
- **E** — **Encouraging** enablers for environmental-friendly engagement models
- **R** — **Re-allocation** of resources into R&D infrastructure & innovation
- **S** — **Shifting** supply chain

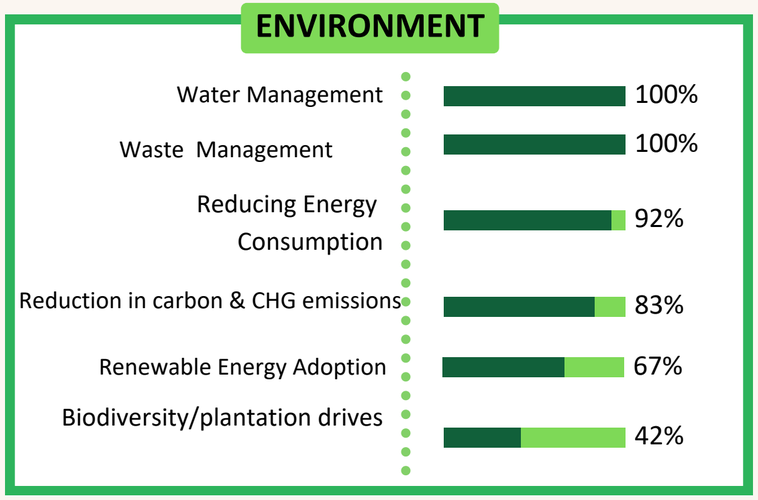
Key ESG Priorities Across the Indian Pharmaceutical Industry

This analysis maps out the most common ESG focus areas among 12 leading Indian pharmaceutical companies, highlighting sector-wide priorities and gaps.

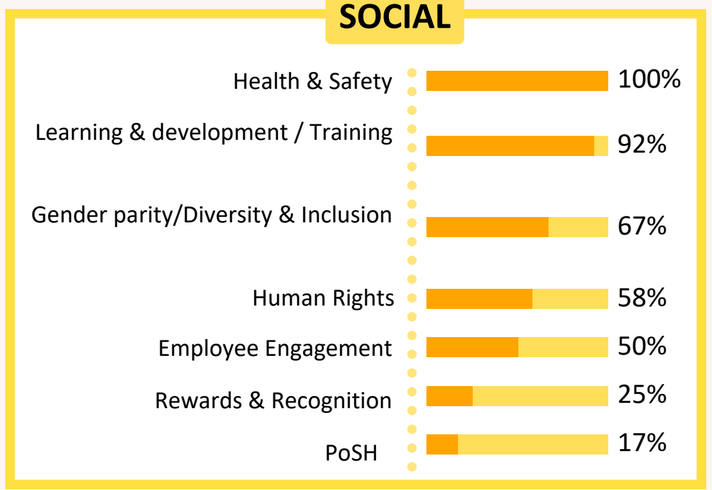
Sustainability Priorities

Overlapping priorities of pharma companies **(High to low priority)**

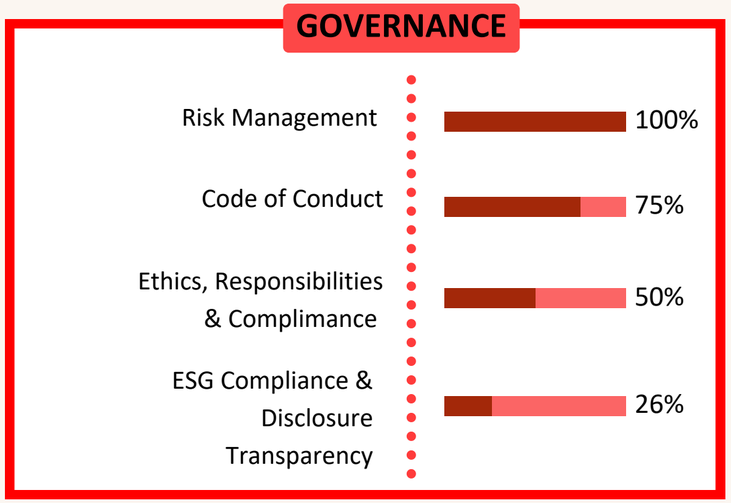
ENVIRONMENT



SOCIAL



GOVERNANCE



The Monster

Sun Pharmaceuticals

OVERVIEW

Sun Pharmaceutical Industries Limited is India's largest pharmaceutical company and the world's fourth-largest specialty generics manufacturer providing medicines to over 100 countries

