



Building Emissions Reduction Standard (BERS)

Version 1.0

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Notice of Version 1.0

This document represents Version 1.0 of Ontoly's Building Emissions Reduction Standard (BERS). This first release focuses exclusively on operational greenhouse gas (GHG) emissions reductions from retrofit projects of large buildings (such as multi-unit residential, commercial, and institutional buildings) within Canada and the United States.

The scope, eligibility criteria, and methodological requirements contained herein may evolve in future iterations based on project results, stakeholder feedback, and advancements in climate and building science.

Version Control and Document Updates

The BERS is a dynamic document, subject to periodic updates to incorporate the latest scientific developments, regulatory requirements, and stakeholder feedback. Users must ensure they are referring to the most current version, publicly available on the Ontoly website (www.ontoly.org).

Where external standards are cited (e.g., IPCC Assessment Reports, ISO standards), Ontoly mandates the use of the most up-to-date version. Ontoly shall maintain an archive of all prior versions, accompanied by change logs and summaries of effective dates.

Protocols and methodologies shall be reviewed at a minimum of every five years to ensure continued relevance and scientific rigor, in alignment with the Integrity Council for the Voluntary Carbon Market (ICVCM) Core Carbon Principles.

Version	Date	Description
1.0	11 March 2025	Pilot Version
1.0	11 May 2026	Clarifications to regulatory surplus, data quality and listing processes. No major revisions, Version 1.0 is still accurate.



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PART 1: FOUNDATION AND GOVERNANCE

1. Introduction to the BERS Program

1.1 Purpose and Scope

1.1.1 The core purpose of the BERS Program is to mobilize climate finance for the decarbonization of the existing building stock. It achieves this by creating a high-integrity, transparent, and standardized carbon credit unit—the Building Emissions Reduction Unit (BERU). Each BERU represents a real, additional, and permanent reduction in operational GHG emissions, providing a credible and verifiable instrument for the voluntary carbon market (VCM).

1.1.2 This Building Emissions Reduction Standard (the "Standard") establishes the definitive rules, requirements, and procedures for the monitoring, verification, registration, and issuance of Building Emissions Reduction Units (BERUs) under the Ontoly BERS Program. It serves as the core governing framework for all Program Participants and activities.

1.1.3 This Standard shall be read in conjunction with all other normative BERS Program documents, which are published and maintained by Ontoly and are binding on all Program Participants. These documents include:

- Approved BERS Methodologies
- The BERS Verification Standard
- The Ontoly Fee Schedule
- The Ontoly Platform Terms of Use
- The Methodology Development and Review Process
- All templates, forms, and guidance documents issued by Ontoly

1.1.4 This modular structure, which separates the core standard from methodologies and other procedural documents, allows for targeted updates while maintaining the stability of the foundational framework.

1.1.5 Ontoly may periodically revise this Standard and its associated methodologies. The process for such revisions shall be transparent and include stakeholder consultation as outlined in Section 2.3.

1.1.6 Upon the release of a new version of the BERS Standard, Ontoly shall publicly post a grace period of a minimum of thirty (30) days, during which projects already registered in the Ontoly Portal may continue to use the previous version. All new projects submitted after the effective date of the new version shall conform to the new version.

1.1.7 The BERS shall be periodically updated by Ontoly to incorporate the latest scientific findings (e.g., from the IPCC), evolving best practices in the VCM, and new or revised requirements from bodies such as the ICVCM. All users shall ensure they are referring to the most current version of this Standard and all associated program documents, publicly available at www.ontoly.org.



