# GL-MS-002 – Additionality Methodology for REDD Projects with Preserved Forests (Ex-Post Stock Approach)

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Developed by: Flávio Alfaro

Normative basis: CCPs (ICVCM), ICROA Code of Best Practice, CORSIA, ISO 14064-2

Methodological integrations **:** GL-M-001 (core), GL-MC-004 (calculation/reporting), GL-MS-004 (leakage), GL-MS-012 (data/QA/QC), GL-MS-011 (national requirements/Art. 6)

Co-benefits: Assessed based on the CCB (Climate, Community & Biodiversity Standards)

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## Summary

# 1. Introduction

## 1.1 Objective and positioning

GL **-MS-002** establishes the technical, normative, and auditable framework for demonstrating additionality in REDD projects with preserved forests, applicable to any biome and independent of anthropogenic pressure. It operates in a modular and complementary manner to **GL-M-001** (governance and emission per cycle) and **GL-MC-004** (calculation and reporting of $CO_2eT$).

The methodology addresses the historical gap in the voluntary market regarding untouched areas, adopting an approach focused on eligibility and governance, while preserving the stock-based ex-post logic of **GL-M-001** . In short, it defines whether and under what conditions the project can issue in the cycle, without altering the method of calculating credits.

- Additionality as an eligibility gate (approve/condition/withhold) based on objective evidence: legality/ownership, economic and financial viability "carbon-free", absence of common practice and real risk of loss (including land and legal vulnerabilities), with annual revalidation.
- Eligibility × quantification separation: **GL-MS-002** does not alter the calculation of cycle credits, anchored in the validated cycle inventory ($CO_2eT$), as per **GL-M-001** and **GL-MC-004** .

- Risk and retention governance: use of fR (conversion risk) and fP (retention capacity) as decision inputs and QA/QC prioritization, without applying multipliers or arithmetic discounts.
- Uncertainties addressed by QA/QC and technical exclusions ( **GL-MS-012** ), with the possibility of total or partial retention of the cycle's emission until remediation is achieved when pertinent.
- Structured socio-environmental leakage ( **GL-MS-004** ) and safeguards/co-benefits ( **GL-MS-003** ).
- Transparency and digital traceability: publication of the Public Risk Indicator (FRI), standardized documentation, tokenization, and audit trails on the Greenline Carbonsat Platform.
- Independent and impartial governance: conflict of interest policy, rotation of VVBs (Voluntary Valuable Partners), and periodic audits.
- Compatibility with high-integrity seals: convergence with CCPs/ICVCM, ICROA and ISO 14064-2, with optional CORSIA compatibility attachment (without altering the stock logic).

## 1.2 Central logic and premises

GL-MS-002 operates as an eligibility and governance module for REDD projects with preserved forests, maintaining the ex-post stock-based logic of the Greenline ecosystem: cycle credits arise from the validated cycle stock ($CO_2eT$), calculated and reported according to **GL-MC-004** and the principles of **GL-M-001** . This methodology does not alter the counting method; it defines if and under what conditions the project can emit in the cycle, based on objective evidence and governance decisions.

**Operational premises (summary):**

- Accounting (ex-post): the emission per cycle is a function of the verified $CO_2eT$; multipliers, percentage discounts or "technical factors" do not apply to the validated stock.
- Additionality as a gate (yes/conditional/no): demonstrated by legality/ownership, "carbon-free" viability (e.g., IRR_sem below the sectoral/regional cutoff rate and NPV_sem < 0 in ≥2/3 scenarios), absence of common practice (prevalence <25% of peers with active conservation and stable funding), and real risk of loss; all re-attested annually by documentation.
- fR and fP (governance): informative parameters that conservatively reflect land and legal vulnerabilities, as well as institutional, operational, and socio-

environmental risks; they are not included in the formula for calculating credits.

- Uncertainty addressed by QA/QC: follow **GL-MS-012** with technical exclusions before consolidating $CO_2eT$, traceability, and quality score (0–100) as decision input; when the uncertainty is material, the cycle emission may be withheld in whole or in part until the issue is resolved.
- Leakage (socio-environmental leakage): assessed according to **GL-MS-004** ; provides guidance on conditions and mitigation without altering the inventory-based count.
- Data and sources: prioritization of official/independent databases, methodological consistency, reproducibility and living catalog ( **GL-GR-010** ); alignment with national requirements via **GL-MS-011** .
- Transparency: publication of the Public Risk Indicator (FRE, 0–1) in the PDD/registry and on the Greenline Carbonsat Platform, without quantitative effect.
- Compatibility and labeling: mapping framework with CCPs/ICROA/CCB and optional CORSIA attachment (conservative baseline for labeling purposes), without modifying the core for inventory purposes.
- Co-benefits and safeguards: addressed in a modular manner by **GL-MS-003** , complementing project eligibility and transparency.

**Legend of Abbreviations:**

- **IRR_sem** — Internal Rate of Return of the project excluding carbon credit revenues; used in the feasibility test. Unit: % per annum; compare with the sectoral/regional cutoff rate.
- **NPV** — Net Present Value calculated without carbon credit revenues. (Standard in this methodology; when different, it will be explicitly stated.)
- **QA/QC** — Data Quality Assurance / Quality Control: procedures for completeness, officiality, geospatial accuracy, temporal coverage, and reproducibility; summarized in a score of 0–100 (GL-MS-012).
- **FRE** — Public Risk Indicator (0–1), for transparency; does not alter the credit count and must be published in the PDD/registry.

## 1.3 Scope and limits of application

This methodology applies to REDD projects with preserved native forest, in any biome, whose purpose is to demonstrate additionality for emission purposes per cycle based on validated ex-post stock ($CO_2eT$), according to **GL-M-001** and **GL-**

**MC-004** . **GL-MS-002** does not alter the method of counting credits; it defines if and under what conditions the project can emit in the cycle, based on objective evidence and governance decisions.

**a) Material and geographical scope**

It encompasses preserved forest areas under ownership, legitimate possession, or valid mandate, with defined geospatial boundaries consistent with official records and/or applicable administrative acts.

**b) Minimum eligibility (documentary, legal and compliance)**

It requires proof of ownership/legitimacy of use, land tenure regularity, and legal-regulatory compliance according to **GL-MS-007 (Legal Compliance)** , including: ownership chain/carbon rights, land ownership and environmental status, relevant licenses/authorizations, and corporate due diligence (KYC/KYB, AML/ABC) when applicable. Land tenure and legal vulnerabilities must be explicitly stated and addressed both in the additionality evidence and in the governance parameters (fR/fP).

**c) Data requirements and verification**

Prioritized sources: official or independent sources with public traceability. They must meet the quality criteria defined in **GL-MS-012** (completeness, official status, geospatial accuracy, temporal coverage, reproducibility). Material uncertainties are addressed through QA/QC procedures, technical exclusions before $CO_2eT$ consolidation, and, if necessary, total or partial retention of the emission cycle until remediation.

**d) Limits and exclusions**

This does not apply to: i) reforestation/ARR projects; ii) timber forest management as a core activity; iii) “planned deforestation”; iv) areas with unresolved land/legal issues as per **GL-MS-007** ; v) initiatives without minimum MRV capacity as per **GL-MS-012** ; vi) interventions whose main objective is not stock conservation.

**e) Revalidation and continuity**

Additionality is reassessed annually (legality/ownership, "carbon-free" viability, common practice, and actual risk). Compliance reassessment follows **GL-MS-007** . Material changes may lead to conditional emissions or retention of the cycle until proper correction.

**f) Internal interactions and cross-references**

It integrates with: **GL-M-001** (governance of emission by cycle), **GL-MC-004** (calculation/reporting of $CO_2eT$), **GL-MS-004** (leakage), **GL-MS-012** (data/QA/QC), **GL-MS-011** (national requirements/Art. 6), **GL-MS-007** (legal compliance) and **GL-MS-003** (co-benefits/safeguards). The baseline is **advisory in nature** (Annex II), without quantitative effect.

**g) Transparency and accountability**

The **Public Risk Indicator (FRE, 0–1)** must be published in the PDD/record, with method, sources, and uncertainties, **without** affecting the credit count. The **compliance evidence packages** required by **GL-MS-007** and the QA/QC dossiers (GL-MS-012) comprise the project's auditable file.

Legend of Abbreviations

- KYC/KYB — Know Your Customer / Know Your Business: due diligence regarding registration/corporate integrity, as per GL-MS-007.
- AML/ABC — Anti-Money Laundering / Anti-Bribery and Corruption: AML/CFT and anti-corruption policies and controls as outlined in GL-MS-007.

## 1.4 Modular integration and internal cross-references (adjust at the end)

This methodology integrates with the modules and standards of the Greenline Carbonsat ecosystem to ensure technical consistency, governance, and verifiability. **GL-MS-002** defines **how** additionality is demonstrated and **where** each requirement is addressed, preserving the credit count as per **GL-M-001/GL-MC-004 and applying governance** effects only at the Gate (Section 5).

**a) Link to GL-M-001 (parent methodology)**

GL **-MS-002** inherits macro definitions (REDD scope, governance, general criteria) and refers to **GL-M-001** for shared spatial parameters (e.g., primary ring) and publication/versioning rules.

b) **Quantification (GL-MC-004)**

The quantification of validated ex-post stock ($CO_2eT$) remains governed by **GL-MC-004** . **GL-MS-002** does not alter formulas, factors, or multipliers; it only conditions the **emission per cycle** to compliance with additionality.

**c) Leakage (GL-MS-004)**

Leakage assessment is **exclusively** performed using GL-MS-004. Key references: Preconditions Gate (Section 5) and Mapping Framework (Section 8.1). Appendix III of this methodology records, by cycle, the results derived from GL-MS-004.

**d) Legal compliance and integrity (GL-MS-007)**

KYC/KYB and AML/ABC checks, ownership/carbon rights, land title/environmental status, and applicable licenses are handled by GL-MS-007 and integrated as **preconditions** in the Gate (Section 5).

**e) Regulatory Annexes (GL-MS-002)**

– **Annex I (fR/fP):** criteria and classes, $\kappa \geq 0.60$, with operational reference to GL-MC-013 (information).

– **Annex II (Baseline, advisory):** annual flow with **a standardized historical window of 36 months** and Tables A–D.

– **Annex III (Leakage):** cycle-by-cycle record of GL-MS-004 results.

– **Annex IV (FRE): transparency** factor 0–1 (D/M/I/G), **with no quantitative effect** .

– **Annex V (Carbon-free viability):** IRR_without/NPV_without and objective rule (≥ 2/3 scenarios).

– **Annex VI (Common practice):** paired protocol, prevalence and thresholds (< 25 / 25–40 / > 40).

**f) Mapping Framework (Section 8.1)**

It consolidates compatibility with **CORSIA** and **Art. 6** , establishes GL-MS-004 as the exclusive leakage method, and allocates **FRE** to Annex IV (transparency). It includes cross-references to the external requirements used.

**g) Preconditions gate (Section 5)**

Revised table with QA/QC, Leakage ( **GL-MS-004** ) and Compliance **(GL-MS-007** ), plus **General Condition** . The Gate result is binary (proceed/do not proceed) and **does not alter** $CO_2eT$ quantities.

**h) Informative documents (GL-MC-013)**

Manual of calculations and template spreadsheets (fR/fP, FRE, IRR_sem/NPV_sem, Common practice). In case of conflict, the Annexes of this methodology **prevail .**

**i) Common parameters and precedence**

i. **Historical window:** 36 months across the entire document and cartographic products/tables.

ii. **Spatial scope:** use the **primary ring** in force in **GL-M-001** (fP and leakage advisory).

iii. **Hierarchy: GL-MS-002** Attachments → **GL-MS-002** Body → **GL-MS-004/GL-MS-007/GL-MC-004** → G **LM-001** .

**j) Traceability and cross-referencing**

The evidence per cycle (Annexes III–VI) should be archived and referenced in Section 9 (publication/versioning). In the final layout, insert automatic

cross-references (e.g., 5; 8.1; Annexes I–VI) to maintain navigation consistency.

## 2. Principles, Rationale, and Normative References

### 2.1 Methodological principles

GL **-MS-002** is guided by the following principles:

- Objectivity and conservatism: decisions based on documentary evidence and objective criteria, with a preference for conservative hypotheses when material uncertainties persist.

- Separation of functions (eligibility × count): additionality as a gate; quantification of cycle credits follows the validated ex-post inventory ( **GL-M-001 / GL-MC-004** ).

- Modularity and replicability: use of dedicated modules ( **GL-MS-004, GL-MS-007, GL-MS-011, GL-MS-012, GL-MS-003** ) and standardized templates to reduce interpretative dispersion.

- Transparency and traceability: auditable documentation, publication of the Public Risk Indicator (FRI), and tracking on the Greenline Platform.

- Risk management and sustainability through governance: fR/fP as informative inputs (without multipliers) and proportionate measures (enhanced QA/QC, conditions or retention of cycle issuance when relevant).

- Data quality and reproducibility: QA/QC criteria defined in **GL-MS-012** and living catalog of sources (GL-GR-010).

- Annual revalidation: periodic re-attestations of additionality and compliance ( **GL-MS-007** ).

