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IMPLEMENTATION AND EVALUATION OF ESG RISK RATINGS: A CASE STUDY OF PT PERTAMINA HULU ENERGI (PHE)

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Abstract

Environmental, Social, and Governance (ESG) performance has become essential for oil and gas companies due to the impact of their operations on the environment, communities, employee safety, and governance. As the upstream subholding of PT Pertamina (Persero), PT Pertamina Hulu Energi (PHE) is expected to implement sustainable practices, making the identification of current ESG risk management and areas for improvement important for the company's competitiveness. This study assesses the implementation of ESG risk management at PHE using the MSCI ESG Ratings methodology, addressing how ESG risk is managed under the MSCI Key Issue Framework and which aspects require improvement. Agency Theory and Stakeholder Theory underpin the research. A qualitative case study method was applied, drawing on sustainability and annual reports, company disclosures, MSCI ESG Assessment documents, and surveys and semi-structured interviews with representatives from Compliance, Human Capital, Environment, Safety, and Supply Chain Management divisions. PHE's performance was assessed across seven MSCI Key Issues, followed by a gap analysis. Results show PHE achieved an MSCI ESG Rating of BBB with an Industry Adjusted Score of 5.4 in 2025, an improvement from the previous year, with strong performance in Community Relations, Biodiversity & Land Use, and Toxic Emissions & Waste. Priority areas for improvement include absolute carbon emission reduction targets, measurable health and safety targets, and greater governance transparency.

Keywords: climate resilience, corporate accountability, energy transition, risk governance, stakeholder engagement.

INTRODUCTION

Environmental sustainability has become a central concern in global business, with climate change, resource scarcity, and biodiversity loss drawing growing public attention. Carbon dioxide emissions from fossil fuel combustion remain a major driver of global warming, and oil, gas, and coal continue to dominate the world's energy mix. As a result, companies are increasingly expected to manage not only their financial performance but also their environmental and social impact, prompting many international oil and gas companies to adopt Environmental, Social, and Governance (ESG) frameworks as part of their sustainability strategy and energy transition planning (International Energy Agency [IEA], 2022).

The adoption of the Paris Agreement in 2015 and the United Nations Sustainable Development Goals further reinforced the role of enterprises, particularly in the oil and gas sector, in controlling carbon emissions, limiting methane leakage, and minimizing the social and economic effects of their operations (United Nations, 2015). At the same time, ESG performance has become a growing factor in financing decisions, as financial institutions increasingly impose stricter borrowing terms on companies with weak ESG profiles (World Bank, 2021). For PT Pertamina Hulu Energi (PHE), the upstream subholding of PT Pertamina (Persero) responsible for supporting Indonesia's energy needs, implementing a robust ESG risk rating assessment has therefore become an important step to remain competitive, meet stakeholder expectations, and contribute to national and global sustainability goals.

PHE has adopted the MSCI ESG Ratings methodology to benchmark its sustainability performance against industry peers, given that the company is not listed and relies less on public market disclosure compared to listed-company-oriented rating providers such as Sustainalytics. According to internal MSCI assessment results, PHE maintained a BBB rating in 2024 and 2025 while increasing its Industry Adjusted Score from 5.1 to 5.4, with improvements recorded in Biodiversity & Land Use, Health & Safety, Toxic Emissions & Waste, and Corporate

Governance, even as Carbon Emissions performance declined slightly. These results indicate that, while PHE has built a reasonably strong ESG management foundation, several gaps remain in measurable target-setting, governance transparency, and the ambition of its carbon emission reduction programs. Accordingly, the business issue addressed in this research is not whether ESG initiatives exist within PHE, but how effectively they are implemented and aligned with the MSCI ESG Key Issue Framework, and the extent to which they produce measurable, continuously improving results. This study therefore aims to: (1) assess how ESG risk is managed and implemented at PHE based on the MSCI ESG Key Issue Framework, and (2) identify which ESG aspects should be prioritized to strengthen PHE's ESG performance going forward.

LITERATURE REVIEW

ESG performance has historically been examined through the lens of Agency Theory, under which managerial spending on social and environmental programs is sometimes viewed as a deviation from the goal of maximizing shareholder wealth (Friedman, 1970; Benabou & Tirole, 2010). However, more recent scholarship frames ESG disclosure as a mechanism that reduces information asymmetry between managers and investors, supporting rather than undermining long-term firm value (Eccles & Serafeim, 2013). Sustainability itself is commonly understood as meeting present needs without compromising the ability of future generations to meet their own needs (WCED, 1987), and is now widely operationalized through the Triple Bottom Line framework of people, planet, and profit (Elkington, 1997). For the energy sector specifically, this means balancing operational and economic objectives against environmental stewardship and social responsibility (Dyllick & Hockerts, 2002).