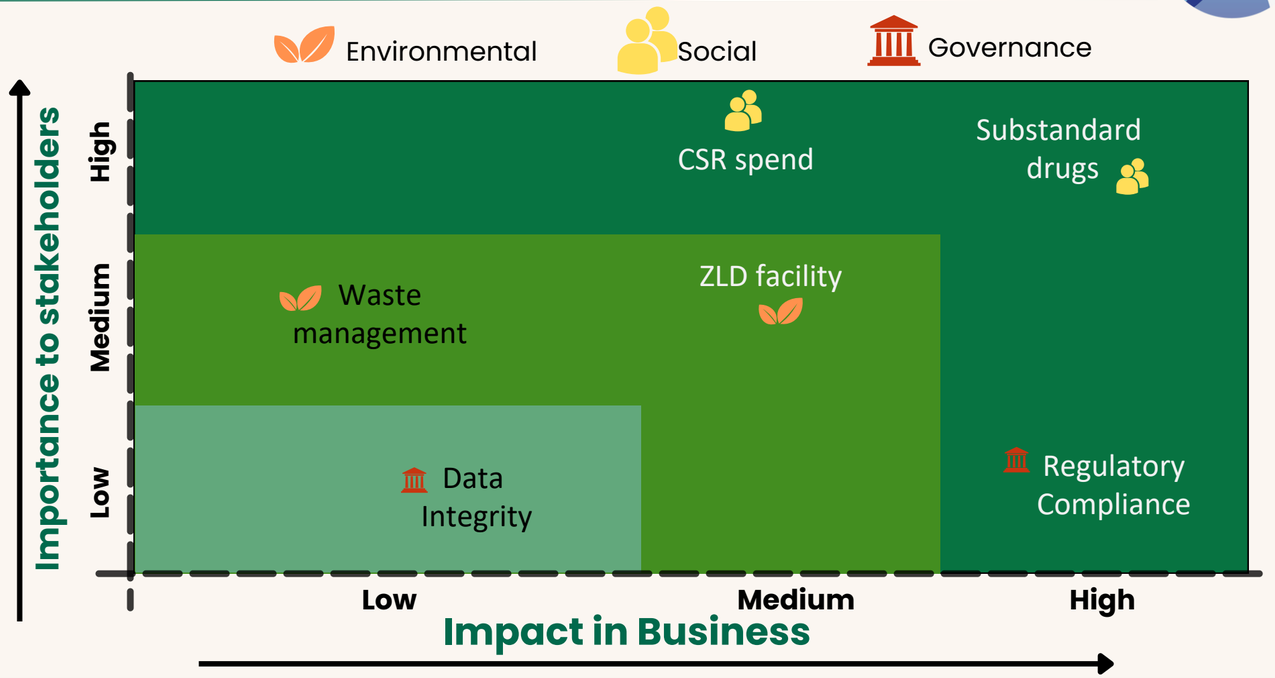
Pre acquisition

Strong presence in generics
clean compliance record
efficient & profitable

2014

Post acquisition

USFDA bans, legal troubles, manufacturing failures & tarnished reputation



Environmental

Percentage of energy sourced from renewable sources

38%

Governance

Percentage of BOD having expertise in pharmaceuticals

67%

Performance Indicator

Social

ESG-linked Executive Compensation

20%

% of Revenue Spend on CSR Activities

Reflects Sun Pharma's consistent Investment on CSR Activities.

₹1,164 M

Sun Pharma's Pantocid tablets, used for acid reflux, the Pulmosil injection for high blood pressure, and Ursocol 300 tablets, were al declared adulterated in August. NDTV

FDA Warning Letter to Sun Pharma Finds Trash Bags of Data and Secret Studies RF Regulatory Focus

the reporters' collective

Medical Dialogues

Environmental violations troubled Sun Pharma group donated Rs 31.5 crore to political parties

Sun Pharma Blasted for Adulterated Offshore Pharmaceuticals!

Sun Pharma To Pay Rs 160.2 Crore Penalty

Govt slaps fine on Sun Pharma officials over related party transactions ET LegalWorld.com

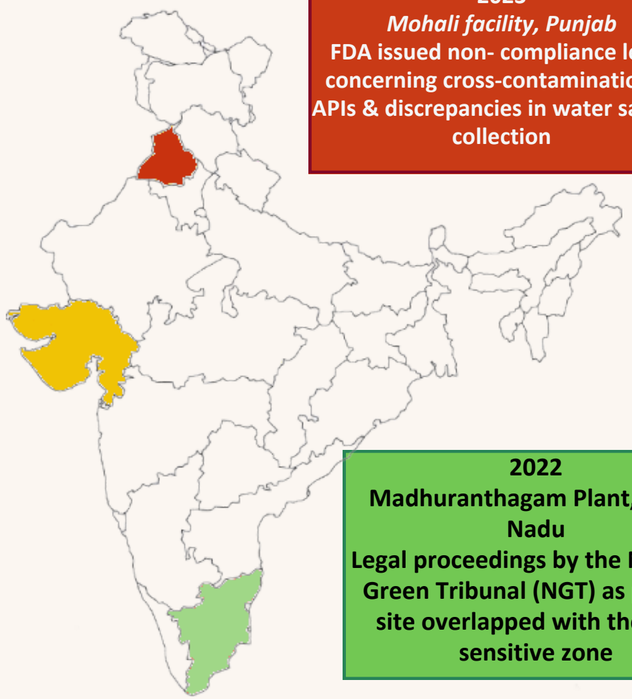
Study finds pollutants from Sun Pharma factory in wetlands within Vedanthangal Bird Sanctuary THE NEW INDIAN EXPRESS

The Monster

VIOLATIONS

2014
Karkhadi plant, Gujarat
- 5,301 deleted chromatograms
- 10 waste bags containing torn or partially destroyed raw data CGMP records
- Frequently practiced the use of 'trial' injections

2015
Halol plant, Gujarat
- 23 violations of standard manufacturing norms
- Sterile Facility Issues
- $50 million projected revenue lost due to revocation of Elepsia XR

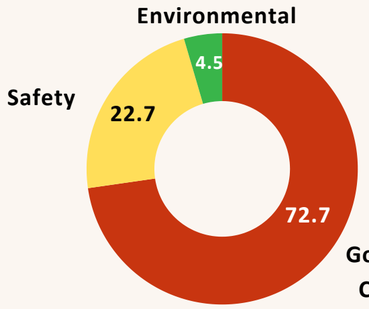


2023
Mohali facility, Punjab
FDA issued non- compliance letter concerning cross-contamination of APIs & discrepancies in water sample collection

2022
Madhuranthagam Plant, Tamil Nadu
Legal proceedings by the National Green Tribunal (NGT) as project site overlapped with the eco-sensitive zone

- Environmental
- Social
- Governance

VIOLATIONS TRACKER



Top 5 Primary offence types



Ranbaxy's $4 Billion Prescription- Issues inherited

(In 2014, Sun Pharma acquired Ranbaxy- an Indian multinational Pharma company embroiled in serious regulatory and legal issues)



- Data falsification and quality control failures
- Indulged in anti-competitive practices
- Bans from the USFDA & EU regulators
- Manufacturing substandard drugs
- Paid $485 million to settle antitrust cases related to Ranbaxy

IMPROVEMENTS MADE

- 20.7% Hazardous waste co-processed
- 95% Non- hazardous waste diverted from disposal
- QR codes- for patients to verify the ingredients
- 3D security strip- testifies the authenticity of the products
- Multi-layered governance structure
  - Board of Directors
  - Environment team
  - Risk Management
  - Global Internal audit

HOW ARE THEY SIGNIFICANT?

Promotes | Curtails | Validates

- Alignment with frameworks such as the TCFD and CDP
- Reputational risks
- Aim to reduce emissions by 35%
- Product stewardship & Innnovation
- Complaints against authenticity
- Commitment to CAPA & Anti- Counterfeit system
- Compliance to GCoC
- Violations like political contributions
- Pharmacovigilance policy

The Gentle Giant

Dr.Reddy's

"Good Health Can't Wait"

OVERVIEW

Dr. Reddy's Laboratories, founded in **1984** in **Hyderabad**, is a global pharma company specializing in **generics, OTC, and specialty drugs**. Operating in **76 countries** with **20+ facilities,** it earns **₹3.55 billion** in revenue and is listed on NSE, BSE, and NYSE.

