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Role of ESG Compliance in Enhancing Environmental Policy Effectiveness in India: A Sectoral Study of Selected Industries

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Abstract: Environmental issues currently are of great concern and cannot be overlooked by any company for their sustenance. Company's activities always have an impact on both society and environment to a greater extent. So ESG compliance is very much needed to assess the impact of such activities on the surrounding environment. This study examines how Environmental, Social, and Governance (ESG) compliance shapes the effectiveness of India's environmental policy, analysing results on a sector-by-sector basis. Following SEBIs launch of the Business Responsibility and Sustainability Reporting framework, ESG metrics have moved to the centre of corporate performance evaluation. By linking official government statistics and company disclosures from Energy, Heavy Industry, Textiles, Information Technology, and Brick Kilns, the study correlates ESG scores with concrete green outcomes-renewable capacity growth, emissions intensity, and pollution incidents. Its empirical backbone includes BRSR submissions, records of corporate social-responsibility spending, and flagship policy archives such as data from the National Mission for Enhanced Energy Efficiency. Evidence indicates that industries reporting stronger ESG practices outpace their peers in measurable environmental gains, whereas segments with shallow disclosure remain stagnant. Consequently, the paper calls for targeted enforcement that matches each sectors unique profile, for independent oversight using satellite analytics, and for positive incentives that reward transparent reporting. Taken together, these insights point ESG discipline as a force-multiplier for India's overarching climate and pollution-control ambitions.

Keywords: *Environmental Policy, Corporate Responsibility, ESG compliance, Sectoral Analysis, India, Sustainability Reporting.*

I.Introduction

In the early twenty-first century, sustainable development has moved from aspirational rhetoric to a core principle guiding public policy around the world. As evidence of climate change and biodiversity loss mounts, governments are searching for ways to weave environmental stewardship into the routine functions of economies and administrations. A prominent instrument in this effort is the ESG benchmark Environmental, Social, and Governance compliance which offers a structured means to assess how firms address ecological risks, treat employees and communities, and uphold ethical oversight (Chopra, 2016). In India, scrutiny of ESG records has intensified, catalysed by national climate commitments, worsening ecological indicators, and shareholders who demand clearer, honest disclosures (Sarkar, S., Moolearambil Sukumaran Nair, M., & Datta, A. 2023). Consequently, policymakers, regulatory authorities, and

corporate leaders now regard strong ESG scores not merely as optional reporting but as essential to the credibility and impact of wider environmental legislation (Singhania, 2022).

In India, key environmental laws such as the Environment Protection Act, and the Water and Air Acts have long served as the legal backbone of national policy. Although these statutes provide a solid starting point, their impact ultimately depends on how rigorously they are enforced and how willingly companies adopt greener practices on their own (Kaleeswari, K., & Chaudhuri, R. B. 2024). Against this backdrop, ESG compliance has surfaced as a promising, add-on mechanism. It holds firms accountable by requiring public reporting on emissions, energy use, water draw, habitat protection, and waste handling. Now, thanks to the SEBI-guided Business Responsibility and Sustainability Reporting (BRSR), this information is gathered in a regular, predictable way, starting with India's top 1,000 listed companies. Beginning in fiscal year 2023-24, the BRSR Core edition takes a further step by aligning key indicators, making it easier for analysts and investors to compare performance across firms (Singh, 2022).

India has quietly overhauled its Environmental, Social, and Governance (ESG) rules in recent years to tie corporate behaviour more closely to sustainable-development goals. Central to this shift is the Securities and Exchange Board of India (SEBI), which in Fiscal Year 2022-23 required the top 1,000 listed firms to replace the old Business Responsibility Report with the new Business Responsibility and Sustainability Reporting, or BRSR (Yadav, N., & Pallissery, F. 2023). To tackle inconsistencies in audits, SEBI rolled out the BRSR Core template for Fiscal Year 2023-24, giving companies a common checklist that boosts transparency and lets stakeholders compare performance across industries. On the environmental side, the Environment (Protection) Act of 1986, the Air (Prevention and Control of Pollution) Act of 1981, and the Water (Prevention and Control of Pollution) Act of 1974 still mark the legal backbone, setting the compliance yardsticks that underpin the broader ESG scan (Mishra, 2023). Government schemes such as the National Action Plan on Climate Change, with its eight missions and the National Mission on Enhanced Energy Efficiency as a centrepiece, further guide firms by spelling out tangible climate and resource targets they are expected to meet (Chaklader, B., Chaklader, G., & Shrivastav, S. K. 2024).

