

# Analyzing the Implementation of Green Industries Practice at PT. Semen Indonesia (Persero) Tbk. Tuban Plant towards Achieving Sustainable Development Goals

Fatih Oktavia Ningsih  
State Islamic University of Sunan Ampel Surabaya  
Surabaya, Indonesia

**Abstract:-** This research examines the implementation of green industry practices at PT Semen Indonesia (Persero) Tbk Tuban Plant and its contribution to the achievement of Sustainable Development Goals (SDGs). As a state-owned multinational corporation in the cement industry, PT Semen Indonesia (Persero) Tbk Tuban Plant plays a significant role in integrating environmental sustainability into its business operations. Through a qualitative exploratory approach, data was collected through in-depth interviews, observation, and documentation study. The analysis revealed that the company has implemented various green industry practices across its operations, including the adoption of Alternative Fuel and Raw Material (AFR), Waste Heat Recovery Power Generation (WHRPG) technology, and community development programs. These practices align with several SDGs, particularly SDGs 7, 9, 11, 12, 13, 14, and 15, focusing on clean energy, innovation, sustainable cities, responsible consumption and production, climate action, life below water, and life on land. The research highlights PT Semen Indonesia (Persero) Tbk Tuban Plant as a pioneering entity in environmental management and community empowerment within the cement industry, contributing significantly to sustainable development efforts.

**Keywords:-** Green Industry Practices, PT Semen Indonesia (Persero) Tbk Tuban Plant, Sustainable Development Goals (Sdgs), Alternative Fuel And Raw Material (AFR), Waste Heat Recovery Power Generation (WHRPG), Community Development, Environmental Sustainability.

## I. INTRODUCTION

The close relationship between green industry practices and the achievement of Sustainable Development Goals (SDGs) in a global context forms the backdrop of this study. In this era of globalization, industries wield significant influence over various aspects of social, economic, and environmental life. This research holds importance within the realm of International Relations as it delves into how a company, such as PT Semen Indonesia (Persero) Tbk, can serve as an agent of change in achieving global sustainable development goals. As part of the global community,

corporations bear the responsibility of contributing to SDGs. Hence, an analysis of green industry practices implementation at PT Semen Indonesia (Persero) Tbk, particularly at the Tuban Plant, offers valuable insights into how these practices can support the attainment of various SDGs targets, such as carbon emission reduction, sustainable water management, and the use of renewable energy. This study not only contributes to understanding how industries can play a role in achieving SDGs but also serves as a foundation for sustainable policies and practices at national and international levels. Thus, this research holds relevance within the context of International Relations as it transcends national boundaries and reflects interactions among non-state actors in achieving global sustainable development goals. Moreover, it aligns with the agenda of sustainable development and the accomplishment of SDGs, a series of goals set by the United Nations (UN) to achieve a better and more sustainable life for all on this planet. PT Semen Indonesia (Persero) Tbk Tuban Plant exemplifies how a company can be a change agent contributing to sustainable development, both through internal efforts and external engagements. Through a comprehensive understanding of the sustainable practices implemented by PT Semen Indonesia (Persero) Tbk in Tuban, this research aims to provide valuable insights for other corporations, governments, and the general public on the importance of integrating sustainability into business strategies and development. Based on the above research background, the research problem can be formulated as follows: "How does the implementation of Green Industry practices at PT Semen Indonesia (Persero) Tbk Tuban Plant contribute to the achievement of Sustainable Development Goals (SDGs)?"

