

Terms of Reference (ToR)

Independent External Technical Review

Methodology: BCROoo8 Methodology (Version 2.0) AFOLU Sector – Livestock & Manure Management. Biomethanisation Plants

1. Background

BioCarbon Standard has developed the methodology BCROoo8 – Biomethanisation Plants Animal Manure Management for Renewable Energy, Heat Generation, and CH₄ & N₂O Mitigation (Version 2.0), currently under public consultation and publicly available at: <https://biocarbonstandard.com/en/public-consultation/>

In line with the BioCarbon Standard methodological governance framework and consistent with international best practices for environmental integrity, the methodology is subject to independent external technical review.

2. Objective of the Review

The objective of the independent external review is to assess whether the methodology:

- (a) Ensures environmental integrity and conservativeness;
- (b) Avoids systematic overestimation of mitigation outcomes;
- (c) Applies scientifically robust and transparent quantification approaches;
- (d) Is consistent with relevant IPCC guidance (Waste sector / AFOLU / Energy as applicable);
- (e) Adequately addresses additionality, baseline integrity, leakage, permanence (if applicable), uncertainty, and double counting.

The review shall identify any material risks affecting credibility, environmental integrity, or consistency with high-integrity carbon market standards.

3. Scope of Work

This review aims to ensure methodological robustness, transparency, and alignment with high-integrity carbon market principles

- (a) Avoidance of over-crediting;
- (b) Environmental integrity;

- (c) Additionality;
- (d) Permanence (where applicable);
- (e) Accurate baseline determination;
- (f) Avoidance of double counting.

The external reviewer shall assess at minimum:

(a) Applicability and Eligibility

- (i) Clarity and enforceability of eligibility criteria;
- (ii) Definition of eligible waste streams or feedstocks;
- (iii) Exclusion of ineligible or high-risk inputs;
- (iv) Consistency with sectoral accounting principles.

(b) Baseline and Additionality

- (i) Robustness of baseline scenario identification;
- (ii) Treatment of regulatory surplus;
- (iii) Assessment of common practice;
- (iv) Risk of baseline drift;
- (v) Consistency between baseline definition and additionality demonstration.

(c) Quantification Approach

- (i) Scientific validity of methane generation and destruction calculations;
- (ii) Treatment of methane capture efficiency;
- (iii) Treatment of residual methane slip;
- (iv) Energy substitution accounting (if applicable);
- (v) Treatment of digestate emissions (if relevant);
- (vi) Consistency with IPCC Waste Model or equivalent.

(d) Non-CO₂ Emissions

- (i) Treatment of CH₄, N₂O and any secondary emissions;
- (ii) Avoidance of double counting between waste and energy components.

(e) Leakage

- (i) Risk of waste diversion from existing treatment facilities;
- (ii) Market leakage associated with feedstock sourcing;
- (iii) Energy market displacement effects.

(f) Uncertainty and Conservativeness

- (i) Treatment of parameter uncertainty;
- (ii) Use of conservative assumptions;
- (iii) Safeguards against over-crediting;
- (iv) Monitoring accuracy and metering reliability.

(g) Permanence (if applicable)

Assessment of whether permanence risks are relevant under the activity type and whether adequate safeguards exist.

(h) Avoidance of Double Counting

- (i) Consistency with national inventory interaction;
- (ii) Application of exclusive claim principles;
- (iii) Alignment with the Avoiding Double Counting Tool of the BioCarbon Standard.

(i) Transparency and Replicability

- (i) Clarity of equations and methodological steps;
- (ii) Reproducibility of quantification procedures;
- (iii) Internal consistency across sections.

4. Deliverables

The external reviewer shall provide:

- (a) A written independent technical review report;
- (b) Identification of material methodological risks, if any;
- (c) Clear, structured recommendations for improvement;
- (d) An overall conclusion regarding methodological robustness and integrity.

The report shall clearly distinguish between:

- (a) Critical issues (requiring revision prior to approval), and
- (b) Advisory recommendations.

5. Eligibility Requirements for Applicants

Applicants shall demonstrate:

- (a) Advanced academic qualifications in environmental engineering, waste management, carbon accounting, or related disciplines;
- (b) Demonstrated experience in GHG methodology development, validation, or evaluation;
- (c) Expertise in methane accounting, waste sector emissions, or anaerobic digestion systems;
- (d) Familiarity with IPCC Waste Sector guidance;
- (e) Understanding of high-integrity carbon market principles (e.g., ICVCM CCPs, CORSIA);
- (f) Absence of conflicts of interest.

Applicants shall disclose any past or present involvement in the development of this methodology.

6. Selection Process

BioCarbon shall evaluate proposals through a documented, merit-based process, applying criteria related to:

- (a) Technical competence;
- (b) Relevant sectoral expertise;
- (c) Independence and conflict-of-interest screening;
- (d) Capacity to complete the review within the specified timeline.

7. Independence and Financial Arrangements

To safeguard independence:

- (a) The external reviewer shall not have participated in the development of the methodology;
- (b) The reviewer shall sign a conflict-of-interest declaration;
- (c) All costs associated with the review shall be borne exclusively by BioCarbon Standard.

8. Timeline

The external review is expected to be completed within 2 weeks from contract signature.