1984

First Indian Pharma Company to release a well-dedicated sustainability report

2023

Present

First Indian Pharma company to be listed on the Dow Jones Sustainability World Index

Renewable Energy Use

Percentage of energy sourced from renewable sources

28%

Female Workforce Share

Percentage of total workforce constituted by women

20%

Performance Indicator

Ethics Training Completion

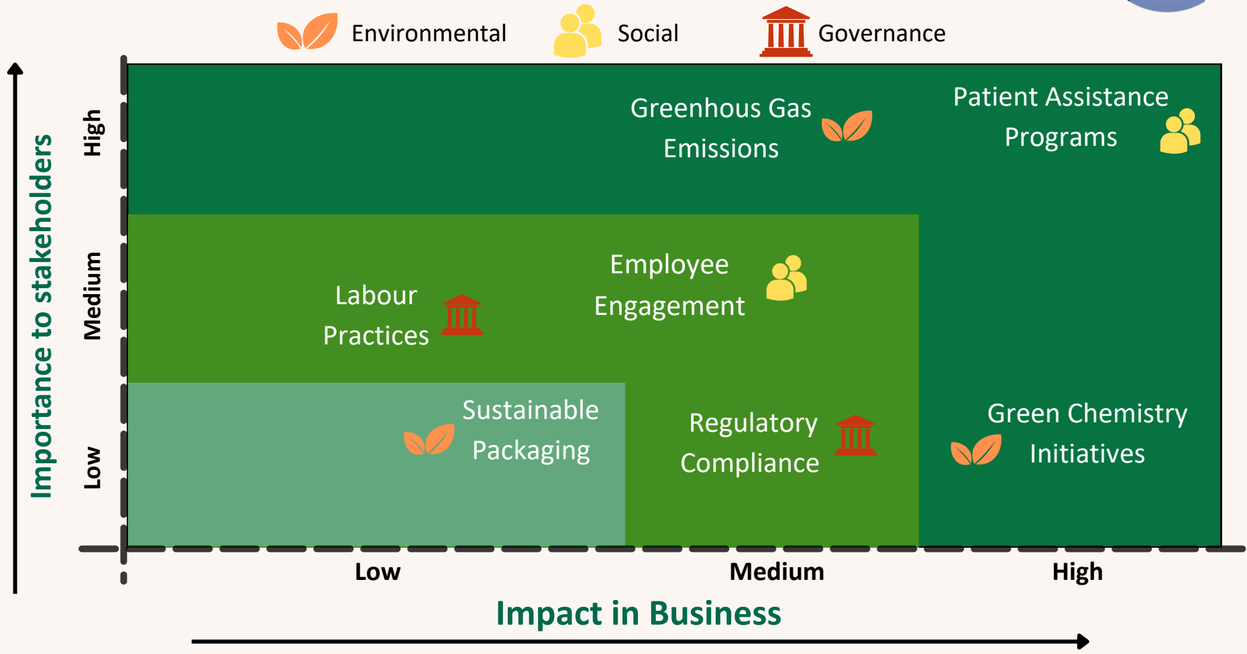
Percentage of employees completed annual ethics training

100%

Hazardous waste compliance

Share of hazardous waste safely managed

95%



Dr Reddy's Labs Executes Security Subscription, Shareholders' Agreement With TEQ Green Power XI Private Limited, Its Affiliates

Dr Reddy's becomes 1st Indian pharma firm on Dow Jones Sustainability index — Business Standard

Dr Reddy's Laboratories joins global eco-friendly initiative

Dr Reddy's joins hands with SBTi, aims to cut greenhouse gas emissions by 55 per cent by 2030 — ET

Dr Reddy's Glycemic Happiness Awareness sets Guinness World Record — EP

Dr Reddy's rises 2% on plans to buy 26% stake in O2 Renewable Energy — business today

The Gentle Giant

	INITIATIVES	CHALLENGES	STRATEGIES	REMARKS
E	**Sustainable Technologies** Low Temperature Evaporator and grey water tech enable 49% reuse. **6 Green Teams Model** Chemistry, procurement, operations, packaging, culture, & advocacy embed sustainability.	**Low Sustainable Manufacturing** In Nov 2015, Dr. Reddy's received 3 warnings for poor quality controls from **FDA** **Inefficient Water System** In 2013, APPCB issued a notice to Dr. Reddy's for discharging effluents into **Hussainsagar Lake.**	**Circular Economy Model** Local authorities Waste water and Heat **KALUNDBORG CASE** Recycled, supporting 20,00 homes	***"Recycling process water can reduce freshwater consumption by up to 40%, a critical step in hubs like Telangana."***
S	**"SAKSHAM "Skill Development Program** → Quality vocational training to unemployed youth **SIP (School Improvement Program)** → Quality education to needy children **GROW** → **Gender Reforms for Women** focuses on increasing female representation	"Around **1.73% of company's employees** are a part of some **Labour Union**" **Low Labour Engagement** **Low Salaries** **Poor Management** **POOR CFREDIBILITY**	**Work Your Passion Model** Allow employees spend 5–10% time on passionS Employees act as CEO for a day, inspiring leadership **CEO for a day Strategy**	***"Such programs can reinforce the employer brand, making Dr. Reddy's a more attractive destination for future talent."***
G	Combines sustainability and performance via focused framework like **Ethics & CSR** **Business Responsibility & Sustainability Reports (BRSR)** First pharma company to release an **ESG-dedicated report** in **2004**	**Conflict of Interest Allegations** Dr.Reddy's In September 2024, Dr. Reddy's faced controversy over alleged improper payments to SEBI chairperson's spouse, Dhaval Buch, raising credibility concerns.	**Three Line of Defence Mode** Implement conflict disclosure policies Monitor and resolve conflicts through internal departments Independent internal audit ensuring full transparency	***"Clearly delineating roles across all 3 lines will eliminate accountability overlaps and increase response times."***

The Genius Baby

Biozenta

OVERVIEW

Biozenta Lifescience Pvt. Ltd. is a global pharma company delivering affordable, high-quality oncology and critical care medicines. It operates in 30+ countries, focusing on innovation, compliance, and global healthcare access.

Established c-GMP compliant manufacturing units at UNA, H.P. Advanced R&D lab for MAB development in Chandigarh.

2022

2019
Started its Oncology and Critical Care manufacturing Unit at UNA, H.P.

Present
Received “PICs” approval; Inaugurated “Biozenta House” in Mumbai and USA.

