# Environmental and Social Due Diligence Report

*Glacier Megafridge Inc.*

[redacted]

**REFLECTS THE INFORMATION AVAILABLE AND THE STATUS OF FINDINGS AT THE TIME OF THE ASSESSMENT AND REPORT PREPARATION IN JUNE 2026**

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*and submitted to*

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# Environmental and Social Due Diligence Assessment

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*Findings are based on a desktop review of the information provided in the Virtual Data Room of Glacier Megafridge Inc. and AC Logistics Holdings Corporation and on publicly available regulatory records, supplemented by site visits to selected priority facilities. Information provided has not been independently verified unless otherwise stated.*

*Document Tracking*

| Date Submitted | Purpose of Issue | Author |
|---|---|---|
| 22 June 2026 | Draft ESDD report for client review | EnviSynergy Corporation |
| 25 August 2026 | Revised ESDD report incorporating comments on risk categorization following ESDD report presentation. | EnviSynergy Corporation |
| 30 September 2026 | Revised ESDD report to update the assessment of ODS and ammonia related risk, including alignment of findings with APMC's Exclusion list. | EnviSynergy Corporation |

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## Abbreviations

| Abbreviation | Definition |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| ACL | AC Logistics Holdings Corporation |
| APMC | A.P. Moller Capital |
| AR4 | Intergovernmental Panel on Climate Change Fourth Assessment Report |
| BMS | Building Management System |
| CNC | Certificate of Non-Coverage |
| CRVA | Climate Risk and Vulnerability Assessment |
| DAO | DENR Administrative Order |
| DENR | Department of Environment and Natural Resources |
| DO | Department Order |
| DOLE | Department of Labor and Employment |
| ECC | Environmental Compliance Certificate |
| EMB | Environmental Management Bureau |
| EMS | Environmental Management System |
| ERP | Emergency Response Plan |
| ESAP | Environmental and Social Action Plan |
| ESDD | Environmental and Social Due Diligence |
| ESMS | Environmental and Social Management System |
| FSIC | Fire Safety Inspection Certificate |
| GBVH | Gender-Based Violence and Harassment |
| GHG | Greenhouse Gas |
| GILI | Glacier Integrated Logistics Inc. |
| GMI | Glacier Megafridge Inc. |
| GWP | Global Warming Potential |
| HAZOP | Hazard and Operability Study |
| HCFC | Hydrochlorofluorocarbon |
| HFC | Hydrofluorocarbon |
| HIRARC | Hazard Identification, Risk Assessment and Risk Control |
| HR | Human Resources |
| HW | Hazardous Waste |
| IDLH | Immediately Dangerous to Life or Health |
| IFC PS | International Finance Corporation Performance Standards |
| ILO | International Labor Organization |
| IPRA | Indigenous Peoples' Rights Act |
| LDAR | Leak Detection and Repair |

| Abbreviation | Definition |
|---|---|
| LGU | Local Government Unit |
| LOTO | Lockout-Tagout |
| LTIFR | Lost Time Injury Frequency Rate |
| NCIP | National Commission on Indigenous Peoples |
| NCR | National Capital Region |
| NOV | Notice of Violation |
| ODP | Ozone Depletion Potential |
| OHS | Occupational Health and Safety |
| PAB | Pollution Adjudication Board |
| PAGASA | Philippine Atmospheric, Geophysical and Astronomical Services Administration |
| PAI | Principal Adverse Impact |
| PCO | Pollution Control Officer |
| PD | Presidential Decree |
| PPE | Personal Protective Equipment |
| PTO | Permit to Operate |
| PTW | Permit to Work |
| RA | Republic Act |
| SCBA | Self-Contained Breathing Apparatus |
| SFDR | Sustainable Finance Disclosure Regulation |
| SMR | Self-Monitoring Report |
| SOP | Standard Operating Procedure |
| STP | Sewage Treatment Plant |
| TCT | Transfer Certificate of Title |
| TRIFR | Total Recordable Injury Frequency Rate |
| VDR | Virtual Data Room |
| WBG EHS | World Bank Group Environmental, Health and Safety Guidelines |

## Executive Summary

AC Logistics Holdings Corporation (ACL) is undertaking the acquisition of a controlling interest in Glacier Megafridge Inc. (GMI), alongside a concurrent equity investment in ACL by A.P. Moller Capital (APMC) through EMIF II Holding II B.V. GMI serves as the holding and management company of a group of subsidiaries, joint ventures, and affiliated entities that develop, own, and operate temperature-controlled storage and cold-chain logistics facilities across the Philippines. The proposed acquisition of GMI forms a key component of ACL's growth strategy in expanding its exposure to the cold-chain sector. The transaction has been designated as "Project Freeze."

EnviSynergy Corporation (EnviSynergy) was appointed by ACL to undertake an independent Environmental and Social Due Diligence (ESDD) assessment of GMI. The scope of work includes assessing alignment with APMC's EMIF II requirements and identifying existing gaps between Philippine national legislation, IFC Performance Standards, and World Bank Group EHS Guidelines, as well as providing an independent and objective assessment of the potential Environmental and Social (E&S) risks associated with the project. In its capacity as Independent E&S Consultant, EnviSynergy also performed site reconnaissance visits on 25 and 26 May, 2026 at two of the identified high-risk facilities, Glacier South Refrigeration Services Corporation (Glacier South) and Glacier Pulilan Refrigeration Services Corporation (Glacier Pulilan)

This summary presents the overall environmental and social risk position of GMI, the project categorization, the material findings, and the actions that condition the proposed transaction.

**Summary of Key Findings**

**[section removed]**

### IFC Performance Standards

- **PS-1 Assessment and Management of Social & Environmental Risks and Impacts**
  GMI holds many of the building blocks of a management system, namely environmental and safety objectives, a hazard and aspects assessment, an extensive procedural base, and a full emergency response plan and procedure. These management-system documents were issued recently at Revision 00, with effective dates between December 2025 and April 2026. As such, implementation maturity remains limited, and supporting evidence to demonstrate effective implementation have yet to be established. The PS1 gap is not the absence of these components but their integration into a single, board-endorsed, audited Environmental and Social Management System that covers environmental, social, labor, and community performance across the group, with defined monitoring and reporting. This is the highest-priority action, ESAP-01, and its establishment is the principal condition through which the residual risk across all standards is brought down over the early holding period.

- **PS-2 Labor and Working Conditions**
  The labor documentation has improved substantially, with the human resources suite, the contracts and wages, the minimum age and forced labor declaration, the GBVH materials, the manpower agency documentation, and the occupational health and safety system all provided. When wages are assessed against living wage benchmarks, a significant portion of the direct-hire workers have salaries below the regional living wage. Human resource policies meet national requirements, but can be strengthened in areas like non-discrimination, GBVH, worker protection, and retrenchment procedures.

- **PS-3: Resource Efficiency and Pollution Prevention**
  The defining PS3 risk is the refrigerant and energy profile. GMI continues to operate high-GWP HFCs (R-404A, R-507A, R-410A) and an HCFC (R-22) across multiple facilities, inconsistent with the Kigali Amendment HFC freeze obligation that elapsed in 2024 and the Montreal Protocol HCFC phase-out schedule. Virgin R-22 stock was observed in active use at Glacier South. No Leak Detection and Repair program has been established, and no refrigerant transition roadmap has been adopted. Fugitive refrigerant emissions [redacted] in 2025 constitute the single largest GHG source in the portfolio, with Glacier South accounting for [redacted]. Glacier Samar records an energy intensity of approximately 590 kWh per pallet position, more than twice the portfolio average, and no formal energy efficiency remediation plan is in place.
  Circuit-level sub-metering is not available. Fuel consumption data are absent for five facilities, and Scope 3 emissions quantification remains partial, limiting the completeness of the energy and emissions baseline. Pollution prevention controls are improving, including ongoing efforts to address discharge permitting, hazardous waste registration, and air permit coverage. A sewage treatment plant is under construction at Glacier South.
  Overall, the portfolio is assessed as partially compliant, with a high-risk profile driven by refrigerant management and energy inefficiency and is being addressed through ESAP-03 and the climate workstream.

- **PS-4: Community Health Safety and Security**
  The community health and safety position is partially compliant. The potential for high-consequence ammonia releases and fire and/or life-safety risks are inherent to the operation and are the basis, with the refrigerant profile, of the IFC Category A position. The emergency response plans and the Glacier North clearances are in place, but the early-warning ammonia detection, ammonia community emergency plan, plume/ affected-zone assessment, the Fire Safety Inspection Certificates (FSIC) for the remaining nine operating facilities not covered by the site visits, and the third-party life and fire safety audit are the principal outstanding PS4 items and are carried into the action plan as High-priority actions. While Glacier North emergency response plans and demolition and clearance documentation are on file, a Phase 1 Environmental Site Assessment is recommended to address potential residual contamination risk.

- **PS-5: Land Acquisition and Involuntary Resettlement**
  There were no identified physical or economic displacement identified in connection with the operation of the facilities in the portfolio. Underlying title and lease instruments for the other nine facilities outside the priority review scope have not been provided in the data room. Subject to the provision of the remaining land tenure documents, GMI's residual PS 5 risk is considered low.

- **PS-6, PS-7 and PS-8: Biodiversity, Indigenous Peoples and Cultural Heritage**
  These standards are considered unlikely to be applicable given the nature of the portfolio, which comprises established cold storage and logistics facilities located in urban, peri-urban, and industrial estate settings on existing tenure.

However, biodiversity sensitivity screening, Indigenous Peoples proximity screening (including NCIP precondition confirmation where applicable), and cultural heritage screening, including confirmation of a chance find procedure, have not been provided and remain outstanding as residual confirmations. Subject to completion of these screenings and confirmations, no material exposure under PS6, PS7, or PS8 is anticipated

### E&S Risk Categorization

Based on the findings of the Environmental and Social Due Diligence (ESDD), EnviSynergy considers the proposed investment to be appropriately categorized as Category A under the IFC Performance Standards (2012). IFC defines Category A as activities with potential significant adverse impacts that are irreversible or unprecedented. The categorization reflects the potential for adverse environmental and social impacts associated principally with the major-accident and community health and safety profile of the portfolio, rather than solely the current level of regulatory compliance.

The principal Category A drivers are the use of anhydrous ammonia at five operating facilities, the potential for an uncontrolled ammonia release to affect receptors beyond the facility boundary, and the life and fire-safety risks associated with high-rack cold-storage operations. These risks are potentially high-consequence even where the probability of occurrence is low. The ESDD identified gaps in ammonia gas-detection arrangements, ammonia community emergency response and notification plan, plume/affected-zone assessment, as well as outstanding verification of fire safety arrangements and third-party life and fire-safety audits. The portfolio includes facilities with proximate residential, commercial and other sensitive receptors, increasing the potential significance of a major incident.

The Category A position is further supported by the portfolio-wide nature of the risks, the presence of active regulatory enforcement matters, material refrigerant and energy-management risks, and the absence of a fully integrated group-level ESMS capable of consistently identifying, managing, monitoring and reporting environmental and social risks across the operating portfolio.

The current documentation and corrective actions demonstrate that the identified risks are capable of being managed and reduced through appropriate engineering, operational, emergency preparedness, regulatory and management-system controls. However, the improvement in management controls does not change the inherent risk profile of the activities and therefore does not, at this stage, warrant a change in the Category A categorization.

**Table ES.1. Summary of material risk categories and ratings**

| Risk Area | Rating |
|---|---|
| **Overall environmental and social risk** | **High – IFC Category A** |
| Ammonia / major-accident and community health and safety | **High** |
| Fire and life safety – high-rack cold storage | **High** |
| Refrigerant and energy management | **High** |
| Environmental permit and regulatory compliance | **Substantial** |
| Integrated ESMS and E&S governance | **Substantial** |
| Labor and worker protection | **Substantial** |
| Gender-based violence and harassment policy and implementation | **Moderate** |

Seven material risk categories were identified and finalized following the desktop review, regulatory assessment and site visits. The two principal inherent-risk drivers supporting the IFC category A classification are ammonia/ major-accident and community health and safety and fire and life safety of high-rack cold-storage. The remaining risk areas represent material residual risks and cross-cutting management factors. Their current ratings are summarized above and reconciled with the site visit findings in Section 8.

# 1 Introduction

AC Logistics Holdings Corporation (hereinafter referred to as 'ACL'), is undertaking the acquisition of a controlling interest in Glacier Megafridge Inc. (GMI). GMI serves as the holding and management company of a group of subsidiaries, joint ventures, and affiliated entities that develop, own, and operate temperature-controlled storage and cold-chain logistics facilities across the Philippines. Through these entities, GMI maintains interests in multiple temperature-controlled warehousing facilities and logistics operations strategically located within key domestic supply-chain corridors.

The proposed transaction forms part of ACL's strategy to strengthen and expand its cold-chain logistics business platform. Upon completion of the transaction, GMI is expected to become a key operating subsidiary within ACL's portfolio.

[redacted]

## 1.1 Purpose and Objectives

GMI currently operates 12 cold storage facilities across the Philippines with a total capacity of [redacted] as of 2025, which is around [redacted]. GMI's significance is amplified by its strategic geographic coverage. The proposed acquisition of GMI is considered a material transaction within ACL's growth strategy due to its strategic importance of cold-chain infrastructure to the Philippine logistics sector.

In accordance with APMC's Responsible Investment Framework, due diligence on Environmental and Social aspects of the Company is required before making any decision on investment/financing any company. ACL has therefore engaged EnviSynergy Corporation (EnviSynergy) to review and assess the environmental, social, occupational health and safety; and climate-related performance of GMI, subsidiaries, operating assets, assets under construction and/or demolition, and proposed assets under GMI against the following reference frameworks:

- Philippine Environmental, Health, Safety and Social regulations related to all aspects that are covered in IFC Performance Standards, 2012;
- IFC Performance Standards on Environmental and Social Sustainability, 2012.
- World Bank Group (WBG) General Environmental, Health and Safety (EHS) Guidelines, 2007;
- APMC's Environmental, Social and Governance (ESG) and Responsible Investment requirements;
- EU SFDR (Article 9) and EU Taxonomy;
- BII's ESG Toolkit on gender-based violence and harassment (GBVH); and
- Other applicable international conventions, treaties and standards including the International Labor Organization (ILO) Core Labor Standards; OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights.

This report consolidates the desktop review, the regulatory record, and the documentation provided through the Virtual Data Room (VDR) up to the date of issue. It follows the preliminary red flag report and incorporates the corrective-action and supporting documentation received in the May 2026 update. The assessment considered available environmental, health and safety, labor, and climate-related information relevant to GMI's operations.

This report presents details and observations made and gaps identified during the due diligence process. The purpose of the due diligence is to identify gaps and non-compliances and characterize the material environmental and social risks and liabilities associated with GMI and its subsidiaries against the

requirements of the stipulated reference framework. Recommendations associated with gaps determined over the period of assessment have also been furnished. EnviSynergy has prepared a costed and time bound Environmental and Social Action Plan (ESAP) for rectification of identified gaps.

## 1.2 Scope of Work

The assessment covers GMI and the thirteen operational and under demolition assets within the group. These comprise eleven operational cold storage warehouses (CS-1 to CS-11), one facility undergoing demolition at Glacier North Refrigeration Services Corporation (CS-12), and the wholly owned logistics subsidiary Glacier Integrated Logistics Inc. Non-operational subsidiaries are noted for completeness but are excluded from the operational assessment.

Assets undergoing partial or full demolition, decommissioning, or redevelopment are included within scope, given their potential to generate material environmental, occupational health and safety, and regulatory liabilities. The scope of work follows the four phases set out in Section 3, namely mobilization and inception, desktop review and gap analysis, site visits and stakeholder interviews, and reporting and planning. The greenhouse gas inventory and the carbon model are delivered by a separate climate workstream and are cross referenced in Section 7.

## 1.3 Reliance and Intended Users

This report has been prepared for the exclusive use of ACL and APMC [redacted]. It supports the APMC investment committee decision and the Fund limited partner reporting, including the SFDR Article 9 obligations. It is not intended for, and may not be relied upon by, any other party, and it may not be reproduced or distributed without the written consent of EnviSynergy. Reliance is limited to the matters expressly addressed and to the information available as at the date of issue.

## 1.4 Limitations and Data Gaps

The findings were developed primarily from a desktop review of the documentation provided in the GMI data room and from publicly available regulatory records, supplemented by site visits to the selected two priority operational facilities, Glacier South (CS-2) and Glacier Pulilan (CS-4). The remaining nine facilities were assessed on a desktop basis. The services were limited to those detailed in this report and are subject to the scope limitations stated in it. Except where expressly stated, the information provided by the Company has not been independently verified, and no regulatory confirmation, third-party validation, environmental sampling, emissions monitoring, or intrusive site investigation has been undertaken. EnviSynergy does not accept liability for errors or omissions in the report that arise from errors or omissions in the information provided by the Company or by third parties.

Several of the documents in the VDR, in particular the occupational health and safety and environmental management procedures, the permits, and the certificates, were scanned images. Where a scanned document was illegible or only partly legible, for example the Glacier Pulilan routine labor inspection notice of results, the affected finding records that and a legible copy is sought in the information request. Documents bearing on land tenure, corporate standing, permits, and litigation were reviewed as provided. No legal title search, registry verification, or authentication of permits, including by means of the issuing agency or the document verification codes, was undertaken. EnviSynergy is not qualified to provide legal, financial, accounting, taxation, or land-tenure advice, and the report does not constitute such advice. The absence of a document does not necessarily indicate non-conformance, as it may reflect incomplete disclosure, and a data gap is recorded accordingly. Some VDR folders combine environmental and safety documents, and each document is attributed to the relevant area regardless of its folder placement.

