Zeroboard Inc.

GHG emission visualization solution at industrial park level in Indonesia

Objective of the project

Against the backdrop of the international trend toward decarbonization, this project aims to visualize greenhouse gas (GHG) emissions in the MM2100 industrial park in Indonesia. The demonstration used "Zeroboard" to collect and visualize emissions data in the park, which is home to a concentration of companies in major emitting sectors. It will not only introduce technology but also serve as a precedent for an "industrial park-based GHG visualization and decarbonization support model" in Indonesia. It is also expected that the knowledge gained from this demonstration project will provide suggestions that can be applied to other industrial parks in the ASEAN region.

Cooperation with local companies/governments

Zeroboard Inc. / Zeroboard (Thailand) Co., Ltd.
PT. Megalopolis Manunggal Industrial Development (MM2100)
PT. KDDI INDONESIA
KADIN (the Indonesian Chamber of Commerce and Industry)

Targeted economic/social issues

Indonesia has set carbon neutrality by 2060 and entry into the world's top five economies by 2045 as national goals, aiming to align decarbonization with economic growth. As the source of approximately 40 percent of ASEAN's greenhouse gas (GHG) emissions, Indonesia is expected to play a pivotal role in the region's climate transition.

Despite these ambitions, the country lacks sufficient institutional and technical infrastructure for GHG emissions calculation and visualization. Particularly in the manufacturing sector, few companies have the knowledge, personnel, or tools necessary to calculate emissions properly.

This gap poses a risk to the competitiveness of Indonesian supply chains and may lead to exclusion from international markets. Compliance with emerging global regulations, such as the EU's Carbon Border Adjustment Mechanism (CBAM) and Battery Regulation, is increasingly critical. However, preparation among domestic firms remains limited.

To address these challenges, it is essential to advance GHG data capabilities and promote decarbonization, especially within industrial parks where many Japanese-affiliated and export-oriented manufacturers are located. Strengthening these efforts will be key to sustaining Indonesia's global competitiveness and achieving its climate targets.

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Demonstration period

December 2023 – May 2025

Details of demonstration

The GHG visualization platform, Zeroboard was modified to suit local conditions, and emission data was collected and aggregated in collaboration with the park operator. Specific modifications included the integration of market-based emission factors provided by the local power company. In parallel, several seminars were held to raise awareness among local companies and introduce global trends in decarbonization management strategies and GHG calculation methods. Onboarding support for companies that had decided to use Zeroboard was also provided in Indonesian. The platform's built-in survey function was used to accommodate companies using other GHG calculation platforms or internal systems, allowing for more flexible participation.

Before the survey was distributed, seminars were held to explain it's purpose and how to complete it, which helped improve both response rates and data accuracy. Responses were monitored over a month and a half, with appropriate follow-ups as needed. After the survey closed, data was aggregated within the Zeroboard system to visualize park-wide GHG emissions. The results and analysis were shared with the park operator of MM2100.

A seminar for resident companies

Project outcome / future plans

This project aimed to establish a framework for supporting decarbonization in Indonesian industrial parks, starting from the visualization of GHG emissions. Through the introduction of a digital platform, collaboration with tenant companies, and identification of institutional challenges, a multi-faceted approach was undertaken. At the MM2100 Industrial Park, efforts were made to build a technical foundation for understanding overall emissions. By taking into account the structural and operational characteristics specific to the industrial park and engaging closely with local stakeholders, we were able to obtain practical insights for future implementation strategies.

Although the number of companies that cooperated in sharing their data was limited, the project successfully enabled some participants to begin analyzing their emissions and identifying areas for potential improvement. These efforts provided valuable lessons for the continued advancement of decarbonization initiatives. The project also highlighted that both technical and regulatory challenges require flexible responses to meet local conditions. Issues such as restrictions on electricity sourcing and the difficulty of introducing renewable energy suggest the need for coordinated support at the regional or national level.

Based on the experience gained, the project is expected to promote the broader implementation of GHG calculation and visualization methods, support the expansion of decarbonization efforts across other industrial parks and corporate groups in ASEAN, and contribute to the formation of a sustainable decarbonization transition through public-private collaboration.