In an era of heightened environmental awareness and the demand for sustainable development, the role of companies in positively contributing to society and the environment has come under sharp focus. This study explores the pioneering efforts of PT Semen Indonesia (Persero) Tbk Tuban Plant in integrating green industry practices and contributing to the achievement of Sustainable Development Goals (SDGs) set by the United Nations (UN). Critical analysis of these efforts sheds light on the company's image, its external relations with governments, and the international community. PT Semen Indonesia

(Persero) Tbk Tuban Plant has emerged as a beacon of sustainable corporate practices, leveraging initiatives such as compliance with ISO 26000 and stakeholder engagement strategies to enhance its social responsibility. Previous research has underscored the significant impact of these initiatives on the company's image and external relations, as evidenced by Mawardi's work entitled "Implementation of ISO 26000 and Stakeholder Engagement Strategy to Optimizing Corporate Social Responsibility in PT Semen Indonesia, Tuban" and Sudirman's work entitled "Corporate Social Responsibility (CSR) Contribution to Achieve Sustainable Development Goals (SDGs) in Southeast Sulawesi." Most notably, community development programs have provided tangible benefits to local communities. Furthermore, the company's commitment to eco-innovation, such as carbon emission reduction, further strengthens sustainable practices and their positive impact on the environment, society, and the economy, as elucidated by Clarissa in her work entitled "Eco-Innovation, Reducing Carbon Emission and its Impact on Firm Performance (Case Study in PT Semen Indonesia, Gresik)." These efforts are highly aligned with SDGs, thus reinforcing the company's reputation and fostering stronger relations with governments and the international community. However, amidst these achievements, there exists a critical gap in the existing literature. Although previous research highlights the positive outcomes of PT Semen Indonesia (Persero) Tbk Tuban Plant's sustainability initiatives, there is still a lack of analysis regarding the specific mechanisms used to influence perceptions and international relations. Additionally, deeper studies are needed on the challenges faced and lessons learned in implementing green diplomacy strategies. In conclusion, PT Semen Indonesia (Persero) Tbk Tuban Plant's efforts in pioneering green diplomacy and integrating green industry practices serve as an intriguing case study in corporate social responsibility. Through a multifaceted approach encompassing stakeholder engagement, community development, and environmental innovation, the company has not only enhanced its image but also made meaningful contributions to achieving SDGs. This paper will comprehensively analyze the mechanisms and strategies employed by the company in integrating green industry practices at PT Semen Indonesia (Persero) Tbk Tuban Plant and their contribution to achieving Sustainable Development Goals.

## II. METHODOLOGY

This research adopts a qualitative approach to deeply understand the social phenomena surrounding PT Semen Indonesia (Persero) Tbk Tuban Plant's role in leading green diplomacy and integrating sustainable practices into development. By exploring the meanings, perceptions, and experiences of individuals involved, this study aims to shed light on the implementation of green industry practices at PT Semen Indonesia (Persero) Tbk Tuban Plant and their contribution to achieving Sustainable Development Goals (SDGs). Data are collected through interviews with stakeholders, direct observations, and document analysis, while the exploratory qualitative data analysis technique by Miles and Huberman is employed to interpret the findings.

Through triangulation, verification, and reflexivity, the validity of the data is ensured. This research provides valuable insights into how companies can play a pivotal role in sustainable development and green diplomacy, extending beyond national borders and contributing to a more sustainable future.

## III. RESULT AND ANALYSIS

The escalating challenges of the global environmental turmoil underscore the increasing significance of every company's role in fostering sustainable development. As one of Indonesia's leading cement producers, PT Semen Indonesia (Persero) Tbk Tuban Plant has demonstrated its commitment to implementing innovative and sustainable green industry practices. By taking progressive steps to reduce environmental impact and enhance the welfare of surrounding communities, the company has emerged as a pioneer in green diplomacy. In the context of globalization and the complexity of international interactions, the integration of green industry practices is not merely an internal corporate responsibility but also a crucial factor in its external relations with governments and the international community. This research delves into how PT Semen Indonesia (Persero) Tbk Tuban Plant's integration of green industry practices contributes to the achievement of the United Nations' Sustainable Development Goals (SDGs), the company's image, and its external relations with governments and the international community. Thus, this study not only mirrors the company's efforts in confronting global challenges but also illustrates how corporate engagement can shape a more sustainable world for future generations. In the discussion and data analysis phase, a comprehensive evaluation is conducted on the green industry practices implemented by PT Semen Indonesia (Persero) Tbk Tuban Plant. The collected data include information on the technologies used, such as the utilization of eco-friendly technologies in cement production processes, the utilization of renewable energy sources like biomass, the use of more sustainable raw materials, the company's community development programs, and the reclamation or restoration of other mining sites. Additionally, attention is paid to the management of production residues, including recycling processes and waste reduction measures. The analysis aims to explore the extent to which these practices contribute to the achievement of the UN SDGs, particularly in the context of carbon emission reduction, energy conservation, and more efficient natural resource management. Each green industry practice is evaluated based on indicators related to SDGs' objectives. Furthermore, the analysis examines how the integration of these practices influences the company's image and its external relations with governments and the international community. This evaluation involves analyzing the perceptions and responses of governments, non-governmental organizations, and the international community to the company's efforts in adopting green industry practices through social media monitoring, news media, and the achievements attained by the Tuban Plant.