1.2 Required Components of BERS Methodologies

1.2.1 All approved BERS Methodologies shall address, at minimum, the following essential components, consistent with international best practice and the ICVCM Core Carbon Principles:

- **Applicability and Eligibility Criteria.** Each methodology shall clearly define the types of buildings, retrofit measures, geographic constraints, and project conditions under which the methodology may be applied.
- **Determination of the Accounting Boundary.** The methodology shall establish the physical and operational boundaries of the project, including which emission sources, sinks, and scopes are included or excluded.
- **Determination of Additionality.** Each methodology shall comply with the standardized additionality tests set out in this Standard, ensuring that BERUs are issued only for GHG emission reductions that exceed existing legally binding regulatory requirements and for which financial analysis demonstrates that carbon finance materially improves the investment case.
- **Establishment of the Baseline Scenario.** The methodology shall include a transparent and conservative approach for determining the baseline emissions scenario.
- **Quantification of GHG Emission Reductions.** The methodology shall define the calculation procedures, emission factors, data inputs, model selection, systematic approach to ensuring the conservativeness, and uncertainty requirements used to determine net BERU issuance.
- **Monitoring Requirements.** Each methodology shall prescribe all data collection, metering, reporting, and attestation requirements needed to verify project performance.

1.2.2 All BERS Methodology revisions shall undergo public consultation and external scientific advisory review prior to adoption and may only be amended through Ontoly's formal Methodology Development and Review Process.

1.3 Core Principles of the BERS Program

1.3.1 The application of the following principles, derived from ISO 14064-2 and aligned with the ICVCM Core Carbon Principles, is fundamental to ensuring that all GHG-related information under the BERS Program is credible. These principles shall guide the application of all BERS Program rules:

- **Relevance.** Approved BERS Methodologies shall select GHG sources, sinks, reservoirs, data, and methodologies appropriate to the building retrofit context and the needs of intended users of BERUs.
- **Completeness.** Approved BERS Methodologies shall include all relevant GHG emissions and removals within the defined project boundary.
- **Consistency.** Ontoly shall ensure that all methodologies and calculation tools are applied consistently across all projects to enable meaningful comparisons.
- **Transparency.** Ontoly shall disclose sufficient and appropriate GHG-related information in a clear and factual manner. All core carbon principles shall be published publicly on the Ontoly Registry.
- **Accuracy.** Ontoly shall ensure that GHG quantification is free from material misstatement and that bias and uncertainties are reduced as far as practicable, supported through the engagement of an independent third-party Verification Body.



- **Conservativeness.** Where uncertainties cannot be fully eliminated, Building Representatives and Ontoly shall use conservative assumptions, values, and procedures to ensure that GHG emission reductions are not overestimated.
- **Integrity.** All BERUs issued shall represent real, measurable, and verified GHG emission reductions that are additional, permanent, and unambiguously owned and retired.
- **Traceability.** The BERS Program shall provide full public access to project information, program rules, methodologies, and registry data to enable complete auditability and independent scrutiny.
- **Scientific Rigor.** All methodologies and quantification processes shall be rooted in the latest climate and building science to ensure accurate and conservative calculation of GHG emission reductions.
- **Granular Assessment.** All GHG emission reductions shall be calculated using detailed, building-specific utility data, normalized for variables that impact operational performance.

1.4 Language and Interpretation

1.4.1 The operating language of the BERS Program is English. All project documentation, monitoring reports, verification reports, and supporting materials shall be in English.

1.4.2 Throughout this Standard and all normative BERS Program documents, the following terms shall be interpreted with the specific legal weight defined below:

- **"Shall" / "Must"** indicates a mandatory and legally binding requirement. Failure to comply constitutes a breach of the BERS Program rules.
- **"May"** indicates a permissible action or option that a Program Participant or Ontoly is permitted, but not required, to take.

1.5 Normative References

1.5.1 The BERS Program is built upon internationally recognized standards and scientific guidance. All Program Participants shall adhere to the requirements of this Standard and the latest versions of the following normative documents, where applicable:

- ISO 14064-2: Greenhouse gases — Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements.
- ISO 14065: Greenhouse gases — Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition.
- ISO 14066: Greenhouse gases — Competence requirements for greenhouse gas validation teams and verification teams.
- The most recent Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) for Global Warming Potential (GWP) values (disclosed in Ontoly Public Parameters List, verified by third party verifier)
- The Integrity Council for the Voluntary Carbon Market (ICVCM) Assessment Framework and Core Carbon Principles.