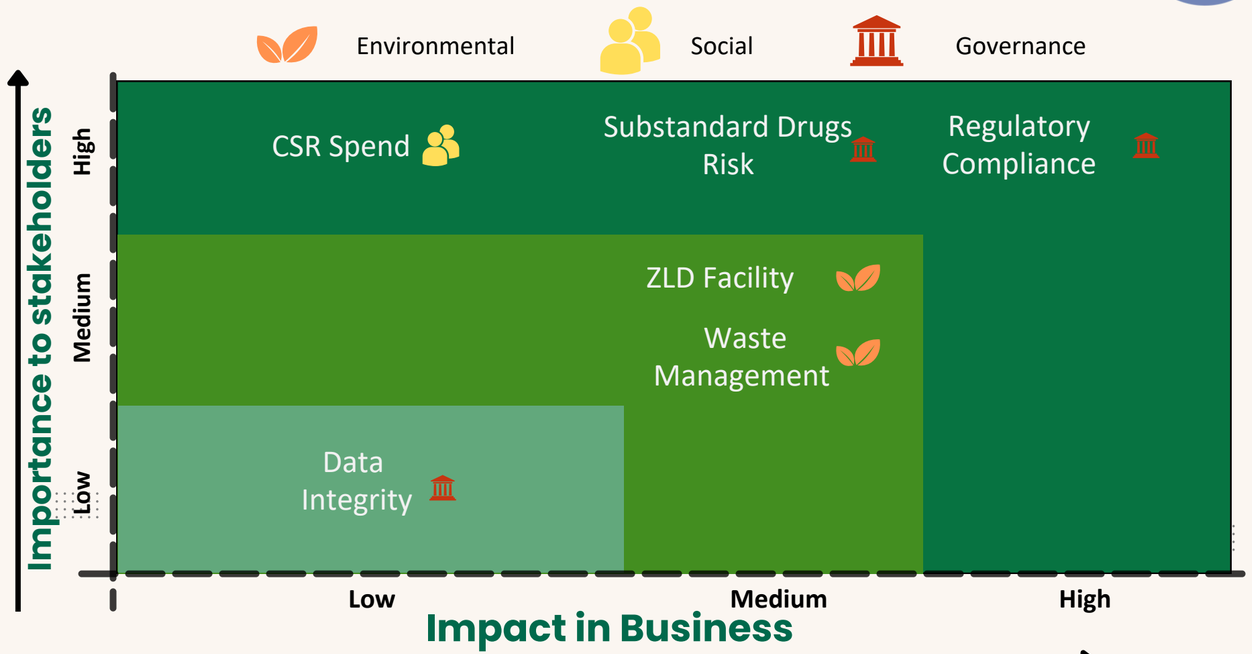
KEY PERFORMANCE INDICATORS

R&D Investment (%)
Enhanced formulation lab; 3 new oncology drugs in pipeline. Increase in annual revenue allocated to R&D
6%

Sustainability (%)
(Energy Use)
Operations powered by solar energy
20%

Market Expansion
Entered 4 new African Southeast Asian markets. Presence in many countries
30+

Social Impact
(Access Programs)
Active programs in 5 rural zones. Donated doses via NGO.
1 lakh+



Industry · 2 Min Read
Biozenta’s Pioneering Role in Cancer Treatment: Innovation, Strategy, and Impact
Brand Connect Initiative

Jainendra Sahu · 3rd+ + Follow
DIRECTOR - SUPPLY CHAIN MANAGEMENT, CONTRACT M...
5mo ·
We are pleased to announce that *Biozenta Lifescience Pvt. Ltd.* is going to participate into the biggest pharma show CPHI & PMEC INDIA 2024.

Jainendra Sahu · 3rd+ + Follow
DIRECTOR - SUPPLY CHAIN MANAGEMENT, CONTRACT M...
4mo ·
"Thrive in the Middle East and Africa’s largest pharma market"

Biozenta Lifescience Pvt. Ltd. is going to participate as an exhibitor at the CPHI MIDDLE EAST 2024.

Biozenta oncology inaugurates new R&D facility for API as we Formulation development
Biozenta is R&D-driven pharmaceutical oncology products manufacturing company in India has inaugurated a new R&D center at una Himachal Pradesh. The 3,00,00 sq ft facility is equipped with modern laboratories and infrastructure to support the API development and new formulation development business of biozenta.The facility is designed with the aim to foster innovation and advance the company’s mission of developing ‘Chemistry for Better Living’. The facility will reportedly provide job opportunities to over 70 people.

The Genius Baby

Certifications

FDA Philippines

SBDMA

Department of Drugs and Food

LMHRA

DGEFD

WHO- GMP

CDSCO

PPB

ISO 9001:2015

Pharmacy and Poisons Board

SDG

SDG 3: Good Health & Well-being
Supplied medicines to 30+ countries; 1 lakh+ doses donated via NGOs

SDG 9: Industry, Innovation & Infrastructure
DSIR-approved lab established; 3 new molecules in development

SDG 12: Responsible Consumption & Production
20% solar-powered operations

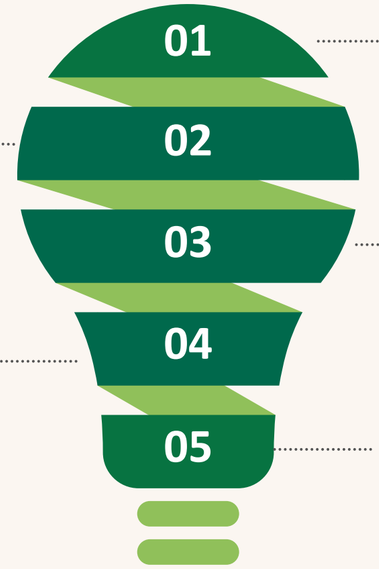
SDG 16: Peace, Justice & Strong Institutions
Secured regulatory approvals from WHO, EU-GMP, PICS, LMHRA, and more

SDG 17: Partnerships for the Goals
Active programs across 5 rural zones; partnership expansion underway

Differentiating Innovative Strategies

ESG-Linked Performance Goals
Tie executive performance and team KPIs to sustainability metrics, ethical compliance, and social impact outcomes.

Blockchain-Based Supply Chain
Implement blockchain technology to enhance drug traceability and combat counterfeit medicines across global markets.



Green API Manufacturing
Adopt eco-friendly synthesis and solvent recovery systems to improve sustainability in production.

AI-Powered Drug Discovery
Leverage artificial intelligence to accelerate R&D for oncology and critical care formulations.

Access4All Initiative
Launch programs in partnership with NGOs and governments to donate essential medicines in underserved and crisis-affected regions.