ESG risk ratings provide a systematic way to assess the extent to which an organization is exposed to sustainability-related risks and how effectively those risks are managed (Sustainalytics, 2020). Among existing methodologies, MSCI ESG Ratings and Sustainalytics' ESG Risk Ratings are the most widely used. Sustainalytics applies a risk-based approach focused on companies' exposure to material ESG issues, primarily suited to publicly listed firms with extensive market disclosure (Sustainalytics, 2024). MSCI, in contrast, benchmarks a company's ESG performance against industry peers using both risk exposure and management effectiveness, and is applicable to listed and non-listed companies alike (MSCI, 2024). Because PHE is not a listed company, MSCI ESG Ratings were selected as the most relevant framework for this study, offering both peer benchmarking and a pathway toward strengthening investor trust ahead of potential future listing.

Stakeholder Theory, as articulated by Freeman (1984), holds that organizations are accountable not only to shareholders but to a broader set of stakeholders, including employees, regulators, local communities, and investors, and that sustainable value creation depends on balancing these diverse interests. This framework is particularly relevant for the upstream oil and gas sector, where operations carry material implications for biodiversity, worker safety, and community relations, and where stakeholder expectations increasingly shape corporate ESG strategy (Eccles & Serafeim, 2013). Within the MSCI ESG framework, PHE's material issues span three pillars: the Environmental pillar covers Carbon Emissions, Biodiversity & Land Use, and Toxic Emissions & Waste; the Social pillar covers Community Relations and Health & Safety; and the Governance pillar covers Corporate Governance and Corporate Behavior (MSCI, 2023). Together, Agency Theory and Stakeholder Theory provide the conceptual foundation for examining how ESG disclosure and stakeholder engagement shape PHE's ESG risk management practices.

METHOD

This study employs a qualitative case study approach to assess ESG risk management at PT Pertamina Hulu Energi (PHE), using the MSCI ESG Ratings methodology as the primary analytical framework. The MSCI methodology evaluates company performance across Environmental, Social, and Governance pillars by combining a risk Exposure Score and a Management Score for each material Key Issue, which are then weighted and benchmarked against industry minimum and maximum scores to produce an Industry Adjusted Score. Primary data were collected through document analysis of PHE's sustainability reports, annual reports, public disclosures, and internal MSCI ESG Assessment documents, supplemented by surveys and semi-structured interviews with representatives from the Compliance, Human Capital (HC), Environment, Safety, and Supply Chain Management (SCM) divisions. These divisions were purposively selected for their direct involvement in ESG policy, implementation, and risk management at PHE, and all five interview participants had more than 15 years of experience in the oil and gas industry, lending credibility to the findings. The analysis proceeded in three stages: (1) determining PHE's exposure to material ESG risks based on its business model and operating context; (2) assessing the effectiveness of PHE's management response, including policies, programs, and measurable targets, for each Key

Issue; and (3) conducting a gap analysis comparing PHE's current ESG practices against MSCI criteria and industry best practice to identify priority areas for improvement. A stakeholder analysis using an influence-interest matrix was also conducted to contextualize PHE's ESG priorities relative to the expectations of its key stakeholder groups, including PT Pertamina (Persero), government regulators, investors, local communities, and employees. Table 1 presents the seven MSCI ESG Key Issues applicable to PHE as a company in the Oil & Gas Exploration & Production sub-industry, together with their respective weightings.

Table 1. MSCI ESG Key Issues and Weighting Percentages for PHE

ESG Pillar	Key Issue	Weight
Environment	Carbon Emissions	19%
Environment	Biodiversity & Land Use	12%
Environment	Toxic Emissions & Waste	12%
Social	Community Relations	12%
Social	Health & Safety	12%
Governance	Corporate Governance & Corporate Behavior	33%

MSCI rates companies on both their exposure to ESG risk and the effectiveness of their risk management, producing an Environment and Social Key Issue Score on a 0–10 scale and a Governance Score derived by subtracting deductions from a base of 10. These pillar scores are combined into a Weighted Average Key Issue Score and benchmarked against industry minimum and maximum scores to produce the final Industry Adjusted Score, with companies categorized as Laggard (CCC–B), Average (BB–A), or Leader (AA–AAA).

RESULTS AND DISCUSSION

PT Pertamina Hulu Energi (PHE) achieved an official MSCI ESG Rating of BBB with an Industry Adjusted Score of 5.4 in 2025, an improvement from 5.1 in 2024. All three ESG pillars recorded modest year-on-year gains, although the Carbon Emissions Key Issue declined. The improvement was driven partly by a narrower industry score range, which produced a more favorable normalized score. The following subsections summarize PHE's performance across the seven MSCI Key Issues.

Carbon Emissions

PHE measures Scope 1, 2, and 3 greenhouse gas emissions using the GHG Protocol and has set a 32% emission reduction target by 2030 against a Business-as-Usual (BaU) baseline, alongside a net-zero target by 2060 for Scope 1 and 2. Mitigation programs include gas turbine optimization, biodiesel and solar panel use, and pilot-scale carbon capture. However, emission intensity increased during the analyzed period, and the BaU-based target is considered less ambitious than an absolute, fixed-baseline reduction target, contributing to a decline in the Performance score for this Key Issue.