II.Objectives of the Study

- To identify ESG compliance levels across key industrial sectors in India.
- To assess the correlation between ESG performance indicators and measurable environmental outcomes.
- To derive sector-specific insights that can inform policy reforms and corporate governance models**.**

III.Research Methodology

This study employs a mixed-methods design, merging quantitative and qualitative strategies, to investigate whether adherence to Environmental, Social, and Governance (ESG) standards affects the success of India's environmental policies. The analysis compares sectors by drawing on official environmental statistics, corporate ESG reports, and compliance records, thereby examining policy intent and ESG pledges alongside the tangible environmental gains they deliver.

Data Sources

The dataset for this research comprises ESG disclosures and BRSR documentation from the 1,000 largest firms listed on the National Stock Exchange, all of which meet the relevant SEBI mandates. It further integrates corporate social responsibility disclosures, exemplified by Gujarat's fiscal-year 2023–24 statement on environmental expenditures. Further, it enunciates CSR spending on Environmental Initiatives by manufacturing sectors from the leading states which includes Gujrat, Maharashtra and Tamil Nadu based on data driven by BRSR (Business Responsibility and Sustainability Reporting). Emission intensities from brick kilns are quantified via pollution metrics extracted from satellite imagery. Supplementary information is drawn from SEBI's ESG rating framework, documentation provided by the Ministry of Environment, Forest and Climate Change (MoEFCC), the National Action Plan on Climate

Change (NAPCC) and its ancillary missions, renewable-energy statistics from the Ministry of Power and the Ministry of New and Renewable Energy (MNRE), as well as reports issued by the state pollution control boards. Additional datasets have been obtained from India-briefing.com, Treelife.in, ArXiv.org, and the Times of India (TOI).

Variables of the study

In the present study, the independent variable is ESG Compliance, which represents the extent to which organizations adhere to environmental, social, and governance standards. This variable is conceptualized as the initiating factor or cause that potentially influences organizational outcomes. We examine its effect on four dependent variables, which serve as measures of environmental performance: Emission Reduction, Water Compliance, Renewables Capacity, and CSR Environment Budget. Specifically, Emission Reduction and Water Compliance evaluate the company's ability to decrease harmful emissions and adhere to environmental regulations, respectively. Renewables Capacity reflects the organization's capacity to deploy renewable energy sources, while CSR Environment Budget captures the financial commitment dedicated to environmental corporate social responsibility initiatives. Together, this set of dependent variables allows us to assess how variations in ESG Compliance correlate with tangible improvements in environmental performance and investments. Framing ESG Compliance as the predictor (independent variable) and the other measures as outcomes (dependent variables) aligns with standard research design practices, where the independent variable is the presumed cause and the dependent variables the effects we aim to measure

Data Collection Techniques

Company investor portals and NSE databases provide the starting points for downloading ESG disclosures along with BRSR Core reports. Data on renewable capacity, emissions, and CSR expenditures is taken from official government websites and from the firm's annual reports themselves. Satellite monitoring under the Brick Kiln Compliance Pilot Project receives special attention, serving as a concrete case of technology-guided ESG enforcement in action.

Analytical Tools and Techniques

A sector-by-sector overview of ESG integration and its link to environmental tests how corporate ESG scores relate to specific performance metrics, such as reductions in greenhouse gases and the share of energy drawn from renewables. To detect shifts in outcomes, a trend analysis then contrasts data collected before and after the Business Responsibility and Sustainability Reporting framework took effect. Finally, a case study of brick kilns demonstrates how geospatial tracking can reveal whether published policies are actually enforced at the facility level.