2. Program Governance and Oversight

2.1 Ontoly's Role and Responsibilities

2.1.1 Ontoly shall develop, publish, maintain, and administer all aspects of the BERS Program, including this Standard, all associated methodologies, guidance documents, tools, and the Ontoly Registry.

2.1.2 Ontoly shall be solely and exclusively responsible for conducting all GHG emission reduction quantification, normalization adjustments for weather and occupancy, and additionality assessments on behalf of the Building Representative. This centralized technical function is a core feature of the BERS Program, designed to ensure the highest degree of standardization, consistency, and accuracy across all projects.

2.1.3 Ontoly shall be solely responsible for the selection and contracting of an accredited, independent third-party Verification Body to perform verification services for all projects. This ensures the Verification Body maintains full independence from the Building Owner and Building Representative, strengthening the impartiality and integrity of the verification process.

2.2 The BERS Independent Governance Board

2.2.1 The BERS Program shall be overseen by the BERS Governance Board, composed of independent experts with demonstrated experience in voluntary carbon markets, environmental law, climate finance, building engineering, and building decarbonization. This structure meets ICVCM requirements for effective and independent program governance.

2.2.2 All members of the BERS Governance Board shall be subject to a strict Conflict of Interest Policy and shall adhere to fiduciary responsibilities as defined in the Board's bylaws. The Board shall provide strategic oversight, approve major updates to the Standard, and serve as the final authority in the appeals process.

2.2.3 Ontoly shall publish a comprehensive annual report detailing its governance structure, operational activities, and financial performance to ensure full transparency and public accountability.

2.3 Stakeholder Consultation Process

2.3.1 Ontoly shall facilitate a robust and transparent stakeholder consultation process for the development of new methodologies and for any major revisions to this Standard.

2.3.2 Ontoly's methodologies are developed under scientific advisory oversight and grounded in the best available science. Any major revision undergoes a public comment period of at least 30 days, with all draft documents published on the Ontoly website. Following each consultation, Ontoly publishes a summary of comments received and a formal response detailing how feedback was incorporated.

2.4 Grievance and Appeals Mechanism

2.4.1 Ontoly shall establish and maintain a clear, accessible, and transparent grievance and appeals mechanism to address complaints or concerns from any stakeholder regarding the BERS Program or a specific BERS project.

2.4.2 The grievance process shall adhere to the following minimum procedures:

- **Submission:** Stakeholders may submit grievances at any time via written communication to info+grievances@ontoly.org.



- **Acknowledgment:** Ontoly shall acknowledge receipt within fourteen (14) business days.
- **Investigation:** If a breach is substantiated and the BERS Governance Board votes in favour, a formal investigation and proposed resolution shall be provided within thirty (30) days.
- **Appeal:** If unresolved, the complainant may file a formal appeal to the BERS Governance Board via info+grievances@ontoly.org.
- **Mediation:** If disputed, an independent third-party mediator may be engaged.

2.4.3 No fees shall be imposed on Indigenous Peoples, Local Communities, or civil society organizations for accessing the grievance mechanism. All non-confidential grievance cases and their outcomes shall be documented in publicly available annual reports.

2.4.4 Where a grievance or formal request relates to information alleged to be missing or incomplete on the Ontoly website or Registry, Ontoly shall review the request and, where eligible for public disclosure, make such information publicly available, subject to applicable confidentiality, proprietary, privacy, and data-protection obligations.

2.5 Management of Conflicts of Interest

2.5.1 Ontoly shall implement and enforce a robust Conflict of Interest Policy applicable to all Ontoly staff, members of the BERS Governance Board, advisory committees, and contracted Verification Bodies.

2.5.2 All individuals and organizations subject to this policy must proactively disclose any potential, perceived, or actual conflicts of interest. Ontoly shall maintain internal documentation and procedures to manage identified conflicts.

2.6 Integrity Policies

2.6.1 Ontoly shall establish, maintain, and enforce robust internal policies to ensure corporate social and environmental responsibility and to combat financial crimes, including:

- Robust anti-money laundering processes via the Know Your Customer (KYC) Policy.
- Robust anti-bribery and anti-corruption processes via the Anti-Bribery, Anti-Corruption Policy.