The greenhouse gas inventory, the energy performance assessment, and the climate quantification presented in Section 7 sit with a separate climate workstream and are outside the scope of this report, and are retained as findings F-23 and F-24 for completeness. Worker and community consultations were not undertaken as a standalone consultation exercise during the desktop phase, the site visit interviews were limited to the personnel available at the time. Accordingly, the assessment of worker and community perceptions is subject to these consultation limitations. Estimated cost implications are indicative only. The risk ratings and statuses presented in this report reflect the consultant's assessment based on the information reviewed within the agreed assessment period and document freeze, including the completed desktop review, site visits and available supporting information. Outstanding data gaps and limitations are identified in Section 10 and do not imply that the assessment remains open for further information outside the agreed review scope.

## 1.5 Assumptions

The assessment proceeds on the assumptions set out below, which are stated separately from the findings. Nothing has come to the attention of EnviSynergy that would make it unreasonable to rely on these assumptions, but where an assumption is later shown to be incorrect, the affected finding and rating are re-examined and revised.

- The documentation provided through the VDR is authentic, genuine, up to date, complete to the extent provided, and representative of the operating portfolio, and contains no material errors or omissions.
- The two selected priority facilities visited are broadly representative of the wider portfolio for the matters observed, pending verification of the remaining facilities.
- Where primary data were unavailable, sector benchmarks have been used and are identified as such.
- The regulatory instruments, wage orders, and standards referenced are current as at the date of issue.
- There are no defaults or contraventions under any permit, license, agreement, or instrument other than those set out in the material reviewed by EnviSynergy.
- The officers and advisers who provided information and assisted at the site visits were competent and authorized to do so, and all persons aware of information that could affect the opinions expressed have communicated that information to EnviSynergy.
- The daily-paid wage floors are at or above the applicable regional minimum, pending confirmation against the National Capital Region and Region III wage orders in force.
- Refrigerant top-up quantities are recorded in the units given in the source files, with the unit basis, namely cylinders or kilograms, unconfirmed.
- The thirteen assets are in scope, the non-operational subsidiaries are noted but not assessed, and Glacier Zamboanga is included under the Virtual Data Room note despite not appearing in the holdings structure.
- The site visits were completed, and the relevant findings from the site visit memorandum have been integrated into Section 9 and the findings register.

**[Sections 1.6 and 1.7 removed]**

# 2 Project Description

## 2.1 Corporate Structure and Ownership

Glacier Megafridge Inc., formerly Megafridge 168 Inc., was established in 2005 and incorporated in 2012. GMI provides integrated cold-chain solutions through its subsidiaries – Cold storage facilities, refrigerated logistics services, food distribution operations and refrigeration infrastructure businesses. GMI being and independent registered entity, has developed its own policies and procedures on quality management, health, safety, and human resources. These procedures are adopted by the subsidiary companies that develop and operate temperature controlled storage facilities and refrigerated supply chain services. The subsidiary and shareholding structure is set out below.

**Table 2.1 Details of Subsidiaries and Shareholding Pattern**

| S.N. | Name of Subsidiary Company | [redacted] | [redacted] | Operation Status | Function |
|---|---|---|---|---|---|
| **CS-1** | Glacier Refrigerated Services Corporation | | | Operational | Cold Storage Operations |
| **CS-2** | Glacier South Refrigeration Services Corporation | | | Operational | Cold Storage Operations |
| **CS-3** | Glacier Parañaque Refrigeration Services Corporation | | | Operational | Cold Storage Operations |
| **CS-4** | Glacier Pulilan Refrigeration Services Corporation | | | Operational | Cold Storage Operations |
| **CS-5** | Glacier Balagtas Refrigeration Services Corporation | | | Operational | Cold Storage Operations |
| **CS-6** | Glacier Liberty Refrigeration Services Corporation | | | Operational | Cold Storage Operations |
| **CS-7** | Glacier Panay Refrigeration Services Corporation | | | Operational | Cold Storage Operations |
| **CS-8** | Glacier Samar Refrigeration Services Corporation | | | Operational | Cold Storage Operations |
| **CS-9** | GMAC Logitech Refrigeration Corporation (CDO) | | | Operational | Cold Storage Operations |
| **CS-10** | GMAC Logitech Refrigeration Corporation (Davao) | | | Operational | Cold Storage Operations |
| **CS-11** | Glacier Integrated Logistics Corporation (Zamboanga) | | | Operational | Cold Storage Operations |
| **CS-12** | Glacier North Refrigeration Services Corporation | | | Undergoing demolition | Cold Storage Operations |
| **GILI** | Glacier Integrated Logistics Inc | | | Operational | Transport & distribution |

*Note: A – Not listed in GMI's holdings structure. The subsidiary has been included in the scope of E&S assessment due to its operational status and anticipated integration into GMI.* *Source: GMI VDR\Part A2 – GMI*

The following subsidiaries are non-operational and are noted for completeness. They are excluded from the operational scope but retained on the corporate register.

**Table 2.2 Non-Operational Subsidiaries**

| Non-operational Subsidiary | | Function |
|---|---|---|
| **Frozen Link Foods Distribution Inc.** | | Food import and distribution |
| **Glacier Realty Incorporated** | | Real estate holding |
| **Glacier Modular Freezer System Inc.** | | Technical and engineering |
| **Glacier Cagayan de Oro Refrigeration Services Corp.** | | Cold storage |
| **Davao Cold Chain Services Corporation** | | Cold storage |
| **Glacier Iloilo Refrigeration Services Corp.** | | Cold storage |
| **Glacier Isabela Refrigeration Services Corp.** | | Cold storage |
| **Glacier Tuguegarao Refrigeration Services Corp.** | | Cold storage |
| **Glacier Urdaneta Refrigeration Services Corp.** | | Cold storage |

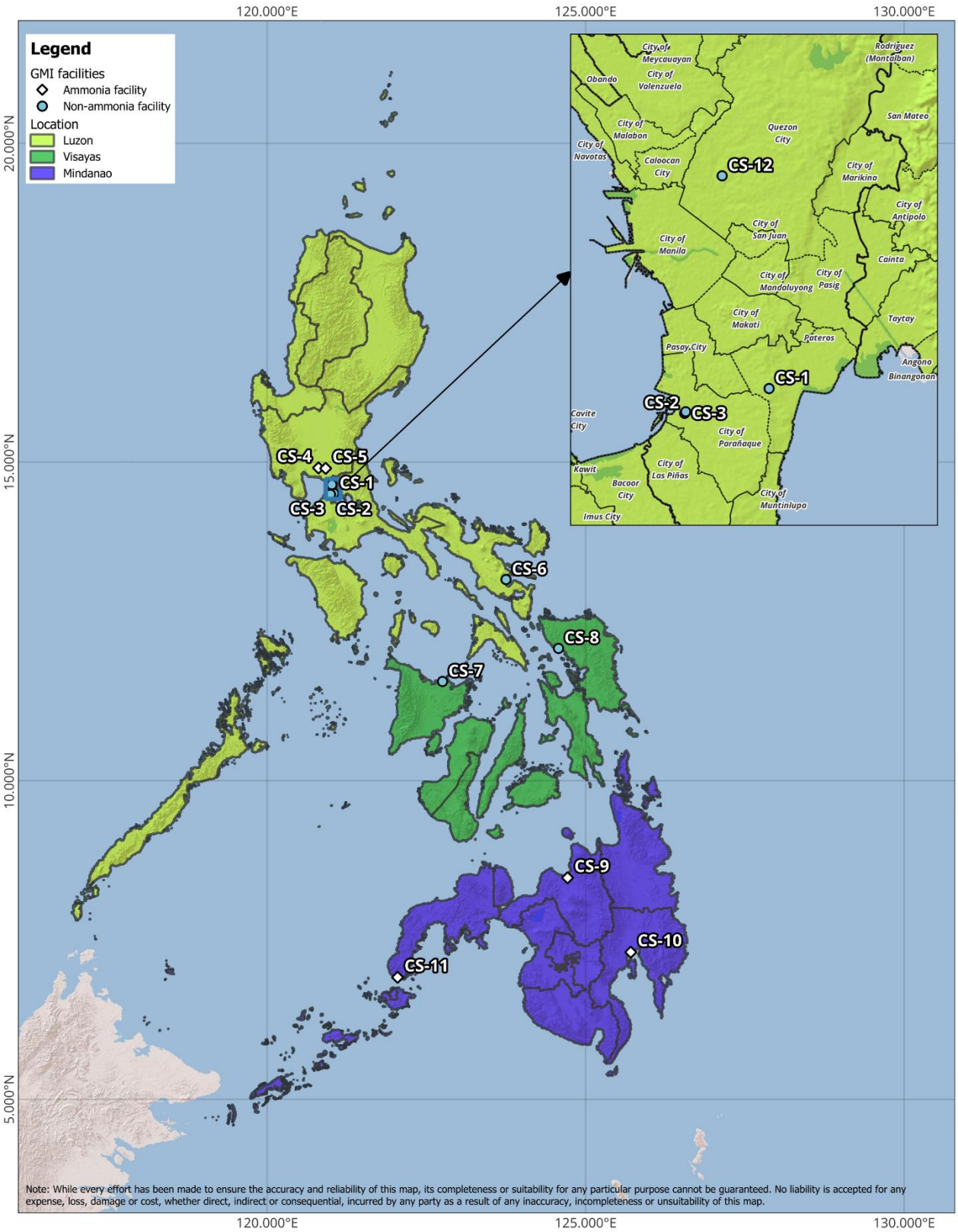
The treatment of affiliates and joint ventures where GMI holds less than a controlling interest, and the implications for control of environmental and social performance, is addressed under PS1 in Section 6.

## 2.2 Asset Portfolio

The portfolio under assessment comprises thirteen operational and under demolition assets. These are eleven operational cold storage warehouses (CS-1 to CS-11), one facility undergoing demolition at Glacier North (CS-12), and the wholly owned logistics subsidiary GILI. The asset register below is drawn from the full facility register in the VDR.

**Table 2.3 Asset Register**

| S.N. | Facility | Location | [redacted] | Refrigerant | Commercial Operation Date |
|---|---|---|---|---|---|
| **CS-1** | Glacier FTI | FTI Complex, Taguig, NCR | | R-22, R404A, R134A | 2005 |
| **CS-2** | Glacier South | Amvel Business Park, NCR | | R410A, R404A, R-22 | 2016 |
| **CS-3** | Glacier Parañaque | Amvel Business Park, NCR | | R507 | 2022 |
| **CS-4** | Glacier Pulilan | Dampol II-B, Pulilan, Bulacan | | Ammonia R717 | 2019 |
| **CS-5** | Glacier Balagtas | Interglobal Industrial Complex, Brgy. Buisan, Bustos, Bulacan | | Ammonia R717 | 2021 |
| **CS-6** | Glacier Liberty | Brgy. Bonot, Legazpi, Albay | | R404 | 2015 |
| **CS-7** | Glacier Panay | Pueblo de Panay, Capiz | | R404, CO2 | 2014 |
| **CS-8** | Glacier Samar | Brgy. Matobato, Catbalogan, Samar | | R404 | 2019 |
| **CS-9** | GMAC CDO | Cagayan de Oro | | Ammonia R717 | 2023 |
| **CS-10** | GMAC Davao | ANFLO Industrial Estate, Panabo, Davao del Norte | | R507, Ammonia (new plant) | 2024 (2026) |
| **CS-11** | Glacier Zamboanga | Zamboanga | | Ammonia R717 | 2025 |
| **CS-12** | Glacier North | Pitimini, cor Fernando Poe Jr. Ave, Quezon City | | n/a | 2013 |
| **GILI** | Glacier Integrated Logistics | Nationwide | | n/a | 2017 |


Legend
GMI facilities
Ammonia facility
Non-ammonia facility
Location
Luzon
Visayas
Mindanao
120.000°E
125.000°E
130.000°E
20.000°N
15.000°N
10.000°N
5.000°N
CS-1
CS-2
CS-3
CS-4
CS-5
CS-6
CS-7
CS-8
CS-9
CS-10
CS-11
CS-12
City of Meycauayan
Obando
City of Valenzuela
Rodriguez (Montalban)
San Mateo
City of Malabon
Quezon City
City of Navotas
Caloocan City
City of Marikina
City of Antipolo
City of San Juan
City of Manila
Cainta
City of Mandaluyong
City of Pasig
City of Makati
Taytay
Pateros
Pasay City
Angono
Binangonan
Cavite City
City of Parañaque
Kawit
City of Las Piñas
Bacoor City
City of Muntinlupa
Imus City
Note: While every effort has been made to ensure the accuracy and reliability of this map, its completeness or suitability for any particular purpose cannot be guaranteed. No liability is accepted for any expense, loss, damage or cost, whether direct, indirect or consequential, incurred by any party as a result of any inaccuracy, incompleteness or unsuitability of this map.
EnviSynergy
0 100 200 300 km
Projection: Lat/long (Geodetic alias)
CRS: WGS 84 (EPSG:4326)
Scale: 1:7000000
Location Map
Project Freeze
Environmental and Social Due Diligence
Prepared by: SGD | Rev No.: 1 | Date: 2026-06-19

## 2.3 Social Setting

The facilities operate within established commercial and industrial localities and engage with the surrounding barangays. Community engagement to date is evidenced through charitable and barangay activities at Glacier South and Glacier Pulilan. The community interface relevant to PS4 arises principally from refrigerated truck movements at the urban facilities and from the ammonia release risk at the ammonia-using sites, both of which are assessed in Section 6. A formal stakeholder engagement plan and a community-facing grievance mechanism are not yet in place and are addressed in the action plan.

**[SECTIONS ORGANIZATION, FACILITY DESCRIPTIONS AND OPERATIONS, WORKFORCE PROFILE PHYSICAL AND ENVIRONMENTAL SETTING REMOVED]**

# 3 Methodology and Assessment Framework

## 3.1 Overall Approach

The key activities undertaken for the ESDD have been described in Figure 8.

**Figure 8 Summary of Approach and Methodology**

## 3.2 Risk Rating Definitions

A four point scale is applied across the report, namely High, Substantial, Moderate, and Low, applied consistently to findings and to the action plan. The categorization applies a dual benchmark expressed as two tracks. Track A is the Philippine regulatory compliance risk, where legal gaps carry immediate enforcement, operational stoppage, and exposure. Track B is the international ESG alignment risk against the IFC Performance Standards, the World Bank Group EHS Guidelines, and the ILO standards, and reflects the management maturity addressed through the action plan. The two tracks do not always move together, and the combined rating for each issue reflects whichever track produces the higher classification, consistent with the IFC PS1 requirement to meet whichever of host country law or good international industry practice is more stringent. A single combined rating is reported for each finding and risk category, and the four-point scale is defined for each track in the table below. At the request of ACL and GMI, the material risks are additionally presented in a three-layered risk register in Section 8, by business impact, regulatory severity, and urgency.

**Table 3.1 Risk Rating Criteria (Dual Benchmark)**

| Rating | Track A — Philippine regulatory compliance risk | Track B — international ESG alignment risk |
|---|---|---|
| **High** | Evidence of major regulatory non-compliance, including stop-work orders, permit suspension, closure orders, major environmental incidents, Labor violations, or legal proceedings. High likelihood of significant sanctions, business interruption, or substantial financial liability, or deliberate non-compliance or concealment of material issues. | Fundamental non-alignment with key international requirements, with serious environmental harm, Labor rights concerns, community impacts, governance failures, or repeated incidents. Significant lender, investor, reputational, or transaction risk that may require conditions precedent, corrective action plans, or reconsideration of the investment. |
| **Substantial** | Significant compliance gaps, unresolved Notices of Violation, recurring violations, or overdue corrective actions, or missing critical permits or approvals. | Material gaps against international standards, with weak management systems, insufficient implementation, inadequate monitoring, or limited stakeholder engagement. |
| **Moderate** | Potential exposure to penalties, operational restrictions, or adverse stakeholder concerns, or material documentation gaps preventing confirmation of compliance. Isolated compliance gaps or expired permits with evidence of active renewal or corrective action. | Potential for environmental, social, Labor, community, or governance impacts requiring corrective action to meet lender or investor expectations, with partial alignment to international standards. Gaps are procedural or administrative and addressable through routine management. |
| **Low** | Minor findings unlikely to result in significant penalties, disruption, or reputational impact, with all material permits valid and current and no unresolved Notices of Violation. Documentation deficiencies where compliance can reasonably be demonstrated. | Limited risk of significant impacts, with policies, procedures, and performance generally aligned to international standards, effective management systems, and documented implementation. |

The four-point risk ratings applied to individual findings should not be interpreted as equivalent to the IFC project categorization. IFC Category A is a project-level classification based on the potential significance and consequence of environmental and social risks and impacts, whereas the four-point ratings describe the relative materiality and management priority of individual E&S issues.

## 3.3 Project Categorization

The portfolio was categorized under both the IFC framework and the Philippine EIS system. Under the IFC framework, the operation is assessed as Category A, that is a business with potentially significant adverse environmental and social risks that are diverse or, in the case of ammonia release and fire in high-rack cold storage, potentially severe. The principal drivers of the Category A position are the potential for high-consequence ammonia releases at five operating facilities, the life and fire-safety profile of high-rack cold-storage operations, and the potential for impacts to affected communities and workers. The multi-site nature of the portfolio, existing regulatory enforcement matters, material refrigerant and energy-management risks, and the current maturity of the integrated E&S management system further contribute to the overall risk profile. The EMIF II Exclusion List Item 12 assessment is treated separately as a fund eligibility and investment-screening matter under Section 4 and is not, in itself, a basis for IFC project categorization.