## 2.2 Methodological basis

The stock-based ex-post approach avoids overestimations typical of counterfactual models by linking cycle emissions to verified stocks, while additionality acts as an eligibility filter through four pillars: legality/ownership, "carbon-free" viability, common practice, and real risk. Uncertainty is addressed before stock consolidation through QA/QC procedures (technical exclusions, reprocessing, additional verification) and, if necessary, withholding cycle emissions. Leakage is diagnosed ( **GL-MS-004** ) to guide mitigation and conditions, without altering the stock count. Publication of the FRE (0–1) increases market transparency, without quantitative effect.

## 2.3 Normative references and cross-references

**International standards and codes:**

- CCPs (ICVCM) and ICROA Code of Best Practice — principles of high integrity, eligibility, and responsible use of credits.

- ISO 14064-2:2019 (projects), ISO 14064-3:2019 (validation/verification) and ISO 14065 (accreditation) — framework for quality, verification and competence of bodies.

**Scientific basis for quantification by stock (LULUCF/IPCC):**

- IPCC – GPG-LULUCF (2003) and related documents (including updates) serve as a reference for best practices for consistent land representation, sampling, and estimation of stocks and stock changes in LULUCF, using the Stock-Difference and Gain-Loss methods.

- IPCC guidelines and supplements applicable to the land use sector, ensuring methodological consistency between inventories, monitoring, and reporting.

**Public accounting and reporting schemes (non-voluntary):**

- UNFCCC – LULUCF: sectoral framework and guidelines for national inventories and MRV; references for payment for results in forests, with ex-post issuance conditioned on measurement and verification.

- Paris Agreement – Art. 6: International cooperation and environmental integrity for the transfer of mitigation outcomes, where applicable.

- Regional LULUCF regulations (e.g., European Union): rules for accounting for changes in stock by land use categories within a jurisdictional scope.

- Internal references to this methodology: **GL-MS-012** (data/QA/QC and score 0–100), **GL-GR-010** (source catalog), **GL-MS-011** (national requirements and Art. 6), **GL-MC-004** (calculation/reporting of validated inventory in the cycle) and **GL-M-001** (issuance rules per cycle).

Alignment note: When buyers require CORSIA, a compatibility attachment (conservative baseline for labeling purposes) may be triggered without altering the core stock-based ex-post methodology.

*Legend of Abbreviations*

- *LULUCF — Land Use, Land-Use Change and Forestry (land use sector).*
- *UNFCCC — United Nations Framework Convention on Climate Change.*
- *Art. 6 — Article 6 of the Paris Agreement (international cooperation).*
- *MRV — Monitoring, Reporting and Verification.*

### 2.4 Hierarchy and consistency

In case of doubt or potential interpretive conflict, the following shall prevail: (i) **GL-M-001** for cycle-based emission rules; (ii) **GL-MC-004** for inventory calculation/reporting; (iii) the current Interpretative Notes. GL-MS-002 does not create ex-ante multipliers or buffers; all decisions are based on evidence, QA/QC, and governance.

## 3. Methodological Objective and Scope of Application

### 3.1 Objective

Establish criteria, evidence, and procedures to demonstrate additionality in REDD projects with preserved forest, operating as an eligibility and governance module. **GL-MS-002** does not alter the counting method defined in **GL-M-001/GL-MC-004** ; it defines if and under what conditions the project can emit in the cycle, based on: (i) legality/ownership and compliance, (ii) "carbon-free" economic and financial viability, (iii) absence of common practice, and (iv) real risk of loss — all re-evaluated annually.

### 3.2 Scope of application (summary)

This applies to REDD projects with preserved native forest, in any biome, that have MRV capacity and adhere to this methodology and related modules. The baseline

is advisory in nature (support for additionality and risk), without a quantitative effect on emissions per cycle.

### 3.3 Conditions of applicability (prerequisites)

a) Legality, ownership, and legal compliance — land tenure and regulatory verification, including KYC/KYB and AML/ABC, as per **GL-MS-007** .

b) Data and verification — use of official and independent databases with public traceability, compliance with the QA/QC criteria of **GL-MS-012** , and adherence to internal data and sampling protocols that ensure reproducibility.

c) "Carbon-free" viability — economic and financial assessment excluding revenue from credits; criteria and thresholds defined in this methodology.

d) Common practice — pairwise analysis and prevalence analysis according to standardized sampling protocol and official sources; record universe, comparability criteria, and sample used.

e) Real risk of loss — documentary and qualitative diagnosis of pressures and vulnerabilities (land tenure, legal, institutional, operational, and socio-environmental), with historical series and aggregations at the jurisdictional scale (e.g., public government monitoring systems, inventories, and official registers). This evidence does not alter the stock-based count; it feeds into additionality (gate) and governance (conditions and mitigation). The sources must be traceable and meet the QA/QC criteria of **GL-MS-012.**

f) Leakage — structured assessment according to **GL-MS-004** (governance input; without altering the inventory count).

## 3.4 Limits and exclusions

This does not apply to: i) ARR/reforestation; ii) timber management as a core activity; iii) "planned deforestation"; iv) areas with unresolved land/legal issues ( **GL-MS-007** ); v) initiatives without minimum MRV capacity ( **GL-MS-012** ); vi) scopes whose main objective is not stock conservation.

## 3.5 Deliverables per cycle (outputs of this methodology)

a) Opinion on additionality: approve / approve with conditions / retain.

b) Governance conditions: mitigation measures, enhanced QA/QC, and, where relevant, retention of emissions from the cycle until remediation.

c) Transparency: publication of the Public Risk Indicator (FRI) (informative, without quantitative effect) in the PDD/registry and on the Greenline Platform.

d) Document packages: QA/QC dossier ( **GL-MS-012** ), compliance evidence (GL-MS-007), leakage analysis ( **GL-MS-004** ) and, when used, advisory baseline (Annex II).

# 4. Quantification by Inventory (accounting principle)

## 4.1 Ex-post principle

The cycle-based issuance is based on the validated inventory in the cycle ($CO_2eT$), calculated and reported according to **GL-MC-004** and the principles of **GL-M-001** . This methodology does not alter the method of counting credits; it conditions the issuance on demonstrated eligibility (Section 3) and governance decisions.

## 4.2 Ex-ante sealing of multipliers and buffers

No multiplicative factors (e.g., fR, fP, FRE) or ex-ante buffers are applied to $CO_2eT$ by design. Technical and risk parameters do not arithmetically interfere with the calculation of the cycle volume; they act only as decision inputs (approve/condition/withhold) and for transparency.

## 4.3 Uncertainty management (QA/QC and technical exclusions)

Material uncertainties must be addressed before $CO_2eT$ consolidation through QA/QC procedures ( **GL-MS-012** ): technical exclusions of information units, reprocessing, additional verifications, and full traceability. If material uncertainty persists, the cycle emission may be withheld in whole or in part until the issue is resolved.

## 4.4 Interactions with governance (fR/fP, β) and leakage

The parameters fR (conversion risk) and fP (staying capacity) conservatively reflect land, legal, institutional, operational, and socio-environmental vulnerabilities; they serve to prioritize QA/QC, establish conditions, and, when necessary, retain the emission of the cycle. The Staying Capacity (β) is a governance measure (outside the formula) defined by institutional policy. Leakage is assessed according to **GL-MS-004** and generates mitigation measures/conditions, without altering the stock-based count.

## 4.5 Transparency and publication

The Public Risk Indicator (FRE, 0–1) must be published in the PDD/registry and on the Greenline Carbonsat Platform, including the method, sources, and uncertainties; it is for informational purposes only and does not affect the counting of credits for the cycle.

## 4.6 Internal references

- GL-M-001 — emission rules per cycle and governance;
- GL-MC-004 — calculation and reporting of $CO_2eT$;
- GL-MS-012 — data criteria and **QA/QC** (score 0–100);
- **Leakage** assessment ;
- GL-MS-007 — Legal compliance (KYC/KYB, AML/ABC);
- GL-GR-010 — internal catalog of fonts and protocols.

*Legend of Abbreviations*

*β — Reserve of Permanence (governance measure, outside the counting formula).*

## 5. Additionality as an Eligibility Gate

Additionality authorizes the issuance of the cycle (approve / approve with conditions / retain). The tests below are objective, based on documentary evidence. The result does not alter the method of inventory counting; it only conditions the issuance of the cycle.

### 5.1 Prerequisites (must be met before the pillars)

| Item | Criterion | Decision rule | Minimum evidence |
|---|---|---|---|
| **QA/QC (GL-MS-012)** | Score (0–100) | **Retain:** < 50 · **Condition:** 50–69 · **Release:** ≥ 70 | QA/QC report with score and any technical exclusions; version, date, internal URI and hash. |
| **Leakage (GL-MS-004)** | Class determined **exclusively** according to GL-MS-004 (Green/Yellow/Red) | **Retain:** Red · **Condition:** Yellow · **Release:** Green | Leakage diagnosis and, where applicable, mitigation plan; version, date, internal URI, and hash. |
| **Compliance (GL-MS-007)** | Express consent from the owner + **KYC/KYB** and **AML/ABC** completed. | **Withhold:** absence of consent and/or incomplete due diligence; **Condition:** non-material issues that can be resolved within the cycle; **Issue:** due diligence completed. | Consent forms and archived KYC/KYB and AML/ABC files; internal URI and hash. |

*The Leakage class (Green / Yellow / Red), determined exclusively according to **GL-MS-004 – Leakage Annex** , is a mandatory prerequisite for this Eligibility Gate. No pillar may be evaluated while the Leakage class is Red.*

***Notes:*** *(i) Preconditions operate* ***only*** *as* ***a governance gate*** *(Issue/Condition/Retain),* ***without*** *altering the* ***ex-post inventory count ($CO_2eT$)*** *; (ii) the* ***leakage method*** *(assessment, mitigation and monitoring) is governed* ***entirely*** *by* ***GL-MS-004*** *.*

## 5.2 Pillars of additionality (gate)

| No. | Pillar | Objective decision rule | Minimum evidence |
|---|---|---|---|
| 5.1 | Legality & Ownership (GL-MS-007) | Approve: Ownership/legitimacy and express consent of the owner for the project and carbon rights; regulatory compliance; KYC/KYB and AML/ABC completed. Condition: Requirements met, but there is a remediable gap with a plan ≤ 90 days. Withhold: Lack of consent; impeding litigation; failure to complete KYC/KYB/AML/ABC. | Chain of title; formal consent; certificates/licenses; KYC/KYB and AML/ABC reports. |
| 5.2 | "Carbon-free" viability | Approve: IRR_sem < cutoff rate and NPV_sem < 0 in ≥ 2/3 scenarios (low/baseline/high). Condition: threshold partially met with contracted mitigators. Retain: threshold not met without sufficient mitigators. | Spreadsheet (CAPEX/OPEX flows, scenarios, cut-off rate), auditable calculation records *(Annex V – Feasibility Models)* |
| 5.3 | Common Practice (prevalence) | Approve: < 25% of comparable peers with active conservation + stable funding. Conditional: 25–40% with proven specific barriers. Retain: > 40% without sufficient justification. | Peer-Reference Protocol (universe, comparability criteria, sample, sources, 3-year window) *(Annex VI – Peer-Reference Protocol)* |
| 5.4 | Real Risk of Loss | Approve: low/moderate pressure and controls implemented. Condition: moderate/high pressure with verifiable mitigation plan. Retain: active critical conflicts or absence of controls in the face of high pressure. | Simple checklist (recent pressure; active conflict; controls in execution) + attached documents. |

## 5.3 Aggregate Gate Rule

- Retain: any failed precondition or any pillar in red.
- Approval with conditions: no reds and (i) 5.1, 5.2 or 5.3 in yellow, or (ii) any precondition in yellow.
- Approve: green preconditions and all green pillars.

### 5.4 Annual revalidation

Reassess preconditions and pillars in each cycle. Material changes may generate constraints or delays until remediation is achieved.

### 5.5 Internal cross-references (related modules and guides)

- GL-MS-007 – Legal Compliance (legality, ownership, KYC/KYB, AML/ABC)
- GL-MS-012 – Data and QA/QC (criteria, scoring and traceability)
- GL-MS-004 – Leakage (diagnosis and mitigation)
- GL-GR-010 – Data Reference Guide (official sources and internal protocols)
- GL-M-001 – Core (governance of emission by cycle)
- GL-MC-004 – Calculation/Report (inventory validated in the cycle)
- GL-MS-011 – National Requirements / Art. 6 (when applicable)
- Checklist - Actual Risk of Loss
- Annex V – Feasibility Models
- Annex VI – Peer Protocol

*Legend of Abbreviations*

*IRR_sem — Internal Rate of Return of the project excluding revenue from credits.*

*NPV_sem — Net Present Value calculated without credit revenue.*

*KYC/KYB — Know Your Customer / Know Your Business (due diligence).*

*AML/ABC — Anti-Money Laundering / Anti-Bribery and Corruption (integrity controls).*

*QA/QC — Quality Assurance / Quality Control (data quality).*

## 6. Gate per Cycle

This gate applies the Issue / Issue with conditions / Withhold decision based on the integrated inputs of **GL-MS-012** (QA/QC and metadata), GL-MS-007 (Legal-land compliance – SCJ-GC) and GL-MC-004 (Leakage, Green / Yellow / Red class). The results are binding for the cycle decision.

### 6.1 Scope and principles

Governance decides, in each cycle, between Issue / Issue with conditions / Retain, based on: (i) the result of the Eligibility Gate (Section 5), (ii) data quality ( **GL-MS-012** ) and (iii) risk/retention inputs (fR/fP), leakage ( **GL-MS-004** ) and compliance ( **GL-MS-007** ). Governance does not alter the inventory count ( **GL-M-001 / GL-MC-004** ); it only conditions the issuance and transparency.