INVESTMENT DYNAMICS

What Is Responsible Investment

An **investment approach** that considers **ESG factors** in decision-making

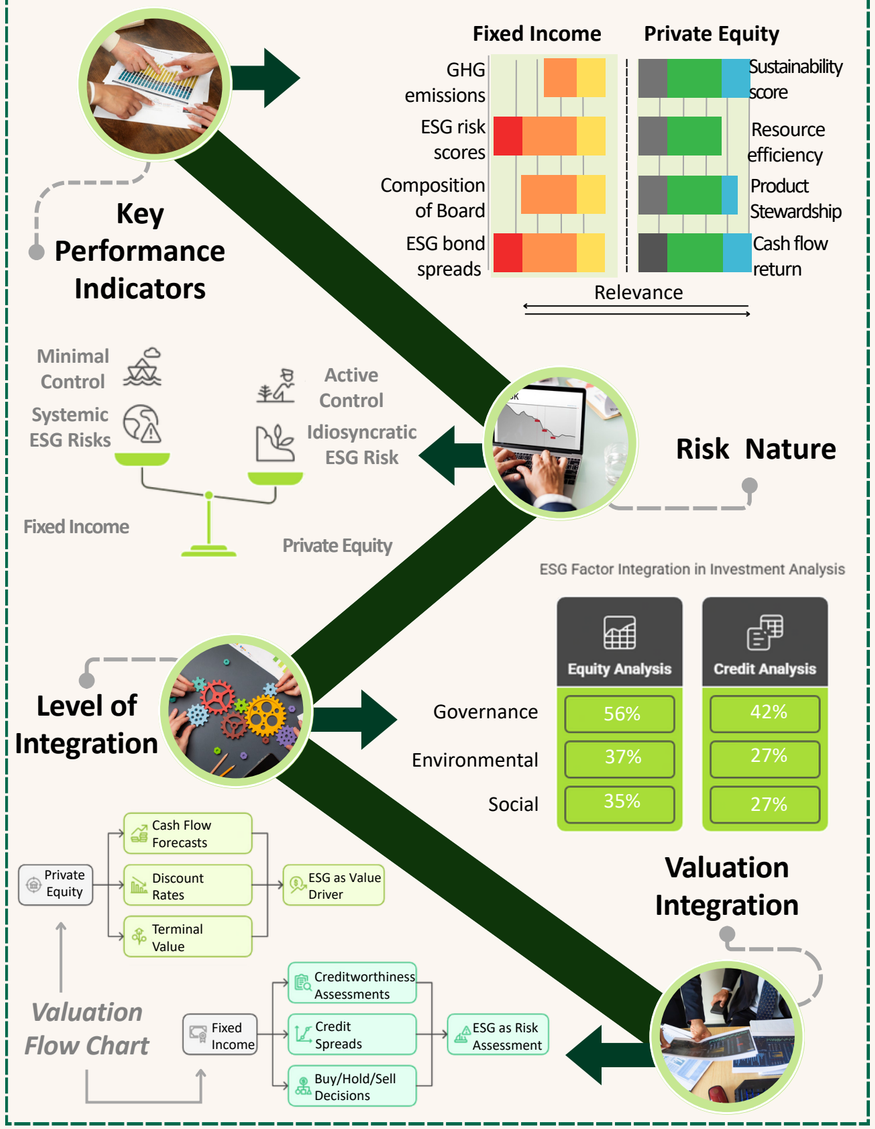
The main focus is to **reduce risk** and attain **long term sustainable returns**

63% — **Out of 2,000 + studies since 1970, 63% found a positive link between a Companies ESG and Financial Performance**

ESG In Investment Value Chain

Deal Origination	Due Diligence	Portfolio Management	Reporting & Compliance
Screen companies using personal values and ESG criteria, with **weighted ESG selection**	**Valuation** factoring **compliance risk**, ESG benefits, fiduciary and **fundamental Analysis**	Continuous **monitoring** of selected company for **ESG Framework Violations**	Ensure **compliance** to standards like **GRI, SASB, TCFD, CDP, PRI** and others

Fixed Income Vs Private Equity



Significance of ESG



Weighted ESG Investment Selection

Environment	Weight	Social	Weight	Governance	Weight	Total
Transparency	17%	Transparency	11%	Transparency	20%	
Policies	13%	Policies	34%	Policies	36%	
Performance	70%	Performance	55%	Performance	44%	
42%		24%		34%		

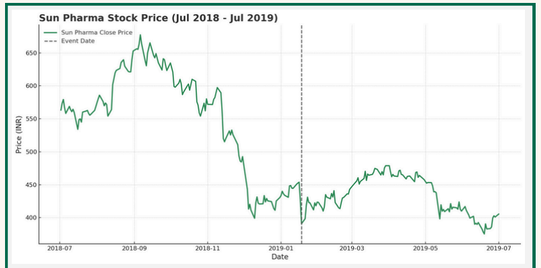
**Weighted ESG Investment Selection Varies For Each Investor*

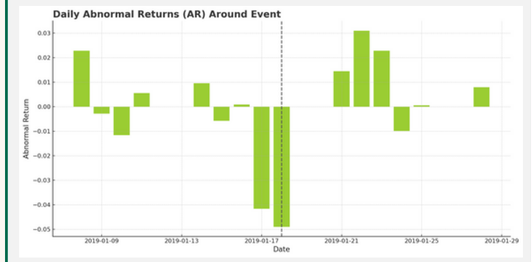
INVESTMENT ANALYSIS v1

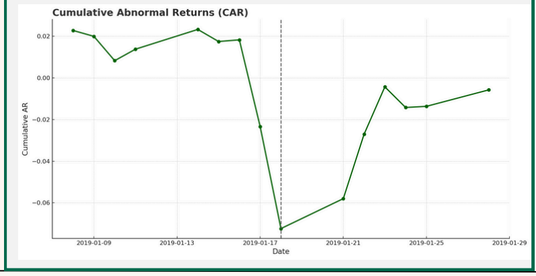
Controversy Impact

Company:**Sun Pharmaceutical**
Ticker:**SUNPHARMA**
Event:**Public Whistleblower Complaint**

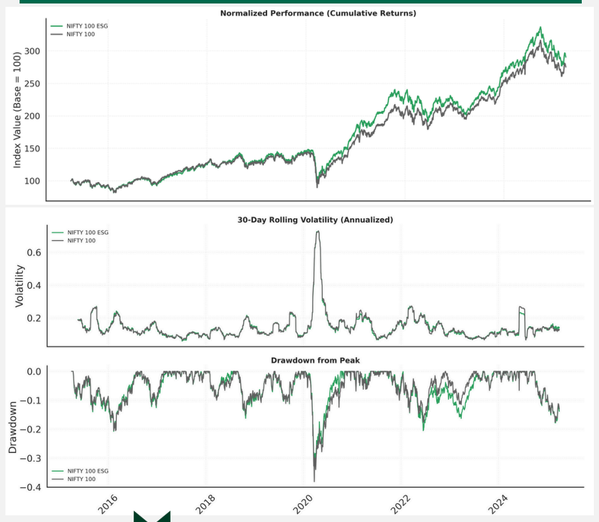
A sharp **DAR drop** shows **immediate shock**, while a **sustained CAR decline** reflects **lasting negative sentiment**.







