BLOOM ESG: CIRCULARITY STANDARD

A Verified Framework for Circular Decarbonisation and Scope 3 Impact Accounting

Bloom ESG

01 December 2025

Version 1.1

1. Purpose and Scope

1.1. This Standard defines the principles, eligibility criteria, and methodological requirements under which Bloom ESG issues and manages Circular Economy (CE) Certificates on the Bloom Registry.

1.2. Circular Economy Certificates represent verified environmental attributes that quantify the carbon intensity and climate benefits of IT asset and materials circularity.

1.3. All certificates are generated from activities that meet the *Bloom Estimated Avoided Emissions and Emissions Intensity from Circular Re-use and Recycling Activities (V3.1, Nov 2025)* and are verified under ISO 14064-1 and ISO 14064-3.

1.4. EACs currently supported on the registry are collectively called Circular Economy (CE) Certificates. There are three types of CE Certificates:

- **I-TEC Certificates** (IT Asset Re-Use Certificates): Represent the carbon intensity of 1 kilogramme through asset reuse. Certificates represent verified emissions intensity from refurbished and recycled IT hardware.

- **I-TEC AE Certificates** (IT Asset Avoided Emissions Certificate): Represent the avoidance of 1 metric ton of CO_2e specifically from electronics re-use. These certificates directly quantify the climate benefit of extending product lifecycles, reducing demand for virgin material production. This represents the climate benefit, reinforcing both environmental and supply-chain integrity.

- **I-MAT Certificates** (Materials Recycling Certificates): Represent the carbon intensity of 1 kilogramme through materials recycling. Certificates represent verified emissions intensity from recycled materials (e.g., plastic, rubber, etc), either within their operations or elsewhere in the value chain.

1.5. Collectively, these certificates form the Bloom ESG Circular Economy Certificate System, designed to:

- Incentivise verifiable circular-economy actions;
- Substantiate Scope 3 decarbonisation performance using integrity-aligned Environmental Attribute Certificates (EACs); and
- Provide transparent, auditable evidence of avoided and reduced emissions.

1.6. Version Control and Updates: This guide is periodically updated to reflect changes in registry policies, processes, or standards. Users should refer to the latest version to ensure compliance with current requirements.

Version	Date	Adjustments
V1.0	01/11/2025	
V.1.1 (Current)	01/12/2025	Circularity methodology updated ISO certification

1.1 Support and Contact Information

For assistance with registry operations, users may contact the registry support team. The registry support team can be contacted at registry@bloom-esg.com.

2. Principles of Integrity

Bloom ESG applies the four integrity criteria for energy and commodity EACs from the SBTi Corporate Net Zero Standard V2 (p. 89):

Principle	Bloom ESG Implementation
Accuracy	Each certificate reflects the measured delta between a credible baseline (virgin manufacture or disposal) and a verified project activity (refurbishment, re-use, or recycling). Calculations follow the Bloom V3.1 Methodology with facility-specific data and auditable records.
Exclusive Issuance	Only one certificate class may convey the same GHG attribute for a given activity or asset batch. Processor and registry contracts prohibit double issuance or cross-claiming.
Verifiability	All activity data and emission factors are subject to ISO 14064-accredited third-party verification, ensuring traceable evidence and auditable chain-of-custody.
Traceability	The Bloom Registry maintains immutable digital records linking assets, facilities, calculations, and retirement events, ensuring full lifecycle traceability.

3. Eligible Activities

3.1 Applicable activities include the collection, sorting, refurbishment, re-use, and recycling of IT and electronic assets and of secondary materials recovered from such assets.
3.2 Facilities must demonstrate:
3.2.1 Quantifiable outputs (mass or asset count);
3.2.2 Recorded electricity and fuel consumption;
3.2.3 Compliance with recognised environmental standards (e-Stewards, R2, ISO 14001).