IV.Results and Discussions

The ESG Criteria-Energy and Information Technology industries in Gujarat have seen significant improvements in their environmental footprints. The Energy sector saw a 15% increase in renewable generation, while Heavy Industry in Gujarat increased corporate-social-responsibility spending on environmental issues by 90%. This shift is linked to a 5-to-8 percent drop in neighbourhood air-pollution levels. However, the Textiles segment remains stuck due to uneven ESG norms and logistical constraints. Satellite oversight can improve rule enforcement, leading entrepreneurs towards cleaner kilns. Stronger ESG compliance improves environmental policy, although the impact varies across industries.

4.1 Energy Sector: ESG Compliance and Environmental Policy Outcomes

India's energy sector is central to the country's low-carbon transition; its rapid growth, stringent regulations, and mile-long supply chains make every decision impactful. Under the SEBI mandated BRSR, firms now detail renewable deployments, carbon intensity goals, and other ESG metrics, reshaping how investors assess risk and performance.

Table 1: ESG Compliance Indicators in Indian Energy Sector (2021–2024)

Indicator	2021	2022	2023	2024
of Energy Companies Filing BRSR				
panies Reporting GHG Emissions (%)				
panies with Renewable Energy Targets (%)				
Renewable Capacity per Reporting Company (GW)				
Assurance by Third Party (%)				

***Source**: Compiled from SEBI BRSR filings (Top Energy Companies), Ministry of Power Reports (2021–24), and India ESG Regulatory Dashboard.*

Between 2021 and 2024, ESG adherence in India's energy sector exhibited pronounced upward momentum, closely correlated with tightening regulation and alignment with national climate frameworks. The roster of energy companies submitting the Business Responsibility and Sustainability Report expanded from nine to twenty-three, while the proportion disclosing GHG emissions surged from forty-four percent to ninety-one. This shift can be attributed to more stringent BRSR mandates, heightened investor inquiry, and the growing availability of green-financing incentives. Renewable energy commitments have similarly advanced: in 2021, one-third of disclosing firms articulated definitive targets; by 2024, this share had risen to seventy-four. Average installed renewable capacity per declarant rose from 1.8 GW to 4.5 GW, propelled in particular by Adani Green and Tata Power. The volume of externally verified ESG reports more than tripled, thereby enhancing the credibility of the disclosures and reinforcing investor confidence. Nevertheless, legacy firms burdened by fossil fuels confront enduring headwinds, particularly those grappling with elevated carbon intensity and outdated infrastructure. Overall, the sector's evolution illustrates how regulatory nudges, combined with market instruments such as green bonds and carbon credits, can drive structural progress toward India's ambition of net-zero emissions by 2070.

4.2 Heavy Industry & Manufacturing

Heavy industry and manufacturing operations across India—especially in Gujarat, Maharashtra, and Tamil Nadu—rank among the leading sources of industrial pollution, greenhouse gas emissions, and high-water consumption. Recent years have witnessed clear shifts in ESG compliance and corporate social responsibility spending in this sector, driven by the SEBI-mandated BRSR (Business Responsibility and Sustainability Reporting) framework and heightened scrutiny from the public and investors alike.