PT Semen Indonesia (Persero) Tbk is a multinational state-owned enterprise operating in the cement industry. Tuban is one of PT Semen Indonesia (Persero) Tbk's production units with an average production capacity of 14.7 million tons of cement per year. Since its establishment in 1994, Tuban has faced various challenges and received accolades from several parties, demanding strategic accuracy and management flexibility to respond to changes effectively. One of the corporation's real challenges is prioritizing environmental sustainability and the surrounding community as part of its business processes. PT Semen Indonesia (Persero) Tbk Tuban successfully turned this challenge into a strategic opportunity that fostered commitment, policies, and innovation in environmental and social aspects. The corporation initiated strategic initiatives to leverage this momentum, with environmental management being one of the overarching approaches. This approach focuses on environmental management and quality improvement as a business development program that consistently emphasizes balanced performance in economic, social, and environmental aspects. Green industry practices implemented by the company have been carried out across various areas, from operational to maintenance and supporting roles. Operationally, the company's efforts and commitments to reduce coal usage in production processes by shifting to alternative fuels sourced from biomass and hazardous waste demonstrate its dedication. The company also utilizes other alternative fuels such as rice husks, corn cobs, or AFR (Alternative Fuels and Raw Materials), referring to the use of non-conventional fuels and raw materials as substitutes for fossil fuels and traditional mineral materials like limestone and clay in the cement industry. The use of AFR in the cement industry has several benefits, including reducing greenhouse gas emissions, decreasing reliance on mineral raw materials, increasing efficiency, and reducing waste. Additionally, visionary environmental management breakthroughs are supported by various actions taken by the company in maintenance and supporting aspects, such as installing Waste Heat Recovery Power Generation (WHRPG) systems to utilize waste heat from the kiln for electricity efficiency and preserving biodiversity by optimizing former clay quarry reservoirs, establishing the Mangrove Center in the Jenu area, and conserving rare fauna like Timor deer. Furthermore, PT Semen Indonesia (Persero) Tbk Tuban has actively pursued sustainable CSR initiatives to build harmony and share beneficial values with the community. These environmental and community management efforts, coupled with corporate resources, have achieved notable accolades, including receiving the "PROPER Gold" award from the Ministry of Environment and Forestry in various years, "The Best Indonesian Green Awards" from La Tofi School of CSR, and being a "Gold Candidate" for PROPER from the Ministry of Environment and Forestry in 2018 and achieving "PROPER Gold" in 2023. These awards serve as both proud achievements and incentives for the company to continue dedicating itself to the environment and the surrounding community. PT Semen Indonesia (Persero) Tbk Tuban Plant has demonstrated a strong commitment to implementing sustainable green industry practices in line with the UN's SDGs. One tangible step taken is the adoption