NIFTY 100 Vs NIFTY 100 ESG



NIFTY 100 ESG outperformed the broader **NIFTY 100** over the **10**-year period in terms of normalized **cumulative returns** with consistently **lower rolling volatility**

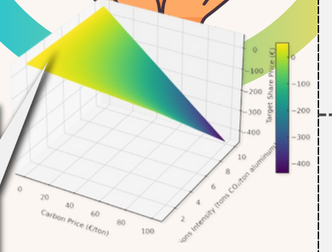
Base Valuation Case

Strong Health and Safety Record

- Annual Savings of $150 Million → 100 Basis-Point Margin Improvement → Increased Profitability → Higher Company Valuation
- 50 Basis-Point Reduction in Cost of Capital → Lower Operational Risk → Increased Profitability



Coal dependent peers see lower target valuations.



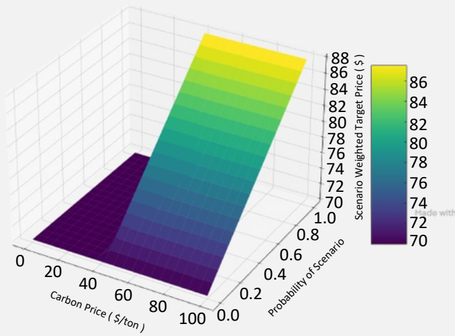
Carbon Price Scenario Non ESG Companies

Aluminum Stock Carbon Price

Aluminum production is **energy-intensive**, but this company stands out with renewable energy use, strong safety, and sustainability leadership

ESG-driven efficiencies **raised** the company's **target price** by **17%** in the **base case** scenario, **before** accounting for any **future carbon pricing advantages**.

Carbon Price Scenario weighted Valuation



Explanation :-

- **Carbon pricing** is a **policy tool** that assigns a **cost to carbon emissions**
- The model depicts that once the carbon price reaches $42/ton, the case study company gains a **$200/ton cost advantage** over other coal dependent peers
- **Weighted Price=(Base Price)×(1−Probability)+(Upside Price)×(Probability)**
- The model quantifies how **sustainability** can **translate** into **financial value** under carbon pricing scenarios.



Perceived Impact of ESG Issues on Asset Prices and Yields

INVESTMENT RISK & MITIGATION V1

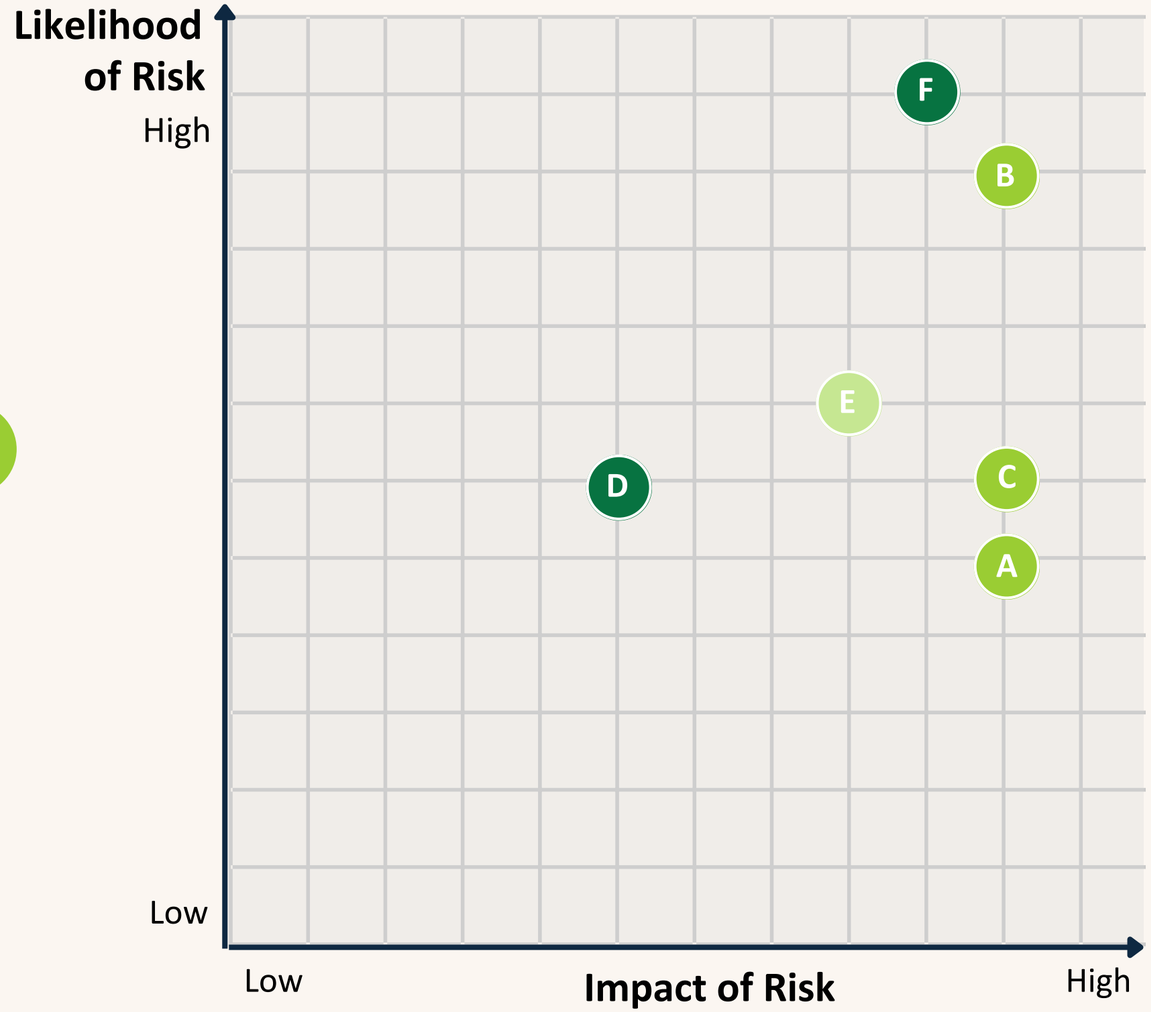
Risks that can be controlled directly / avoided

