

ORIGINAL RESEARCH ARTICLE

Developing a subsector-specific ESG materiality framework with standards alignment: Evidence from India's natural gas sector

Supplementary Files

Table S1. Summary of critical ESG dimensions in the literature relevant to the Indian natural gas sector

Reference	Primary ESG dimension	Specific variables/indicators analyzed	Relevance to the natural gas sector
Baratta <i>et al.</i> ¹	Environmental	Carbon intensity; decarbonization pathways	Supports the priority of GHG emissions found in upstream operations
Gupta ²	Environmental	Scope 1, 2, and 3 GHG emissions; NCGG guidelines	Validates the need for standardized emission reporting frameworks
Mohanty <i>et al.</i> ³	Environmental	Quality of Environmental Impact Assessment processes	Confirms that while reporting volume is high, "impact" data remains low quality
Fogarty <i>et al.</i> ⁴	Environmental	Marine ecosystem potential impacts biodiversity considerations	Benchmark the level of rigor required for meaningful biodiversity (SDG 14) reporting
Sarkar <i>et al.</i> ⁵	Social/cross-cutting	Alignment with United Nations SDGs, particularly SDG 5 and 14	Highlights the critical "Social" gap regarding gender equality and the "Environmental" gap in marine life
Arora and Sethi ⁶	Governance	CEO characteristics and corporate disclosure transparency	Demonstrates that "Governance" is driven by internal leadership traits, affecting transparency
Kabra ⁷	Governance	Board strategy; BRSR compliance	Argues for shifting "Governance" from compliance (checkboxes) to strategy (resilience)
Desikan and Devi ⁸	General	Energy security vs. sustainability	Sets the macro-economic context for why "Social" (access to energy) is a material topic
Motwani and Gupta ⁹	General	Voluntary vs. mandatory disclosure	Illustrates the regulatory transition period the industry is currently navigating
Bania and Biswas ¹⁰	General	Metric standardization; greenwashing risks	Justifies the creation of a materiality matrix to prevent greenwashing through vague metrics

Abbreviations: BRSR: Business Responsibility and Sustainability Reporting; CEO: Chief executive officer; GHG: Greenhouse gas; NCGG: National Centre for Good Governance; SDG: Sustainable Developmental Goal.

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