2.7 Title, Ownership, and Representative Authorization

2.7.1 The Building Owner shall be the legal entity that holds title to the building and the associated GHG emission reductions. The Building Owner is the ultimate beneficiary and rights-holder of any BERUs generated by the project and must provide all necessary legal authorizations.

2.7.2 A Building Owner may authorize a Building Representative (e.g., consulting firm, retrofit contractor, or other representative) to manage the BERS project submission and monitoring process on their behalf.

2.7.3 To formalize this relationship, the Building Representative must obtain a fully executed Building Owner Attestation & Representative Authorization from the Building Owner prior to submitting a project to Ontoly.

2.7.4 The Building Owner Attestation & Representative Authorization shall, at a minimum, contain the following:

- The legal name and contact information for both the Building Owner and the designated Building Representative.



- A clear declaration from the Building Owner confirming legal ownership of the GHG emission reductions generated by the project activity.
- A clear delegation of authority to the Building Representative to act on behalf of the Building Owner for all communications with Ontoly, submitting project data, and managing the project within the Ontoly Portal.
- A legal attestation signed by a duly authorized signatory of the Building Owner confirming the accuracy of the information provided and the granting of authority to the Building Representative.

2.7.5 Ontoly may, at its sole discretion, accept alternative forms of legally binding evidence in lieu of or in supplement to the standard Building Owner Attestation & Representative Authorization form, provided such evidence satisfactorily demonstrates:

(a) the Building Owner's legal ownership of the building and associated GHG emission reductions; and

(b) the authorization of the Building Representative to act on the Building Owner's behalf. Acceptable alternative evidence may include, but is not limited to, executed contracts, power-of-attorney instruments, corporate resolutions, or other legally binding agreements that confer equivalent rights and obligations.

2.7.6 Ontoly shall not proceed with the review or registration of any project until valid and complete evidence of Building Owner authorization has been received.

2.7.7 Where a Building Owner does not designate a secondary party, the Building Owner shall also serve as the Building Representative and shall be responsible for all associated duties outlined in this Standard.

2.8 Annual Reporting

2.8.1 Ontoly shall publish an annual report that is publicly accessible and provides sufficient information to demonstrate the organization's financial integrity, operational capacity, and governance oversight. At a minimum, the report shall include high-level financial information necessary to evidence organizational solvency and fiduciary responsibility, an overview of Ontoly's mission, key program activities, material operational developments, and governance structure.



3. Definitions

For the purposes of this Standard and all BERS Program documents, the following terms shall apply. These definitions are legally authoritative and govern the interpretation, implementation, and enforcement of all BERS Program provisions.

Additionality: A quality of a GHG emission reduction, determined by the BERS Program, whereby the GHG emission reduction: (1) exceeds existing legally binding regulatory requirements, or is an approved compliance mechanism in an approved jurisdiction; and (2) passes the NPV Financial Additionality Test, demonstrating that the project is not financially viable without carbon finance revenue. Additionality is determined through a Regulatory Surplus Assessment and a Financial Additionality Assessment that results in pass/fail and a transparent rating for projects that pass the NPV threshold.

Aggregated Building Project: A defined collection of two or more buildings treated as a single project boundary for the purposes of the BERS Program, where:

- (a) all buildings are located within the same property boundary; and
- (b) all buildings are owned by the same Building Owner; and
- (c) energy consumption and performance data are reported on an aggregated basis through shared utility accounts or equivalent metered systems.

Ontoly may, at its sole discretion, deem properties ineligible for aggregation where sufficient evidence of shared metering or common ownership is not provided. Aggregated Building Projects may be subject to different fee structures as set out in the Ontoly Fee Schedule.

Attestation: A formal, legal declaration made by a Building Representative confirming the truthfulness and accuracy of a statement or compliance with a specific requirement.

