

Terms of Reference (ToR)

Independent External Technical Review

BCR0018 – Avoided Methane Emissions from the Diversion and Alternative Treatment of Biodegradable Solid Waste from Solid Waste Disposal Sites

BCR0019 – Fossil Fuel Substitution in Industrial Thermal Processes

Drafts for Public Consultation

1. Background

BioCarbon Cert has developed Methodologies BCR0018 and BCR0019, currently under public consultation.

BCR0018 establishes requirements for quantifying GHG emission reductions from the diversion of eligible biodegradable waste from solid waste disposal sites and its treatment through eligible alternative pathways.

BCR0019 establishes requirements for quantifying GHG emission reductions resulting from the partial or complete substitution of fossil fuels with eligible non-hazardous waste-derived fuels in industrial thermal processes.

The methodologies address distinct but potentially complementary mitigation outcomes. Where applied to the same physical waste stream, they require separate accounting boundaries, traceability, attribution of emissions and mitigation outcomes, and controls to prevent double counting.

In accordance with BioCarbon's methodological governance framework and international best practices, the methodologies are subject to an independent external technical review.

2. Objective of the Review

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

- (a) ensure environmental integrity and conservative quantification of GHG emission reductions;
- (b) avoid systematic overestimation and non-additional crediting;
- (c) establish scientifically robust, transparent, and auditable baseline and quantification approaches;
- (d) adequately address project emissions, leakage, uncertainty, monitoring, data quality, and traceability;
- (e) appropriately address the waste hierarchy and avoid perverse incentives or waste-management and fossil-fuel lock-in;

- (f) provide adequate safeguards against double issuance, double use, and double claiming; and
- (g) provide a robust framework for the separate or combined application of BCR0018 and BCR0019.

3. Scope of Work

The external reviewer shall assess at a minimum:

(a) Applicability and Eligibility

- (i) clarity and enforceability of applicability conditions;
- (ii) eligibility of waste streams, treatment pathways, alternative fuels, and industrial applications;
- (iii) treatment of hazardous and non-hazardous waste; and
- (iv) consistency with applicable waste-management and GHG accounting principles.

(b) Baseline and Additionality

- (i) robustness and plausibility of baseline scenarios;
- (ii) treatment of regulatory surplus and common practice;
- (iii) application of the BioCarbon Baseline and Additionality Tool; and
- (iv) safeguards against non-additional crediting.

(c) Quantification Approach

For BCR0018, the review shall assess the scientific and technical robustness of avoided methane quantification, including waste characterization, degradable organic carbon, methane generation, methane recovery, oxidation, alternative treatment pathways, and relevant project emissions.

For BCR0019, the review shall assess fossil fuel displacement, alternative-fuel characterization, fossil and biogenic carbon fractions, mass and energy balances, equivalent industrial service, baseline and project combustion emissions, and applicable industrial process emissions.

(d) Project Emissions and Leakage

The reviewer shall assess completeness and consistency in identifying, quantifying, and conservatively treating material project emissions and leakage sources, including transport, processing, electricity and fuel consumption, displacement effects, residues, and changes in pre-project waste or fuel uses.

(e) Uncertainty and Conservativeness

The review shall assess measurement and parameter uncertainty, data representativeness, missing or incomplete data, conservative adjustments, and safeguards against over-crediting.

(f) MRV, Traceability, and Data Integrity

The reviewer shall assess:

- (i) robustness of monitoring requirements;
- (ii) adequacy of measurement and sampling requirements;
- (iii) mass-balance and stock-reconciliation procedures;
- (iv) chain-of-custody and batch-level traceability, where applicable;
- (v) QA/QC and data-management requirements; and
- (vi) consistency between monitored parameters and quantification equations.

(g) Waste Hierarchy and Lock-in

The review shall assess whether the methodologies adequately prevent:

- (i) diversion from waste prevention, reuse, recycling, or other higher-order uses;
- (ii) artificial generation of waste for crediting purposes;
- (iii) waste-management lock-in; and
- (iv) fossil-fuel lock-in.

(h) Interface between BCR0018 and BCR0019

The reviewer shall specifically assess whether the methodologies adequately ensure:

- (i) separation of upstream avoided-methane and downstream fossil-fuel-substitution outcomes;
- (ii) clear methodological and accounting boundaries;
- (iii) appropriate allocation of shared project emissions and leakage;
- (iv) traceability of physical waste streams and mitigation claims; and
- (v) prevention of double issuance, double use, and double claiming.

BCR0019 expressly establishes this separation between the upstream mitigation outcome under BCR0018 and the downstream fossil-fuel substitution outcome.

(i) Transparency and Replicability

The reviewer shall assess methodological clarity, internal consistency, transparency of assumptions and parameters, reproducibility of calculations, and applicability across different technologies and jurisdictions.

4. Deliverables

The external reviewer shall provide:

- (i) a written independent technical review report;
- (ii) identification of material methodological risks, if any;
- (iii) clear and structured recommendations for improvement; and
- (iv) an overall conclusion regarding methodological robustness, environmental integrity, and suitability for application in high-integrity carbon markets.

The report shall clearly distinguish between:

- (i) critical issues, affecting methodological integrity or credibility; and
- (ii) advisory recommendations, representing methodological improvements.

5. Eligibility Requirements for Applicants

Applicants may be individuals or multidisciplinary review teams. Where a team is proposed, a lead reviewer shall be designated.

Collectively, the reviewer or review team shall demonstrate sufficient expertise in the material technical areas covered by the methodologies.

Relevant expertise may include:

- (a) solid waste management and waste treatment technologies;
- (b) landfill methane modelling and GHG accounting;
- (c) industrial thermal processes and combustion;
- (d) RDF, SRF, CSS/CSR, or comparable recovered fuels;
- (e) mass and energy balances;
- (f) waste characterization and sampling;
- (g) GHG methodology development, validation, verification, or technical review;
- (h) uncertainty analysis, MRV, and data quality;
- (i) waste hierarchy and circular-economy principles; and
- (j) high-integrity carbon market accounting and avoidance of double counting.

Applicants shall disclose any past or present involvement in the development of either methodology and any actual or potential conflict of interest.

6. Selection Process

BioCarbon Cert shall evaluate proposals through a documented, merit-based process, considering:

- (a) technical competence;
- (b) relevant sectoral expertise;
- (c) experience in GHG methodologies and carbon accounting;

- (d) independence and conflict-of-interest screening; and
- (e) 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 methodologies;
- (b) the reviewer shall sign a conflict-of-interest declaration; and
- (c) all costs associated with the review shall be borne exclusively by BioCarbon Cert.

8. Timeline

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