Under the Philippine EIS system, categorization is determined per facility against the thresholds of DAO 2003-30. Certificates of Non-Coverage are held by most operating facilities and an Environmental Compliance Certificate is held by GMAC Davao, which is consistent with a portfolio assessed as below the ECC capacity threshold at most sites. The Glacier Pulilan position, where a Notice of Violation concerns operating without an ECC notwithstanding a Certificate of Non-Coverage, is to be reconciled on a capacity basis. The categorization summary is set out below.

**Table 3.2 Project Categorization**

| Framework | Category | Basis |
|---|---|---|
| **IFC Performance Standards** | Category A (High risk) | Potential high-consequence ammonia release and fire/life-safety events; potential off-site community impacts; multi-site portfolio exposure; material refrigerant and energy risks; regulatory enforcement history; and limited maturity of the integrated E&S management system. |
| **Philippine EIS system (PD 1586)** | Faclity-specific. CNC at most sites; ECC at GMAC Davao | Certificates of Non-Coverage held by most operating facilities; the Pulilan ECC requirement against its CNC to be reconciled on a capacity basis. |

## 3.4 Reference Framework

### 3.4.1 Philippine laws and regulations

Applicable national law and the relevant authority are tabulated, including PD 1586 on the EIS system, RA 8749 on clean air, RA 9275 on clean water, RA 6969 on toxic substances and hazardous waste, RA 9003 on solid waste, RA 11058 and DOLE DO 198-18 on occupational safety and health, and DOLE DO 174-17 on contracting. The applicable standard and the basis of applicability are stated for each.

**Table 3.3 Philippine Laws and Regulations**

| Instrument | Coverage | Authority |
|---|---|---|
| **PD 1586** | Environmental Impact Statement System | DENR-EMB |
| **RA 8749** | Clean Air Act | DENR-EMB |
| **RA 9275** | Clean Water Act | DENR-EMB |
| **RA 6969** | Toxic Substances and Hazardous and Nuclear Wastes Control Act | DENR-EMB |
| **RA 9003** | Ecological Solid Waste Management Act | DENR, LGU |
| **RA 11058, DOLE DO 198-18** | Occupational Safety and Health Standards | DOLE |
| **DOLE DO 174-17** | Rules on contracting and subcontracting | DOLE |

### 3.4.2 International Standards and Guidelines

The international framework is tabulated, including the IFC Performance Standards (2012), the World Bank Group EHS Guidelines (2007) with sector guidance for cold storage and refrigeration, the ILO core conventions, the OECD Guidelines for Multinational Enterprises, the UN Guiding Principles on Business and Human Rights, the Kigali Amendment to the Montreal Protocol, the GHG Protocol, and the BII ESG Toolkit on gender based violence and harassment.

**Table 3.4 International Standards and Guidelines**

| Standard or guideline | Relevance |
|---|---|
| **IFC Performance Standards (2012), PS1 to PS8** | Primary international benchmark for environmental and social risk |

| Standard or guideline | Relevance |
|---|---|
| **WBG EHS Guidelines (2007)** | General and sector guidance, including refrigeration and cold storage |
| **ILO core conventions** | Fundamental Labor rights baseline |
| **OECD Guidelines for Multinational Enterprises** | Responsible business conduct |
| **UN Guiding Principles on Business and Human Rights** | Human rights due diligence |
| **Kigali Amendment to the Montreal Protocol** | HFC phase down and HCFC phase out |
| **GHG Protocol** | Greenhouse gas accounting |
| **BII ESG Toolkit on GBVH** | Gender based violence and harassment screening |

### 3.4.3 Investor Frameworks

The investor framework is tabulated, including the APMC Responsible Investment Framework (August 2024), the EMIF II Exclusion List, the EU SFDR Delegated Regulation 2022 1288 and Article 9 requirements, and the EU Taxonomy screening where applicable.

**Table 3.5 List of Investor Frameworks**

| Investor framework | Application |
|---|---|
| **APMC Responsible Investment Framework (August 2024)** | Fund management system, monitoring, and reporting expectations |
| **EMIF II Exclusion List** | Prohibited activities screen, including ODS and hazardous-substance criteria. Applicability of the ammonia and R-22/HCFC-22 screening matters is addressed in Section 4. |
| **EU SFDR Delegated Regulation 2022 1288, Article 9** | Sustainable investment disclosure and principal adverse impact reporting |
| **EU Taxonomy** | Technical screening criteria and do no significant harm, where applicable |

The relevant international treaties to which the Philippines is party, and which bear on the operation, are set out below.

**Table 3.6 List of International Treaties**

| Treaty or instrument | Application to the operation |
|---|---|
| **Montreal Protocol** | Phase-out of ozone-depleting substances, relevant to the R-22 (HCFC) use at Glacier FTI (CS-1) and Glacier South (CS-2) |
| **Kigali Amendment** | Phase-down of hydrofluorocarbons, relevant to the R404A, R507A and R-410A high-GWP refrigerants |
| **ILO core conventions (C29, C87, C98, C100, C105, C111, C138, C182, C190)** | Forced Labor, freedom of association, equal remuneration, discrimination, child labor, and violence and harassment |
| **UN Guiding Principles on Business and Human Rights** | Corporate responsibility to respect human rights and provide remedy |
| **Paris Agreement** | Climate commitments, relevant to the energy and refrigerant transition |

## 3.5 Site Visit Program and Interviews

Site visits were conducted by EnviSynergy's environmental and social experts at two cold storage facilities operated by GMI – Glacier South (CS-2) on 25 May 2026 and Glacier Pulilan (CS-4) on 26 May 2026. The visits covered physical walkovers of all major operational areas, document reviews, and confidential interviews with management and workers to understand the site operation, working conditions, OHS implementation and physical inspection of the storage facility and its associated utilities. A photo log and site visit interview summary is detailed in the annex**.[annex removed]**

# 4 APMC Fund Alignment and Exclusion Screening

**Table 4.1 Ammonia facilities and Item 12 status**

| Facility | Ammonia system | [redacted] | Item 12 status |
|---|---|---|---|
| Glacier Pulilan | Ammonia R717 coldrooms | [redacted] | Pending legal assessment and quantification |
| Glacier Balagtas | Ammonia R717 coldrooms | [redacted] | |
| GMAC Cagayan de Oro | Ammonia R717 coldrooms | [redacted] | |
| GMAC Davao | Ammonia R717, new plant, with R507 secondary | [redacted] | |
| Glacier Zamboanga | Ammonia R717 coldrooms | [redacted] | |

Glacier North operated a GEA Grasso ammonia system and is under demolition, so its ammonia is addressed as a decommissioning matter rather than operating use.

[1] Based on ammonia charging records provided by Glacier Pulilan (9,000 kg circulating system charge, plus 1,000 kg added in 2024 and 500 kg in 2025). Site visit vessel fill observations (May 2026) were used as a cross-check and indicate partial distribution of inventory across system components including evaporators, condensers, and piping.

# 5 Regulatory Compliance Assessment

This section assesses compliance with the applicable Philippine environmental, occupational safety and labor law on a per-statute basis. The position reflects the documentation in the Virtual Data Room and the May 2026 corrective-action update. [redacted], the permit position is distributed through the per-statute subsections, and the underlying findings are carried in the findings register.

Compliance is assessed against the criteria below, applied consistently across the statutes and the Performance Standards.

**Table 5.1 Compliance Criteria**

| Compliance criterion | Definition |
|---|---|
| **Compliant** | The requirement is met and evidenced. |
| **Partially compliant** | The requirement is partly met, or evidence is incomplete. |
| **Non-compliant** | The requirement is not met, or a breach is recorded. |
| **In progress** | A corrective action is underway and not yet complete. |
| **Not assessed** | Insufficient information, recorded as a data gap. |

## 5.1 Environmental Impact Assessment System

Compliance with PD 1586 and the Environmental Impact Statement System was assessed for each facility. Ten of the eleven operating facilities requires an Environmental Compliance Certificate (ECC) or Certificate of Non-Coverage (CNC). Nine hold a CNC, namely FTI, Glacier South, Glacier Parañaque, Glacier Pulilan, Glacier Balagtas, Glacier Liberty, Glacier Panay, Glacier Samar and GMAC CDO, and GMAC Davao holds an Environmental Compliance Certificate. Glacier Zamboanga is the exception, with no environmental permit document in the data room. Glacier North holds no certificate and is under demolition, addressed in Section 8. The pattern is consistent with a portfolio operating below the ECC capacity threshold at most sites. The instrument for each facility is set out in Table 5.2.

[redacted]

## 5.2 Environmental governance and the Pollution Control Officer

Each facility is required under DAO 2014-02 to designate an accredited Pollution Control Officer, who is the accountable person for the environmental permits and the quarterly Self-Monitoring Reports across air, water and waste. The per-facility position is set out in Table 5.3.

- Accreditation is evidenced at six facilities, namely FTI, Glacier South, Glacier Parañaque, Glacier Liberty, Glacier Panay and GMAC Davao. At Glacier South the designated officer [redacted] holds Certificate of Accreditation No. [redacted] for a Category B establishment, valid to 23 August 2028, and the managing head has completed the prescribed training.
- The GMAC CDO accreditation lapsed on 11 May 2026, with a renewal application under evaluation.
- Accreditation is not on file at Glacier Balagtas or Glacier Samar.
- At Glacier Pulilan, the managing head training certificate is held, [redacted], 2020, but no PCO accreditation is in the data room, unlike every other operating facility. The training was issued through EMB CALABARZON while the facility is in Region III, which is to be confirmed. The absence of a current accreditation is associated with staff turnover, recorded in the site visit findings in Section 9.

## 5.3 Air Quality

Compliance with RA 8749, the Clean Air Act, was assessed for stationary emission sources, principally the standby diesel generators that require a permit to operate. Air permits to operate for the standby generation are held across the operating portfolio.

## 5.4 Water and Wastewater

Compliance with RA 9275, the Clean Water Act, was assessed in respect of discharge permits, effluent management and monitoring. The facilities are cold storage operations, so the wastewater streams are domestic sewage and equipment washdown or greywater rather than industrial process effluent. Wastewater is managed through septic systems and offsite hauling, with a sewage treatment plant under construction at Glacier South.

The discharge permits apply the General Effluent Standards under DAO 2016-08 and DAO 2021-19, and compliance is demonstrated through notarized quarterly Self-Monitoring Reports, which are held in the data room for nine facilities across 2025 and the first quarter of 2026 and are absent for Glacier Balagtas, Glacier Zamboanga, Glacier North and GILI. The treatment and containment arrangements observed on site are recorded in the site visit findings in Section 9.

## 5.5 Hazardous and Solid Waste

Hazardous waste management was assessed under RA 6969 and solid waste management under RA 9003. A waste disposal and recycling procedure is in place at group level.

## 5.6 Occupational Safety and Health

Compliance with RA 11058 and DOLE DO 198-18 was assessed. An occupational health and safety management system is in place, evidenced by an OHS policy, a hazard identification and risk assessment, a permit-to-work system, lockout-tagout and personal protective equipment procedures, and a full set of emergency response plans including an ammonia leak plan.

Three matters are not evidenced in the data room:

- the constitution and minutes of the OSH committee,
- the appointment and accreditation of safety officers for workplaces of the relevant size, and
- the cold stress controls for freezer operations.

Per-facility incident records are available, though the lost time and total recordable injury frequency rates are not compiled.

DOLE inspection results corroborate this position. Inspections at Glacier Integrated Logistics Inc., Glacier Megafridge Inc. and Glacier Pulilan in 2024 and 2025 recorded no general labor standards or occupational safety and health violations. The Glacier FTI inspection of 12 July 2024 recorded the absence of a valid Fire Safety Inspection Certificate (FSIC), consistent with the fire safety certification matter in Section 11. FSIC were confirmed at Glacier South and Glacier Pulilan during the May 2026 site visits. FSIC status at the remaining operating facilities, including Glacier FTI, remains outstanding.

## 5.7 Labor and Contracting

Compliance with the Labor Code and DOLE DO 174-17 on contracting and subcontracting was assessed. The documentation provided comprises a complete human resources policy suite, sample employment contracts, a wage and compensation schedule, a workforce headcount, and the manpower agency arrangements documented against DOLE DO 174, with current Certificates of Registration for the providers at the two priority facilities.

Working-hours and overtime records are provided for Glacier Pulilan and Glacier Balagtas, and Department of Labor and Employment certifications of no pending case are held for both.

Three matters are not evidenced in the data room:

- working hours and overtime documentation at the remaining facilities,
- a living wage assessment against the applicable regional wage orders, and
- the social compliance position of the labor providers.

A grievance mechanism and a minimum age and forced labor declaration have been provided and are assessed under PS2 in Section 6.

# 6 IFC Performance Standards Assessment Findings

This section assesses the operation against the 2012 IFC Performance Standards. Each standard is screened for applicability, and the applicable standards are assessed against the documentation provided, with the findings drawn from the master findings register. The assessment is structured to feed directly into the material risk assessment in Section 8 and the action plan in Section 11.

## 6.1 Applicability Screen

The applicability of PS1 to PS8 was screened against the nature of the operation. For an established cold storage and logistics portfolio in urban, peri-urban, and industrial-estate settings, PS1 to PS4 are primary. PS1 applies to the management of environmental and social risk across the group. PS2 applies given the substantial directly employed and contracted workforce. PS3 applies given the refrigerant, energy, water, and waste aspects of refrigeration. PS4 applies given the ammonia release and fire risk to workers and proximate communities.

PS5 to PS8 address land acquisition and involuntary resettlement, biodiversity conservation, Indigenous Peoples, and cultural heritage. These are screened and are most likely concluded as not applicable for operations on existing tenure, subject to confirmation of land tenure and of any expansion footprints. The portfolio comprises operating cold storage facilities on established tenure, with no greenfield land take identified other than the documented build-out within the existing GMAC Davao leasehold. On this basis, PS5 to PS8 are expected to be of limited application, and the screening basis and residual confirmations for each are set out below.

The applicability and the basis for each PS are set out below.

**Table 6.1 Working Applicability of IFC Performance Standards**

| PS | Performance Standard | Applicable Subsidiaries |
|---|---|---|
| **PS1** | **Assessment & Management of E&S Risks and Impacts** | All GMI portfolio assets (CS1-CS12, GILI) |
| **PS2** | **Labor and Working Conditions** | All GMI portfolio assets (CS1-CS12, GILI) |
| **PS3** | **Resource Efficiency and Pollution Prevention** | All GMI portfolio assets (CS1-CS12, GILI) |
| **PS4** | **Community Health, Safety and Security** | All GMI portfolio assets (CS1-CS12, GILI) |
| **PS5** | **Land Acquisition and Involuntary Resettlement** | All 12 GMI land-based storage facilities (CS1-CS12). |
| **PS6** | **Biodiversity Conservation and Sustainable Management of Living Natural Resources** | Potentially applicable / screening required - Glacier South, Glacier Parañaque (CS2 & CS3) |
| **PS7** | **Indigenous Peoples** | None |
| **PS8** | **Cultural Heritage** | None |

## 6.2 PS1 – Assessment and Management of Environmental and Social Risks and Impacts

PS1 requires the client to operate an Environmental and Social Management System proportionate to the level of risk, comprising a policy, a process to identify risks and impacts, management programs, defined organizational capacity, emergency preparedness, monitoring and review, and engagement with workers

and affected communities including a grievance mechanism. For an integrated cold chain group of GMI's scale and risk profile, PS1 is the foundational standard, because a deficiency in the management system propagates into every other standard. The existing GMI procedures are mapped against the PS1 elements below, and each element is then assessed in turn.

**Table 6.2 GMI procedures against PS1 elements**

| PS1 element | Existing GMI procedure or evidence | Status |
|---|---|---|
| **E&S policy commitment** | Environmental and OHS objectives and plans[2] | Partial |
| **Identification of risks and impacts** | Environmental aspects and impacts evaluation; OHS HIRARC[3] | Partial |
| **Management programs** | SOP suite, EMS procedures, emergency response plans[4] | Partial |
| **Organizational capacity and competency** | HR and training procedures, PCO function | Partial |
| **Emergency preparedness and response** | Full ERP set including ammonia leak[5] | Partial |
| **Monitoring and review** | Internal audit SOP; DENR inspection report[6] | Partial |
| **Stakeholder engagement and grievance** | Community activities; worker grievance mechanism | Partial |
| **Integrated, audited ESMS** | Not evidenced as a single integrated system | Gap |

### Policy

PS1 requires an overarching policy that defines the environmental and social objectives and principles that guide the business to sound performance. GMI maintains environmental objectives and plans and occupational health and safety objectives and plans, which together express a commitment to environmental and safety performance. These are not consolidated into a single board-endorsed environmental and social policy that also addresses Labor, human rights, stakeholder engagement, and gender-based violence and harassment. The gap is one of consolidation and scope rather than the absence of any commitment, and it is addressed by the policy component of the management system action, ESAP-01.