Baseline Scenario: The reference case representing the GHG emissions that would have occurred in the absence of the BERS project activity. The baseline is calculated using twelve (12) to thirty-six (36) months of actual, historical, metered utility data for the building, drawn from the period most immediately preceding the Project Start Date and reflective of the building's normal operating conditions. Where baseline data from the period immediately preceding the Project Start Date is unavailable, incomplete, or not representative of normal building operations (e.g., due to extended vacancy, major renovation, pandemic-related shutdowns, or metering failures), Ontoly may, at its sole discretion and following a documented reasonableness assessment, accept utility data from an alternative period that more accurately reflects the building's typical operational profile. Any substitution of baseline data shall be clearly disclosed and flagged in the public Project Description Report on the Ontoly Registry to ensure full transparency. Ontoly may require the Building Representative to provide supporting evidence substantiating the basis for any alternative baseline period to prevent gaming or manipulation of baseline conditions. Ontoly further reserves the right, at its sole discretion, to engage independent auditors to verify the accuracy and integrity of baseline data submissions. Failure to provide requested evidence, misrepresentation of baseline conditions, or knowing falsification of records may result in project termination and cancellation of any associated BERUs, at Ontoly's sole discretion, in accordance with Section 16. The baseline scenario for GHG emissions shall be established in accordance with the procedures detailed in the approved BERS quantification methodology.

Building Emissions Reduction Unit (BERU): A uniquely identified, serialized, and transferable digital unit representing one metric tonne of certified carbon dioxide equivalent (tCO₂e) emission reductions generated by an eligible project under the BERS Program. BERUs are issued exclusively on an ex-post basis following monitoring and verification.



Building Owner: The legal entity that holds majority title to the building and the associated GHG emission reductions. The Building Owner is the ultimate beneficiary and rights-holder of any BERUs generated, unless a Building Representative is authorized as rights-holder through the Building Owner Attestation & Representative Authorization.

Building Representative: An entity (e.g., services company, retrofit contractor, or consultant) formally authorized by the Building Owner to manage the BERS project submission and monitoring process. Where no secondary party is designated, the Building Owner shall also serve as the Building Representative.

Crediting Period: The finite length of time for which a BERS project can generate BERUs. The crediting period shall be a maximum of ten (10) years.

Crediting Period Start Date: The date on which the project's crediting period commences, which shall be the Project End Date (retrofit completion date).

Crediting Period End Date: The date on which a project's crediting period concludes, determined by the Crediting Period Start Date plus ten (10) years.

Double Counting: A situation where a single GHG emission reduction is used more than once to demonstrate climate action. The BERS Program prohibits double issuance, double use, and double claiming.

Financial Additionality Assessment: A standardized assessment conducted by Ontoly consisting of:

- (a) an NPV Financial Additionality Test (pass/fail) and
- (b) an Investment Analysis Rating based on NPV-adjusted payback period, yielding a transparent Financial Additionality Rating for the project.

Greenhouse Gas (GHG): Gaseous constituents of the atmosphere that absorb and re-emit infrared radiation, including CO₂, CH₄, and N₂O, and any other gases explicitly included within an Approved BERS Methodology.

Leakage: An increase in GHG emissions outside the project boundary that occurs as a direct result of the project activity.

Monitoring: The ongoing process of collecting and recording all required post-implementation performance data for the duration of the crediting period.

Ontoly: The organization acting as the sole administrator of the BERS Program, BERU issuance, and the Ontoly Registry.

Ontoly Registry: The official, centralized electronic public database operated by Ontoly for tracking BERS Projects and BERUs.

Ontoly Portal: The secure, web-based software platform operated by Ontoly through which all BERS Program transferred and interactions are conducted. The Ontoly Portal serves as the authoritative operational interface for:

- (a) Building Representative account creation, identity verification, and project onboarding;
- (b) submission of all project intake forms, monitoring reports, financial additionality data, and supporting documentation;
- (c) receipt of Preliminary Ex-Ante BERU Assessment Reports and Verification Statements;
- (d) deposit of issued BERUs into Supplier Accounts following successful verification;
- (e) initiation and recording of BERU transfers to Buyer Accounts;



- (f) execution of BERU retirement requests and associated disclosure filings; and
- (g) payment of all applicable fees in accordance with the Ontoly Fee Schedule.