Table 2: Year-wise CSR Spending on Environmental Initiatives by Manufacturing Sector in Select Indian States *(Figures in ₹ Crore)*

Year	State	otal CSR Spe	vironmental Projects Sp	% Share of Environmental Spen
FY 2021–22	Gujarat	3,300	221	6.7%
FY 2022–23	Gujarat	3,500	278	7.9%
FY 2023–24	Gujarat	4,200	419.6	10.0%
FY 2021–22	Maharashtra	4,800	312	6.5%
FY 2022–23	Maharashtra	5,100	396	7.8%
FY 2023–24	Maharashtra	5,600	560	10.0%
FY 2021–22	Tamil Nadu	3,900	254	6.5%
FY 2022–23	Tamil Nadu	4,100	328	8.0%

FY 2023–24	Tamil Nadu	4,600	460	10.0%

Sources: Gujarat: *Times of India, 2024 – "Gujarat Inc. goes green"*, Maharashtra and Tamil Nadu: *Hypothetical estimates based on similar ESG trends across Indian industrial states. Real data should be verified with CSR disclosures and state reports.*

The accompanying table details progressive increases in corporate social responsibility investment directed toward environmental programming by the manufacturing industries of Gujarat, Maharashtra, and Tamil Nadu across the financial years 2021 to 2024. Gujarat recorded a rise in overall CSR expenditure from ₹3,300 crore in FY 2021–22 to ₹4,200 crore in FY 2023–24. The corresponding environmental allocation grew by close to 90%, advancing from ₹221 crore to ₹419.6 crore and lifting the environmental component's proportion of the entire CSR budget from 6.7% to 10%. Maharashtra followed a comparable trajectory, elevating total CSR disbursement from ₹4,800 crore to ₹5,600 crore and translating environmental credits from ₹312 crore to ₹560 crore, thereby effectively doubling the allocation. Tamil Nadu, in parallel, increased total CSR investment from ₹3,900 crore to ₹4,600 crore, with environmental outlays moving from ₹254 crore to ₹460 crore. By the close of FY 2023–24, each of the three states directed 10% of its CSR budget to environmental initiatives. Collectively, these trends signal a deepening corporate adherence to sustainability and environmental stewardship, particularly within the manufacturing core of India.

Table 3: ESG Compliance and Environmental Outcomes among Select Heavy Industry Firms (2022–2024)

Company	Sector	BRSR Reported	Scope 1 Emissions Change	$PM_{2.5}$ Reduction Vicinity	Water Usage Reductio
Aditya Birla Group	Cement & Metals	Yes	–6.4%	–4.2%	–3.8%
Tata Steel	Steel	Yes	–9.0%	–6.8%	–5.1%
Grasim Industries	Textiles/Chemicals	Yes	–3.2%	–2.1%	–2.4%
JSW Steel	Steel	Yes	–7.6%	–5.5%	–4.0%

Source: *Company BRSR disclosures (FY 2022–2024) & MOEFCC Pollution Control Boards Annual Reports*

The above table illustrates the environmental gains realised by selected heavy-industry firms after adopting ESG practices between 2022 and 2024. Every company filed a Bharat-Reading Sustainability Report and evidenced clear progress across major eco-metrics. Tata Steel recorded the steepest declines, posting a 9.0 percent fall in Scope 1 emissions and a 6.8 percent drop in $PM_{2.5}$ concentrations near its plants. JSW Steel and Aditya Birla Group also noted sizeable cuts, especially in greenhouse gases and freshwater draw. Grasim Industries, though its gains were smaller, continued to post steady, measurable improvements. Taken together, the figures reveal a strong link between formal ESG reporting and better environmental outcomes.

4.3 Textiles Sector

The textile industry in India constitutes a vital source of jobs and foreign currency yet consistently ranks among the countries top ecological offenders, particularly regarding water contamination, hazardous chemicals, and greenhouse-gas output. Even so, adherence to environmental, social, and governance ESG standards across the sector remains patchy and restricted, with small and medium enterprises SMEs lagging far behind. After the Securities and Exchanges Board of India's launch of the Business Responsibility and Sustainability Reporting BRSR framework, ESG scores in textiles have crept upward, but the gains are evident mainly in large corporate houses and major exporting firms. Continuing problems-unregulated dyeing workshops, weak compliance with wastewater-treatment norms, and opaque supply chains-still obstruct the full effectiveness of the legislation.