of cleaner fuel replacement technologies, such as AFR, which helps reduce carbon emissions. Data indicates the company's active efforts in optimizing energy efficiency and implementing energy management systems to reduce energy consumption and CO<sub>2</sub> emissions. Moreover, PT Semen Indonesia (Persero) Tbk Tuban Plant invests in renewable energy sources like solar and biomass to decrease reliance on fossil fuels and reduce the company's carbon footprint. Additionally, the company actively manages production waste by prioritizing recycling and responsible waste management, further reducing environmental impacts and minimizing the use of limited natural resources. Furthermore, the company is actively involved in reclaiming former mining lands to restore affected environments. The implementation of green industry practices by PT Semen Indonesia (Persero) Tbk Tuban Plant consistently supports various SDGs, including environmental, economic, and social aspects. Through commitment and innovation in sustainable practices, the company plays a significant role in creating a cleaner environment, more inclusive economy, and sustainable society. By optimizing resource management, reducing waste, and enhancing energy efficiency across its operations, PT Semen Indonesia (Persero) Tbk Tuban Plant consistently contributes to achieving UN SDGs and significantly contributes to realizing a cleaner and more sustainable environment.

#### IV. CONCLUSION

In this study, it has been revealed that the integration of green industry practices by PT Semen Indonesia (Persero) Tbk Tuban Plant has had a broad and significant impact on various aspects, including the achievement of the UN Sustainable Development Goals (SDGs), the company's image, and its external relations with governments and international communities. Firstly, the integration of green industry practices has made a substantial contribution to achieving the goals of the UN SDGs. Through efforts such as carbon emission reduction, waste management, renewable energy utilization, and environmental restoration, the company has demonstrated its commitment to addressing global environmental challenges and accelerating sustainable development. In this context, the company not only acts as an economic agent but also as a socially and environmentally responsible change agent. Furthermore, the integration of green industry practices has also had a positive impact on the company's image. By demonstrating a strong commitment to sustainability and social responsibility, PT Semen Indonesia Tuban Plant has successfully built a reputation as a company that cares about the environment and society. This has not only enhanced customer trust and loyalty but also increased the company's attractiveness to investors, business partners, and prospective employees. Lastly, the integration of green industry practices has strengthened the company's external relations with governments and the international community. Through collaboration with governments, international institutions, non-governmental organizations, and local communities, the company has successfully expanded its impact and forged strong partnerships in supporting sustainable development. Thus, the company has

played a crucial role in green diplomacy and strengthening cooperative relationships in a global context. Overall, this study underscores the importance of integrating green industry practices in achieving sustainability goals, building a positive corporate image, and strengthening external relations with various stakeholders. By continuing to innovate and collaborate, PT Semen Indonesia (Persero) Tbk Tuban Plant can continue to be a pioneer in efforts to create a more sustainable and equitable world for all.

## REFERENCES

- [1]. A.Mawardi.2020."Implementation of ISO 26000 dan Stakeholder Engagement Strategy to Optimizing Corporate Social Responsibility In PT Semen Indonesia,Tuban ". Semantic Scholar.
- [2]. F.Sudirman.2021."Corporate Social Responsibility (CSR) Contribution to Achieve Sustainable Development Goals (SDGs) In Southeast Sulawesi". Semantic Scholar.
- [3]. Clarissa.2024."Eco Innovation, Reducing Carbon Emission and its Impact on Firm Performance (Case Study In PT Semen Indonesia, Gresik)". Journal of Law and Sustainable Development.
- [4]. UNIDO. (2011). Green Industry Initiative for Sustainable Industrial Development. United Nations Industrial Development Organization.
- [5]. United Nations. (2015). Transforming our world: the 2030 Agenda for Sustainable Development.
- [6]. Retrieved from <https://sdgs.un.org/2030agenda> accessed 17 Maret 2024
- [7]. Gotsi, M., & Wilson, A. M. (2001). Corporate reputation: Seeking a definition. *Corporate Communications: An International Journal*, 6(1), 24-30.
- [8]. Grunig, J. E., & Grunig, L. A. (1992). Models of public relations and communication. In J. E. Grunig (Ed.), *Excellence in Public Relations and Communication Management* (pp. 285-325). Lawrence Erlbaum Associates.
- [9]. Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.
- [10]. Frank, A. G. (1967). *Capitalism and Underdevelopment in Latin America: Historical Studies of Chile and Brazil*. Monthly Review Press.
- [11]. Dokumen Unit Corporate Communication SIG Pabrik Tuban
- [12]. Dokumen Community Development SIG Pabrik Tuban