Risks that can be managed or mitigated

Risk beyond control

Risks	Mitigation
A Financial Risks	ESG-integrated valuation models Stress testing portfolios for ESG shocks (e.g., carbon tax scenarios)
B Regulatory and Legal Risks	Monitor And Comply with ESG laws Legal review of all ESG claims before public release
C Reputational and Brand Risks	Proactive ESG communication in annual impact reports Crisis response plan for ESG controversies
D Data Quality and Transparency Risks	Adopt standardized frameworks Regular audits of ESG metrics by independent reviewers
E Market Risks Influenced by ESG	Scenario analysis for long-term ESG trends Dynamic asset allocation and Hedging Strategies
F Green Washing Risk	Third-party verification (ESG Framework Aligned Audits) Internal ESG training for teams to prevent misleading marketing

Assessment of Identified Risks



CONSULTING DYNAMICS

EMISSION TARGETS

38% of top Indian pharma companies have set net-zero or carbon neutrality targets

GOVERNANCE

72% of top Indian pharma boards have independent directors with ESG knowledge

WASTE MANAGEMENT

23% of companies follow zero liquid discharge (ZLD) or equivalent protocols

CAPITAL MARKETS

₹3,000+ crore in ESG-linked loans and green bonds raised by Indian pharma in 2023 alone

SOCIAL METRICS

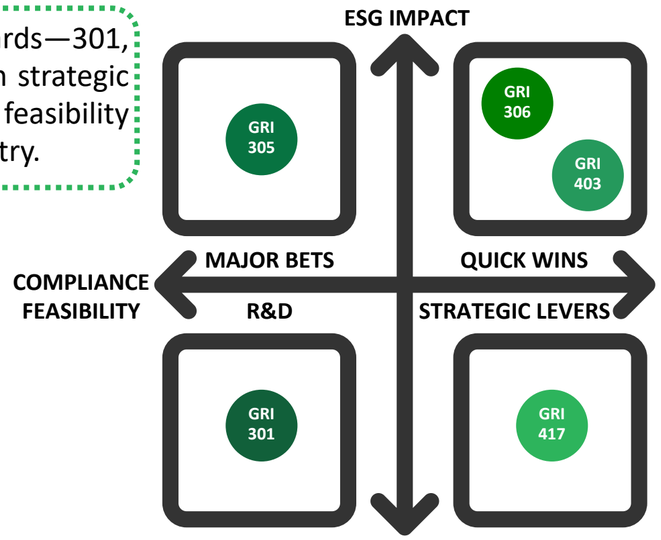
85% of Indian pharma firms have employee well-being or DEI policies in place

DISCLOSURE

67% of Indian healthcare & pharma companies have ESG committees in place

This matrix maps key GRI Standards—301, 305, 306, 403, and 417—based on strategic ESG impact and implementation feasibility in the Indian pharmaceutical industry.

- GRI 301: Materials
- GRI 305: Emissions
- GRI 306: Waste
- GRI 403: Health & Safety
- GRI 417: Labeling



THE NGRBC GUIDELINES: ESG Imperatives for India's Pharmaceutical Industry

ENVIRONMENT

- **Eco-Compliant Operations** CPCB/SPCB approvals, ZLD, Hazardous Waste Rules
- **Green Chemistry** Energy-efficient synthesis, low-toxicity solvents
- **Pharma Waste Circularity** EPR, safe disposal, bio-waste segregation
- **Climate Disclosure** BRSR-aligned GHG tracking, TCFD compliance
- **Water Stewardship** Smart water use, effluent treatment, water reuse

SOCIAL

- **Workplace Safety & Equality** POSH, Factory Act, fair wages
- **Affordable Access to Medicines** NPPA-aligned pricing, generic access
- **Community Health & CSR** CSR in healthcare, public awareness
- **Ethical R&D & Trials** ICMR, NDCT Rules, informed consent
- **Responsible Lobbying** Compliance with CEC guidelines

By embedding ESG into every layer of strategy and operations, Indian pharma can lead the global transition to sustainable and responsible healthcare.

GOVERNANCE

- **ESG Oversight** Board-level ESG committee, KPIs
- **Anti-Corruption Framework** Whistleblower protection, code of ethics
- **Data Integrity** GxP, IT Act compliance, cybersecurity
- **Ethical Supply Chain** Vendor screening, 3rd party audits
- **Transparent Disclosures** Mandatory BRSR, optional GRI/TCFD

MCKINSEY'S ESG PLAYBOOK

McKinsey has been a global leader in circular economy consulting, helping industries—including pharmaceuticals—shift from linear "take-make-waste" models to regenerative, resource-efficient systems. Their work spans value chain redesign, material flow optimization, and circular innovation at scale.

ESG Metrics: How McKinsey Measures Circularity

Resource Productivity: Measures economic output per unit of natural resource consumed.

Waste Diversion Rate: Percentage of waste diverted from landfills via recycling, composting, or reuse.

Sustainable Investment Return: Evaluates financial returns from circular and sustainable economy investments.

Product Life Extension Index: Tracks average product lifespan increase from circular strategies like reuse and EPR.

Material Circularity Indicator (MCI): Measures share of recycled and recyclable materials in products or systems.

Greenhouse Gas (GHG) Emissions Reduction: Quantifies GHG emission reductions from sustainable and circular practices.