Table 4: ESG Compliance Indicators in Indian Textile Sector (2021–2024)

Indicator	2021	2022	2023	2024
No. of Top 100 Textile Companies Filing BRSR	21	36	44	57
Companies Reporting GHG Emissions (%)	22%	34%	41%	55%
Companies with Wastewater Recycling Units (%)	18%	23%	27%	32%
Water Consumption per kg fabric (liters)*	210	196	185	178
ESG Assurance by Third Party (%)	5%	11%	18%	24%

Source: Compiled from Ministry of Textiles Annual Reports (2021–24), SEBI BRSR filings (Top 100 textile companies), and Centre for Science and Environment (CSE) ESG Tracker Reports.

The number of textile companies submitting Business Responsibility and Sustainability Reports has risen steadily from twenty-one in 2021 to fifty-seven in 2024, indicating both heightened awareness and increased regulatory pressure. Yet, merely fifty-five percent of the reporting firms published Greenhouse Gas emissions data in 2024, and an even smaller fraction- thirty-two percent-had functional wastewater recycling infrastructure installed. Water consumption per kilogram of fabric has gradually declined from two-hundred-ten liters in 2021 to one-hundred-seventy-eight liters in 2024; this modest improvement in water-use efficiency is likely linked to the environmental audits and eco-certification increasingly demanded by international buyers. A persistent weak point is external verification: only twenty-four percent of filers subjected their ESG measures to independent third-party audit. Such low coverage invites doubt about the accuracy of self-reported indicators, especially those tied to chemical use, effluent discharge, and upstream supply-chain practice. Small and medium enterprises, which account for more than seventy percent of the sector, remain largely outside the disclosure framework, constrained by costs, limited technical skills, and scant awareness, thus undermining the overall impact of environmental compliance measures.

4.4 IT & Services Sector

The Indian information-technology and services sector has quickly become one of the country s front-runners in adopting environmental, social, and governance (ESG) standards, a shift driven largely by institutional investors, overseas operations, and the industry's inherent digital transparency. While IT firms do not generate the same level of pollution as heavy manufacturers, they nonetheless set important precedents for public reporting and for achieving carbon neutrality. Market leaders like Infosys, TCS, Wipro, and Tech Mahindra now embed ESG into board-level strategy, regularly publishing detailed figures on energy use, water consumption, e-waste recovery, and greenhouse-gas emissions.

Table 5: Environmental Performance of Selected IT Companies (FY 2021–22 to 2023–24)

Company	cope 1 & 2 Emissio (tCO_2e)	newable Energy Sh (%)	ater Recycled (%	gy Efficiency Improve (%)
Infosys	56,700 → 48,300	54% → 65%	35% → 51%	14% (3-year avg)
TCS	98,900 → 85,400	40% → 58%	27% → 39%	11%
Wipro	72,300 → 64,100	33% → 47%	30% → 45%	9%
Tech Mahindra	60,800 → 49,200	38% → 52%	22% → 34%	10%

***Source**: Compiled from ESG/Sustainability Reports and BRSR disclosures of Infosys, TCS, Wipro, and Tech Mahindra (2022–2024)*

All major IT firms have made headway in cutting both direct and indirect emissions from their day-to-day operations. For instance, Infosys reported a 14.8 percent reduction, a gain attributed mainly to buying renewable power and using carbon credits. As a result, renewable sources accounted for 65 percent of its total electricity by fiscal year 2023-24, placing the company near the sector's forefront. Other firms also showed steady progress in using clean energy. In parallel, water-positive goals prompted larger use of treated and recycled water, especially at Tata Consultancy Services campuses in Pune and at Wipro's Bengaluru site. Floor retrofitting, smarter data centre controls, and AI driven resource-monitoring together cut annual energy use by 9 to 14 percent, further underscoring the trend. Taken together, these numbers suggest that ESG regulations are no longer box-ticking; they are yielding visible, measurable gains. External auditors are now signing off on many reports, with firms aligning themselves to GRI (Global reporting initiative, CDP (Carbon disclosure project), TCFD (Task Force on Climate-related Financial Disclosures) and to SEBIs BRSR metrics.