### Identification of Risks and Impacts

PS1 requires a process to identify the environmental and social risks and impacts of the operation. GMI has an environmental aspects and impacts evaluation and an occupational health and safety hazard identification and risk assessment, issued as corporate standards that cover the principal environmental

[2] Environmental objectives and plans (GMI-EMS-GIN-001) and OHS objectives and plans (GMI-OSHS-GIN-001), both Revision 00.
[3] Environmental aspect and impact evaluation (GMI-EMS-GIN-002) and OHS hazard identification and risk assessment (GMI-OSHS-GIN-002).
[4] EMS waste management procedure (GMI-EMS-GIN-005), OHS permit to work (GMI-OSHS-GIN-005), personal protective equipment (GMI-OSHS-GIN-006), and lockout-tagout (GMI-OSHS-GIN-008).
[5] EMS emergency preparedness procedure (GMI-EMS-GIN-004) and the OHS emergency response plan set, including the ammonia leak emergency response plan (GMI-OSHS-GIN-078).
[6] DENR inspection report and Q1 2026 self-monitoring reports (VDR Part B, B1.5).

and safety hazards of refrigeration and storage. Both standards require each strategic business unit to conduct its own assessment, and the coverage evidenced to date is the methodology together with a worked sample at Glacier South rather than the eleven operating facilities. The process does not yet extend to the social and Labor risks, the community and gender dimensions, or the supply-chain and contractor risks. The risk identification is therefore partial against PS1, and its extension into a single E&S risk register is part of ESAP-01.

**Management Programs**

PS1 requires management programs that put the policy into effect through procedures and actions. GMI operates an extensive procedural base, including the standard operating procedure suite, the environmental management procedures covering legal requirements and waste, and the human resources procedures. These provide many of the components of a management program. They are not yet integrated, version-controlled, and linked to defined objectives and targets under a single system, and the food-safety orientation of much of the procedural base does not substitute for E&S management programs. The condition is partial conformance, with integration the principal task.

**Organizational Capacity and Competency**

PS1 requires defined roles, responsibilities, and competency for managing environmental and social performance. GMI has human resources and training procedures and a Pollution Control Officer function at the regulated facilities. There is no designated environmental and social management role at group level, no evidence of board-level oversight of E&S matters in the minutes reviewed, and the safety officer accreditation and committee arrangements under DOLE DO 198-18 are to be confirmed. The capacity is partial, and the designation of an accountable E&S function is a management-system requirement.

**Emergency preparedness and response**

PS1 and PS4 require preparedness for emergencies that may affect workers and communities. GMI has a complete set of emergency response plans, including plans for fire, severe flooding and weather, volcanic eruption, earthquake, power outage, public health emergency, security threat, workplace accident, and an ammonia leak plan for the ammonia facilities. This is a relative strength of the management system. What remains to confirm is the community notification and shelter-in-place dimension for an ammonia release, the testing and drill records, and the coordination with the Bureau of Fire Protection and the local disaster authorities, which are assessed further under PS4.

**Monitoring and review**

PS1 requires monitoring of performance against the programs and periodic review. GMI has an internal audit procedure, and a DENR inspection report is available. Routine environmental monitoring across the facilities, the self-monitoring reports required under ECC conditions, and a structured E&S performance review at management or board level have not been evidenced. The monitoring element is partial, and the establishment of an environmental and social monitoring and reporting program is required for both PS1 and the SFDR reporting in Section 4. Quarterly self-monitoring reports for the first quarter of 2026 have since been provided for eight facilities, and the two-year compliance history is confirmed during the full assessment.

**Stakeholder Engagement and grievance mechanism**

PS1 requires engagement with affected communities and a grievance mechanism accessible to workers and communities. GMI evidences community engagement through charitable and barangay activities at Glacier South and Glacier Pulilan, and the material filed under the grievance heading is an operational incident-reporting procedure rather than a confidential worker grievance channel. A formal stakeholder engagement plan, a community-facing grievance channel, and a grievance log demonstrating operation are not yet in place based on available documentation.

**Overall PS1 position**

GMI holds many of the building blocks of a management system, namely environmental and safety objectives, a hazard and aspects assessment, an extensive procedural base, and a full emergency response plan and procedure. These management-system documents were issued recently at Revision 00, with effective dates between December 2025 and April 2026. As such, implementation maturity remains limited, and supporting evidence to demonstrate effective implementation have yet to be established. The PS1 gap is not the absence of these components but their integration into a single, board-endorsed, audited Environmental and Social Management System that covers environmental, social, labor, and community performance across the group, with defined monitoring and reporting. This is the highest-priority action, ESAP-01, and its establishment is the principal condition through which the residual risk across all standards is brought down over the early holding period.

## 6.3 PS2 – Labor and Working Conditions

PS2 requires the fair treatment, non-discrimination, and equal opportunity of workers, a sound worker-management relationship, compliance with national employment and Labor law, protection of vulnerable categories including children and third-party workers, the avoidance of forced Labor, and safe and healthy working conditions. For an around-the-clock cold storage operation that relies on a mix of directly employed, contractual, and agency-hired workers, PS2 is a primary standard, and the occupational health and safety provisions are heightened by the cold environment and the use of ammonia.

While local employment and living wage considerations are not explicitly required under PS2, they are generally addressed through broader principles of equal opportunity and provision of a decent working environment. Succeeding subsections review and comment on these topics, as well as worker dialogue in accordance with the social impact targets under APMC's EMIF II.

**Human resources policies and procedures**

PS2 requires documented human resources policies and clear terms of employment. GMI provides a complete human resources policy suite covering hiring, personnel movement and status, salary administration, benefits and privileges, compensation, termination and separation, timekeeping, training, and discipline. GMI has a Code of Employee Discipline that lists sanctionable offenses and defines corresponding sanctions depending on classification and frequency of offense. The overarching nature of offenses are categorized into the following:

- Article I: Offenses Against Persons
- Article II: Offenses Against Property
- Article III: Offenses Against Company Interest
- Article IV: Acts of Dishonesty
- Article V: Offenses Against Public Morals
- Article VI: Offense Against Proper Sanitation / Safety and Security
- Article VII: Defiance of Authority or Insubordination
- Article VIII: Attendance and Punctuality
- Article IX: Inefficiency

These sanctionable offenses include drug and alcohol use, lascivious acts, carrying weapons, and inflicting injury upon another person, among others. Besides the Code of Employee Discipline, other key provisions of GMI's existing HR policies are summarized in Table 6.4.

**Table 6.3 Working Key provisions in GMI's existing HR policies**

| Existing HR policies | Key provisions |
|---|---|
| **Personnel requisitions**[7] | • Department Heads identify the need for additional personnel, and hiring only occurs when their requisition is approved<br>• Hiring is based on fitness, aptitude, and ability |
| **Personnel hiring**[8] | • Applicants must submit required documents and undergo tests (e.g., aptitude, psychological, skills)<br>• Selection is based on evaluation and recommendation by requisitioning head<br>• HR prepares appointment papers and job contract<br>• Mandatory orientation program for new hires |
| **Personnel movement**[9] | • Covers promotions, lateral transfers, and demotions<br>• Decisions are based on performance appraisals and development reports<br>• Formal approval process through supervisors, HR, and Personnel Movement Committee |
| **Personnel status**[10] | • Equal employment opportunity<br>• Employment status/classifications include regular, probationary, temporary/contractual, apprentice<br>• Probationary status has maximum duration of 6 months, after which the employee is regularized<br>• Temporary employees are tied to project duration, while apprentices are under training agreements |
| **Salary administration**[11] | • Salaries are determined based on job complexity and responsibility<br>• Positions are classified into salary grades using job evaluation factors (e.g., education, experience, responsibility)<br>• Absences without leave are automatically deducted<br>• Salaries are paid twice monthly via payroll system |
| **Employee's responsibilities**[12] | • Duties are based on job descriptions and performance targets<br>• Strict attendance and timekeeping rules<br>• Prohibits falsification of records and misuse of company resources<br>• Requires professional behavior, safety compliance, and health standards |
| **Security and safety**[13] | • Emphasizes housekeeping, orderliness, and accident prevention<br>• Employees accountable for tools and equipment<br>• Requires proper storage and shutdown of equipment<br>• Enforces use of safety signs, PPE, and uniforms<br>• Accidents must be reported immediately with first aid provided |
| **Termination of employment**[14] | • Covers termination scenarios (resignation, disability, dismissal, contract end, retirement, redundancy)<br>• Re-employment is possible if termination is not due to violations<br>• Exit interview required before separation |

[7] Personnel requisitions, human resources policy suite, document 001.
[8] Personnel hiring, human resources policy suite, document 002.
[9] Personnel movement, human resources policy suite, document 003.
[10] Personnel status, human resources policy suite, document 004.
[11] Salary administration, human resources policy suite, document 005.
[12] Employee's responsibilities, human resources policy suite, document 006.
[13] Security and safety, human resources policy suite, document 007.
[14] Termination of employment, human resources policy suite, document 008.

| Existing HR policies | Key provisions |
|---|---|
| **Benefits and privileges**[15] | • Benefits depend on company financial capacity and employee tenure<br>• Includes vacation leave, sick leave, maternity/paternity leave, bereavement leave, holiday pay<br>• Sick leave benefits are automatically converted to cash at the end of the calendar year<br>• Medical and dental benefits through the health card<br>• Additional benefits include service awards, education assistance, insurance, car plan for marketing personnel and managers, safety uniforms, and training |
| **Employee's compensation**[16] | • Salaries are structured based on responsibility and industry competitiveness<br>• Salaries are paid twice monthly<br>• Only authorized deductions are allowed (government, company-approved, or employee-authorized)<br>• Overtime allowed only with prior approval and justified necessity<br>• Night differential applies for work between 10:00 PM to 6:00 AM<br>• Meal allowance provided for extended work hours (for eligible roles) |
| **Work from home**[17] | • Work from home (WFH) is allowed during disruptions such as public health emergencies, calamities, or transport issues |
| **Dress code** | • Employees must dress appropriately and maintain hygiene<br>• Company uniform required from Mondays to Thursdays<br>• Prohibits revealing clothes, sleeveless tops, and shorts<br>• Safety-specific attire required for warehouse/cold storage operations |
| **Training plan and procedure**[18] | • Provides system for competency-based training and seminars<br>• Covers training needs analysis (TNA), training plans, and evaluation processes<br>• Includes induction, refresher trainings, and career development<br>• HR maintains training records and monitors progress |
| **Timekeeping**[19] | • HRIS system is used for timekeeping and attendance records<br>• Employees must log in and out using biometric device<br>• All attendance-related requests (leave, OT, official business) must be filed in HRIS<br>• 5-minute grace period allowed, but repeated tardiness is subject to discipline |
| **Drug-free workplace**[20] | • Prohibits use, possession, distribution of illegal drugs<br>• Mandatory drug testing (pre-employment, random, for-cause, post-accident)<br>• Rehabilitation provided for first-time offenders<br>• Confidentiality and due process ensured for employees |
| **Disciplinary action procedure**[21] | • Incident Report required to document violations<br>• HR investigates and prepares Employee Misconduct Form (EMF)<br>• Due process includes notice, explanation, and hearing |

[15] Benefits and privileges, human resources policy suite, document 009.
[16] Employee's compensation, human resources policy suite, document 010.
[17] Work from home, human resources policy suite, document 011
[18] Training plan and procedure, human resources policy suite, document 013
[19] Timekeeping policy, human resources policy suite, document 014
[20] Drug free workplace policy & program, human resources policy suite, document 015
[21] Disciplinary action procedure, human resources policy suite, document 016

| Existing HR policies | Key provisions |
|---|---|
| | • Penalties range from verbal reprimand to termination |
| **Employee separation**[22] | • Covers voluntary (resignation, retirement) and involuntary separation (termination, end of contract, redundancy)<br>• Defines structured exit process (clearance, turnover, exit interview)<br>• Final pay released within 30 days after clearance completion |
| **Succession planning**[23] | • Uses criteria such as performance, experience, leadership ability, and readiness<br>• Formal process includes nomination, evaluation, approval, and development planning |
| **Performance appraisal**[24] | • Evaluates both quantitative and qualitative performance indicators<br>• Conducted annually and documented in writing<br>• Includes separate guidelines for regular and probationary employees |

In terms of HR policies, GMI meets the requirements to provide workers with documented information regarding their rights, starting with new hires receiving appointment papers and a Job Contract, followed by a pre-programmed orientation covering their responsibilities, benefits, and administrative procedures. There also are key provisions that form GMI's foundation in terms of occupational health and safety.

To further align with IFC PS2, GMI needs to refine or develop policies in areas such as workers' protection, equal opportunity, and grievance mechanism. Currently, no other policies were provided evidencing compliance with the following.

- Workers' organizations and collective bargaining: IFC PS2 requires employers to respect the rights of workers to form or join workers' organizations and bargain collectively without interference. GMI must adopt a policy explicitly recognizing these rights and stating it will not discourage workers from joining or forming organizations, and will not discriminate or retaliate against those who do.
- Non-discrimination: IFC PS2 defines discrimination broadly, covering race, nationality, ethnic origin, disability, and sexual orientation. GMI mentions non-discrimination under the policy on employee hiring, rather than on a broader operations-spanning context. Furthermore, the non-discrimination policy lists sex, color, creed, marital status, and political affiliations, but omits several categories mentioned in PS2's Good Practice on Non-Discrimination and Equal Opportunity such as gender, disability, sexual orientation, union membership, and age.
- Grievance mechanism: A formal grievance mechanism must allow workers to raise concerns, involve an appropriate level of management, provide timely feedback, and allow for anonymous complaints without retribution. While GMI mentions "due process" in the policy on disciplinary actions, it lacks a centralized, multi-purpose grievance procedure. It is recommended for GMI to establish a formal grievance procedure that is communicated at the time of hire.
- Protection against child and forced labor: Policies must explicitly prohibit child labor (under 18 for hazardous work, under 15 for general work) and all forms of forced labor. As GMI's policies do not formally state prohibitions against child or forced labor, it is recommended to implement a corporate policy against employing or benefitting from child and forced labor, including age

[22] Employee separation policy, human resources policy suite, document 016
[23] Policy on succession planning, human resources policy suite, document 018
[24] Policy on performance appraisal, human resources policy suite, document 019

verification procedures during hiring. Another option is to incorporate this recommendation in drafting the ESMS.

- Retrenchment procedures: Before implementing collective dismissals, GMI must analyze alternatives and develop a plan to mitigate adverse impacts of retrenchment through consultations with workers. It is recommended to formally include a requirement to analyze and document alternatives (e.g., reduced hours, capacity building) before proceeding with retrenchment.

**Local employment**

No documentation regarding the nationalities of the workers was made available for review. However, based on observations during site visits, the workforce appears to be predominantly composed of Filipino nationals. In addition, the contractors' commitment to promoting access to employment opportunities for the local workforce could not be verified. Nevertheless, interviews conducted with agency-hired workers suggest that workers may have the opportunity to request assignment to sites located closer to their place of residence. For instance, two workers from the same agency reported that they specifically4 requested deployment to Parañaque to facilitate easier commuting to work.

Given the limited stakeholder engagement observed, primarily ad hoc communication with LGUs, GMI is encouraged to engage LGUs and local communities when job opportunities arise to support transparent and inclusive recruitment practices. To strengthen local hiring practices, GMI should also consider formalizing policies or targets related to local employment.

**Working conditions and terms of employment**

Sample employment contracts, a wage and compensation schedule, a workforce headcount, and a benefits summary are also provided. The sample contracts reviewed for Glacier South cover three engagement modes, namely a probationary offer letter, a co-terminus format, and an agency contract. The probationary letter sets a six-month probationary period with semi-annual performance evaluation and places the compensation details in an annex. The letter also refers working hours, rest days, and statutory benefits to the employee handbook rather than stating them in the contract body. The handbook and the annex are therefore to be reviewed to confirm the terms. A five-year confidentiality and non-competition clause in the template was also noted.

PS2 and the Labor Code regulate working hours, rest periods, overtime, and minimum wages. A timekeeping policy is in place, and according to the interviews on 25 May 2026, employees' attendance and absences are managed through a Human Resources Information System (HRIS). The reviewed wage schedules show that daily-paid rates begin at PHP 695 per day at Glacier South in the National Capital Region and at PHP 570 per day at Glacier Pulilan in Region III, with the remainder of each workforce on monthly pay. These floors appear to meet or marginally exceed the applicable regional daily minimum wage under the prevailing regional wage orders.

Some interviewed workers perceive their wage level to be low and expressed a preference for compensation increase [redacted]. A daily payroll register for the period 30 March to 15 April 2026 was reviewed for Glacier South, while regular work hours, overtime hours, and statutory deductions summarized by worker category was reviewed for Glacier Pulilan. The remaining facilities, the overtime premium-rate computation, and the rest-day and holiday-pay treatment are to be confirmed, with the status by facility summarized below.

**Table 6.4 Working-hours and Overtime Documentation Status**

| Working-hours and overtime records | Facilities |
|---|---|
| **Provided** | CS-2 Glacier South, CS-4 Glacier Pulilan, CS-5 Glacier Balagtas |
| **Pending** | CS-1, CS-3, CS-6, CS-7, CS-8, CS-9, CS-10, CS-11, and GILI |

- The available data on salaries consider only the direct-hire employees. Each salary matrix lists the salary of direct GMI employees (i.e., regular and probationary) and excludes the salaries of contracted workers (i.e., co-term and employees under agency). 488 individuals (68%) of the total workforce count are direct hires, while the remaining 228 individuals (32%) are contracted.
- Salary matrices[25] were provided for all facilities except CS-12 and GILI. The total number of direct employees according to these matrices is 488. Meanwhile, the summarized workforce headcount[26] (as applied to Table 2.18) presents a total of 476 direct employees. For the living wage alignment assessment, the 488 total was considered, since all have inputs on salary.
- The salary matrix provided for GMAC Davao (CS-10) lists 48 direct employees, while the summarized workforce headcount data lists 36. It has not been confirmed whether the 12 individuals are employees at the new GMAC Davao plant established in January 2026.