### 6.2 Required inputs for the decision (per cycle)

a) Gate's opinion (Section 5).
b) QA/QC report with score and any technical exclusions ( **GL-MS-012** ).
c) Leakage diagnosis and mitigation plan ( **GL-MS-004** ).
d) Compliance Dossier ( **GL-MS-007** ).
e) fR/fP classification with justifications and sources (Annex I; **GL-GR-010** ).
f) $CO_2eT$ calculated and reported ( **GL-MC-004** ).

### 6.3 Use of fR and fP (governance inputs)

- **Function:** to conservatively reflect the risk of conversion (fR) and the ability to remain (fP).
- **Update:** per cycle, with traceable evidence (GL-MS-012; GL-GR-010).
- **Effect** : They do not generate numerical discounts; they guide conditions and the decision to retain when the residual risk is incompatible with the issuance.
    - Low/Moderate: Emission continues; may require enhanced monitoring.

- High: Issue with conditions (verifiable mitigation plan) or Withhold until remediation.

## 6.4 Stay Reservation (β)

When provided for by institutional policy, β is a governance measure administered in a register/program to cover residual risks. β is not included in the accounting formula; any retention/adjustment thereof occurs outside of credit calculation, with published and verifiable criteria.

## 6.5 Decision rule (simple application)

The decision cycle observes the Aggregate Gate Rule (Section 5.C) and the QA/QC and Leakage preconditions. To enable practical application, use the table below:

| Input | Condition | Exit Gate (Issue / Condition / Retain) | Reference to Evidence / Applicable Module |
|---|---|---|---|
| QA/QC (GL-MS-012) | FTC ≥ 70 | Issue | QA/QC report and FTC cycle spreadsheets, as per GL-MS-012. |
| QA/QC (GL-MS-012) | FTC between 50 and 69 | Condition (complete evidence, technical cleanup, or missing metadata) | GL-MS-012 – Sections 4 and 6 (performance thresholds). |
| QA/QC (GL-MS-012) | FTC < 50 | Retain (not suitable for release until complete remediation) | GL-MS-012 – VVB opinion / QA/QC logs. |
| Leakage (GL-MC-004) | Green Class | Issue | GL-MC-004 – Leakage Annex (qualitative diagnosis). |
| Leakage (GL-MC-004) | Yellow Class | Condition (implement and track mitigation plan) | GL-MC-004 – Mitigation and Monitoring Plan (PMPE). |
| Leakage (GL-MC-004) | Red Class | Hold back (pending mitigation and further assessment) | GL-MC-004 – Reassessment record and VVB opinion. |

| Input | Condition | Exit Gate (Issue / Condition / Retain) | Reference to Evidence / Applicable Module |
|---|---|---|---|
| Legal and land compliance (GL-MS-007) | SCJ-GC valid and in effect | Issue | Compliance certification, legal opinion, and public link. |
| Legal and land compliance (GL-MS-007) | Pending or with remediable inconsistencies. | Condition (correct or update documentation) | GL-MS-007 – Sections 4 and 5 (land scope and AML/ABC). |
| Legal and land compliance (GL-MS-007) | Invalid, expired, or with a critical conflict. | Withhold (until full regularization) | GL-MS-007 – Compliance Record / SCJ-GC. |
| Additionality and conversion risk (GL-MS-002) | Complete and verifiable evidence | Issue | Additionality and conversion risk checklists. |
| Additionality and conversion risk (GL-MS-002) | Material gaps or documentary inconsistencies | Conditioning (filling gaps or revising PDD) | GL-MS-002 – Sections 5 and 8. |
| Additionality and conversion risk (GL-MS-002) | Unfeasible or lacking technical proof. | Retain (not eligible until scope review) | Technical opinion - VVB and field report. |

**Legend and mandatory cross-references:**

GL-MS-012 (QA/QC and metadata); GL-MS-007 (Legal-land compliance); GL-MC-004 (Leakage – Green/Yellow/Red class); GL-GR-010 (Official sources, URI and record hash).

## 6.6 Standardized "Conditions" field

The "Conditions" field should objectively record the remediation measures, deadlines, and responsible parties associated with the "Condition" or "Withhold" decisions.

This record should clearly indicate the type of corrective action (technical, documentary, land-related, or governance-related), the deadline for execution, and the entity responsible for monitoring (Proponent, Greenline Carbonsat, or VVB).

A standardized template for completing the "Conditions" field will be provided in the Checklist Appendix (Section 9) to ensure uniformity and traceability across cycles.

## 6.7 Operational flow by cycle (step by step)

1) Consolidate files: Gate (Section 5), QA/QC ( **GL-MS-012** ), Leakage ( **GL-MS-004** ), Compliance ( **GL-MS-007** ), fR/fP (Annex I), $CO_2eT$ ( **GL-MC-004** ).
2) Deliberate based on table 6.5 and record any conditions, if any.
3) Formalize: Issue / Issue with conditions / Withhold, with justification.
4) Publish: PDD of the cycle, FRE (Annex IV) and conditions/deadlines.
5) Execute and verify: confirm compliance with the conditions in the annual renewal.

## 6.8 Advertising and transparency (FRE)

The Public Risk Indicator (FRE, 0–1) must be published each cycle (Annex IV), with method, sources and uncertainties. The FRE is for informational purposes only and does not alter the credit count.

## 6.9 Internal references

**GL-M-001** (emission governance), **GL-MC-004** ($CO_2eT$ calculation/reporting), **GL-MS-012** (data/QA/QC), GL-MS-004 (leakage), **GL-MS-007** (compliance), **GL-GR-010** (sources and protocols), **Annex I** (fR/fP), **Annex IV** (FRE).

*Legend of Abbreviations*

*fR — Conversion Risk Factor (governance input).*

*fP — Permanence Factor (governance input).*

*β — Reserve of Permanence (governance measure, outside the formula).*

*FRE — Public Risk Indicator (0–1), informative.*

*$CO_2eT$ — Equivalent $CO_2$ stock validated in the cycle (ex-post).*

# 7. The Role of Additionality and Baseline

## 7.1 The role of additionality (summary)

Additionality acts as the project's Eligibility Gate, determining whether to Emit / Emit with conditions / Retain in the cycle. It is demonstrated by objective evidence (legality & ownership/compliance; "carbon-free" viability; common practice; real risk of loss) and re-attested annually. Additionality does not alter the cycle's stock count (ex-post quantification of $CO_2eT$); it only conditions the emission decision.

## 7.2 Baseline (advisory role)

The baseline serves an informative purpose: it describes the context, agents, drivers, pressures, and trends of land-use change at a local/jurisdictional scale, supporting the demonstration of additionality (especially common practice and real risk) and guiding governance.

- It is not used to adjust the credit volume of the cycle.
- You should use historical series and official/independent data with traceability, observing internal data protocols and QA/QC criteria.
- The baseline model and minimum fields are in Annex II – Baseline (for guidance).

## 7.3 Interaction with governance and transparency

Baseline findings:

a) They feed into the Gate (Section 5) and the emission decision per cycle (Section 6);

b) guide the prioritization of QA/QC and any potential constraints;

c) They support the publication of the Public Risk Indicator (FRI) (Annex IV), with stated method, sources and uncertainties.

None of these elements **changes** the inventory count.

## 7.4 Minimum deliverables (per cycle)

1) Brief additionality report (3–5 pages): summary of the results of the pillars (5.1–5.4) and the status of the preconditions.
2) Baseline document (advisory) based on the model in Annex II (series/indicators, maps and context narrative).
3) Table of sources and traceability: list of databases, versions, periods and responsible parties (according to internal protocols).
4) Links to governance: associated conditions and mitigation measures (Section 6), including references to compliance, leakage, and data.
5) Publication of the FRE: value (0–1), method, sources and uncertainties (Annex IV).

## 7.5 Internal references

- Section 5 — Additionality as a Gate (criteria and thresholds).
- Section 6 — Governance of Cycle Issuance (application of the decision).
- Annex II — Baseline (consultative model).
- Annex IV — Public Risk Indicators (FRI).
- GL-MS-012 — Data and QA/QC (criteria and score).
- GL-GR-010 — Data reference guide (internal sources and protocols).
- GL-MS-004 — Leakage (diagnosis and mitigation).
- GL-MS-007 — Legal compliance (ownership documentation and integrity).
- GL-MC-004 — Calculation/reporting of $CO_2eT$ (ex-post quantification).
- GL-M-001 — General governance rules for cyclical issuance.

# 8. Compliance with Standards and Labeling

## 8.1 Mapping framework (CCPs/ICROA/CCB: requirement ↔ where it is met)

The table below guides auditors and buyers on where each requirement is met in this methodology. It is a living document: it should be updated whenever there is a revision of modules/appendices.

| Requirement (CCPs / ICROA / CCB) | Where does it fulfill in GL? | Evidence of the cycle |
|---|---|---|
| Eligibility & objective additionality | Section 5 (gate) — pillars: Legality & ownership; Carbon-free viability; Common practice; Real risk | Gate opinion + pillar dossiers |
| Conservative quantification (ex-post, without multipliers) | Section 4 + GL-M-001 (architecture); memories in GL-MC-004 | $CO_2eT$ report + calculation details (version, internal URI, hash) |
| Retention & risk management | Annex I (fR/fP) + Section 6 (decision matrix; β as governance) | fR/fP classification; decision and conditions (PCP); β registration (when applicable) |
| Leakage: Diagnosis & Mitigation | GL-MS-004 (exclusive method); use in this GL: Section 5.I (preconditions) | Leakage report + mitigation plan (when applicable); class (Green/Yellow/Red); version, internal URI, hash |
| Data quality & uncertainty (QA/QC) | GL-MS-012 (gate precondition) | QA/QC score and documented technical exclusions; κ from Annex I (when applicable) |
| Transparency & information to the market | Annex IV (FRE) + Section 9 (minimum publication fields: PDD/record) | FRE (0–1) published by cycle; sources and uncertainties;<br>PDD/record according to minimum fields |

| Requirement (CCPs / ICROA / CCB) | Where does it fulfill in GL? | Evidence of the cycle |
|---|---|---|
| Rights, ownership & integrity | GL-MS-007 (consent; KYC/KYB; AML/ABC) | Chain of ownership and consent; KYC/KYB and AML/ABC dossiers completed. |
| MRV & independence of verification | GL-MC-004 ($CO_2eT$ calculation/reporting) + GL-M-001 (cycle governance) *(GL-MC-013: information manual for fR/CE)* | Cycle reports + VVB opinion; versioned template spreadsheets (when applicable) |
| Co-benefits & safeguards | GL-MS-003 (modular) | Co-benefit/safeguard and evidence report |
| CORSIA & Art. 6 compatibility | Optional annex CORSIA (labeling) + GL-MS-011 (Art. 6) | Compatibility matrix and labeling documentation; corresponding authorizations (when applicable) |

***Notes:***
*• Leakage is assessed and mitigated exclusively by GL-MS-004; GL-MS-002 uses only the final class as a gate (Section 5.I). • Where internal URI and hash are present, follow GL-GR-010 (storage, versioning and integrity).*

## 8.2 CORSIA compatibility (optional, via compatibility add-on)

When required by buyers, GL-MS-002 can trigger a CORSIA Compatibility Addendum (without altering the ex-post inventory logic). This addendum must:

a) Present a conservative baseline for CORSIA labeling purposes only;

b) Clearly state the eligibility criteria and monitoring periods required by the scheme;

c) To highlight MRV, avoid double counting, and meet registration requirements;

d) Publish a crosswalk "CORSIA ↔ where it complies with the GL" (items 8.1, **GL-MS-011, GL-MS-007, GL-MC-004** , Sections 4–6);

e) To make it clear that the calculation of cycle credits remains based on verified $CO_2eT$ ( **GL-MC-004** ), without multipliers.

## 8.3 Compliance with national requirements / Art. 6 (via GL-MS-011)

Projects must demonstrate compliance with national legal requirements and, where applicable, with the processes of Article 6 of the Paris Agreement. Verification will be carried out via **GL-MS-011** , covering at least:

- Authorizations and acts of the host country applicable to the project/transfer;
- Corresponding adjustments (when there is an international transfer of mitigation results);
- Integration of records (project/country/program) to prevent double counting;
- MRV consistency with national standards and references to **GL-MC-004** (cycle calculation/reporting).

These requirements do not alter the inventory count; they condition the decision to issue (Section 6) and the labeling.