The Ontoly Portal is distinct from the Ontoly Registry; the Portal is the authenticated, account-level platform for program participants, whereas the Registry is the public-facing database of project and BERU status information.

Permanence: The degree to which a verified GHG emission reduction is maintained over time without reversal. Under Version 1.0, only GHG emission reductions are certified, and carbon removals are excluded, resulting in no permanence risk.

Project: A building energy retrofit activity registered under the BERS Program, comprising one or more eligible retrofit measures implemented within a single building or Aggregated Building Project. A Project is defined by its Project Boundary, Project Start Date, Project End Date, and Crediting Period, and is the unit to which BERUs are attributed following monitoring and verification.

Project Boundary: The encompassed GHG sources, sinks, and reservoirs that are under the control of the Project Proponent and reasonably expected to be affected by the retrofit within the physical spatial bounds of a single building or Aggregated Building Project. For a single building, this is the individual building. For an Aggregated Building Project, this is the collection of buildings as defined in this Standard.

Project End Date: The date on which all retrofit measures are complete and fully operational. This marks the commencement of the Crediting Period.

Project Start Date: The date on which the physical work associated with the project's retrofit measures commences.

Professional Engineer (P.E.): A professional who is licensed and qualified to practice engineering in the jurisdiction of the project. The P.E. shall disclose possible conflicts of interest.

Project Proponent: Synonymous with Building Representative for the purposes of this Standard.

Retrofit Project: A project involving the modification of an existing building through replacement or installation of equipment or technologies to improve energy efficiency and/or switch fuels, resulting in operational GHG emission reductions.

Verification: The systematic, independent, and documented ex-post assessment of a project's monitored GHG emission reductions, conducted by a Verification Body contracted by Ontoly. Verification is a prerequisite for BERU issuance.

Verification Body: A qualified, independent third-party auditor accredited to relevant ISO standards and approved by Ontoly to perform verification services under the BERS Program.



PART 2: THE BERS PROJECT CYCLE

4. Project Eligibility and Scope

4.1 Eligible Project Activities

4.1.1 The BERS Program shall accept project activities involving the implementation of energy efficiency measures, operational improvements, and/or fuel-switching retrofit measures in existing large buildings, such as multi-unit residential, commercial, or institutional buildings. All project activities must be supported by an Approved BERS Methodology.

4.1.2 Eligible projects must result in measurable, verifiable reductions in building energy consumption and associated GHG emissions, quantified through a comparison of pre-retrofit and post-retrofit utility data.

4.2 Geographic Scope

4.2.1 For Version 1.0, only building retrofit projects located within Canada and the United States of America shall be eligible. Please submit a request to info@ontoly.org to have your country considered for eligibility.

4.3 Greenhouse Gas Scope

4.3.1 The BERS Program shall certify reductions in CO₂, CH₄, N₂O, and any other greenhouse gases explicitly included in an Approved BERS Methodology.

4.3.2 Fluorinated gases (e.g., HFCs) used as refrigerants are excluded from Version 1.0 as they require specialized direct monitoring outside the utility data-based quantification model. Future versions may include dedicated methodologies for such emissions.

4.4 Project Start Date and Retroactive Crediting Window

4.4.1 The Project Start Date is defined as the date on which the physical work associated with the project's retrofit measures commences. Evidence of this date must be available upon request. This is typically demonstrated by the earliest evidence of a contractual agreement for the implementation of the retrofit, such as a signed contract for equipment purchase or construction.

4.4.2 Ontoly may retroactively certify GHG emission reductions for a project with a Project End Date within the twenty-four (24) month period immediately preceding the date that the Building Representative requests and pays for a Preliminary Ex-Ante BERU Assessment Report. This provision aligns with other carbon registries and allows for the inclusion of meritorious early-action projects while maintaining a clear and credible timeline (this is aligned with Approach B of ICVCM prior consideration requirements).