4.5 trillion by 2030 — Circular Economy Market

15-20% — McKinsey's pharma consulting share

MCKINSEY'S 7S IN LIGHT OF ESG

STRATEGY
Waste reduction, recycling, circular supply chains

STRUCTURE
Sustainability teams, external partnerships, R&D integration

SYSTEMS
Waste tracking, closed-loop supply chains, performance metrics

SHARED VALUE
Environmental responsibility, collaboration, long-term impact

STYLE
Leadership in innovation, collaborative culture, transparency

STAFF
Skilled, trained workforce, ongoing education, employee engagement

SKILLS
Sustainability, waste management, innovation, circular design

2 million tonnes — Annual global pharma waste

80% — Pharmaceutical executives focused on sustainability

Guesstimate: McKinsey's Revenue from Circular Economy & Waste Management Consulting (India, 2030)

Structure	
Metric	Value
Total waste generated annually (urban India)	150 million tonnes
Cost of waste management per tonne	₹ 3,000
Total annual spend on waste management	₹45,000 crore
% of market moving towards circular economy solutions	30%
Addressable Circular Economy Spend	₹13,500 crore
In USD (at ₹80/USD)	$1.69 billion
% of circular economy budget spent on consulting	10%
Total consulting spend	$169 million
McKinsey's market share	12%
McKinsey's potential annual revenue	**$20.3 million**

Sanity Check	
Parameter	Value
Number of clients served annually	**30**
Average consulting fee per engagement	**$700,000**
Total annual revenue	= 30 × $700,000 = $21 million
Margin of variation	±5%

ASSUMPTIONS

1. McKinsey serves 30 circular economy clients annually across government and private sectors.
2. Average project size is $700,000, based on McKinsey's pricing for ESG and transformation engagements.
3. Assumes steady demand from ULBs, FMCG, packaging, and public sector missions.
4. Reflects India's growing circular economy policy focus and ESG investment climate by 2030.

TIMELINE

A step-by-step transformation journey towards circular sustainability in Indian pharma, inspired by McKinsey's frameworks

Phase 1: Strategic Commitment
→ Define ESG goals (SBTi-aligned)
→ Audit emissions (Scope 1–3)

Phase 2: Process Optimization
→ Use green chemistry, reduce solvents
→ Improve energy efficiency

Phase 3: Circular Supply Chain
→ Reuse & recycle packaging
→ Partner with low-impact vendors

Phase 4: Stakeholder Engagement
→ Collaborate with regulators, clients
→ Publish ESG impact reports

Phase 5: Innovation & R&D
→ Develop sustainable products
→ Integrate emerging green tech

India v/s Global Comparison

The global pharmaceutical market currently stands at about $1.6 trillion, with the Indian market valued at approximately $55 billion.

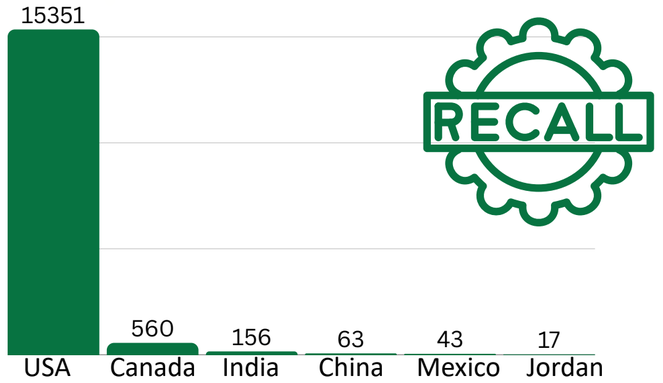
India is the largest supplier of generic medicines globally, supplying one in five generic drugs sold

Every country has its own regulatory authority, which is responsible to enforce and issue the rules and regulations. USFDA(USA), MHRA(UK), TGA(Australia), CDSCO(India), HEALTH CANADA(CANADA), EMA (European Union), SFDA (China), MHLW(Japan), are the few regulatory agencies and organizations established in respective countries.

Comparison of the ESG scores of top Indian and Global Pharmaceutical Industries

	Company	Environment	Social	Governance	Total Score
GLOBAL	Eli Lily and Company	25%	24.1%	6.7%	18.4%
	Johnson and Johnson	45%	25.6%	31.3%	30.2%
	Novo Nordisk	12.5%	8%	35.4%	17.8%
INDIA	Sun Pharmaceuticals	38.8%	1.6%	9.7%	9.4%
	Cipla	40%	12.2%	15.6%	17.1%
	Dr Reddy's Laboratories	28.8%	13.8%	18.8%	17.5%

Number of Drug Recalls Reported in Different Countries



A drug recall occurs when medications are pulled from the market due to safety concerns, defects, or regulatory violations. India ranks third globally in drug recalls with 156 instances,which highlights quality control challenges.

Dr. Reddy's Laboratories, **Sun Pharmamceuticals** and **Lupin Pharmaceuticals** are among the top 25 most recalled Pharmaceutical Firms

Sustainability milestones (a comparison)

GLOBAL	INDIA
Mylan Pharmaceuticals (Netherlands) implemented Zero Liquid Discharge in **2009** and is recognised to have best-in-class ZLD units.	**Dr. Reddy's Laboratories** implement ZLD in **2002**. However, the company faced lapses in execution contributing to environmental contamination.
Novo Nordisk (Denmark) sourced **100% of power** for production sites from renewable sources in 2021	**Sun Pharmaceuticals** reported **38%** of energy sourced from renewable sources in FY2021
Johnson and Johnson(USA) has reduced **45%** of green house gas emissions since 2010	**Dr. Reddy's laboratories** achieved **13%** reduction in Green house gas emissions

India v/s Global Comparison

Environmental Factors



India's heavy **reliance on China for 70%** of its Active Pharmaceutical Ingredients (APIs) poses many risks. Any disruption in China's supply can severely impact India's pharmaceutical production. Global companies have adopted a **"China+1" strategy** to mitigate such risks.



The Indian Pharmaceutical Industry has been ranked amongst the **17 highly polluting industries** of India. On the other hand, Global Pharma companies follow strict environmental regulations and charge heavy penalities.

An article of 2009 reported that an Indian river, in Patancheru, India was found to be contaminated by drugs 150 times more than the US rivers. The situation hasn't improved due to poor enforcement.

150x



Social Factors



India is a leader in generic drug manufacturing and has observed limited investment in biopharmaceutical innovation.

Investment in R&D





India regulates drug prices through the **Drug Price Control Order** (DPCO), covering over 500 essential medicines



Global markets, particularly the US and Europe, face significant pricing pressures due to generic competition

Prices in the U.S. were on average **2.78x** the prices in 33 other developed nations in 2022

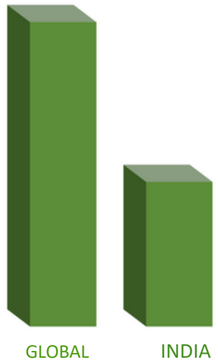
Governance Factors

DUPONT

A Global pharma company, Dupont, achieved a 55% reduction in CO2 emissions, far surpassing its targets.

Whereas Indian companies remain conservative in their approach to ESG initiatives and largely do so only when required to comply with the law

ESG disclosure score



The average for the manufacturing market globally is between 70% and 80%. While only 38% of Indian pharma companies publish ESG reports and others integrate sustainability in annual reports.