Due to these data gaps, the percentage of third-party contractors paid a living wage cannot be determined.

**Freedom of Association and Collective Bargaining**

PS2 requires that workers be free to form and join workers' organizations and to bargain collectively, consistent with national law and ILO conventions C87 and C98. Interviews with the management at Glacier South confirm that no labor union or workers' organizations have been established in GMI. The absence of a formal worker representation structure does not, in itself, constitute non-compliance. [redacted]

**Non-discrimination and Equal Opportunity**

PS2 requires non-discrimination in recruitment, employment terms, and treatment. The existing human resources policies and address equal treatment on the basis of "sex, color, creed, marital status, and political affiliations". However, benchmarking this against PS2 would require the inclusion of other considerations, particularly gender, disability, sexual orientation, union membership, and age.

**Grievance Mechanism**

PS2 requires a grievance mechanism accessible to all workers and with guaranteed freedom from reprisal. The documentation provided for this is an operational incident-reporting standard, GMI-GIN-OPS-016, which escalates significant incidents such as lost-time accidents, regulatory stoppages, and property damage to management within twenty-four hours of the incident. This is an operational

[25] D1.2 Wage & compensation schedule
[26] D1.1 GMI Workforce head count

escalation procedure rather than a confidential worker grievance channel. A grievance mechanism accessible to all worker categories including agency workers, with confidentiality and a log of grievances received and resolved, is therefore not yet evidenced and is recommended in the action plan.

**Child and Forced Labor**

PS2 prohibits child labor and forced labor, consistent with ILO conventions C138, C182, C29, and C105. Working in areas with cold temperatures below zero degrees is hazardous work for which the minimum age is eighteen. A written confirmation on labor standards compliance, signed by the HR Manager and the Chief Commercial and Operations Officer on 24 April 2026, states that no workers below eighteen are employed and that no forced, bonded, or trafficked labor is present. This is a self-declaration. A standalone child and forced Labor policy and an age-verification procedure with records, demonstrating that no worker under eighteen is engaged in freezer, forklift, or machinery-room work and that the reliance on Labor providers does not introduce forced Labor or debt-bondage risk, remain outstanding. The element is partial, with the declaration provided and the verifying controls to follow.

**Occupational Health and Safety**

PS2 requires safe and healthy working conditions. GMI operates an occupational health and safety management system evidenced by a hazard identification and risk assessment, a permit-to-work system, personal protective equipment and working-at-height procedures, lockout-tagout, and the full set of emergency response plans. Per-facility incident records have been reviewed and are maintained as weekly lost time accident and first aid case databases.

Glacier South records six first aid cases and one lost time accident in early 2026, and Glacier Pulilan had one first aid case involving manual handling. Severity to date is low and the recording is systematic. The photo log of site conditions is provided in Annex D. The matters to confirm are the composition and minutes of the OSH committee and the safety officer accreditation required under DOLE DO 198-18, and the compilation of the lost time and total recordable injury frequency rates. These require the manhours worked which have not been provided. Across the portfolio in 2026 the databases record seven first aid cases and one lost time accident, a bruised foot at Glacier South with eight days lost, and no fatalities. Glacier Parañaque has no incident database, which is a data gap pending closing. Over 2024 and 2025, the databases record no lost time accidents and a small number of first aid cases, so the higher 2026 count reflects the start of recording at Glacier South. There were no fatalities in any year.

**Cold Stress and Ammonia Occupational Safety**

The cold storage sector carries two heightened occupational exposures. The first is cold stress in freezer zones and in blast freezing, for which an ACGIH-aligned work-rest schedule, thermal personal protective equipment, and warm-up facilities are expected. The hazard is now identified in the management system. The hazard identification and risk assessment records cold stress and frostbite for cleaning in cold storage and chiller areas, the occupational health and safety objectives commit to a maximum exposure time in freezers and to insulated clothing, and the personal protective equipment procedure addresses frostbite and hypothermia. What remains is a dedicated cold stress protocol that specifies exposure-time limits, a work-rest schedule, a thermal personal protective equipment matrix, and warm-up facilities, together with the supporting records. The second is ammonia exposure at the ammonia facilities, for which an ammonia leak emergency response plan is provided. The plan references gas-detector alarms but does not state the alarm setpoints, specifies respirators rather than self-contained breathing apparatus for the emergency response team, and does not specify fixed eyewash stations or safety showers. The ammonia records reviewed for Glacier Balagtas remain compressor and condenser energy-reduction logs rather than gas-detection logs. Gas-detection logging against setpoints, the self-contained breathing apparatus inventory, and the eyewash and safety-shower provision therefore remain

to be evidenced. The environmental incident summaries for the ammonia facilities record no ammonia or chemical incidents across 2024 to 2026, which indicates a systematic incident-tracking system, although the completeness of reporting cannot be verified from a nil return. These are the most significant occupational safety matters and are carried into the action plan.

**Gender-based Violence and Harassment**

Consistent with ILO C190 and the Safe Spaces Act, PS2 requires controls against gender-based violence and harassment, which carry an elevated profile in a male-dominated, around-the-clock operation with isolated work zones, the workforce being about 71 percent male. The reviewed Glacier South occupational safety and health program incorporates an anti-sexual harassment policy with a Committee on Decorum and Investigation and a complaint procedure, which is more than a bare policy statement. Part of the policy text remains an unedited generic template that refers to ABC Company rather than the operating entity, the Safe Spaces Act coverage is not clearly evidenced in the document. The committee constitution, training records, and a case register are not provided.

**Workers engaged by third parties**

PS2 extends to workers engaged through third parties, where GMI is expected to take commercially reasonable steps to ensure that the third parties meet the standard. The manpower agency documentation now evidences current DOLE DO 174-17 Certificates of Registration for the Labor providers used at the two priority facilities, namely Premium Staffers, ICT Security and Investigation Agency, and AIMSTAFF at Glacier South and Combined Movers and PIPOL at Glacier Pulilan, which confirms that the providers are registered job contractors rather than labor-only contractors. Pending evidences include the execution of formal service agreements incorporating contractual flow-down provisions for labor and OHS obligations.

**Overall PS2 position**

The labor documentation has improved substantially, with the human resources suite, the contracts and wages, the minimum age and forced Labor declaration, the GBVH materials, the manpower agency documentation, and the occupational health and safety system all provided. The residual matters are the working-hours and living-wage evidence beyond the two facilities, the OSH committee and safety officer arrangements, the cold stress and ammonia occupational controls, the confidential worker grievance channel and the GBVH operating evidence, and the labor-provider compliance. None of these is assessed as a fundamental impediment, and each can be addressed through the action plan and verified at the remaining facilities during the full assessment.

## 6.4 PS3 – Resource Efficiency and Pollution Prevention

PS3 requires the efficient use of resources, the reduction of greenhouse gas emissions, and the prevention of pollution to air, water, and land. For refrigerated logistics the material aspects are the refrigerants and their fugitive emissions, the energy intensity of the refrigeration plant, the wastewater and condensate, the hazardous and solid waste, and the air emissions from standby generation. The greenhouse gas and energy quantification is delivered by the climate workstream and is set out in Section 7, and the refrigerant inventory is presented in Table 2.4. The PS3 elements are assessed below.

**Table 6.5 PS3 elements against evidence**

| PS3 element | Existing GMI evidence | Status |
|---|---|---|
| **Energy efficiency** | Refrigeration plant; energy data outstanding | Gap (GHG workstream) |

| PS3 element | Existing GMI evidence | Status |
|---|---|---|
| **Greenhouse gas emissions** | Refrigerant top-up records; inventory by climate workstream | Gap (GHG workstream) |
| **Refrigerant management** | Refrigeration register and top-up records reviewed; R-22 HCFC, high-GWP HFCs, and HCFC-141b flushing agent in use; ammonia inventory indicative pending charge data | Partial |
| **Water and wastewater** | Discharge permit applications; STP under construction at CS-2 | Partial |
| **Hazardous and solid waste** | Waste procedure; HW generator registration in progress | Partial |
| **Air emissions** | Diesel genset permits to operate under verification | Partial |

**Energy efficiency and greenhouse gas emissions**

PS3 requires the efficient use of energy and the reduction of greenhouse gas emissions, which for cold storage is dominated by electricity drawn by the refrigeration plant and by fugitive refrigerant emissions. The greenhouse gas inventory is delivered by the climate workstream and is set out in Section 7.

Annual electricity consumption has been established from billing records for all ten SBUs. Total portfolio consumption was [redacted] in 2024 and [redacted] in 2025, a reduction of 1.3%. On-site leased solar generation increased fourteen-fold over the same period, from [redacted] to [redacted], reaching approximately [redacted] of 2025 total consumption. GMI's corporate environmental objective under GMI-EMS-GIN-001 targets a solar fraction of 20% by December 2026; the current position indicates progress but not yet achievement.

Energy intensity has been calculated using pallet position capacity data for all ten SBUs. The portfolio weighted average is [redacted] per pallet position gross in 2025 ([redacted] net of solar), which is within the upper band of cold storage benchmarks for tropical climates. Four facilities are outliers warranting specific findings. Glacier Samar is the most acute, at [redacted] per pallet position in 2025 and [redacted] in 2024, [redacted] in both years and above any defensible tropical cold storage benchmark. Taken together with Glacier Samar's worsening refrigerant leak trajectory, the combined energy and refrigerant profile is consistent with systemic plant integrity issues rather than isolated inefficiency. Glacier FTI and Glacier Liberty are both worsening year-on-year, rising from [redacted] to [redacted] per pallet position and from [redacted] to [redacted] respectively, which is consistent with the thermal envelope degradation identified at both facilities. Glacier Balagtas improved from [redacted] to [redacted] per pallet position but remains above the portfolio average without solar offset; the improvement appears operational rather than capital in nature. GMAC CDO increased from [redacted] to [redacted] per pallet position with no renewable supply arrangement and no solar offset, reinforcing it as a priority site for renewable energy expansion alongside GMAC Davao. GMAC Davao's reported intensity of [redacted] per pallet position in 2025 is implausibly low relative to its installed scale and likely reflects low occupancy during ramp-up; the figure requires validation before it can be used as a performance benchmark.

Circuit-level sub-metering is not installed across the portfolio, preventing disaggregation of refrigeration load from lighting, humidity control, and auxiliary consumption within each facility. This limits the precision of the intensity analysis above to billing-level consumption and prevents identification of within-facility efficiency losses. Identified BAT gaps consistent with IFC PS3 include the absence of variable-speed drives at Glacier South and Glacier Balagtas, no LED lighting retrofit across SBUs, and no thermal envelope audit at Glacier South and Glacier FTI. These items, together with sub-metering installation, are carried as energy efficiency recommendations.

**Refrigerant management and fugitive emissions**

PS3, together with the Montreal Protocol and the Kigali Amendment, requires the sound management and progressive phase-down of ozone-depleting and high global warming potential refrigerants. A refrigeration system register and refrigerant purchase and top-up records have been reviewed, and the refrigerant types are confirmed in Table 2.4. Four matters are material.

Fugitive refrigerant emissions in 2025 totaled 6,333.20 $tCO_2e$, constituting 99.5% of all Scope 1 emissions and the largest single GHG source across the portfolio. Glacier South accounts for [redacted]. Glacier Samar, while smaller in absolute terms at [redacted] for full-year 2025, has recorded [redacted], indicating a materially worsening annualized leak rate. Read alongside Glacier Samar's energy intensity of 590 kWh per pallet position — [redacted] — the combined profile points to systemic plant integrity issues requiring priority intervention beyond LDAR alone.

R-22 (HCFC-22) is confirmed in service at Glacier South and Glacier FTI. While continued operation on existing charge is permissible under the HCFC phase-out transition arrangements, the top-up records at Glacier South indicate ongoing replenishment with purchased virgin R-22 stock — a materially higher-risk position as import restrictions tighten. R-404A and R-507A are in service across multiple facilities; both exceed the EU Taxonomy DNSH threshold and are subject to the Kigali Amendment HFC freeze, which the Philippines was required to meet by 2024. That obligation has elapsed, and continued consumption at the volumes evidenced by the top-up records constitutes a current non-conformance. The top-up records also include HCFC-141b flushing agent at Glacier South, an ozone-depleting substance requiring substitution. R-22 is further address against the EMIF II ODS screening criteria in Section 4.1.1.

The reviewed top-up records show a marked difference between facilities, with Glacier South recording substantial replenishment and Glacier Paranaque and Glacier Panay recording negligible volumes. This pattern may reflect higher leakage at Glacier South or centralized procurement that bypasses facility records at lower-top-up sites, which would mean emissions at those sites are understated. Resolution requires confirming the unit basis, system charge per circuit, and procurement route at each facility, which are data that is also prerequisite for validating the mass-balance emissions calculations in the GHG inventory. An LDAR program, annual leak-rate calculations expressed against system charge, and a refrigerant transition roadmap are not yet evidenced. The all-sites register also confirms ammonia service at GMAC Davao's new plant and at Glacier Pulilan, Glacier Balagtas, GMAC CDO, and Glacier Zamboanga, but the measured ammonia charge in kilograms is not recorded at any facility, leaving the PS4 and Exclusion List Item 12 inventory incomplete. These items are carried as ESAP-03, coordinated with the climate workstream.

**Water and Wastewater**

PS3 and RA 9275 require the management of effluent and the prevention of water pollution. The principal wastewater streams are condensate, cooling-tower blowdown, and sanitary effluent. Discharge permit applications are in progress at Glacier South and Glacier Parañaque, and a [redacted] sewage treatment plant is under construction at Glacier South under the corrective action for NOV-EMB-NCR-2024-1198-26W. Effluent quality monitoring against the DAO 1990-34 standards and a cooling-tower management procedure including Legionella control are to be confirmed. The element is partial, with active remediation under way and the monitoring evidence outstanding.

**Hazardous and Solid Waste**

PS3, RA 6969, and RA 9003 require the proper handling and disposal of hazardous and solid waste. The hazardous wastes characteristic of refrigeration are spent compressor lubricating oils, used refrigerant and recovery cylinders, and spent chemicals. A waste disposal and recycling procedure is in place, and hazardous waste generator registration is being addressed, with the Glacier Parañaque re-registration in progress pending the transfer of the generator account to the newly designated Pollution Control Officer. Hazardous waste manifests for the past twelve months and confirmation of registration at each facility are to be provided. The element is partial.

**Air emissions**

PS3 and RA 8749 require the control of air emissions, which for this operation arise principally from standby diesel generators that maintain temperature control during power interruptions. Permit-to-operate documentation is under verification. At Glacier Parañaque the diesel tank permit to operate is archived in the DENR system pending resolution of the Notice of Violation. Permit status for the standby generation at the remaining facilities is to be confirmed. The element is partial.

### Overall PS3 position

The pollution-prevention elements of PS3 are partial and improving, with discharge permits, waste registration, and air permits being addressed and a sewage treatment plant under construction. The defining PS3 risk is the refrigerant and energy profile, namely the continued use of an HCFC and of high global warming potential HFCs without a quantified leak rate or a transition roadmap, and the absence of the energy data needed for the climate and disclosure assessment. This is the High-rated material category in Section 8, and it is addressed through ESAP-03 and the climate workstream.

## 6.5 PS4 – Community Health, Safety and Security

PS4 requires the client to anticipate and avoid adverse impacts on the health and safety of affected communities arising from the operation, including from hazardous materials, structural and fire safety, and the conduct of security arrangements. For this portfolio the material community risks are an ammonia release at the five ammonia facilities, the life and fire safety of high-rack cold storage, the traffic and logistics interface at the urban facilities, and the legacy of the Glacier North fire. The PS4 elements are assessed below, and the ammonia release consideration is illustrated in Figure 7.

### Hazardous materials and ammonia release to communities

Ammonia is acutely toxic, with an immediately dangerous to life or health concentration of 300 parts per million and early-warning alarm setpoints typically in the range of 25 to 35 parts per million. A release at an ammonia facility can travel beyond the site boundary and affect proximate receptors. Ammonia is used at Glacier Pulilan, Glacier Balagtas, GMAC CDO, GMAC Davao, and Glacier Zamboanga. An ammonia leak emergency response plan is provided, and its communication section provides for notifying the local fire department[27] and the environmental and safety authorities and states that coordination may include the Bureau of Fire Protection and local emergency units. Plant operational monitoring is in place, although the records reviewed are compressor and condenser energy-reduction logs rather than ammonia gas-detection logs against alarm setpoints. The environmental incident summaries for the ammonia facilities record no ammonia incidents over 2024 to 2026, so no community-affecting release is on record, though a nil return does not substitute for the community-facing elements of the plan. What is not yet evidenced is gas-detection logging, a community notification and shelter-in-place protocol, a plume dispersion assessment to define the affected zone, and documented coordination with the local disaster risk reduction and management council. No hazard and operability study (HAZOP), process hazard analysis, or ammonia release dispersion assessment has been provided for review for any of the five ammonia facilities, so the extent of the potential off-site affected zone and the receptors within it are not yet defined. This is a primary PS4 gap and is carried into the action plan as F-12, F-31, and F-55, with the community plan under F-31 finalized on the basis of the F-55 assessment.