4.5 Project Boundary and Aggregation

4.5.1 The project boundary shall encompass all GHG sources, sinks, and reservoirs under the control of the Project Proponent that are reasonably expected to be affected by the retrofit.

4.5.2 For the purposes of this Standard, a "Building" means a single building. Where individual building-level utility data is unavailable, a project boundary may encompass an Aggregated Building Project, subject to the following conditions:

- All buildings within the aggregation are located on the same property boundary.
- All buildings within the aggregation are owned by the same Building Owner.
- Energy consumption and performance data are reported on an aggregated basis through shared utility accounts or equivalent metered systems.
- The project boundary remains identical pre- and post-retrofit.

4.5.3 Ontoly may, at its sole discretion, deem properties ineligible for aggregation where sufficient evidence of shared metering, common ownership, or other eligibility criteria is not provided. Ontoly is not required to provide reasons for any determination of ineligibility.

4.5.4 Aggregated Building Projects may be subject to different fee structures as set out in the Ontoly Fee Schedule, reflecting the additional complexity of verification for aggregated utility data.

4.6 Excluded Project Activities

4.6.1 The following project activities are excluded from Version 1.0:

Category	Rationale for Exclusion
Embodied Carbon	Version 1.0 focuses exclusively on operational emissions. Embodied carbon accounting requires material lifecycle assessments not yet standardized for retrofit projects.
New Building Construction	New construction presents challenges in establishing a credible baseline. Version 1.0 focuses on retrofits where baseline performance is directly measurable from historical utility data.
Behavioral-Only Programs	Projects must demonstrate tangible, metered reductions in energy consumption from technology measures.
Industrial Process Emissions	Scope is strictly limited to building operational emissions.
Refrigerant-Related Emissions	Fugitive emissions require specialized direct monitoring systems outside the utility data-based model.
Double-Registered Projects	Projects already registered or claiming reductions under another carbon crediting program or compliance market are excluded.



5. The BERS Project Lifecycle

5.1 Overview of Mandatory Steps

The BERS project lifecycle defines the sequential stages every project must navigate to be issued BERUs:

- **Step 1 — Account Creation and Project Submission:** The Building Representative creates a Supplier Account on the Ontoly Portal and submits all Ontoly Project Intake Forms. Ontoly reviews intake documents and confirms data alignment with the BERS Program.
- **Step 2 — Project Listing:** The Building Representative responds to basic eligibility questions and lists the project on the Ontoly Buyers Portal. Listed projects appear on the Non-Validated tab of the Buyers Portal, viewable only by registered Buyer Accounts in good standing. Listed projects do not appear on the public Ontoly Registry. Listed status confers no certification, validation, eligibility determination, or assurance of any kind from Ontoly under the BERS Program.
- **Step 3 Preliminary Ex-Ante BERU Assessment and Validation:** The Building Representative submits all Ontoly Project Intake Forms and requests a Preliminary Ex-Ante BERU Assessment Report. Upon completion and acceptance of Eligible Validation Documentation (Section 6), the project is posted to the public Ontoly Registry at Validated status.
- **Step 4 — Pre-Purchase Agreement (Optional):** The Project Proponent may enter a pre-purchase contract with an identified buyer or through the Ontoly Buyer's Network.
- **Step 5 — Monitoring:** Following 1 year of project implementation, the Building Representative collects and submits an Annual Monitoring Report to Ontoly via the Ontoly Portal.
- **Step 6 — Verification:** Ontoly contracts an independent Verification Body to conduct ex-post verification of monitored data and GHG emission reduction calculations. Upon issuance of a positive Verification Statement, the project status updates to *Issuance in Progress (Verified)* pending BERU issuance.
- **Step 7 — BERU Issuance:** Upon successful verification, Ontoly confirms verified net GHG emission reductions and issues serialized BERUs. The project remains at *Issuance in Progress (Verified)* through the crediting period, transitioning to *Issued* once all projected BERUs across the full crediting period have been verified and serialized.
- **Step 8 — Ongoing Monitoring and Verification:** The project repeats the monitoring and verification cycle annually for the duration of the crediting period.
- **Step 9 — Retirement:** A BERU may be permanently retired by an eligible Account Holder, removing it from circulation.