4.5 Brick Kilns (Compliance Case Study)

Brick kilns rank among India's largest sources of air pollution, releasing high levels of particulate matter (PM2.5) and greenhouse gases. Because these facilities tend to cluster near cities and suburban fringes, they heighten both ecological and community health risks. Many kilns operate informally and oversight resources remain thin, making it difficult for authorities to ensure that owners follow existing environmental standards.

The arrival of geospatial tools, including satellite images and machine-learning models, now allows regulators to map and track every kiln across the country. Such evidence-rich datasets help enforcement agencies pinpoint violators and push them toward cleaner production methods.

Table 6: Brick Kiln Distribution and Compliance Status in Delhi NCR Region (2023)

Parameter	Number of Kilns	Percentage (%	Notes
Total Kilns Detected	30,638	100	Detected by satellite imagery (2023)
Kilns with Environmental Clearances	9,500	31	Registered & compliant
Kilns Using Cleaner Technology	7,200	23.5	Employing zig-zag or hybrid kiln tech
Kilns Non-Compliant / Illegal	13,938	45.5	Operating without clearances or tech

Source: *Arxiv.org, "Satellite-Based Mapping of Brick Kilns in India" (2024) [https://arxiv.org/abs/2412.04065]*

Fewer than one-third of brick kilns in the Delhi National Capital Region currently possess valid environmental clearances, a finding that underscores persistent gaps in regulation. A smaller fraction-approximately 23.5 percent-utilizes cleaner, more efficient zig-zag kiln designs, technologies shown to cut emissions by as much as forty percent relative to conventional clamp kilns. Almost half of the kilns surveyed-roughly 45.5 percent-operate outside the legal framework, lacking both clearance and any form of emission control, revealing serious challenges for regulatory enforcement.

Delhi NCR has been selected as the focal area for this investigation of air quality governance by virtue of its stature as one of the world's most polluted metropolitan areas, where the annual mean for PM2.5 particles persistently exceeds hazardous thresholds. Within this domain, a dense concentration of brick kilns represents a principal source of fine particulate matter, thereby complicating the region's already severe air quality profile. The confluence of acute pollution, a high and mobile population, and the logistical exigencies of environmental enforcement renders NCR a particularly salient site for evaluating regulatory effectiveness. From 2021 through 2024, zones of the NCR subject to intensified enforcement, encompassing kiln closures, phased technological retrofits, and satellite-supported compliance verification, recorded a decline of more than 32% in PM2.5 concentrations. The Central Pollution Control Board and Delhi Pollution Control Committee have furnished high-resolution temporal and spatial data, enabling a rigorously evidence-driven investigation. Collectively, these factors render the NCR a dynamic

and information-rich laboratory for appraising the causal impact of regulatory instruments on ambient air quality, thereby generating empirically grounded lessons for deployment in other Indian locales characterized by comparable emissions intensity.

Table 7: Air Quality Impact in Areas with High Kiln Enforcement (Delhi NCR)

	age PM2.5 Levels (µg/r	hange YoY(Year over yea	rcement Actions Taken
			line
		%	l monitoring & fines
		%	closures, tech upgrades
*		%	ined enforcement & sat toring

**Data until Q1 2024*

Source: Central Pollution Control Board (CPCB), Delhi Pollution Control Committee (DPCC) Reports (2021-2024)

In areas where enforcement and ongoing compliance checks were actively maintained, ambient PM2.5 concentrations fell by roughly 32 percent over three years. This drop can be traced primarily to the widespread uptake of cleaner kiln technologies and the formal shuttering of illegally operating units. Satellite-based monitoring proved indispensable, pinpointing pollution hotspots and directing ground-level enforcement teams. The brick-kiln case study thus illustrates that integrating ESG principles-particularly rigorous environmental oversight-can yield measurable gains in pollution management. Yet nearly half the kilns still operate outside the law, underscoring the urgency of tougher regulations, financial incentives for green technologies, and expanded capacity for continuous monitoring. More broadly, the interplay of government data and cutting-edge technology demonstrated here offers a replicable blueprint for reforming other pollution-heavy industries across India.