### Life and fire safety

High-rack cold storage presents a severe fire profile because of combustible insulation panels, the difficulty of sprinkler protection in freezer zones where wet-pipe systems freeze, and smoke behavior in cold dense air. RA 9514 requires a FSIC for each facility. A fire safety clearance has been provided for the Glacier North demolition, and a fire emergency response plan is in place. FSIC were posted and confirmed at Glacier South and Glacier Pulilan during the site visits. FSICs for the remaining operating facilities have not been provided in the data room and remain outstanding. A third-party life and fire safety audit against the NFPA standards, including the insulation panel type and the freezer-zone sprinkler design, have not been provided for any facility. This is a High-rated PS4 matter.

[27] Ammonia leak emergency response plan, GMI-OSHS-GIN-078, Revision 00, effective 1 April 2025.

**Glacier North fire and demolition**

The Glacier North facility was damaged by fire and is undergoing demolition. The demolition permit, the electrical clearance, and the fire safety clearance are provided, and the before-and-after record is shown in Figure 8 in Section 8. The community and worker safety of the demolition works and the management of fire-damaged materials are relevant to PS4, and a Phase 1 environmental site assessment, with a Phase 2 if warranted, is recommended to address residual contamination, as set out in Section 8. The facility previously operated a Grasso ammonia refrigeration system, so the demolition also requires the safe recovery and purging of ammonia and the decommissioning of the refrigeration plant.

**Traffic and community interface**

Refrigerated truck movements during loading and unloading generate road safety, idling-emission, and noise effects at receptors near the urban facilities, in particular at the FTI, South, and Parañaque sites. No traffic management plan has been provided. A corporate traffic management standard addressing truck routing, queuing, and idling at the urban facilities is recommended, rated Low and carried in the action plan.

**Security personnel**

PS4 requires that any security arrangements be proportionate and consistent with the applicable principles on the use of force. The security and safety procedure within the human resources suite is noted, and the engagement terms of any security personnel and the use-of-force expectations are to be confirmed from the documentation and the interviews in Annex C.

**Overall PS4 position**

The community health and safety position is partially compliant. The potential for high-consequence ammonia releases and fire and/or life-safety risks are inherent to the operation and are the basis, with the refrigerant profile, of the IFC Category A position. The significance of these risks arises from the potential severity of consequences, including serious injury or fatality and, in the case of a significant ammonia release, potential impacts beyond the facility boundary. The risk is further material because ammonia is used at five operating facilities and the portfolio includes high-rack cold-storage facilities with potentially significant fire and life-safety hazards.

The emergency response plans and the Glacier North clearances are in place, but the early-warning ammonia detection, community notification and shelter-in-place arrangements, plume/affected-zone assessment, the operating-facility Fire Safety Inspection Certificates, and the third-party life and fire safety audit increase residual risk and are the principal outstanding PS4 items. These gaps are considered capable of mitigation through engineering, emergency preparedness, operational and management controls and are carried into the action plan as High-priority actions into the ESAP rather than treated as unmanageable impacts.

## 6.6 PS5 – Land acquisition and involuntary resettlement

The facilities occupy sites held under registered freehold titles or registered leases. The land ownership status of every facility is documented in the Full Facility Register[28], and the underlying title or lease instrument has been provided in the data room for the four facilities subject to the priority review, namely Glacier Pulilan, Glacier South, Glacier Liberty and GMAC Davao.

No acquisition of occupied land, and no physical or economic displacement of third parties, has been identified in connection with the establishment or operation of the facilities. A formal displacement

[28] Full Facility Register dated 20 April 2026, VDR Part A, A2.1.

screening, that is a written confirmation that no physical or economic displacement occurred on site establishment, has not been provided for the portfolio. The matter is assessed as likely not applicable for facilities on existing tenure, and the confirmation is carried as a residual item.

Titles or leases confirming secure tenure for the remaining nine facilities have not been provided in the data room. The owned or leased status of each facility is documented in the Full Facility Register, so the absence relates to the underlying instruments rather than to the ownership position. The two priority facilities show legitimate long-term tenure under registered titles and leases, and the documented status for the balance is consistent with PS5.

## 6.7 Summary of Performance Standards Gaps and Findings

The table below summarizes the key gaps, findings, and recommended actions identified during the assessment of GMI's operations against the applicable IFC PS. The assessment draws on the review of available documentation and site observations, and highlights areas where existing practices demonstrate partial alignment as well as those requiring further development to meet international good practice. The recommendations outlined aim to support the establishment of a more structured and consistent approach to environmental and social risk management, and to guide prioritization within the ESAP found in Section 11.

**Table 6.6 Summary of PS Gaps and Findings**

| IFC Performance Standard | Gaps/Findings | Recommendations |
|---|---|---|
| **PS1 Assessment and management of environmental and social risks and impacts** | The review indicates the absence of an integrated Environmental and Social Management System (ESMS) at the group level, resulting in fragmented management of environmental, social, and labor risks across facilities. While elements such as policies, procedures, and compliance documentation exist, they are not consolidated into a structured system aligned with PS1 requirements, limiting consistency in risk identification, mitigation, monitoring, and reporting.<br><br>Stakeholder engagement practices are limited and largely ad hoc, primarily involving communication with LGUs. There is no formal stakeholder engagement plan or community grievance mechanism, which constrains systematic engagement with affected communities and reduces transparency in addressing environmental and social concerns. | Establish a group-wide ESMS aligned with IFC PS1 requirements<br><br>Develop and implement a formal stakeholder engagement plan covering communities, LGUs, and other stakeholders<br><br>Establish a community grievance mechanism accessible to external stakeholders<br><br>Standardize E&S monitoring, reporting, and internal audit procedures across all facilities |
| **PS2 Labor and working conditions** | Labor management systems demonstrate basic compliance with national regulations; however, several gaps remain relative to PS2. These include the absence of a formal worker grievance mechanism, limited policy coverage on non-discrimination, and lack of explicit commitments to freedom of association and collective bargaining. Policies on child and forced labor are supported only by self-declarations, with no formal controls or verification procedures.<br><br>Additional gaps include incomplete documentation on working hours and overtime across facilities, lack of a living wage assessment, and limited visibility over contractor labor practices. A significant portion of the workforce appears to earn below estimated living wage benchmarks, and contractor oversight systems remain underdeveloped. | Establish a formal worker grievance mechanism accessible to all employees, including contractors<br><br>Develop and implement comprehensive policies on non-discrimination, freedom of association, and child and forced labor<br><br>Conduct a living wage assessment and evaluate total compensation against benchmark values<br><br>Strengthen contractor management by requiring compliance with labor and OHS standards through contractual provisions<br><br>Standardize working hours and overtime documentation across all facilities |
| **PS3 Resource efficiency and pollution prevention** | Resource efficiency and pollution control measures are in place but remain inconsistent across the portfolio. Several facilities have gaps in environmental permits, including missing discharge permits, incomplete hazardous waste | Establish a resource efficiency and pollution prevention program aligned with IFC PS3 and WBG EHS Guidelines |

| IFC Performance Standard | Gaps/Findings | Recommendations |
|---|---|---|
| | registrations, and lapses in monitoring documentation such as Self-Monitoring Reports. Cooling tower management and certain pollution control practices are not evidenced.<br><br>The use of ammonia and high global warming potential refrigerants presents inherent environmental risks, with limited evidence of structured leak detection and repair (LDAR) programs. Data gaps in emissions monitoring and resource efficiency tracking constrain the ability to assess overall environmental performance and align with international best practices. | Implement a leak detection and repair (LDAR) system for refrigerants, particularly ammonia systems<br><br>Ensure all environmental permits and registrations are obtained, updated, and centrally tracked<br><br>Strengthen environmental monitoring, including wastewater, emissions, and waste management documentation<br><br>Develop energy efficiency and refrigerant transition strategies to reduce environmental footprint |
| **PS4 Community health, safety, and security** | Community health and safety risks are primarily associated with ammonia use and refrigerated truck movements in urban areas. While emergency response plans exist, including ammonia leak response procedures, gaps remain in technical detail such as alarm setpoints, emergency equipment specifications, and documentation of safety infrastructure<br><br>Stakeholder engagement on community risks is limited, and no formal community-facing grievance or disclosure mechanism is in place. This limits the ability to proactively manage community concerns, particularly in facilities located near residential or commercial receptors. | Enhance emergency preparedness by specifying technical requirements (e.g., alarm thresholds, SCBA availability, safety equipment)<br><br>Establish and operationalize a community grievance mechanism<br><br>Develop community awareness and emergency communication programs, particularly for ammonia-related risks<br><br>Conduct periodic community risk assessments and emergency drills with local stakeholders |
| **PS5 Land acquisition and involuntary resettlement** | Screening indicates no material issues related to land acquisition or involuntary resettlement. Facilities are located on existing industrial or commercial sites, and no displacement impacts were identified during the assessment.<br><br>However, documentation to fully confirm land tenure and compliance across all facilities is not consistently consolidated, and reliance on desktop review limits independent verification of all historical land transactions. | Verify and consolidate land ownership or lease documentation for all facilities<br><br>Establish a centralized land tenure register with supporting legal documentation<br><br>Implement procedures to screen future expansions against PS5 requirements |

# 7 Climate and Greenhouse Gas Assessment

## 7.1 Summary

The Greenhouse Gas (GHG) Assessment presents a full three-scope inventory for GMI and its Strategic Business Units (SBUs) for the calendar years 2024 and 2025. The inventory has been prepared in accordance with internationally recognized standards and frameworks, including the GHG Protocol Corporate Accounting and Reporting Standard, the GHG Protocol Corporate Value Chain (Scope 3) Standard, ISO 14064-1:2018, IFC Performance Standards 1 and 3, Equator Principles IV, EU SFDR, EU Taxonomy, IPCC AR6 global warming potentials, and Philippine DOE National Emission Factors.

The assessment covers ten SBUs operating under the Glacier and GMAC brand names across Luzon, Visayas, and Mindanao. The organizational boundary is set on the basis of operational control, consistent with the GHG Protocol. The reporting period is the calendar year, with 2024 serving as the primary baseline year and 2025 as the current reporting year

### 7.1.1 Key Findings

The table below presents a consolidated summary of all quantified GHG emissions across Scope 1, Scope 2, and Scope 3 for the two reporting years:

| Scope | Source Category | 2024 ($tCO_2e$) | 2025 ($tCO_2e$) |
|---|---|---|---|
| **Scope 1** | Stationary Combustion - Diesel | 45.473 | 32.155 |
| **Scope 1** | Fugitive Emissions - Refrigerants | - | 6,333.20 |
| **Scope 1 Sub-Total** | | **45.473** | **6,365.355** |
| **Scope 2** | Purchased Electricity (Location-Based) | 14,064.69 | 13,920.56 |
| **Scope 2** | Purchased Electricity (Market-Based) | 2,696.67 | 1,765.14 |
| **Scope 3** | Cat. 1 - Purchased Goods & Services | - | 121.5037 |

*Note: * The increase in total emissions from 2024 to 2025 is primarily attributable to the first-time full quantification of Scope 1 refrigerant fugitive emissions (6,333.20 $tCO_2e$), which were not available for 2024. The underlying operational Scope 1 and Scope 2 emissions show stable-to-declining trends, reflecting improved data collection and early-stage solar displacement. Data for Stationary Combustion is available for 5 SBUs only.*

### 7.1.2 Material Observations

- Scope 1 fugitive refrigerant emissions (6,333.20 $tCO_2e$ in 2025) constitute the single largest emissions source, dominated by Glacier South ([redacted], or 66.6% of refrigerant total). High-GWP refrigerants represent a material and priority decarbonization lever.
- Scope 2 location-based electricity emissions declined marginally year-on-year (14,064.69 $tCO_2e$ in 2024 to 13,920.56 $tCO_2e$ in 2025, a reduction of 1.0%), despite overall grid consumption remaining essentially unchanged, reflecting improvements in solar displacement.
- Market-based Scope 2 emissions fell substantially (−34.5%), from 2,696.67 $tCO_2e$ to 1,765.14 $tCO_2e$, demonstrating the effectiveness of renewable energy supply arrangements at facilities with qualifying energy attribute certificates.

- Scope 3 quantification is partial. Category 1 (Purchased Goods and Services) has been partially quantified at 121.5037 $tCO_2e$ using spend-based methods. Material data gaps remain for all other Scope 3 Categories.
- Diesel combustion Scope 1 emissions declined by 28.7% in 2025, consistent with reduced generator use across the five SBUs, with the notable exception of GMAC Davao and Glacier Samar, which recorded significant year-on-year increases.

## 7.2 Organizational and Temporal Boundary

### 7.2.1 Organizational Boundary

The organizational boundary is set using the operational control approach as defined in the GHG Protocol Corporate Standard. Under this approach, GMI reports 100% of the GHG emissions from operations over which it has operational control. This includes all ten SBUs listed in this report.

### 7.2.2 Reporting Period

The primary reporting period is the calendar year (2024 constitutes the baseline year while 2025 is the current reporting year). Data for 2022 and 2023 are also presented where available for Scope 1 diesel combustion, to contextualize the emissions trend.

## 7.3 Regulatory and Framework Alignment

This GHG inventory has been prepared in strict alignment with the following international standards, lender requirements, investor reporting frameworks, and national regulatory obligations. Table 7.1 summarizes the applicable frameworks and their specific application in this assessment.

**Table 7.1 Applicable Frameworks and Regulatory Alignment**

| Framework / Convention | Application in This Assessment |
|---|---|
| **GHG Protocol Corporate Standard (2004, rev. 2015)** | Three-scope inventory structure applied. Scope 1 covers direct combustion and fugitive emissions. Scope 2 uses both location-based and market-based methods. Consolidation approach: operational control. |
| **GHG Protocol Corporate Value Chain (Scope 3) Standard (2011)** | Fifteen Scope 3 categories screened; relevant categories identified and quantified using activity-based and spend-based methods. Data gaps disclosed in accordance with Chapter 7 requirements. |
| **ISO 14064-1:2018** | Organizational boundary, quantification methodologies, uncertainty assessment, and data quality criteria applied. Emission factors sourced from internationally recognized bodies (IPCC AR6, USEEIO, DOE). |
| **IFC Performance Standard 1 – E&S Assessment and Management System** | Material GHG sources identified and quantified. Results disclosed to support E&S due diligence. Data gaps and mitigation pathways documented for lender review. |
| **IFC Performance Standard 3 – Resource Efficiency and Pollution Prevention** | Electricity consumption and refrigerant use assessed as primary resource and pollution vectors. Solar displacement and refrigerant phase-down roadmap identified as priority actions consistent with BAT requirements. |
| **Equator Principles IV (2020)** | GHG inventory prepared in support of Project Finance E&S obligations. Absolute and intensity metrics reported. Climate risk screening (physical and transition) recommended as next phase. |

| Framework / Convention | Application in This Assessment |
|---|---|
| **EU SFDR – Annex I Principal Adverse Impact Indicators** | PAI 1 (Scope 1 + 2 GHG intensity) and PAI 3 (fossil fuel exposure) addressed. Scope 3 partial quantification reported under PAI 2. |
| **EU Taxonomy Regulation (EU) 2020/852** | Cold storage operations assessed against climate change mitigation and adaptation criteria. Refrigerant phase-down and energy efficiency investments relevant to DNSH screening. |
| **IPCC AR6 – Global Warming Potentials (100-year horizon)** | GWP100 values applied throughout. All emissions expressed in $tCO_2e$. |
| **DOE National Grid Emission Factor for 2019-2021** | Grid emission factors applied: Luzon-Visayas Grid (0.7181 $tCO_2e$/MWh); Mindanao Grid (0.8173 $tCO_2e$/MWh). |
| **Paris Agreement / UNFCCC** | Philippines NDC target of 75% GHG reduction by 2030 (conditional and unconditional) contextualizes decarbonization pathway. Science-based target alignment recommended. |
| **Montreal Protocol / Kigali Amendment** | HFC phase-down schedule applied to refrigerant inventory. High-GWP refrigerants (R-22, R-404A, R-507) flagged for priority transition. Kigali Amendment stage-gate timeline referenced in refrigerant management section. |

## 7.4 Scope 1 – Direct GHG Emissions

Scope 1 emissions are direct GHG emissions from sources owned or controlled by GMI. Two material Scope 1 sources have been identified and quantified: stationary combustion of diesel in standby generators, and fugitive refrigerant emissions from cold storage refrigeration systems.

## 7.5 Scope 2 – Indirect Emissions from Purchased Electricity

Scope 2 emissions arise from the generation of purchased electricity consumed by GMI's operations. Two methods are applied in accordance with the GHG Protocol Scope 2 Guidance (2015): the location-based method, which uses average grid emission factors, and the market-based method, which reflects the emissions intensity of contractually specified electricity sources.

### 7.5.1 Methodology

**Location-Based Method**

Location-based Scope 2 emissions are calculated by multiplying electricity consumption (kWh) by the average grid emission factor for the relevant regional grid:

- Luzon-Visayas Grid emission factor: 0.7181 $tCO_2e$/MWh (DOE National Grid Emission Factors, 2019-2021)
- Mindanao Grid emission factor: 0.8173 $tCO_2e$/MWh (DOE National Grid Emission Factors, 2019-2021)

**Market-Based Method**

Market-based Scope 2 emissions reflect the contractual source of electricity. Facilities with renewable energy supply agreements or energy attribute certificates (EACs) from qualifying renewable suppliers (including ACEN RES) are assigned a zero market-based emission factor for the eligible portion of their consumption, consistent with the GHG Protocol Scope 2 Guidance hierarchy.