*Legend of Abbreviations*

*CCPs — Core Carbon Principles (ICVCM principles).*

*ICVCM — Integrity Council for the Voluntary Carbon Market.*

*ICROA — International Carbon Reduction and Offset Alliance.*

*CCB — Climate, Community & Biodiversity Standards.*

*CORSIA — Carbon Offsetting and Reduction Scheme for International Aviation.*

*Art. 6 — Article 6 of the Paris Agreement (international cooperation and related arrangements).*

*MRV — Monitoring, Reporting and Verification.*

*VVB — Validation and Verification Body.*

# 9. Required Documentation and Templates

## 9.1 Checklists and document packages per cycle.

The items below must be submitted for each cycle. All documents must have traceability, version/date, responsible parties, and sources (according to internal protocols and **GL-GR-010** ).

| **Package** | **Minimum content** | **Reference** | **Suggested format** |
|---|---|---|---|
| Additionality Gate | Gate opinion (5.1–5.4) with decision (Approve/Condition/Withhold) and links to the evidence. | Section 5 | PDF/A (opinion) |
| Legality & Ownership / Compliance | Chain of title, express consent of the owner (project/carbon rights), certificates/licenses, KYC/KYB and AML/ABC completed. | GL-MS-007 | PDF/A + attachments |
| "Carbon-free" viability | CAPEX/OPEX flows, scenarios (low/base/high), IRR_sem, NPV_sem, cutoff rate, memory | Section 5.2 · Annex V | Open spreadsheet + PDF/A |
| Common Practice (prevalence) | Universe/comparability criteria, sample, prevalence calculation, funding evidence | Section 5.3 · Annex VI | Open spreadsheet + PDF/A |
| Real Risk of Loss | Checklist and evidence (pressures/controls) and conclusion (Approve/Condition/Retain) | Section 5.4 | PDF/A |
| Data QA/QC | QA/QC score, technical exclusions (before/after), data manifest and trails. | GL-MS-012 | PDF/A + spreadsheets/scripts |
| Leakage | Diagnosis, classification (Green/Yellow/Red), mitigation plan (if applicable) | GL-MS-004 | PDF/A |
| Cycle Calculation/Report | $CO_2eT$ measured, calculation records, verification reports | GL-MC-004 | PDF/A + spreadsheets |
| Cycle governance | Minutes/Decision: Issue / Issue with conditions / Withhold, conditions and deadlines | Section 6 | PDF/A |

| Package | Minimum content | Reference | Suggested format |
|---|---|---|---|
| Baseline (advisory) | Series/indicators, maps and narrative in the appendix model. | Annex II | PDF/A + GIS |
| National compliance / Art. 6 | Authorizations/actions, record integration, corresponding adjustments (if applicable) | GL-MS-011 | PDF/A |
| Transparency | FRE (0–1) with method, sources and uncertainties; minimum publication fields | Annex IV | PDF/A |

All files must respect internal data protocols (naming, metadata, and open formats), prioritizing official/independent sources (as per **GL-GR-010** ).

## 9.2 Evidence and publication models (PDD/registry)

The **PDD (Project Development Document) for the cycle** should compile, in an objective manner, the elements below (max. 30–40 pages + technical annexes):

1. Executive summary of the cycle (area, period, decision and credits issued/retained)
2. Project description and geospatial boundaries
3. **Additionality gate** (summary of results 5.1–5.4)
4. **Baseline (advisory)** — as per **Annex II**
5. **QA/QC** — score, technical exclusions and data manifest (GL-MS-012)
6. **Leakage** — diagnosis and plan (GL-MS-004)
7. **$CO_2eT$ Calculation/Reporting** (GL-MC-004)
8. **Governance of the cycle** — decision and constraints (Section 6)
9. **Transparency** — **FRE (0–1)** with method, sources and uncertainties (Annex IV)
10. Legal/regulatory compliance and, where applicable, **Art. 6** (GL-MS-011)
11. Attachments: spreadsheets (Annex V/VI), maps/GIS, certificates, verification reports

**Minimum fields for publication in the Carbonsat registry/platform**

- Project identification (code, location, area)
- Cycle period and $CO_2eT$ verified
- Decision: Issue / Condition / Withhold (with conditions and deadlines, if any)
- FRE (0–1) + method/source/uncertainty
- List of main sources (headline) and link to dossiers (data manifesto)
- National compliance information / Art. 6 (if applicable)

## 9.3 Repository and audit trails (Greenline Carbonsat Platform)

- Data manifest by cycle (files, versions, dates, sources, assignees).
- Processing pathways (flow description; scripts/parameterizations where applicable).
- Version control (v1, v2…) and file integrity (checksums when available).
- Permissions and access: project team, VVB, and audits; public vs. restricted areas clearly marked.
- Retention: Maintain complete files for at least 5 years after project closure (or as required by regulation).
- Publication: Make the cycle's PDD, the governance decision, and the FRE available in the public area of the registry.

**Internal references**

**GL-M-001** (cycle emission governance) · **GL-MC-004** ($CO_2eT$ calculation/reporting) · **GL-MS-012** (data/QA/QC) · **GL-MS-004** (leakage) · **GL-MS-007** (compliance) · **GL-MS-011** (national requirements / Art. 6) · **GL-GR-010** (data reference guide) · **Annex II/IV/V/VI** .

*Legend of Abbreviations*

*PDD — Project Design Document.*

*VVB — Validation and Verification Body.*

# 10.Glossary and Notation

## 10.1 Acronyms and abbreviations

- Art. 6 — Article 6 of the Paris Agreement (international cooperation and related arrangements).
- β — Reserve of Permanence (governance measure, outside the counting formula).
- CCB — Climate, Community & Biodiversity Standards (co-benefits; modular use).
- CCPs — Core Carbon Principles (high integrity principles of ICVCM).
- $CO_2eT$ — Equivalent $CO_2$ stock validated in the cycle (ex-post).
- CORSIA — Carbon Offsetting and Reduction Scheme for International Aviation.
- FRE — Public Risk Indicator (0–1), informative, without quantitative effect.
- fP — Permanence Factor (governance input).
- fR — Conversion Risk Factor (governance input).
- ICROA — International Carbon Reduction and Offset Alliance.
- ICVCM — Integrity Council for the Voluntary Carbon Market.
- IRR_sem — Internal Rate of Return of the project excluding carbon credit revenue.
- KYC/KYB — Know Your Customer / Know Your Business (integrity due diligence).
- LULUCF — Land Use, Land-Use Change and Forestry.
- MRV — Monitoring, Reporting and Verification.
- NPV_sem — Net Present Value calculated without carbon credit revenue.
- PDD — Project Design Document (cycle document for validation/verification and registration).
- QA/QC — Quality Assurance / Quality Control (data quality assurance/control).

- VVB — Validation and Verification Body.

## 10.2 Operating terms

- Additionality — Eligibility condition demonstrated when, in the absence of the project, the actions necessary to maintain the forest stock would not occur; see objective tests in Section 5 (legality/compliance, “carbon-free” viability, common practice, real risk).
- Ex-Post Stock Approach — Emission per cycle based on verified $CO_2eT$; without ex-ante multipliers or buffers in the counting formula.
- Approve / Approve with conditions / Hold — Possible outcomes of the Eligibility Gate (Section 5) and the cycle-by-cycle issuance decision (Section 6).
- Conditions — Mandatory measures linked to the decision to "issue with conditions" (responsible parties, budget, deadlines, and verification).
- Technical exclusions — Removal of information units with material uncertainty prior to the consolidation of $CO_2eT$ (QA/QC procedures).
- Eligibility gate — A set of objective tests that determines whether the project can issue in the cycle (Section 5); it does not alter the inventory count.
- Governance of the emission cycle — Application, in each cycle, of the decision rules of GL-M-001 based on the outputs of the Gate, QA/QC, leakage, compliance and fR/fP (Section 6).
- Leakage (socio-environmental leakage) — Risks of displacement of activities that generate losses outside the project area; diagnosed and mitigated according to GL-MS-004.
- Baseline (advisory) — Context of agents, drivers, and trends at the local/jurisdictional scale to support additionality/risk and guide governance; does not adjust the volume of credits in the cycle (Annex II).
- Mitigation plan — A set of verifiable actions to reduce risk (timelines, budget, and responsible parties) when the Gate/governance indicates a need.

- Common practice (prevalence) — Metric that compares the project to comparable peers; additional when active conservation with stable funding occurs in < 25% of peers (Section 5.3).
- Real risk of loss — Evidence of pressures and vulnerabilities (land tenure, legal, institutional, operational, and socio-environmental) at a local/jurisdictional scale that could lead to conversion/degradation; used in the Gate assessment and governance.
- Score QA/QC (0–100) — Synthetic data quality index (GL-MS-012) used as a precondition for the Gate and as a governance input.
- Sectoral/regional cutoff rate — Reference rate used in the "carbon-free" feasibility test (comparison of IRR_sem and NPV_sem discount rate).
- Transparency (FRE) — Publication, by cycle, of a 0-1 risk/pressure indicator with method, sources and uncertainties (Annex IV); does not affect credit scoring.

## 10.3 Internal cross-references (modules and annexes cited)

- GL-M-001 — Governance core for cyclical issuance.
- GL-MC-004 — Calculation and reporting of $CO_2eT$ (ex-post quantification).
- GL-MS-003 — Co-benefits and safeguards (modular application).
- GL-MS-004 — Leakage assessment and mitigation.
- GL-MS-007 — Legal compliance (ownership, consent, KYC/KYB, AML/ABC).
- GL-MS-011 — National requirements / Art. 6 (when applicable).
- GL-MS-012 — Data and QA/QC (criteria, scoring and technical exclusions).
- GL-GR-010 — Data reference guide (prioritized sources and internal protocols).
- Annex I — fR and fP (technical details; governance inputs, without multipliers).
- Annex II — Baseline (consultative model).

- Annex III — Socio-environmental Leakage (details).
- Annex IV — Public Risk Indicators (FRI).
- Annex V — Financial Feasibility Models (IRR_sem / NPV_sem).
- Annex VI — Peer Protocol and Common Practice

# ANNEX I - FR AND FP (TECHNICAL DETAILS; GOVERNANCE INPUTS, WITHOUT MULTIPLIERS).

***Governance Inputs (non-quantitative, without multipliers/buffers)***

## I. Objective and positioning

This annex establishes the objective methodology for classifying **Pressure (fP)** and **Real Risk (fR)** by emission cycle, as governance inputs for the decision matrix (Issue / Condition / Retain). The indices do not alter the volume of credits ($CO_2eT$) and do not introduce multipliers, discounts, or buffers. Their effect is exclusively procedural (conditions, control plans, programmatic emission retention "β" if applicable, outside the formula).

## II. Scope and limits

- Applicable to all projects classified as REDD under **GL-M-001** with ex-post inventory counting ($CO_2eT$).
- Independent preconditions:
    - QA/QC ( **GL-MS-012** ): score <50 → Retain; 50–69 → Condition; ≥70 → proceed.
    - Leakage ( **GL-MS-004** ): Red class → Retain; Yellow → Condition; Green → Proceed.
    - Compliance ( **GL-MS-007** ): Express consent from the owner + KYC/KYB and AML/ABC completed; absence → Withhold.
- Clear warning: fR/fP are not part of the $CO_2eT$ formula, do not adjust baseline, and do not generate buffers or multipliers.

## III. Concepts and definitions

- **fP (Pressure):** potential intensity of conversion/illegality/exploitation vectors that may affect the integrity of the stock within and around it (recent time window).
- **Effective Control (EC):** proven ability of the project/environment to prevent, detect, and respond to pressure vectors (means, coverage, response time, enforcement, engagement).

- **fR (Real Risk):** residual risk resulting from the interaction between pressure and controls within the cycle evaluation window.
- **Traffic light matrix:** Green / Yellow / Red classification for cycle governance.
- **PCP (Project Control Plan):** a set of verifiable actions and milestones required when there are constraints.

## IV. Pressure (fp) indicators — structure, radius, and weights

**Time window:** last 36 months (60 recommended), with annual updates and updates based on critical events.

**Unit of analysis:** project polygon + **primary 10 km ring road** (optional complementary diagnosis: 50 km outer ring road, **not binding** on the decision).

**Groups and weights (normalization 0–100):**

1. **Territorial context (30%)** — recent deforestation rate in the ring; hotspots; distance to highways/navigable rivers; expansion fronts.

2. **Economic attractiveness (25%)** — economic-sectoral proxies for alternative use (commodity prices, land value, extraction costs/logistics).
3. **Tenure & local governance (20%)** — overlaps/litigation, density of inspections, history of violations/fines.
4. **Infrastructure & Access (15%)** — works in progress/planned, navigability, seasonality of access.
5. **Socioeconomic dynamics (10%)** — population growth, pressure for land, migratory flows.

**Calculation:** fP = Σ(group_weight × weighted average of normalized group indicators).

***Justification for the radius (10 km):*** *captures the most intense* ***pressure gradient*** *associated with access axes and local agents, in line with the established use of* ***10 km perimeters*** *in independent leak assessments and meta-assessments; analyses at* ***50 km*** *are reported as* ***a complementary diagnosis*** *for transparency, without affecting the decision.*

## V. Indicators of effective control - structure, weights and compliance

### VI. Objective and positioning

Define the EC (0–100) as a standardized measurement of the capacity to prevent, detect, and respond to pressure vectors, acting only on governance (Emit/Condition/Retain), without altering $CO_2eT$. The design is auditable and evidence-based, in line with governance, transparency, independent verification, and safeguards.

### V.II. Scope and evaluation windows

Coverage: project polygon. For territorial surveillance actions, highlight capillarity along the primary 10 km ring (used in fP) when relevant, without imposing a fixed radius for CE. Window: last 12 months (min.), with reassessment for critical events.

### V.III. Set of indicators and weights (normalization 0–100)

1. **Monitoring & Deterrence (30%)** — sensors/towers/drones/satellite, detection SLA, patrol, documented response time.
2. **Legal Protections & Enforcement (20%)** — Terms of Reference/Agreements, administrative/judicial measures, fencing/signage, protocols for interaction with authorities.
3. **Community Engagement & Benefits (20%)** — active programs, reporting channels, co-responsibility agreements, evidence of participation.
4. **Internal Governance (20%)** — Integrated Management System (IMS), policies, chain of command, periodic training, audit trails, non-conformity and remediation records.
5. **External Partnerships (10%)** — formal cooperation with public bodies/NGOs/consortia, integration with territorial intelligence systems.