3.3 Activities shall comply with applicability conditions defined in *Bloom V3.1 Methodology §2.2–2.3*.

4. Certificate Types

Certificate Type	Description	Unit / Metric
I-TEC (IT Asset Recycling Certificate)	Verified emissions intensity achieved through refurbishment and recycling of IT hardware. Represents the carbon intensity per kilogramme of reused assets.	tCO_2e / kg asset
I-TEC AE (IT Asset Avoided Emissions Certificate)	Quantifies the avoidance of 1 metric ton of CO_2e from electronic re-use, representing lifecycle extension benefits.	tCO_2e avoided / t
I-MAT (Materials Recycling Certificate)	Verified emissions intensity from recycling of secondary materials such as plastics, metals, or rubber. Represents the carbon intensity per kilogramme of recycled material.	tCO_2e / kg material

5. Quantification Methodology

5.1 Emission calculations follow the *Bloom Estimated Avoided Emissions and Emissions Intensity from Circular Re-use and Recycling Activities (V3,01 December 2025)*:

- **Baseline emissions:** $BE = \Sigma (Q_i \times SE_i)$
- **Project emissions:** $PE = \Sigma (EC \times EF)$
- **Reductions:** $ER = BE – PE – LE$ ($LE = 0$ assumed)
- **Process intensity:** $I_{proc} = E_{proc} / Q_{output}$

5.2 Emission-factor hierarchy applies to all material and asset categories. All emissions factors must be from recognized and public sources.

5.3 All calculations must maintain consistent system boundaries and data sources across reporting periods.

6. Issuance and Registry Operation

6.1 Each CE Certificate is assigned a unique identifier and metadata record: project name, facility ID, vintage, methodology version, verification body.

6.2 Certificates are minted, transferred, and retired exclusively on the Bloom Registry (https://bloom-esg.com/registry).https://bloom-esg.com/registry).

6.3 Verification under ISO 14064-3 is required prior to registration.

7. Claims and Use Guideline

7.1 Retired CE Certificates may be used to substantiate progress toward SBTi-aligned Scope 3 targets in Categories 1 (Purchased Goods and Services), 2 (Capital Goods).
7.2 Approved claim statement:

"Bloom ESG Circular Economy Certificate retired to represent X tCO_2e of verified emissions intensity from X kilogrammes refurbishment, re-use, or recycling activities, ISO-14064 verified."

7.3 Certificates shall not be used to offset residual emissions outside the holder's value chain or be marketed as voluntary carbon credits.

8. Governance and Verification

8.1 Independent VVBs validate and verify projects per ISO 14064.
8.2 The Registry and issuance process undergo independent annual assurance.

9. Data Transparency and Audit Trail

9.1 All issued and retired certificates are publicly listed in the Bloom Registry.
9.2 Each record links to its underlying data and verification report.
9.3 Methodology and emission-factor updates are published annually.

10. Alignment with Global Frameworks

This Standard aligns with:

- ISO 14064-1 & 14064-3 (GHG Quantification & Verification);
- UN CDM and VERRA methodologies (SSC-NM072, AMS-III.BA, AMS-III.AJ);
- SBTi Corporate Net Zero Standard V2 (2025 draft, p. 89);
- ICVCM Core Carbon Principles and ICROA Code of Best Practice.

11. Certificate Validity and Retirement

11.1 Each certificate is valid for three (3) years following the end of its activity vintage year.
11.2 Upon expiry, certificates are automatically retired by the Bloom Registry and marked "Retired (Expired)".
11.3 Expired certificates remain visible in the public ledger for audit transparency.
11.4 Detailed operational procedures are defined in the *Bloom Registry User Guide (Sept 2025)*.

Annex A – Sample Certificate Metadata

Field	Description
Certificate ID	Unique identifier
Certificate Type	I-TEC / I-TEC AE / I-MAT
Project Name	Registered facility or programme
Facility ID	Linked to audited entity
Vintage	Year of activity
Baseline Type	Virgin manufacture / landfill avoidance
Emission Factor Source	DEFRA 2024 / EPA WARM 2023 / IPCC v6
tCO_2e Value	Quantified impact
Verification Body	ISO-accredited VVB
Claim Eligibility	Scope 3 use only; non-offset
Status	Issued / Transferred / Retired / Retired (Expired)