Facilities without qualifying supplier-specific emission rates or EACs are assigned the residual mix emission factor, which defaults to the grid average in the absence of a Philippine-published residual mix

factor. Glacier Samar and GMAC Davao consume electricity from the Grid, which has a higher emission factor, and do not currently have qualifying renewable supply arrangements.

**On-Site Solar Generation**

On-site leased solar generation is netted against grid consumption at the point of use for the purposes of both activity data and market-based emissions calculation, consistent with the GHG Protocol Scope 2 Guidance treatment of behind-the-meter generation.

### 7.5.2 Analysis and Trends

Total location-based Scope 2 emissions decreased marginally by 1.0% year-on-year (14,064.69 $tCO_2e$ in 2024 to 13,920.56 $tCO_2e$ in 2025), against a background of stable total electricity consumption (approximately 19.3 million kWh in both years). This modest reduction reflects early-stage solar displacement partially offsetting grid consumption growth at expanding sites.

Market-based Scope 2 emissions fell significantly by 34.5% (from 2,696.67 $tCO_2e$ in 2024 to 1,765.14 $tCO_2e$ in 2025). This reduction reflects the expansion of qualifying renewable energy supply arrangements across the Luzon-Visayas facilities, most notably at Glacier Paranaque (which moved from partial to full renewable supply in 2025) and Glacier Pulilan (which added significant solar capacity).

The facilities with the highest Scope 2 emissions remain Glacier South ([redacted], 2025 location-based) and Glacier Pulilan ([redacted]), which together account for [redacted]. Both are large-format cold storage facilities with high refrigeration loads.

## 7.6 Scope 3 – Value Chain GHG Emissions

Scope 3 emissions are all indirect GHG emissions that occur in GMI's value chain, both upstream and downstream of its direct operations. The GHG Protocol Corporate Value Chain (Scope 3) Standard defines fifteen Scope 3 categories. A relevance assessment was conducted to identify material categories for GMI, and quantification was performed using the best available methods given the data available for the 2025 reporting year.

### 7.6.1 Data Gaps and Recommended Actions

The following data gaps have been formally identified in accordance with GHG Protocol Scope 3 Standard Chapter 7 requirements:

- Category 1 – Packaging materials: No weight records available. Recommend implementing procurement tracking by material type and weight from January 2025.
- Category 1 – Food and perishable goods (E3.4): No product weight or category data available. Recommend including GHG data requests in client service agreements.
- Category 2 – IT and office equipment: No purchase invoices consolidated. Recommend centralized procurement registry.
- Category 4 – Upstream transport: No carrier distance-weight or fuel data available. Recommend implementing logistics data collection protocol with primary freight carriers.

The partial Scope 3 total of 121.5037 $tCO_2e$ should be treated as a minimum lower bound. The true Scope 3 footprint is expected to be materially higher once data gaps are addressed, particularly for Categories 1 (food/perishables) and 4 (upstream transport).

## 7.7 GHG Inventory Summary Table

Table 7.6 below reproduces the complete GHG inventory in the format required by the GHG Protocol and ISO 14064-1:2018, with source categories, activity data references, emission factors, and quantified results for both reporting years.

**Table 7.2 Complete GHG Inventory Summary (2024 to 2025)**

| Scope | Source Category | Activity Data | Emission Factor | 2024 ($tCO_2e$) | 2025 ($tCO_2e$) |
|---|---|---|---|---|---|
| Scope 1 | Stationary Combustion – Diesel | Fuel purchase records (L) | IPCC / DOE-EMB: 2.68 $kgCO_2e/L$ | 45.473 | 32.155 |
| Scope 1 | Fugitive Emissions – Refrigerants | Maintenance top-up records (kg) | IPCC AR6 GWP100 by refrigerant type | *Insufficient data* | 6,333.20 |
| | | | **Scope 1 Total** | **45.473** | **6,365.355** |
| Scope 2 (LB) | Purchased Electricity – Luzon-Visayas Grid | Electricity billing records (kWh) | DOE 2024: 0.7181 $tCO_2e/MWh$ | 12,440.62 | 12,072.42 |
| Scope 2 (LB) | Purchased Electricity – Mindanao Grid | Electricity billing records (kWh) | DOE 2024: 0.8173 $tCO_2e/MWh$ | 1,624.07 | 1,848.14 |
| | | | **Scope 2 Total (LB)** | **14,064.69** | **13,920.56** |
| **Scope 2 Total (MB)** | **Market-Based (with RECs/zero-EF supply)** | **As above + EAC documentation** | **Supplier-specific or residual mix** | **2,696.67** | **1,765.14** |
| Scope 3 Cat. 1 | Purchased Goods & Services (partial) | Expenditure records (PHP); fuel volumes (L) | USEEIO v2.0; IPCC diesel EF | *Insufficient data* | 121.5037 |
| **TOTAL (LB)** | | | **All Scopes (Location-Based)** | **14,110.16** | **20,407.42** |
| **TOTAL (MB)** | | | **All Scopes (Market-Based Scope 2)** | **2,742.14** | **8,252.00** |

## 7.8 Energy Performance and Solar Strategy

Cold storage operations are inherently energy-intensive. Electricity consumption for refrigeration, humidity control, and auxiliary systems constitutes the dominant operational cost and environmental impact for GMI SBUs. Energy performance analysis is required under IFC Performance Standard 3 (Resource Efficiency) and supports EU Taxonomy alignment with the climate change mitigation objective.

## 7.9 Energy Efficiency Recommendations

The following energy efficiency measures are recommended consistent with IFC PS3 best available technology (BAT) requirements and EU Taxonomy technical screening criteria:

- Variable-speed drive (VSD) installation on compressors and fans at Glacier South and Glacier Balagtas, the [redacted], targeting 10–15% reduction in refrigeration energy use.
- LED lighting retrofit across all SBU warehouse and office areas.
- Thermal envelope audit at Glacier South and Glacier FTI to identify insulation degradation contributing to elevated refrigeration loads.
- Sub-metering installation to enable facility-level energy intensity benchmarking (kWh per tonne-hour of cold storage capacity).
- Expansion of solar PV capacity at GMAC CDO and GMAC Davao, which currently operate on the higher-EF Mindanao Grid without renewable supply arrangements.

## 7.10 Physical and Transition Climate Risk

A qualitative climate risk screening has been conducted consistent with IFC Performance Standard 1 (E&S Assessment), Equator Principles IV (Climate Risk Assessment), and EU Taxonomy DNSH criteria for

climate change adaptation. A quantitative scenario analysis is recommended for the next phase of assessment.

### 7.10.1 Physical Climate Risks

The following physical climate risks are identified as potentially material for GMI operations:

- Flooding: Multiple SBUs are located in Metro Manila (Glacier South, Glacier FTI, Glacier Paranaque, Glacier Balagtas), Legazpi, Albay (Glacier Liberty) and Bulacan (Glacier Pulilan), which are areas with documented flood exposure. Climate projections (PAGASA 2020) indicate increasing frequency and intensity of extreme rainfall events. Facility-level flood risk mapping is recommended.
- Extreme heat: Rising ambient temperatures increase refrigeration load and compressor stress, increasing energy consumption and refrigerant leak rates. PAGASA projections indicate mean temperature increases of 1.0°C to 3.0°C by 2050 under RCP 4.5 - 8.5 scenarios.
- Typhoon intensity: The Philippines lies in the Pacific typhoon belt. Facilities in Panay (Glacier Panay) and Samar (Glacier Samar) face elevated exposure to tropical cyclone wind and storm surge. Structural resilience assessment is recommended.
- Water stress: Increased frequency of dry spells may affect utility water supply relevant to condenser cooling systems. Water-cooled condenser dependency should be assessed.

### 7.10.2 Climate Transition Risks

The following transition risks are identified as material for GMI:

- Regulatory risk - Refrigerant phase-out: The Kigali Amendment phase-down schedule creates a legal obligation to reduce HFC consumption. Failure to transition will result in supply disruption and cost escalation as high-GWP refrigerants become controlled substances.
- Carbon pricing risk: The Philippines is exploring carbon pricing mechanisms consistent with its NDC. Introduction of a carbon levy would directly increase operating costs at high-emission facilities, particularly Glacier South.
- Energy price risk: Grid electricity price volatility, particularly in Mindanao, creates exposure for GMAC CDO and GMAC Davao. Accelerated on-site solar investment reduces this exposure.
- Reputational and lender risk: Increasing lender requirements under Equator Principles IV and investor requirements under EU SFDR create disclosure obligations that, if unmet, may affect financing terms and investor relations.

## 7.11 Paris-Aligned Strategy and Decarbonization Pathway

A preliminary Paris-aligned decarbonization pathway has been developed for GMI, consistent with a 1.5°C warming scenario and the Philippine NDC. The pathway addresses all three scopes and is designed to inform a Science Based Targets initiative (SBTi) readiness assessment and a 25% absolute emission reduction target over the ownership period.

### 7.11.1 Baseline and Target

The 2024 inventory serves as the baseline for the decarbonization pathway:

- 2024 Scope 1 + Scope 2 (location-based) baseline: approximately 14,110 $tCO_2e$
- 2024 Scope 3 (partial, Cat. 1 only): insufficient data for robust baseline
- Indicative 25% reduction target by 2030 (Scope 1 + 2): approximately 10,583 $tCO_2e$
- Indicative SBTi-aligned target (1.5°C, absolute contraction): approximately 42% reduction by 2030 for Scope 1 + 2

The dominant lever for emissions reduction is the refrigerant fugitive emissions program, which alone represents over 96% of 2025 Scope 1 emissions. A 50% reduction in refrigerant leak rates across the portfolio would deliver approximately 3,167 $tCO_2e$ of annual abatement.

### 7.11.2 Priority Abatement Actions

The following actions are ranked by estimated abatement potential and implementation feasibility:

- Priority 1 – Refrigerant LDAR program (Glacier South, Samar, Panay, FTI, Liberty): Estimated abatement: 1,500–3,000 $tCO_2e$/year. Investment: moderate. Timeline: 0 to 18 months.
- Priority 2 – Solar PV expansion at GMAC CDO and GMAC Davao: Estimated abatement: 200 to 500 $tCO_2e$/year (location-based). Investment: moderate. Timeline: 12 to 24 months.
- Priority 3 – Renewable energy supply agreements for all Luzon-Visayas facilities: Market-based Scope 2 reduction to near zero for eligible sites. Timeline: 12 to 18 months.
- Priority 4 – Energy efficiency (VSD, LED, thermal envelope): Estimated abatement: 500 to 1,000 $tCO_2e$/year. Investment: moderate to high. Timeline: 24 to 48 months.
- Priority 5 – Refrigerant transition program (high-GWP HFC replacement): Estimated abatement: 3,000 to 5,000 $tCO_2e$/year over 5 to 10 years. Investment: high. Timeline: 3 to 10 years.

## 7.12 Carbon Credit Cost Model Summary

Residual emissions that cannot be eliminated through operational abatement may be addressed through high-quality carbon credits. Eligible credit types consistent with international best practice include:

- REDD+ (Reducing Emissions from Deforestation and Forest Degradation) credits from Philippine or regional projects, verified under Verra VCS or Gold Standard.
- Renewable energy credits from qualifying Philippine solar or wind projects.
- Cookstove and clean energy access credits from Verified Carbon Standard projects in Southeast Asia.

The Excel based emissions reduction and offset cost model is summarized, including the Scope 1 and Scope 2 baseline, the forecast over the ownership period, the residual emissions, and the offset cost with price escalation assumptions. The model is delivered as a separate tool.

# 8 Material Liabilities and Risk Assessment

## 8.1 Material Risk Categorization

The material risk categories presented below represent the consolidated environmental and social risk position identified through the ESDD, incorporating the desktop review, regulatory assessment, available supporting documentation, and site visit findings. The seven material risk categories reflect the principal areas of residual environmental and social exposure across the GMI portfolio. The categorization distinguishes the inherent high-consequence risks that principally support the IFC Category A classification, namely ammonia-related major-accident and community health and safety risk and high-rack cold-storage fire and life-safety risk, from other material risks that contribute to the overall residual E&S profile, including refrigerant and energy performance, environmental permitting, labor and worker protection, GBVH, and the maturity of the integrated E&S management systemThe individual findings and corrective actions associated with these risks are further detailed in the ESAP.

**Table 8.1 Material Risk Categorization**

| No. | Risk category | Summary finding | Rating |
|---|---|---|---|
| 1 | Ammonia / major-accident and community health and safety | Five operating facilities utilize anhydrous ammonia (R717), an acutely toxic substance with the potential for off-site consequences in the event of a significant release. Ammonia inventories are material, including an estimated ~10,000 kg at Glacier Pulilan, and several ammonia facilities are located in proximity to residential areas, schools, healthcare facilities, and other sensitive receptors. Existing emergency response procedures are internally focused, while community-facing emergency planning, plume dispersion assessment, shelter-in-place protocols, and documented coordination with local authorities remain outstanding. | **High** |
| 2 | Fire and life safety – high-rack cold storage | High-rack cold storage facilities present elevated fire and life-safety risks due to combustible insulated panel systems, large fire loads, and challenges associated with fire suppression in freezer environments. The historical Glacier North fire incident demonstrates the materiality of this risk profile and highlights the potential for significant asset loss, operational disruption, serious injury, or fatality. While FSICs were verified at Glacier South and Glacier Pulilan, FSIC status for the remaining operating facilities remains outstanding. In addition, a portfolio-wide third-party life and fire safety audit against applicable NFPA and WBG EHS standards remains outstanding. | **High** |
| 3 | Refrigerant and energy | A refrigeration system register, refrigerant top up records, and ammonia monitoring records are now partly available. GMI continues to operate high-GWP refrigerants (R-22, R-404A, and R-507A) across multiple facilities, inconsistent with the Kigali Amendment phase-down obligations binding on the Philippines. No formal Leak Detection and Repair (LDAR) program has been established. Glacier Samar's 2026 year-to-date emissions indicate annualized leak rates disproportionate to installed capacity, warranting | **High** |

| No. | Risk category | Summary finding | Rating |
|---|---|---|---|
| | | further investigation. Energy intensity benchmarks and facility-level performance targets have yet to be defined, precluding meaningful progress measurement. Solar displacement reached approximately 9.8% of total consumption in 2025, and no confirmed pipeline of additional solar capacity has been identified that would credibly close the gap to GMI's stated 20% target by December 2026. Refrigerant top-up records and system registers remain partially incomplete, and no formal refrigerant transition roadmap has been adopted. | |
| **4** | Environmental permit non compliance | Penalties paid across Glacier Parañaque, Pulilan, and South, and NOV-EMB-NCR-2022-0398 at Glacier South set aside by the regulator. Corrective actions are in progress, including ECC applications and a sewage treatment plant. The Glacier Panay RA 6969 Notice remains open, and ESMS and monitoring gaps persist. | **Substantial** |
| **5** | Absent ESMS and disclosure | No integrated Environmental and Social Management System at corporate or business unit level, contrary to IFC PS1, and no risk register or E&S performance reporting. | **Substantial** |
| **6** | Minimum-compliance Labor practices | Overtime records provided only for Glacier Pulilan and Glacier Balagtas. Occupational health and safety incident records are now provided per facility, but no complaint or grievance records have been made available to assess forced Labor, discrimination, or related practices. | **Substantial** |
| **7** | GBVH policy and controls | Anti sexual harassment policy in place, but no case register, investigation records, training records, or grievance records to evidence implementation. | **Moderate** |

## 9 Corrective Action Plan

Every material finding is converted into a specific, costed, and time bound corrective action with a named owner and a verifiable completion indicator. The action plan is presented as a table, sorted by priority, and reconciled with the site visit findings so that no compliance gap is left without an action. Each action records the following.

- **Finding reference**: the finding and the standard cited, including the IFC Performance Standard or the Philippine statute.
- **Corrective action**: a specific and measurable action.
- **Risk rating**: High, Substantial, Moderate, or Low, consistent with Section 3.
- **Responsible party**: a named ACL or GMI role.
- **Timeline**: phased as zero to three months, three to twelve months, or twelve to twenty four months, and identified as a condition precedent or condition subsequent where relevant.
- **Completion indicator**: verifiable evidence or result.
- **Estimated cost**: a range in PHP.

The action plan below is generated from the master findings register. It lists every High and Substantial finding that is not yet closed, with its linked action reference and current status. The responsible party, timeline, completion indicator, and cost range are are provided for each action. Timeline is phased as

zero to three, three to twelve, or twelve to twenty-four months and is flagged as a condition precedent (CP) or a condition subsequent (CS). The estimated cost is an indicative order-of-magnitude band, namely low for under PHP 0.5 million, medium for PHP 0.5 to 2 million, and high for over PHP 2 million. Each action also cites the reference standard or basis on which it rests.