Technical rationale for the weighting: priority is given to detection/response time and enforcement capacity, followed by social adherence/governance—determinants of residual risk. The standards do not impose numerical weights; rather, they require verifiable processes and safeguards, which these indicators operationalize.

### V.IV. Calculation of CE

**CE** = Σ(group_weight × weighted average of normalized group indicators) → scale **0–100** . Document normalization method, sources ( **GL-GR-010** ), dates and responsible parties.

### Minimum KPIs per group (auditable examples)

- **Monitoring & Deterrence:** Detection SLA (h), Response MTTR (h), % area covered by continuous sensing, number of patrols/month, incident resolution rate.
- **Legal Protections & Enforcement:** number of completed actions/legal proceedings, time until precautionary measure, % of perimeter with barriers/signage as per plan, compliance with TACs/TAQs.
- **Engagement & Benefits:** number of active programs, percentage of social goals achieved, response time to complaints, participation in consultations.
- **Internal Governance:** % of training completed, number of internal/external audits, rate of non-conformities corrected on time, traceability (hash/version) of records.
- **External Partnerships:** number of joint operations/year, current MOUs, interoperability with public databases.

### V.VI. Evidence and trail (GL-GR-010)

Plans, logs, maps, images, reports, minutes, contracts, cooperation agreements, operational protocols, training certificates; all with metadata, versions, and hashes.

### V.VII. QA/QC of CE

Double independent assessment; $\kappa \geq 0.60$ . Below this, a third assessment and improvement plan. Resample critical evidence. Integrated into the overall QA/QC score ( **GL-MS-012** ).

### VI II. Reassessment Triggers

Significant fires, invasions, construction/access openings, regulatory changes, or worse deviations in KPIs → extraordinary review of the CE and update of the cycle decision.

### V.IX. Sample tables (minimum fields)

- **Table D** — CE Indicators: Indicator | Evidence | Coverage/SLA | Weight | Score |
- **Table E** — CE KPIs: KPI | Target | Value obtained | Source/Log | Date | Responsible
- **Table F** — CE Summary: CE (0–100) | Governance Class (Green/Yellow/Red) | Decision | Conditions/PCP | Next Check

**Notes:**

1. No part of the CE alters **$CO_2eT$** or baseline; the effect is purely **procedural** (governance).
2. Weightings are **principle-based** and **justified** ; the standards cited require **integrity and verifiability** , not fixed weights.

## VI. Calculus and classes

### VI.I. Central Idea

In this cycle, we measure **two things** between 0 and 100:

- **fP (pressure):** how much the territory is "pulling" towards risk.

- **CE (effective control):** how much the project is "containing" this risk.
With these two scores, we arrive at fR (real risk), which only guides governance (Issue / Condition / Retain). None of this changes the credit count ($CO_2eT$).

### VI.II. How to obtain the pressure score (fP)

1. Gather the **pressure indicators** from Item IV (already standardized 0–100).
2. Apply the defined **weights** (Table A).
3. Add the weighted results → this is the **fP score** (0–100).

### VI.III. How to obtain the control note (CE)

1. Gather the **control indicators** from Item V (0–100).
2. Apply the defined **weights** (Table D).
3. Add the weighted results → this is the **CE score** (0–100).

### VI.IV. How to arrive at the real risk (fR) — step by step, without formulas

1. Take the **fP score** (0–100).
2. Take the **CE rating** (0–100).
3. Calculate the **portion of pressure that still "escapes"** despite the controls: reduction due to control = 100 − CE.
4. Apply this reduction to the pressure: **fR = fP × (reduction by control) ÷ 100** .
5. **Round** the result to the nearest **integer and limit it** between **0 and 100** .

**Quick example:** if **fP = 70** and **CE = 40** , then the reduction is **60** (100−40). fR = 70 × 60 ÷ 100 = **42** → **Yellow** class (see VI.V).

### VI.V. How to classify the color of governance

- **Green** : 0 to 33
- **Yellow** : 34 to 66
- **Red** : 67 to 100

### VI.VI. What to do with each class (governance effect only)

- **Green — Issue** : continue with the cycle issuance (maintaining routines).
- **Yellow — Conditional** : issue **with conditions** (PCP with actions, deadlines and responsible parties) and reassess in the same cycle if necessary.
- **Red — Hold back** : **do not issue** until structural actions are completed and the CE (Environmental Control) is improved.

Note: any **programmatic retention "β"** is a **temporary custody measure** decided by the committee and **does not** alter the amount of credits ($CO_2eT$).

### VI.VII. Quality rules and exceptions (practical use)

- **Missing data** : An indicator without proven evidence receives **a score of 0** (or use the provided substitute) and provide a justification.
- **Critical events** (invasions, significant fires, access openings, construction): **redo fP/CE/fR** in the cycle.
- **Two-person conference** : two raters calculate independently **.** If the agreement between them reaches **$\kappa \geq 0.60$** (see explanation in Item V), we proceed; if it falls below, **reconcile** the differences and, if necessary, call in a **third rater** .

### VI.VIII. Minimum transparency to be published per cycle

- Weights used, raw values of the indicators, how they were **normalized , fP** , **CE** and **fR** scores , the final **class** and the decision (Issue/Condition/Retain).
- Versions of the sources ( **GL-GR-010** ) and quality records ( **GL-MS-012** ).

## VII. Decision-making traffic light matrix and governance effects

### VII.I. Objective

Establish simple and objective rules to transform the class (Green/Yellow/Red) into a cycle decision (Issue / Condition / Retain) and operational requirements. This item does not alter the credit count; it only affects governance.

### VII.II. Precondition rules (automatic locking)

Before applying the class from Item VI, check:

i) QA/QC **(GL-MS-012)** :

- <50 → Retain.
- 50 to 69 → Condition (even if the class is Green).
- ≥70 → proceed.

ii) Leakage **(GL-MS-004)** :

- Red → Hold back.
- Yellow → Condition.
- Green → proceed.

iii) **Compliance (GL-MS-007)** : Owner consent and KYC/KYB + AML/ABC completed. Absence → **Withhold** .

### VII.III. Class decision (if the preconditions are met)

- **Green — Emit**
  - Effect: Cycle emission permitted.
  - Requirements: maintain routines, record evidence and KPIs; next verification according to schedule.
  - "β" programmatic: **0** .

- **Yellow — Condition**
    - Effect: emission **with conditions** .
    - Requirements: Project control plan ( **PCP ) with actions, deadlines, and responsible parties; intra-cycle reassessment** when applicable.
    - "β" programmatic: **0 to 0.25** (guideline).
- **Red — Hold**
    - Effect: **Do not emit** at this time.
    - Requirements: **Reinforced PCP** with structural actions (e.g., increased coverage/sensors, enforcement agreements, protective works); only after verification → new evaluation.
    - Programmatic "β": **0.25 to 0.50** (guideline).

Observations:

1. "β" is **programmatic retention** (temporary custody), defined by the Governance Committee, **outside of the formula** .
2. Conditions must be **measurable and auditable** (KPIs, evidence, deadlines, and responsible parties).
3. The final decision of the cycle should be reflected in **Table C — Summary and decision** .

### VII.IV. Triggers for extraordinary reassessment

Trigger a new assessment of **fP/CE/fR** and a cycle decision when the following occur:

i) **Critical events** (significant invasions, large-scale fires, opening of roads/access points).

ii) **Material changes** in context (public works initiated, inspection operations, land changes).

iii) **Serious deviation** in PCP or CE KPIs.

### VII.V. Registration Procedure

i) Record the class, the decision (Issue/Condition/Retain) and, if applicable, the **PCP** in **Table** C.

ii) Link the **KPIs** and evidence in **Table E** and consolidate the status in **Table F** (summary CE).

iii) Log documents, maps, logs, and minutes in the project repository (GL-GR-010), including version and timestamp.

## VIII. Data collection, sources, and audit trail

### VIII.I Objective

To define how the data and evidence supporting **fP** , **CE** , and **fR** should be collected, documented, and audited, ensuring traceability and reproducibility without altering the credit count.

### VIII.II Principles

i) **Traceable** : all information must point to a clear and verifiable source.

ii) **Reproducible** : third parties must be able to recalculate using the same inputs.

iii) **Current** : series and layers with time divisions consistent with the cycle (see VIII.VII).

iv) **Integrity** : version control and integrity (hash and timestamp).

(v) **Sufficient** : only what is necessary to support indicators and decision-making (without redundancy).

### VIII.III Data Sources (reference to GL-GR-010 is mandatory)

i) **Spatial series** : deforestation, land use/land cover, road/waterway infrastructure, administrative boundaries, conservation units, land registries.

ii) **Project operational series** : monitoring logs (sensors, drones, satellite), patrols, detection and response times, incidents handled.

iii) **Legal and institutional documents** : titles/possession, agreements, **TACs** (Terms of Adjustment of Conduct), official letters, records, inspection reports.

iv) **Socioeconomic** : relevant sectoral prices and costs, land value, demographics, community programs and their metrics.

(v) **Additional diagnostics** : analyses on the outer ring (e.g., 50 km) when relevant to transparency — not binding on the decision.

### VIII.IV Minimum metadata per data item

Title/description; source (organization/provider); version/extraction date; time frame; projection/scale (if spatial); normalization method; responsible party; storage location (internal URI); file hash; access permissions.

### VIII.V Minimum evidence by indicator group

i) **fP — territorial context** : deforestation maps/reports within a 10 km radius, hotspots, proximity metrics to access routes.

ii) **fP — economic attractiveness** : series of land prices/costs/values with sources and comparison method.

iii) **fP — tenure/local governance** : overlapping layers, records of administrative actions/decisions.

iv) **fP — infrastructure/access** : plans/works in progress, licenses and layouts; georeferenced evidence.

v) **fP — socioeconomic dynamics** : official statistics (demographics, migration), local studies.

vi) **CE — monitoring/deterrence** : SLAs, patrol reports, images/logs, response evidence.

vii) **CE — enforcement/legal** : **TACs** , decisions, cooperation agreements, proof of compliance.

viii) **CE — engagement** : minutes, attendance lists, complaint channels and service times.

ix) **CE — internal governance** : policies, training, audits, handling of non-conformities.

x) **CE — partnerships** : agreements, MOUs, joint operations reports.

### VIII.VI Version control and integrity

i) **Versioning** : each file receives a version ID; relevant changes are recorded in a changelog.

ii) **Integrity : hash** generation (e.g., SHA-256) and **timestamp** at the time of protocol.

iii) **Immutability** : preserve a "read-only" copy for auditing purposes; changes via internal pull request.

### VIII.VII Update frequency

i) **Critical spatial series** (deforestation/land use): **min. annual** ; where monthly data is available, incorporate intra-cycle updates if they affect the class.

ii) **CE Operations** : **monthly** (logs, SLAs, KPIs), consolidated by cycle.

iii) **Socioeconomic** : **semi-annually** or when there is a material change (≥20% in the relevant indicator).

iv) **Critical events : extraordinary** update (see VII.IV).

### VIII.VIII Operational procedure (step by step)

1. **Plan** the sources by indicator (checklist from Item XI).
2. **Collect** data according to **GL-GR-010** , recording metadata (VIII.IV).
3. **Validate** quality and fill gaps ( **GL-MS-012** ).
4. **Normalize** and calculate indicators (Items IV and V), documenting methods.
5. **Archive** evidence with hash and version; link each indicator to its corresponding evidence.
6. **Generate** the fP/CE/fR reports and fill in Tables A, D, E, and F.
7. **Submit** the complete, timestamped package for the cycle to the official repository.

### VIII.IX Ethics, privacy and security

i) **Minimization of personal data** and anonymization where applicable.

ii) Need-to-know **access** ; access auditing.

iii) **Backups** and contingency plans for the repository.

### VIII.X Final provisions of this item

i) Any change of source/method that **may affect** the score of an indicator must be recorded and justified.

ii) In case of material inconsistencies, apply **reanalysis** and record a reasoned decision from the Governance Committee.

# IX. QA/QC of fR/fP

## IX.I. Objective

This item defines only the agreement criterion applicable to the calculation of fP, CE, and fR. The entire QA/QC process (paperwork, sampling, verification, NC/CAPA, records) follows GL **-MS-012** .

## IX.II. Minimum agreement between raters

Perform two independent assessments and report the agreement (Cohen's κ) on the final class (Green/Yellow/Red).

- Criterion: $\kappa \geq 0.60$ (acceptance).
- Recommendation: also report weighted κ (class order).
- If $\kappa < 0.60$: apply reconciliation and, if necessary, a third-party appraiser — as per **GL-MS-012** .

## IX.III. Mandatory Integrations

i) Record: enter **κ** (and weighted κ, if used) in Table F — CE Summary, with date, assessors and sample.

ii) Trail: sources, versions and metadata as per Item VIII ( **GL-GR-010** ).

iii) Effect: if, after reconciliation, **κ** remains **< 0.60** , promote a reassessment of the cycle (see Item VII).

# X. Internal integrations and cross-references

## XI Objective

Define how the results of **fP** , **CE** , and **fR** connect to the other modules/methodologies and where each decision/document should be recorded, avoiding duplication and ensuring system consistency.