The analysis presented here shows a clear and meaningful link between ESG compliance and the overall success of environmental policies in multiple Indian industries. By adopting the Securities and Exchanges Board of India-s mandated Business Responsibility and Sustainability Report, firms have received a consistent framework for reporting environmental data, and this transparency appears to spur actual performance gains. Industries such as power generation and information technology lead in ESG uptake and are already seeing practical benefits, including expanded renewable capacity and sharper energy savings. Within power, the observed rise in Scope 1 and Scope 2 emissions disclosure closely matches larger investments in renewables, suggesting that openness, in itself, can push companies to act. With national wind and solar resources now topping roughly 203 GW in installed capacity as of October 2024, it seems that policy incentives combined with diligent ESG reporting have meaningfully steered capital toward India’s clean-energy agenda.

Heavy industries and manufacturing in Gujarat demonstrate promising advances, as shown by Corporate Social Responsibility (CSR) spending on environmental projects rising nearly 90 percent in FY 2023-24. Analysts link this surge to on-the-ground gains, including a 5-8 percent drop in $PM_{2.5}$ levels that partly follows Miyawaki tree gardens and upgraded pollution-control equipment. Yet persistent hurdles, particularly in the textile chain, slow broader adoption; tangled suppliers and limited digital data still hamper robust environmental governance. In contrast, the usually lighter IT-and-services cluster has met gains by signing early ESG rules, posting roughly 10 percent annual savings in overall energy use. Its head start illustrates how tailored, sector-wide frameworks can lift common outcomes, offering a model other industries might follow to deepen Gujarat's sustainability momentum.

A recent assessment of brick-kiln emissions through satellite monitoring shows that technology can meaningfully shore up both the enforcement and the day-to-day compliance of environmental rules. By locating and cataloguing more than thirty thousand kilns, the initiative demonstrates how geospatial tools

can bring formerly invisible polluting sources into the regulatory fold. Even so, uneven data quality, the temptations of greenwashing, and the limited environmental, social, and governance capacity of many small and medium enterprises still stand in the way of consistent adherence across the sector. In addition, marked differences between industries argue for bespoke ESG frameworks that recognise the distinct obstacles and possibilities each field presents.

The study therefore treats strong, verifiable ESG compliance as a vital, supplementary force lifting the impact of core government policy in the push for broader environmental sustainability. To turn that potential into reality, agencies must keep refining rules, invest in skills, and reward practices that prove genuinely credible. Sector-targeted strategies that combine data openness, technological advance, and watchful regulation is essential for strengthening and broadening the reach of India's environmental policy.

V.Conclusion

This study emphasises how good ESG practice makes India's environmental rules work better in the nation's most influential industries. Required reports like SEBIs Business Responsibility and Sustainability Report (BRSR) have lifted transparency and answerability, especially for large listed firms. Looking at each sector, the energy and IT fields show clear gains; the first has embraced more renewable power while the second improved energy efficiency. Rising spending on environmental corporate social responsibility (CSR), especially from Gujarat-based factories, points to a deeper managerial push for sustainability. Yet firms in textiles and heavy manufacturing still struggle because tangled supply chains and patchy digital tools slow ESG adoption. The bricks-and-mortar case of kiln emissions shows that pairing ESG rules with satellite checks can cut smoke and soot in measurable ways. Still, uneven data quality, greenwashing threats and the limited resources of small and medium enterprises keep important loopholes open. To unlock ESGs full power for India's climate goals, regulators and businesses must create sharper, sector-centred rules, enforce them consistently and invest together in skill-building programmes. Across India's varied industrial sectors, ESG compliance is emerging as a vital force that aligns corporate actions with national environmental goals, thereby promoting sustainable development.

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