### Table 11.1 Environmental and Social Action Plan

| Finding | Corrective action target | Reference standard / basis | Risk | Responsible party | Timeline | Completion indicator | Estimated cost (PHP, indicative) |
|---|---|---|---|---|---|---|---|
| **F-01** | Create a corporate and facility-based environmental and social management system aligned to IFC PS1. | IFC PS1 Para 5 | **Substantial** | GMI HSE and sustainability lead | 3–12 months, CS | Signed ESMS manual and board minute | Low to medium |
| **F-02** | Consolidate the environmental and social risk register and prepare a HIRARC for each facility. | IFC PS1 Para 7 | **Substantial** | GMI HSE and sustainability lead | 3–12 months, CS | Risk register and HIRARC issued for each facility | Low |
| **F-03** | Develop the additional human resources policies on workers' organizations, non-discrimination, grievance mechanism, and workforce protection, and revise the employee separation policy to require an alternatives analysis and consultation before any dismissal, redundancy, or retrenchment. | IFC PS2 Para 18-20 | **Substantial** | GMI HR | 3–6 months, CS | Approved HR policies and documented roll-out to employees | Low |
| **F-04** | Adopt a stakeholder engagement plan and establish a community grievance log. | IFC PS1 Para 25-28 | **Substantial** | GMI HSE and sustainability lead | 3–12 months, CS | Adopted plan and operating grievance log | Low to medium |
| **F-06** | Carry out environmental monitoring for air, water, and noise across the facilities. | IFC PS1 Para 22 | **Substantial** | GMI pollution control officer | 3–12 months, CS | Two years of monitoring reports on file | Low to medium |
| **F-07** | Undertake a climate risk and vulnerability assessment. | IFC PS1, EU Taxonomy adaptation | **High** | GMI HSE lead | 3–12 months, CS | Completed CRVA report | Low to medium |
| **F-08** | Issue the employee handbook and remuneration annex. | IFC PS2 Para 9-11, PD 442 | **Substantial** | GMI HR lead | 3–12 months, CS | Issued handbook and remuneration annex | Low |
| **F-09** | Compile time-and-attendance and overtime records for the remaining facilities. | IFC PS2 Para 11, PD 442 | **Substantial** | GMI HR lead | 3–12 months, CS | Records on file for all facilities | Low |
| **F-10** | Maintain occupational health and safety committee records and accreditation and prepare a HIRARC for each facility. | IFC PS2 Para 23, RA 11058, DO 198-18 | **Substantial** | GMI safety officer | 3–12 months, CS | OSH committee minutes and accreditation on file | Low |
| **F-11** | Implement a cold-stress procedure, provide thermal personal protective equipment, and set a work-rest schedule. | IFC PS2 Para 23, ACGIH, DO 198-18 | **Substantial** | GMI safety officer | 3–12 months, CS | Issued procedure and exposure records | Low to medium |

| Finding | Corrective action target | Reference standard / basis | Risk | Responsible party | Timeline | Completion indicator | Estimated cost (PHP, indicative) |
|---|---|---|---|---|---|---|---|
| **F-12** | Implement the ammonia safety procedure, install self-contained breathing apparatus, fixed eyewash and showers, configure detector setpoints, and log gas-detection readings. | IFC PS2 Para 23, PS4 Para 6 | **High** | GMI safety officer | 0–3 months, CS | Installed equipment, set setpoints, and logged readings | Medium |
| **F-13** | Establish and implement a confidential worker grievance procedure and maintain a case log accessible to all workers | IFC PS2 Para 20, UNGP, EMIF II | **Substantial** | GMI HR lead | 3–12 months, CS | Grievance mechanism in place and disseminated to employees. Operating grievance channel with logged cases. | Low |
| **F-15** | Obtain the Labor-provider list and service agreements and conduct a social compliance audit. | IFC PS2 Para 26-30, OECD | **Substantial** | GMI HR lead | 3–12 months, CS | Executed agreements and audit report | Low to medium |
| **F-18** | Issue a standalone child and forced Labor policy and maintain age-verification records. | IFC PS2 Para 17-18, ILO C138/C182, RA 9231 | **Substantial** | GMI HR lead | 3–12 months, CS | Issued policy and verification records | Low |
| **F-19** | Secure an ECC or CNC for each facility and lodge the Self-Monitoring Reports. | DAO 2003-30, IFC PS3 | **Substantial** | GMI pollution control officer | 3–12 months, CS | ECC or CNC held and SMRs lodged per facility | Low to medium |
| **F-20** | Appoint a pollution control officer and obtain DENR-EMB accreditation for each facility. | RA 8749, RA 9275 | **Substantial** | GMI pollution control officer | 3–12 months, CS | Accreditation certificates per facility | Low |
| **F-21** | Compile the Self-Monitoring Reports for the past two years. | DAO 2003-30, RA 9275 | **Substantial** | GMI pollution control officer | 3–12 months, CS | SMRs lodged for two years | Low |
| **F-22** | Establish a refrigerant inventory, implement leak detection and repair, and record the global warming potential by facility. | IFC PS3 Para 13, F-Gas, Montreal | **High** | GMI engineering lead | 3–12 months, CS | Inventory and leak-rate records by facility | Medium |
| **F-23** | Consolidate annual energy consumption in kWh and obtain the energy performance certificate. | IFC PS3 Para 6-7, EU Tax 7.7, SFDR PAI 18 | **High** | Climate workstream and GMI | 3–12 months, CS | Energy dataset by facility | Low to medium |
| **F-24** | Compile, maintain and annually disclose the greenhouse gas (GHG) inventory for Scope 1, Scope 2, and Scope 3. Incorporate validation system, charge data and expanded Scope 3 categories as data collection improves. | IFC PS3, SFDR PAI 1/2, GHG Protocol Corporate Standard; ISO | **High** | Climate workstream and GMI Sustainability Lead | 3–12 months, CS; Annual cycle | Completed GHG inventory; Annual GHG inventory report issued; SFDR PAI indicators populated; Scope 3 data gaps closed per declared schedule | Low to medium |

| Finding | Corrective action target | Reference standard / basis | Risk | Responsible party | Timeline | Completion indicator | Estimated cost (PHP, indicative) |
|---|---|---|---|---|---|---|---|
| | | 14064-1:2018; SFDR Annex I PAI 1/2/3; EU Taxonomy Regulation (EU) 2020/852 | | | | | |
| **F-25** | Obtain the discharge permit, undertake effluent monitoring, and implement cooling-tower and Legionella management. | RA 9275, DAO 1990-34 | **Substantial** | GMI pollution control officer | 3–12 months, CS | Issued discharge permit and effluent records | Medium to high |
| **F-26** | Register the hazardous waste generators and compile the manifests. | RA 9003, RA 6969 | **Substantial** | GMI pollution control officer | 3–12 months, CS | Registrations and twelve months of manifests | Low to medium |
| **F-28** | Obtain Fire Safety Inspection Certificates for the nine operating facilities not covered by the May 2026 site visits. | RA 9514, NFPA | **High** | GMI HSE lead | 0–3 months, CS | Valid FSIC per facility | Low |
| **F-29** | Commission a third-party life and fire safety audit and complete the remediation. | WBG EHS 3.3, NFPA 13/72/101 | **High** | GMI HSE lead | 0–3 months, CS | Audit report and closed actions | Medium to high |
| **F-31** | Develop a community ammonia emergency response plan with notification and shelter-in-place arrangements. Adopt interim notification arrangements with the barangay and the local disaster risk reduction and management council, and finalize the plan only on completion of F-55, using the modelled affected zone to define the notification area and the shelter-in-place or evacuation arrangements. | IFC PS4 Para 6 | **High** | GMI HSE lead | 0–3 months, CS (interim arrangements; 3-12 months, CS (final plan following F-55 results) | Adopted community plan and drill record | Low to medium |
| **F-34** | Obtain the land titles or leases for the remaining facilities and secure the Glacier South lease assurances. | IFC PS5 | **Substantial** | GMI legal and corporate | 3–12 months, CS | Titles or leases on file and assurances confirmed | Low |
| **F-NOV** | Resolve and close out the open Notices of Violation. | PD 1586, RA 6969, RA 8749, RA 9275 | **Substantial** | GMI pollution control officer | 0–3 months, CP | Regulator closure or compliance orders | Low to medium |
| **F-42** | Assess worker wages against a defined living wage benchmark and create salary adjustments appropriately | IFC PS2, EMIF II | **Substantial** | GMI HR lead | 6–12 months | Regular conduct of living wage alignment assessment | Medium |
| **F-43** | Establish a system charge register (refrigerant type and kg per circuit). Calculate annual leak rate as % of system | IFC PS3 Para 13; Montreal | **High** | GMI Engineering Lead | 0 to 6 months, CS (register and LDAR); | System charge register complete; LDAR program | Medium |

| Finding | Corrective action target | Reference standard / basis | Risk | Responsible party | Timeline | Completion indicator | Estimated cost (PHP, indicative) |
|---|---|---|---|---|---|---|---|
| | charge per circuit. Implement LDAR program at Glacier South, Glacier Samar, Glacier Panay, Glacier FTI, and Glacier Liberty, targeting ≥25% leak rate reduction within 12 months. | Protocol / Kigali Amendment; EU F-Gas Regulation (reference benchmark) | | | 6 to 12 months, CS (first leak-rate calculations) | issued; annual leak-rate calculation on file per facility | |
| **F-44** | Cease R-22 virgin stock top-up at Glacier South and Glacier FTI. Prepare a facility-level R-22 phase-out plan identifying affected systems, residual charges, and conversion timeline. | Montreal Protocol HCFC phase-out schedule; IFC PS3 Para 13 | **High** | GMI Engineering Lead | 0 to 6 months, CS (cessation); 6 to 18 months, CS (phase-out plan) | Documented cessation of virgin R-22 procurement; approved R-22 phase-out plan per facility | Low to medium |
| **F-45** | Replace HCFC-141b flushing agent at Glacier South with a non-ODS substitute and update the chemical inventory. | Montreal Protocol ODS phase-out schedule; IFC PS3 Para 13 | **Moderate** | GMI Engineering Lead | 0 to 3 months, CS | Chemical inventory updated; purchase records confirming non-ODS substitute in use | Low |
| **F-46** | Prepare a refrigerant transition roadmap with facility-level schedules for phase-down of R-404A, R-507A, and R-410A to lower-GWP alternatives or natural refrigerants at plant replacement cycles. | Kigali Amendment HFC phase-down schedule; IFC PS3 Para 13; EU Taxonomy DNSH (climate mitigation) | **High** | GMI Engineering Lead | 6 to 18 months, CS | Board-approved refrigerant transition roadmap with facility milestones and capital cost schedule | Low to medium |
| **F-47** | Confirm ammonia system charge (kg) at all ammonia facilities from nameplate or system records and determine whether any facility crosses the PS4 / Exclusion List Item 12 major hazard threshold. | IFC PS4 Para 6; Equator Principles IV Exclusion List Item 12 | **High** | GMI Engineering Lead and HSE Lead | 0 to 3 months, CS | Confirmed ammonia charge on file per facility; written Exclusion List threshold determination issued | Low |
| **F-48** | Install circuit-level sub-metering at all facilities to disaggregate refrigeration load from auxiliary consumption and enable ongoing energy intensity monitoring. | IFC PS3 Para 6-7; EU Taxonomy Technical Screening Criteria 7.7 | **High** | GMI Engineering Lead | 12 to 24 months, CS | Sub-metering installed and operational; monthly energy disaggregation report issued per facility | Medium to high |
| **F-49** | Commission thermal envelope integrity audits at Glacier South, Glacier FTI, and Glacier Liberty and remediate confirmed insulation degradation. | IFC PS3 Para 6-7; WBG EHS Guidelines (cold storage BAT) | **High** | GMI Engineering Lead | 6 to 18 months, CS | Audit reports issued per facility; remediation works completed and verified | Medium |
| **F-50** | Commission for a priority energy and plant integrity assessment at Glacier Samar, which records 590 kWh per | IFC PS3 Para 6-7; WBG EHS | **High** | GMI Engineering Lead | 0 to 6 months, CS | Assessment report issued with costed remediation program; | Low to medium |

| Finding | Corrective action target | Reference standard / basis | Risk | Responsible party | Timeline | Completion indicator | Estimated cost (PHP, indicative) |
|---|---|---|---|---|---|---|---|
| | pallet position (more than double the portfolio average) alongside a worsening refrigerant leak trajectory. | Guidelines (cold storage BAT) | | | | energy intensity reduction target set | |
| **F-51** | Install variable-speed drives on compressors and cooling fans at Glacier South and Glacier Balagtas, targeting a 10% to 15% reduction in refrigeration energy consumption. | IFC PS3 Para 6-7; WBG EHS Guidelines (cold storage BAT) | **Moderate** | GMI Engineering Lead | 12 to 36 months, CS | VSD installation complete; pre- and post-installation energy consumption recorded per facility | High |
| **F-52** | Procure renewable energy supply arrangements or EACs for GMAC CDO and GMAC Davao, both on the higher-emission Mindanao Grid without current renewable supply. | IFC PS3 Para 6-7; GHG Protocol Scope 2 Guidance; SFDR PAI 1 | **Moderate** | GMI Sustainability Lead | 12 to 24 months, CS | Executed renewable energy supply agreement or EAC documentation for GMAC CDO and GMAC Davao | Low |
| **F-53** | Develop a Paris-aligned decarbonization pathway and submit an SBTi commitment letter, targeting ≥25% absolute Scope 1 and 2 reduction by 2030 against the 2024 baseline. | Paris Agreement / Philippine NDC; IFC PS3; Equator Principles IV; SFDR PAI 1 | **High** | GMI Sustainability Lead | 12 to 24 months, CS | SBTi commitment letter submitted; board-approved decarbonization pathway with annual milestones | Low to medium |
| **F-54** | Monitor Philippine carbon pricing developments and assess financial exposure for high-emission facilities, particularly Glacier South. Incorporate carbon cost assumptions into the ownership-period financial model. | Philippine NDC; Paris Agreement Article 6; IFC PS3 | **Moderate** | GMI Sustainability Lead | 12 to 24 months, CS; ongoing thereafter | Carbon pricing exposure assessment on file; carbon cost sensitivity in ownership-period financial model | Low |
| **F-55** | Commission a specialist to undertake, for each operating ammonia facility, a hazard and operability study (HAZOP) and an ammonia hazard assessment including release scenarios and dispersion modelling sufficient to identify potential off-site affected zones and sensitive receptors. This is particularly for Glacier Pulilan, Glacier Balagtas, GMAC CDO, GMAC Davao, and Glacier Zamboanga.<br><br>Using the confirmed system charges under F-47, define credible and worst-case release scenarios, model toxic endpoint distances under representative and adverse meteorological conditions, and map off-site affected zone and receptors. Apply the results of this study to detector placement under F-12 and to the community plan under F-31 | IFC PS1, PS4 Para 5 and 8; WBG General EHS Guidelines 1.5 and 3.7 | **High** | GMI HSE Lead, GMI Engineering Lead | 0 to 3 months, CS | Approved assessment for all five ammonia facilities identifying release scenarios, affected zones, sensitive receptors, and recommended controls | Medium to High |

# 10 Conclusions

This ESDD has evaluated the operations of GMI against applicable Philippine regulatory requirements, IFC Performance standards, and other relevant international frameworks. Based on the findings from the document review and site visits to selected facilities, the project is assessed as **IFC Category A (High risk)**. The categorization is driven principally by the potential for high-consequence environmental and social impacts associated with ammonia refrigeration and major-accident risk, community health and safety, and fire and life safety in high-rack cold-storage operations. These risks are potentially severe notwithstanding the absence of recorded community-affecting ammonia releases during the review period.

The significance of the Category A risks is increased by the portfolio-wide nature of the operations, the presence of five ammonia-using facilities, proximate sensitive receptors at certain facilities, existing regulatory enforcement matters, and gaps in emergency preparedness and community-facing controls. The absence of a fully integrated group-level ESMS further increases residual risk by limiting the consistent identification, monitoring, escalation and reporting of E&S risks across the portfolio.

The assessment showed that GMI has established a baseline level of compliance with national regulations and has implemented several key operational controls, including occupational health and safety procedures, human resource policies, and environmental permitting works. Positive practices observed include the provision of PPE to workers, the presence of safety procedures such as lockout-tagout and emergency response planning, and evidence of compliance with minimum wage requirements and statutory labor benefits. However, these practicers are generally characterized as meeting minimum regulatory requirements rather than demonstrating alignment with international good practice.

A number of material environmental and social risks and gaps were identified. These include regulatory compliance gaps in environmental permitting and monitoring across selected facilities; the absence of a fully integrated ESMS; reliance on agency-heavy workforce with limited oversight mechanisms; and incomplete alignment with IFC PS2 requirements. In addition, gaps remain in resource efficiency practices, refrigerant management, and monitoring systems, particularly in relation to high global warming potential refrigerants and ammonia use.

A key cross-cutting finding is the limited maturity of management systems and stakeholder engagement. Environmental and social management is currently implemented through fragmented procedures rather than a unified system, and stakeholder engagement remains largely informal, primarily involving periodic coordination with local government units. The absence of formal grievance mechanisms for both workers and communities constrains structured communication and timely resolution of concerns.

The ESAP has been developed to address the identified gaps and is expected to guide GMI toward improved alignment with IFC Performance Standards and good international industry practice. Overall, the assessment concludes that GMI is on a trajectory toward improved compliance, with evidence of corrective actions already underway. However, the transition from regulatory compliance to full alignment with international ESG standards will require systematic strengthening of management systems, enhanced contractor oversight, improved documentation and monitoring, and more structured labor relations system and stakeholder engagement. Subject to the effective implementation of the ESAP and continued monitoring, the residual likelihood and exposure associated with the identified risks are expected to reduce materially over the investment horizon. This improvement in residual risk does not, however, change the IFC Category A categorization, which reflects the inherent risk profile and potential consequence of the underlying activities rather than solely the current effectiveness of management controls.

# 11 References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