## X.II. Mandatory Connections

i) **GL-M-001 (cycle governance)** : the class (Green/Yellow/Red) and the decision (Issue/Condition/Retain) feed into the cycle decision matrix foreseen in **GL-M-001** , respecting that fR/fP do not alter $CO_2eT$.

ii) **GL-MS-004 (leakage)** : the leakage class is a prerequisite for Item VII; indicators from Item IV may consume leakage inputs (when relevant), preserving decisional independence.

iii) **GL-MS-007 (compliance)** : Owner consent and completed KYC/KYB + AML/ABC are prerequisites; conditions may include contract reinforcement, due diligence, and safeguards.

iv) **GL-MS-012 (QA/QC)** : the entire quality, audit, NC/CAPA and versioning process follows GL-MS-012; only the agreement threshold (κ) applicable to the calculation remains in this annex (Item IX).

v) **GL-GR-010 (data and metadata)** : sources, versions, standardizations, and audit trail must be referenced to the official catalog.

vi) **GL-MC-013 — Calculation Manual** . This manual is **for informational purposes only** and may be updated more frequently; **it does not alter** the rules in this Annex I. Current versions and supporting files are listed in **GL-GR-010.**

## X.III. Inputs from other annexes

i) Annex II — Baseline (advisory): series and maps can support fP indicators (territorial context, infrastructure, dynamics), without adjusting credit volume.

ii) Annex III — Socio-environmental Leakage: when available, provides additional inputs for fP and for governance conditions (PCP).

iii) Annex IV — FRE (0–1): published by cycle for transparency; may motivate conditions, without quantitative effect.

iv) Annex V — Feasibility (IRR_sem/NPV_sem): integrates the additionality gate in **GL-MS-002** (Section 5), independent of fR/fP.

(v) Annex VI — Common practice: supports the gate pillar (Section 5), independent of fR/fP.

### X.IV. Outputs and records

i) Tables: fill in A, D, E and F according to this attachment; C consolidates the cycle's decision.

ii) Reports: fR/fP Report file as per Item XI (minimum fields), filed with hash and timestamp in the official repository.

iii) PCP (when applicable): link conditions, deadlines, responsible parties, and KPIs; reflect execution in Table E and status in Table F.

### XV Synchronization Triggers

i) Material changes in leakage, compliance, or QA/QC → reassess class and decision (Items VII and VIII).

ii) Critical events (e.g., significant fires, invasions, access openings, construction work) → extraordinary update of fP/CE entries and cycle report.

iii) Source updates/normalizations in **GL-GR-010** that affect indicators → log in the changelog and recalculate the impacted data.

### X.VI. Principles of non-redundancy

i) This annex does not reproduce operational QA/QC rules ( **GL-MS-012** ) nor redefine leakage ( **GL-MS-004** ) or compliance ( **GL-MS-007** ).

ii) Programmatic conditions and retentions ("β") are governance decisions: register in the cycle package, outside the $CO_2eT$ formula.

## XI. fR/fP Report Template

### XI.I. Identification and scope

i) Project name and internal code;

ii) issuance cycle (start/end dates);

iii) version of this annex applied;

iv) Report objective (fP/CE/fR classification and governance decision).

### XI.II. Evaluation team and independence

i) Assessor A and Assessor B (name, function, qualification);

ii) declaration of independence and absence of conflict;

iii) third evaluator (if requested).

### XI.III. Spatial and temporal delimitation

i) Project polygon (geospatial reference);

ii) 10 km primary ring for fP;

iii) time windows used in fP (36–60 months) and CE (last 12 months);

iv) possible additional diagnoses (e.g., 50 km outer ring).

### XI.IV. Sources and metadata (GL-GR-010)

List for each dataset:

i) title/description;

ii) source/provider;

iii) version and extraction date;

iv) temporal cut;

(v) normalization method;

vi) responsible;

vii) Internal URI;

viii) Hash and permissions.

### XI.V. Calculation method (internal references)

i) Indicators and weights of **fP** (Item IV) and **CE** (Item V);

ii) procedure for obtaining **fR** (Item VI);

iii) exception rules and handling of missing data;

iv) Rounding and limits (0–100).

### XI.VI. Consolidated results

i) **Table A — fP (pressure) indicators** filled in;

ii) **Table D — Indicators of CE (effective control)** completed;

iii) **Calculations of fP, CE and fR** (integer values 0–100) with a brief narrative;

iv) **Class** (Green/Yellow/Red) as per VI.IV;

(v) **Table C — Summary and decision** (Issue/Condition/Retain) with objective justification.

### XI.VII. Conditions and PCP (when applicable)

i) Project control plan (actions, responsibilities, deadlines, KPIs);

ii) linking of KPIs to **Table E — CE KPIs** ;

iii) provision for **intra-cycle reassessment** when applicable.

### XI.VIII. Quality and agreement

i) Independent double-evaluation procedure performed;

ii) sample/units evaluated;

iii) **κ** (and weighted κ, if used) and interpretation;

iv) reconciliation and/or third-party appraiser (if applicable);

(v) Reference to GL-MS-012 for other QA/QC routines.

### XI.IX. Evidence and attachments

i) Maps, reports, logs, photos, minutes, legal and operational documents that support each indicator;

ii) indexed list crossing **indicator → evidence** ;

iii) any additional (non-binding) diagnoses.

### XI.X. Records, signature and protocol

i) **Table F — Summary of completed CE** (CE, class, decision, conditions, next verification, κ);

ii) those responsible for reviewing and approving;

iii) timestamp, report version and **hash** ;

iv) location of the package in the official repository **(GL-GR-010** ).

## XII. Sample tables

### XII.I. Table A — fP (pressure) indicators

| Group | Indicator | Source (GL-GR-010) | Normalization (0–100) | Weight | Score |
|---|---|---|---|---|---|
| Territorial context | | | | | |
| Economic attractiveness | | | | | |
| Tenure/Local Governance | | | | | |
| Infrastructure/access | | | | | |

| Group | Indicator | Source (GL-GR-010) | Normalization (0–100) | Weight | Score |
|---|---|---|---|---|---|
| Socioeconomic dynamics | | | | | |
| Total fP (0–100) | | | | 1.00 | 0 |

Fill in the gross values and normalization method in the report; weights sum to **1.00**
.

### XII.II. Table C — Summary and decision (governance)

| fP (0-100) | CE (0-100) | fR (0-100) | Class (Green/Yellow/Red) | Decision (Issue/Condition/Withhold) | Conditions (PCP) | Programmatic beta |
|---|---|---|---|---|---|---|
| | | | | | | |

### XII.III. Table D — Indicators of CE (effective control)

| Indicator | Evidence | Coverage/SLA | Weight | Score |
|---|---|---|---|---|
| | | | | |
| | | | | |
| **Total CE (0–100)** | | | **1.00** | **0** |

### XII.IV. Table E — CE KPIs

| KPI | Goal | Value determined | Source/Log | Date | Responsible |
|---|---|---|---|---|---|
| | | | | | |

### XII.V. Table F — Summary CE

| CE (0–100) | Governance Class (Green/Yellow/Red) | Decision | Conditions/PCP | Next check |
|---|---|---|---|---|
| | | | | |

***Notes:***
*i) Table B (example) has been omitted — we used Table D directly as the standard. ii) Blank cells should be filled with cycle values and linked to the evidence listed in the report (Item XI).*

# XIII. Legend of terms and acronyms

## XIII.I Terms and abbreviations in this annex

*CE — Effective Control (0–100)*
*fP — Pressure (0–100) fR — Real Risk (0–100) PCP — Project Control Plan κ — Cohen's Kappa (agreement between raters) β — Programmatic Retention (temporary custody; outside the formula) TAC — Conduct Adjustment Agreement KYC/KYB — Know Your Customer / Know Your Business AML/ABC — Anti-Money Laundering / Anti-Bribery and Corruption QA/QC — Quality Assurance and Control FRE — Risk Factor Avoided (0–1; transparency) $CO_2eT$ — Ex-post carbon stock converted to $tCO_2e$ LLUCF — Land use, land use change and forests SLA — Service Level Agreement (operational time/target) MTTD — Mean Time to Detection MTTR — Mean Time to Response GL-M-001 — REDD Methodology (cycle governance) GL-MS-004 — Leakage Management GL-MS-007 — Legal Compliance and Integrity GL-MS-012 — QA/QC (Quality Assurance/Quality Control) GL-GR-010 — Data and Metadata Catalog (Official Sources)*

*GL-MC-013 — Calculation manual (non-normative): practical guide with "worked-out" examples, template spreadsheets and FAQ for applying fP, CE and fR; in case of conflict, Annex I of GL-MS-002 prevails.*

# XIV. Review provisions

## XIV.I Review criteria

i) **Annual review** ;
ii) **extraordinary review** triggered by a critical event, regulatory change, materially altered data source.

## XIV.II Change Management

i) Relevant methodological changes formalized by **an Interpretative Note** ;
ii) registration in **a changelog** with version number and effective date;
iii) maintaining copies of previous versions for auditing purposes.

## XIV.III Validity and transition

i) Effective dates apply **to the future** (not retroactive);
ii) ongoing cycles may conclude under the version initiated, unless otherwise decided by the Governance Committee with justification; iii) any impact on governance decisions must be documented in the cycle package.

### XIV.IV Competence

Decisions regarding revisions, issuing Interpretative Notes, and validating versions are the responsibility of the **Methodological Governance Committee** , with formal registration in the official repository.

# ANNEX II - BASELINE (CONSULTATION MODEL).

## I. Objective and positioning

Establish the baseline advisory model ("without design") to contextualize threats, land use, and LULUCF dynamics, without altering the ex-post stock count ($CO_2eT$). This appendix supports governance decisions and the pillars of the additionality gate ( **GL-MS-002, Section 5** ).

## II. Scope and limits

**i)** Applicable to REDD projects under **GL-M-001.**

ii) It encompasses narrative and evidence of the "no-project" scenario, without binding quantitative modeling and without credit adjustment.

iii) Cross-references: Annex V (carbon-free viability), Annex VI (common practice), Annex I (fR/fP).

iv) Terminology: LULUCF; avoid references to "standards" in the normative body (mappings remain in Section 8 of **GL-MS-002** ).

## III. Analysis units and windows

i) **Space** : the project polygon and adjacent areas relevant to the context (e.g., a 10 km ring when pertinent to the vectors).

ii) **Time (annual cycle)** :

- **Historical basis** : use series from **the 36 months** prior to the start of the cycle to characterize trends and seasonality of usage/pressure.
- **Cycle update** : incorporate the **last 12 full months** (or up to the cycle cutoff date) as an annual update layer.
- **Critical events** : when a critical event occurs, record an extraordinary update to the diagnosis (without changing the credit count).
- **Note** : This appendix is **advisory** ; the use of 36 months + annual update **does not conflict** with the ex-post inventory architecture. Where historical data is limited, justify the window adopted and record the implications in the report.

## IV. Sources and methods (GL-GR-010)

i) Spatial series: land use/cover, deforestation, road/waterway infrastructure, administrative boundaries, conservation units, land registrations/overlaps.

ii) Operational/administrative series: fines, works, official acts and other material records.

iii) Socioeconomic: demographics, land prices/costs/value, production chains and sectoral proxies.

iv) For each item: title, provider, version/date, time frame, normalization method, responsible party, internal URI, and hash (integrity).

## V. Structure of the consultative diagnosis

### VI Overview of the “without a project”

To describe how the territory tends to behave without the project's actions (drivers, actors, seasonality, roads, land value, illegal activities, recent trends).

### V.II. Pressure Vectors

List and justify the vectors (e.g., agricultural expansion, timber, access roads), with series and maps that show direction and intensity.

### V.III. Territorial evidence (maps)

Minimum thematic maps (see Table B) for land use/cover, recent deforestation (36–60 m), access roads/construction, and overlays/tenure.

### V.IV. Logical chaining with the gate pillars

- Common practice (Annex VI): register comparators and windows that will be explored in more detail in the pair matching protocol.
- Carbon-free viability (Annex V): record assumptions/sectors/shocks that will feed into IRR_sem/NPV_sem.
- Governance (Annex I — fR/fP): highlight findings relevant to the pressure indicators (without duplicating calculations).

### VV Synthesis by sub-area (when applicable)

Short overview by sub-area with dominant drivers, evidence and implications for fP/CE/PCP.

## VI. Minimum fields for the advisory report

i) Project and cycle identification;

ii) period covered;

**GL-GR-010** fonts ;

iv) narrative of the “without a plan”;

(v) vectors and series;

vi) maps;

vii) findings and implications for Annexes I/V/VI;

viii) limitations; ix) version/time stamp/hash.

## VII. Sample tables (to be filled in)

Table A — Series and metadata ( **GL-GR-010** )

| Theme | Series/Data | Provider | Time cut | Version/Date | Normalization/Observations | Internal URI | Hash |
|---|---|---|---|---|---|---|---|
| Use/coverage | | | | | | | |
| Logging | | | | | | | |
| Infrastructure/access | | | | | | | |
| Tenure/Overlays | | | | | | | |
| Socioeconomic | | | | | | | |

Table B — Thematic maps (minimum products)

| **Map** | **Description** | **Sources)** | **Date/version** | **Scale/projection** | **Observations** |
|---|---|---|---|---|---|
| Land use/land cover | | | | | |

| Map | Description | Sources) | Date/version | Scale/projection | Observations |
|---|---|---|---|---|---|
| Deforestation 36–60 m | | | | | |
| Access/works | | | | | |
| Tenure/Overlays | | | | | |

Table C — Pressure vectors and evidence

| Vector | Evidence (series/map) | Window | Observations (strength, direction, seasonality) | Implications for Annex I |
|---|---|---|---|---|

Table D — Findings and implications (consultative summary)

| Main finding | Evidence base | Implication for common practice (Annex VI) | Implication for viability (Annex V) | Implication for fR/fP (Annex I) |
|---|---|---|---|---|

## VIII. Quality and consistency

**context and evidence** go here ; calculations and protocols belong in their respective annexes.

ii) QA/QC and versioning according to **GL-MS-012** ; record limitations and gaps in.