Biodiversity & Land Use

PHE has committed to achieving Net Positive Impact (NPI) by 2030, rehabilitating over 4,500 hectares of watershed and planting more than 2.6 million trees, with 100% of operations covered by environmental impact assessments. The company's risk management score for this issue improved and now exceeds the industry average, though restoration efforts have not yet been implemented concurrently across all operational sites.

Toxic Emissions & Waste

PHE achieved 100% ISO 14001:2015 certification across its operational areas in 2024 and has set a target to reduce SO_2 emissions by 2030, supported by air emission, effluent, and waste reduction programs. While risk management performance is well above the industry average, the company has not yet established a track record of completed targets with defined baseline and achievement years, which limits its score on this dimension.

Community Relations

PHE performs strongly in community relations, with 99.94% of contract value sourced from local suppliers, 35.6% of new hires drawn from local communities, and over 780 community investment and development programs

implemented in 2024. Despite this strong performance, MSCI noted the absence of documented evidence demonstrating the effectiveness of PHE's human rights monitoring, which prevents the company from achieving a top score on this sub-metric.

Health & Safety

PHE has certified 60% of its operational sites to ISO 45001:2018 and achieved a Total Recordable Incident Rate (TRIR) of 0.09 in 2024, below its internal target of 0.19. Health and safety strategy is overseen by the CEO through a Sustainability Committee. However, the company's zero-fatality target is viewed by MSCI as less rigorous than a quantitative, time-bound reduction target, and a fatality recorded in 2024 contributed to a decline in the Performance score.

Corporate Governance

PHE operates a two-tier board structure with dedicated committees for audit, risk, and governance matters, and now includes a female director and an audit committee member with industry expertise. Nonetheless, the company faces governance score deductions related to non-disclosure of individual executive remuneration and structural factors tied to its majority state ownership.

Corporate Behavior

PHE maintains a formal Code of Conduct, an ISO 37001:2016-certified Anti-Bribery Management System, and a centrally managed Whistleblowing System, and is a signatory to the UN Global Compact. A deduction remains due to PHE's majority state ownership, Indonesia's country-level risk profile, and one recorded tender-process controversy in 2024.

Gap Analysis and Proposed Improvements

The gap analysis comparing PHE's current ESG practices against MSCI expectations highlights several areas where strong underlying practices have not yet translated into top-tier scores, primarily due to a lack of measurable, time-bound targets and limited transparency. Table 2 summarizes the key gaps identified across the seven MSCI Key Issues.

Table 2. Gap Analysis of ESG Practices at PHE

Key Issue	Strong Practice	Identified Gap
Carbon Emissions	Full GHG measurement; CCUS pilot; biodiesel and solar use	BaU-based target; rising emission intensity
Biodiversity & Land Use	NPI target 2030; 4,500+ ha rehabilitated	Restoration not yet concurrent across all sites
Toxic Emissions & Waste	100% ISO 14001; SO_2 reduction target set	No track record of completed targets
Community Relations	99.94% local procurement; 781+ CID programs	Limited evidence of human rights monitoring
Health & Safety	TRIR 0.09, below target; CEO-led oversight	Zero-target less rigorous; one fatality in 2024
Corporate Governance	Female director; independent audit expertise	Executive pay undisclosed; state-ownership deductions
Corporate Behavior	ISO 37001; UNGC signatory; whistleblower system	State ownership risk; one tender controversy

Based on this analysis, five priority actions are recommended: (1) replacing the BaU-based carbon emission target with an absolute reduction target using a fixed baseline year; (2) establishing quantitative, time-bound Health and Safety targets, such as a defined percentage reduction in TRIR by a set year; (3) setting additional, time-bound targets for NOx, particulate matter, and hazardous waste reduction; (4) disclosing the structure of executive remuneration and linking variable pay to ESG performance metrics; and (5) expanding ISO 45001 certification

coverage beyond the current 60% of operational sites. These quick wins can be complemented by medium-to-long-term initiatives such as adopting the OGMP 2.0 methane reporting framework and formalizing a board-level Health and Safety committee.

CONCLUSION

PT Pertamina Hulu Energi (PHE) has developed an ESG risk management framework that is broadly consistent with the MSCI ESG Key Issue Framework, encompassing environmental programs in emissions measurement and biodiversity protection, strong social performance in community relations and occupational health and safety, and governance mechanisms built around its Code of Conduct, Anti-Bribery Management System, and board oversight structures. These efforts have enabled PHE to raise its MSCI Industry Adjusted Score from 5.1 in 2024 to 5.4 in 2025 while maintaining its BBB rating.

Nonetheless, several aspects require strategic attention to further strengthen PHE's ESG performance. Carbon Emissions targets should shift from a Business-as-Usual baseline to an absolute reduction target with a fixed baseline year. Health and Safety performance would benefit from quantitative, time-bound targets and an expanded ISO 45001 certification footprint. Toxic Emissions and Waste management should be supported by intermediate, measurable milestones, while Corporate Governance transparency, particularly around executive remuneration and ESG-linked incentives, should be strengthened. Taken together, these priority areas provide PHE with a clear roadmap for translating its existing ESG programs into measurable, continuously improving outcomes that are better aligned with MSCI's assessment criteria and the expectations of its key stakeholders.

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