## IX. Internal references

i) **GL-M-001** : cycle governance; the advisory baseline **does not** alter $CO_2eT$.

ii) Annex I (fR/fP): vectors and maps provide information for the pressure calculation (fP).

iii) Annex V (carbon-free viability): economic/sectoral assumptions recorded here feed into IRR_sem/NPV_sem.

iv) Appendix VI (common practice): comparators/pairs and windows indicated here will be detailed in that protocol.

v) **GL-GR-010** : mandatory data and metadata references.

## X. Final provisions

i) This annex is for informational purposes only: it serves to provide contextual understanding and transparency; it does not adjust the quantitative baseline or the volume of credits.

ii) Material changes in the sources or in the territorial context require an extraordinary update of this diagnosis within the cycle.

## XI. Operational procedure (step by step)

1. Prepare windows and cutouts: define polygon and, when applicable, 10 km ring; set 36 months for historical baseline and 12 months for annual update.
2. Collect sources ( **GL-GR-010** ): list spatial/operational/socioeconomic series with complete metadata; fill in Table A.
3. Produce maps: generate the minimum maps and record them in Table B.
4. Identify vectors: describe pressure vectors and highlight them; complete Table C.
5. Synthesize findings: consolidate implications for Appendices I/V/VI; complete Table D.
6. Protocol: stamp version and hash; save in the official repository according to **GL-GR-010** .
7. Update: Include the annual layer (12 months) in each cycle and issue an extraordinary update in case of a critical event.

## XII. Operational Remission — Calculation Manual (GL-MC-013)

For complete examples, illustrated scripts, and sample spreadsheets that demonstrate in practice how to fill out Tables A–D of this annex and how to link them to Annexes I/V/VI, consult **GL-MC-013 — Calculation Manual (non-normative document). In case of conflict between the guidelines in GL-MC-013 and this annex, Annex II of GL-MS-002** prevails . Current versions and associated files (XLSX/CSV schema) are listed in **GL-GR-010** .

*Caption*

*LULUCF — Land use, land-use change and forests.*

*$CO_2eT$ — Ex-post carbon stock converted to $tCO_2e$ (project count).*

*10 km ring — Strip around the polygon used for context/pressure diagnosis when relevant.*

*Critical event — An occurrence that requires an extraordinary update of the diagnosis (e.g., invasions, fires, opening of roads).*

*Internal URI — Identifier/permalink of the file in the official repository (GL-GR-010).*

*Hash — Cryptographic signature of the file (e.g., SHA-256) for integrity verification.*

# ANNEX III - REFERENCE TO LEAKAGE (GL-MS-004)

## I. Objective and positioning

This appendix does not establish its own leakage rules. The leakage class (Green/Yellow/Red) is obtained exclusively according to GL-MS-004 and is used here only as a precondition for the cycle decision (Emit/Condition/Retain). There are no multipliers, discounts or buffers; $CO_2eT$ is not adjusted.

## II. Scope and limits

i) Applicable to REDD projects governed by **GL-M-001** .

ii) The leakage result is independent of fR/fP and does not enter into any formula.

iii) Mitigation, monitoring, evidence, leakage windows and templates are fully defined in GL-MS-004.

## III. Instructions for use (step-by-step)

1. Obtain the leakage class of the cycle (Green/Yellow/Red) from **GL-MS-004 , with reference to the report and evidence.**
2. Apply the gate as described in Section 5.I of this **GL-MS-002** :
    - Red → Hold; Yellow → Condition; Green → Proceed.
3. Record the cycle class and decision in the tables of this methodology (Summary/Decision and/or CE Summary), with reference to the leakage report ( **GL-MS-004** ).
4. Submit the minimum metadata (version, date, internal URI, hash) of the leakage report to the official repository.

## IV. Minimum fields to be recorded in this appendix.

i) Project and cycle;

ii) Leakage class (Green/Yellow/Red);

iii) ID/version of the leakage report (GL-MS-004);

iv) Internal URI and file hash;

(v) Cycle decision (Issue/Condition/Retain) and, if applicable, related PCP.

Table A — Leakage class record (per cycle)

| Project/cycle | Leakage class | Report ( **GL-MS-004** ) | Internal URI | Hash | Decision (Issue/Condition/Withhold) | Observations/PCP |
|---|---|---|---|---|---|---|

## V. Internal integrations and cross-references

i) **GL-MS-004** — exclusive reference document for leakage assessment, mitigation, and monitoring.

ii) Section 5.I (preconditions) — application of the gate based on the leakage class.

iii) **GL-GR-010** — data/metadata cataloging and storage.

iv) **GL-MS-012** — QA/QC and versioning of the lifecycle package (includes leakage report).

## VI. Final provisions

Updates to **GL-MS-004** do not alter this annex: in case of divergence, **GL-MS-004 prevails** regarding the method and Section 5.I regarding the decision-making use. This annex serves as a normative bridge between the leakage class and the cycle decision.

*caption*

*Leakage class — Result determined exclusively by GL-MS-004 (Green/Yellow/Red) used as a gate precondition.*

*PCP — Project control plan (conditions, deadlines and responsible parties when required by the class).*

*Internal URI / Hash — Canonical location and integrity verification of the leakage report in the repository (GL-GR-010).*

# ANNEX IV - FRE (TRANSPARENCY FACTOR)

## I. Objective and positioning

Establish the **FRE (0-1)** as a consultative measure for cycle transparency, covering data, method, uncertainty, and governance/path. The FRE does not alter the volume of credits ($CO_2eT$), does not apply multipliers or buffers, and serves only to inform the market and promote continuous improvement.

## II. Scope and limits

i) Applicable per cycle to all projects governed by GL-M-001.

ii) Minimum publication as per Section 9 of this GL-MS-002.

iii) No quantitative effect: the FRE is not included in counting formulas, baselines, or governance decisions (gates).

## III. Components and criteria (0–1 scale per item)

Each item receives a status: **Published (1.0)** · **Partial (0.5)** · **Absent (0.0)** · **Not applicable (N/A)** .
**N/A** items are removed from the denominator of their respective component.

### III.I. Data (D)

- D1 Catalog of fonts referenced to **GL-GR-010** (all series used in the cycle).
- D2 Files/datasets with **internal URI** and **hash** published.
- D3 Clearly informed timelines and versions.
- D4 License/terms of use and stated access permissions.
- D5 **Reproducible formats** (preference for open formats) and data dictionary.

### III.II. Method (M)

- M1 Narrative of the cycle method (calculation flow and decisions).
- M2 Normalizations, weights, and exception rules are documented.
- M3 Spreadsheets/calculation scripts (or extracts) provided.
- M4 Class criteria and declared borders (e.g., 33/66).
- M5 Changelog with differences compared to the previous cycle.

### III.III. Uncertainty (I)

- I1 Uncertainty reported by main indicator (when applicable) or methodological justification.
- I2 Aggregate uncertainty of the cycle (interval/scope) and method of obtaining it.
- I3 Basic sensitivity analysis (what most affects the result).
- I4 Limitations and data gaps made explicit.

### III.IV. Governance and path (G)

- G1 Reference to the QA/QC package (GL-MS-012) of the cycle.
- G2 Record of κ (when applicable) and reconciliations.
- G3 Links for cycle decision and PCP (if any).
- G4 Evidence versioned with internal URI and hash (GL-GR-010).

## IV. FRE Calculation

**Step 1 — scoring by component**

For each component, calculate the average of the **non-N/A items** :

$$D = \frac{\sum \text{status(D1..Dn)}}{\text{n° de itens válidos}}$$ (idem para M, I, G).

**Step 2 — Combining the components**

**equal** standard weights (0.25 each) unless a reasoned and published decision is made:

$$\text{FRE} = 0{,}25 \cdot D + 0{,}25 \cdot M + 0{,}25 \cdot I + 0{,}25 \cdot G$$

Round the result to **two decimal places** .

Observations:

- If you choose to use different weights, publish the reason and values in the cycle report.
- N/A items do not penalize the component, provided that the non-applicability is justified.

## V. Publication by cycle (minimum fields)

i) Final FRE (0–1) and **methodology** used (weights, rounding).

ii) Tables **A–C** completed (below).

iii) Links/URIs for datasets, spreadsheets/scripts, PDD/record, and QA/QC package.

iv) Version, date, responsible parties, **hash** of the main files.

## VI. Operational procedure (step by step)

1. List data and evidence ( **GL-GR-010** ) → fill in Table A.
2. Document method, weights and changes → Table B (sections M and G).
3. Report uncertainties and sensitivity → complete section I of Table B.
4. Calculate D, M, I, G and FRE → record in Table C.
5. Publish with PDD/registration (Section 9) and archive in the repository with internal URI and hash.

## VII. Sample tables (to be filled in)

Table A — Transparency and Status Items

| Component | Item | Status (1/0.5/0) | Evidence/description | Internal URI | Hash | Date | Responsible |
|---|---|---|---|---|---|---|---|
| D | D1 Catalog GL-GR-010 | | | | | | |
| D | D2 Datasets with URI/hash | | | | | | |
| D | D3 Cuts and Versions | | | | | | |
| D | D4 Licenses/permits | | | | | | |

| Component | Item | Status (1/0.5/0) | Evidence/description | Internal URI | Hash | Date | Responsible |
|---|---|---|---|---|---|---|---|
| D | D5 Formats and Dictionary | | | | | | |
| M | M1 Narrative of the method | | | | | | |
| M | M2 Standardizations/weights | | | | | | |
| M | M3 Spreadsheets/Scripts | | | | | | |
| M | M4 Classification Criteria | | | | | | |
| M | M5 Cycle Changelog | | | | | | |
| I | I1 Uncertainty by indicator | | | | | | |
| I | I2 Aggregate uncertainty | | | | | | |
| I | I3 Sensitivity | | | | | | |
| I | I4 Limitations/gaps | | | | | | |
| G | G1 QA/QC (GL-MS-012) | | | | | | |
| G | G2 κ and reconciliations | | | | | | |
| G | G3 Decision and PCP | | | | | | |
| G | G4 Evidence with URI/hash | | | | | | |

Table B — Scores by component

| Component | Valid items | Sum of statuses | Component score (0–1) |
|---|---|---|---|
| D | | | |

| Component | Valid items | Sum of statuses | Component score (0–1) |
|---|---|---|---|
| M | | | |
| I | | | |
| G | | | |

Table C — Cycle FRE

| D | M | I | G | Weights (D/M/I/G) | FRE (0–1, 2 spaces) | Place of publication (PDD/registration) |
|---|---|---|---|---|---|---|
| | | | | 0.25/0.25/0.25/0.25 | | |

## VIII. Internal integrations and cross-references

i) Section 9 (documentation and publication) — the FRE integrates the minimum fields published per cycle.

ii) GL-GR-010 — mandatory reference for sources, versions, URIs, and hash.

iii) GL-MS-012 (QA/QC) — quality, versioning and package lifecycle tracking.

iv) GL-MC-013 (calculation manual) — complete examples, sample spreadsheets and FAQ (non-normative document).

## IX. Final provisions

i) FRE **does not** form part of formulas and **does not** alter $CO_2eT$.

**Partial** items should outline the **plan** to achieve "Published" in the next cycle.

) The FRE history per cycle should be maintained for **trend analysis** and **continuous improvement** .

*Caption*

*FRE — Transparency factor (0–1, informative; does not alter $CO_2eT$).*

*Components of the FRE — D (Data), M (Method), I (Uncertainty), G (Governance and Path).*

*Publication Status (FRE) — Published = 1.0 · Partial = 0.5 · Absent = 0.0 · N/A = not applicable (excluded from the component denominator).*

*Changelog (of the cycle) — A concise record of methodological and data changes in relation to the previous cycle (versions, dates, and impacts).*

*PDD / registration — Project documents and public registration page where cycle materials are published (includes the FRE).*

# ANNEX V - CARBON-FREE VIABILITY (IRR_SEM / NPV_SEM)

## I. Objective and positioning

Establish the standardized model for evaluating the economic viability of the project without carbon revenues — IRR_sem (internal rate of return) and NPV_sem (net present value at a programmatic cutoff rate). The result does not alter $CO_2eT$; it forms part of the additionality gate (Section 5), along with the other pillars.

## II. Scope and limits

i) The assessment uses only the project's operational cash flows (CAPEX, OPEX, own revenues), excluding carbon revenues, credits/offsets and associated instruments.

ii) The cash flow is calculated at the project level (before financing) to avoid distortions due to capital structure; debt/equity financial indicators may be reported as a supplement, but do not determine the gate.

iii) The time horizon, currency, prices, and assumptions follow operational plans and data with reference to **GL-GR-010** .

iv) The result feeds into the objective gate rule: **IRR_sem < cutoff rate** and **NPV_sem < 0** in **≥ 2/3 scenarios** .

## III. Cycle parameters (minimum fields)

Fill in **Table A** with the parameters and metadata ( **GL-GR-010** ).

Table A — Cycle parameters

| **Parameter** | **Value** | **Unit** | **Source (GL-GR-010)** | **Observations** |
|---|---|---|---|---|
| Programmatic cutoff rate | | % aa real/nominal | | Defined and published by governance. |
| Analysis horizon | | years | | Compatible with operating plan |
| Base currency | | — | | |
| Inflation / deflator | | % aa | | Explaining the real vs. nominal basis |

| Parameter | Value | Unit | Source (GL-GR-010) | Observations |
|---|---|---|---|---|
| Exchange rate (if applicable) | | currency/BRL | | Conversion policy |
| Tax regime | | — | | Taxes applicable |
| Depreciation/amortization | | years | | Method and lifespan |
| Residual value | | coin | | Estimation criteria |
| Working capital (ΔCG) | | % of revenue/year | | Turnover policy |
| Other critical premises | | — | | Examples: productivity, prices, rates |

## IV. Carbon-free scenario building

Define three scenarios — *Conservative (C-)* , *Base (B)* , and *Optimistic (O+)* — with consistent multipliers and justification in **GL-GR-010** . Complete Table B.

Table B — Multipliers by scenario

| Critical variable | W- | B | O+ | Observations/Source |
|---|---|---|---|---|
| Main price (product/service) | 0.90× | 1.00× | 1.10× | Historical series (36m) / contract |
| Volume/productivity | 0.90× | 1.00× | 1.05× | Operational plan |
| OPEX per unit | 1.10× | 1.00× | 0.95× | Quotes/last 12m |
| CAPEX (overshoot/overshoot) | 1.10× | 1.00× | 0.95× | Budgets/market |

| Critical variable | W- | B | O+ | Observations/Source |
|---|---|---|---|---|
| Exchange rate (if applicable) | 1.05× | 1.00× | 0.95× | Exchange rate policy |
| Effective taxes | 1.05× | 1.00× | 0.95× | Tax regime |
| ΔCG (% revenue) | 1.10× | 1.00× | 0.95× | Turnover policy |

Notes: (i) Use **36 months** of historical data to calibrate ranges and justify them; (ii) additional variables (licenses, seasonality, logistics) may be included if relevant.

## V. Calculation methodology (step by step)

1. Develop CAPEX and OPEX schedules for each year of the time horizon (excluding carbon).
2. Design your own recipes (quantity x price), without any carbon footprint.
3. Calculate taxes and working capital according to the stated policies.
4. Project cash flow (FCLP):

$$\text{FCLP}_t = \text{Receitas}_t - \text{OPEX}_t - \text{Tributos}_t - \Delta\text{CG}_t - \text{CAPEX}_t$$

(Add **residual value** in the last period, when applicable.)

5. NPV_sem: discount the FCLP at the programmatic cut-off rate.
6. IRR_sem: calculate the IRR of the FCLP vector (if there is no sign change, record "N/A" and explain).

7. Repeat for each scenario (C-, B, O+).

| Year | Revenues | OPEX | Taxes | ΔCG | CAPEX | FCLP |
|---|---|---|---|---|---|---|
| 0 | | | | | | |
| 1 | | | | | | |
| … | | | | | | |
| n | | | | | | |

## VI. Gate rule — objective decision

Apply the rule **to each scenario** and then the **majority rule** :

### VI.I. Criteria by scenario

- Additional (without carbon): IRR_without < cutoff rate and NPV_without < 0.
- Not additional: IRR_sem ≥ cutoff rate or NPV_sem ≥ 0 (either one).

### VI.II. Majority rule (≥ 2/3 scenarios)

- Approve (pass the pillar): "Additional" criteria met in ≥ 2/3 of scenarios.

- Conditional: only 1/3 of the scenario meets the criteria or there is a proximity zone (e.g., |IRR_without − cutoff rate| ≤ 2 pp or |NPV_without| ≤ 5% of CAPEX) → require refinement of assumptions/sensitivity/operational plans before the final decision.
- Retain: criteria not met in ≥ 2/3 scenarios or inconsistent/lack of evidence assumptions.

Table D — Result by scenario and pillar decision

| Scenario | IRR_without | NPV_sem (currency) | Criteria (Additional/Non-additional) |
|---|---|---|---|
| W- | | | |
| B | | | |
| O+ | | | |

Table E — Feasibility pillar (gate) opinion

| Synthesis | Proposed decision (Approve/Condition/Withhold) | Conditions (when applicable) |
|---|---|---|
| | | |

## VII. Template spreadsheet (recommended structure)

Structure the spreadsheet with the tabs below (store **the internal URI** and **hash** in the cycle protocol):

1. README (scope, version, contacts).
2. Parameters (Table A; actual vs. nominal; cutoff rate).
3. Scenarios (Table B; multipliers documented).
4. Schedules (CAPEX/OPEX/ΔCG; reports).
5. Recipes (carbon-free).
6. Taxes & depreciation (if used for management support; depreciation is not included in FCLP).
7. Cash flow (Table C; by scenario).
8. Summary (Tables D and E; graphs optional).

9. Sensitivity (variations ±X% in critical variables; record impacts in IRR_sem/NPV_sem).

Best practices: lock input cells, use a data dictionary, date versions, maintain a changelog, and perform simple validations (e.g., FCLP sign check).

## VIII. Dossier checklist (minimum evidence)

i) Completed template spreadsheet (all tabs) with version, internal URI, and hash.

ii) Sources of prices, volumes, costs, taxes and policies ( **GL-GR-010** ).

iii) Justification for the multipliers (36 months of history or contracts).

iv) Demonstration of actual vs. nominal (consistency with cutoff rate).

(v) Residual value criteria and ΔCG.

vi) Sensitivity analysis (at least 3 variables).

vii) Pillar opinion (Table E) and registration in Section 5 .

## IX. Transparency and publication

i) Publish in the PDD/record (Section 9) the **narrative of the method** , **weights/multipliers** , **NPV_without/IRR_without per scenario** (aggregated values), sources and spreadsheet version; confidential data may be aggregated/anonymized.

ii) Reference the links/URIs and **hashes** of the spreadsheet and the main sources in **Table A of the FRE** (Annex IV) .

## X. QA/QC and governance

i) QA/QC follows **GL-MS-012** (process, versioning, NC/CAPA).

ii) Double independent review of the spreadsheet is recommended (checking formulas and assumptions).

iii) Material discrepancies or inconsistencies in premises → **Condition** until correction.

## XI. Internal integrations and cross-references

i) Section 5 (gate): this pillar forms part of the additionality decision along with the others.

ii) Annex II (baseline): use the advisory line and historical series as input for prices/volumes/costs.

iii) Annex I (fR/fP): independent; use only for governance.

iv) **GL-GR-010:** data/metadata catalog and storage.

v) **GL-MC-013:** complete examples and template spreadsheet (non-normative).

*Caption:*

*IRR_sem — Internal rate of return of the project excluding carbon revenues.*

*NPV_sem — Net present value of the project excluding carbon revenues, discounted at the cutoff rate.*

*Cutoff rate — Minimum programmatic rate of attractiveness/acceptance defined by governance and published for the cycle.*

*FCLP — Project free cash flow (before financing).*

*CAPEX / OPEX — Project investments / operating expenses.*

*ΔCG — Variation in working capital.*

*Residual value — The economic value of the asset at the end of the horizon (when applicable).*

*C- / B / O+ — Conservative, Base, and Optimistic Scenarios.*

*Internal URI / hash — Identifier and integrity check of the file in the repository (GL-GR-010).*

# ANNEX VI - COMMON PRACTICE (PEER PROTOCOL)

## I. Objective and positioning

Establish a standardized protocol for evaluating common practice through comparable pairs, determining the prevalence (%) of equivalent initiatives without carbon revenues in the relevant area/market. The result does not alter $CO_2eT$; it serves exclusively the additionality gate (Section 5).

## II. Scope and limits

i) Round-robin assessment based on verified real-world pairs.

ii) "Practice" is considered to be the effective implementation (operating or completed) of the same type of solution/arrangement applicable to the project, without carbon support.

iii) Data and metadata references must point to **GL-GR-010** .

iv) Do not use generic benchmarks without backing; the sample must have verifiable evidence.

## III. Comparability criteria (minimum requirements)

A pair is eligible if it meets both of the criteria below (complete Table A):

1. Technology/arrangement: same type of intervention (e.g., private forest protection with territorial surveillance/management; not comparable to productive reforestation).
2. Territorial context: same biome/programmatic region and equivalent access/pressure gradient (e.g., average proximity to logistics hubs, presence of expansion fronts).
3. Scale and structure: similar order of magnitude in area and cost structure (±50% as a reference).

4. Governance/Land Tenure: comparable land tenure regime and ownership/management arrangement (private, community, concession, etc.).
5. Time window: evidence of deployment/operability within the 36-month window prior to the start of the cycle (or active during the cycle).

Observations:

- When strictly comparable pairs are lacking, gradually expand (one criterion at a time) and justify in Table A.
- Outliers can be excluded if there is a technical justification (document in the sample).

## IV. Universe, sample and window

i) Universe: broad initial list of potential pairs (sectoral databases, registries, publications, official records).

ii) Valid sample: select $n \geq 10$ pairs when possible; minimum $n \geq 5$ with justification of market/data limitations.

iii) Window: 36 months to confirm effective deployment; planned/licensed pairs do not count (unless there is evidence of operation).

iv) Evidence: contracts, reports, public records, images, audit databases, socioeconomic data; all with internal URI and hash.

## V. Eligibility and funding (exclusion rule)

i) Pairs whose deployment depends on carbon revenues (or equivalent instruments) do not contribute to the prevalence (they are counted in the denominator as "identified", but not in the numerator of "deployed without carbon").

ii) Pairs with relevant grants that are not replicable in the context (exceptional grants/subsidies) may be classified as "specially funded" — include a note and decide on a case-by-case basis whether to include them; default: exclude from the numerator.

iii) Record the source/value and nature of the funding in Table C.

## VI. Prevalence calculation (%)

1. Denominator (N_val): number of valid (eligible) pairs in the sample.
2. Numerator (N_semC): valid pairs deployed/operating without carbon support (and without non-replicable "special funding", unless justified).
3. Prevalence:

$$\text{Prevalência } (\%) = \frac{N_{\text{semC}}}{N_{\text{val}}} \times 100$$

4. Confidence interval (optional): report 95% binomial CI when N_val ≥ 10.

## VII. Pillar decision rule (objective thresholds)

- **Approve** : **Prevalence < 25%** .
- **Conditioning** : **25%–40%** (requires technical justification and, if necessary, expands the sample/program radius; may require increased sensitivity).
- **Retain** : **> 40%** .

***Notes:*** *In "Condition", record a plan for clarifications (e.g., seek additional peers, validate funding, refine comparability).*

*If N_val < 5, rule out insufficient sample size, except in very exceptional cases with robust justification.*

## VIII. Operational procedure (step by step)

1. Define scope and comparability criteria (Table A).
2. List the universe and select a sample (Table B), with evidence.
3. Classify funding/eligibility by pair (Table C).
4. Calculate prevalence and record justifications (Table D).
5. Issue an opinion on the pillar (Table E) and integrate it into Section 5 (gate).
6. Submit spreadsheet and dossier with internal URI and hash (GL-GR-010).

## IX. QA/QC and consistency

i) QA/QC follows **GL-MS-012** (process, versioning, NC/CAPA).

ii) Recommended: independent double-checking of peer ratings (comparability and funding), with recording of any discrepancies and reconciliation.

## X. Sample tables (to be filled in)

Table A — Comparability criteria and adjustments

| Criterion | Minimum rule | Adjustments/expansions applied | Justification | Evidence (GL-GR-010) |
|---|---|---|---|---|
| Technology/arrangement | | | | |
| Territorial context | | | | |
| Scale/structure | | | | |
| Governance/Land Tenure | | | | |
| Window (36 months) | | | | |

Table B — Universe and sample of pairs (identification)

| **ID** | **Name/description** | **Location** | **Biome/region** | **Scale (area)** | **Status (planned/operating)** | **Evidence** | **Internal URI** | **Hash** |
|---|---|---|---|---|---|---|---|---|

Table C — Eligibility and funding (by pair)

| ID | Eligible (Y/N) | Carbon-free (S/N) | Special financing (Y/N) | Source/value of funding | Observations |
|---|---|---|---|---|---|

Table D — Prevalence and justifications

| N_val | N_semC | Prevalence (%) | Class (Approve/Condition/Retain) | Justifications (sample, funding, comparability) |
|---|---|---|---|---|

Table E — Common Practice Pillar (Gate) Opinion

| Synthesis | Proposed decision (Approve/Condition/Withhold) | Conditions (when applicable) |
|---|---|---|

## XI. Internal integrations and cross-references

i) Section 5 (gate): applies the thresholds of this annex to the pillar decision.

ii) Appendix II (baseline): use the consultative diagnosis as input to identify peers and context.

iii) **GL-GR-010** : storage and metadata (internal URI, hash, versions).

iv) **GL-MS-012** : QA/QC and dossier trail.

v) **GL-MC-013** : complete examples and template spreadsheet (non-normative).

*Caption*

*Comparable pair — Project/initiative with similar technology/arrangement, context, scale, and governance, within the 36-month window.*
*Universe/sample — Broad list of eligible candidates/subset used in the calculation. Prevalence (%) — Portion of the eligible sample deployed without carbon. Special funding — Relevant grants/subsidies not replicable in the context; by default, excluded from the numerator. Internal URI/hash — Canonical identifier and integrity verification of the files (GL-GR-010).*