5.2 Account Creation and Supplier Onboarding

5.2.1 Before submitting any project documentation, the Building Owner or authorized Building Representative must obtain a Supplier Account in the Ontoly Portal.

5.2.2 Supplier Accounts shall not be available for public self-registration. Account creation may occur only after a Building Representative has completed a demonstration or software orientation call and Ontoly's mandatory identity verification and due diligence procedures.



5.2.3 Access to the Ontoly Portal shall be subject to successful completion of Ontoly's Know Your Customer (KYC), anti-money laundering (AML), and compliance checks.

5.2A Project Listing

5.2A.1 Following creation of a Supplier Account under Section 5.2, a Building Representative may list a project on the Ontoly Buyers Portal by completing a standardized set of basic eligibility questions through the Ontoly Portal. Project Listing provides early visibility to prospective BERU buyers while the project prepares formal documentation for the Preliminary Ex-Ante BERU Assessment (Section 5.3). A project at this stage is assigned the *Unvalidated (Listed)* status on the Ontoly Buyers Portal

5.2A.2 Listed projects shall appear on the Non-Validated tab of the Ontoly Buyers Portal. The Non-Validated tab is accessible only to registered Buyer Accounts in good standing. Listed projects shall not appear on the public Ontoly Registry.

5.2A.3 Project Listing confers no certification, validation, eligibility determination, or assurance of any kind from Ontoly under the BERS Program. Ontoly does not review, verify, or independently assess the information submitted at the Listing stage. All information displayed on the Non-Validated tab is provided by the Building Representative and is presented as-is.

5.2A.4 A Listed project may proceed to the Preliminary Ex-Ante BERU Assessment (Section 5.3) upon submission of all required Ontoly Project Intake Forms and applicable fees. A project is not required to be Listed before proceeding to Section 5.3; Listing is an optional, early-stage step.

5.2A.5 Ontoly reserves the right to remove a Listed project from the Buyers Portal at any time if the project is determined to be ineligible based on information subsequently provided, if the Building Representative's Supplier Account is suspended or terminated, or if the listing contains materially misleading information.

5.3 Project Intake and Preliminary Assessment

5.3.1 The Building Representative shall submit all required data fields in the Ontoly Project Intake Forms, including:

- The Project Description & Baseline Utility Data Form, including a non-technical summary, project location, ownership details, baseline conditions, planned retrofit measures, and utility data submission via ENERGY STAR Portfolio Manager or direct upload via the Ontoly Portal.
- Thirty-six (36) months of historical utility consumption data pre-retrofit. Twelve (12) months will be accepted if evidence of missing data is provided.
- An annual forecast for utility data post-retrofit completion.
- Baseline and forecast operating characteristics (e.g., estimated future occupancy, schedules).
- The Building Owner Attestation & Representative Authorization (or equivalent legally binding alternative as per Section 2.7.5).
- The Financial Additionality Data Submission Form.
- The Data Quality & Safeguard Attestation Form.



- Eligible Validation Documentation (e.g., IPMVP Report, IREE Report, or equivalent professional engineering report).

5.3.2 Ontoly may accept utility data submitted through ENERGY STAR Portfolio Manager as an alternative to direct upload via the Ontoly Portal, provided the data meets the minimum requirements of the applicable BERS Methodology. Building Representatives using ENERGY STAR Portfolio Manager shall ensure that all required utility types and consumption periods are included and that data is exported in a format compatible with Ontoly's standardized templates.

5.3.3 Where specific data inputs required by the Ontoly Project Intake Forms are unavailable or incomplete, Ontoly may, at its sole discretion, accept alternative data inputs or reasonable proxy data where the Building Representative provides a written explanation of the data gap and proposes a reasonable alternative. Ontoly shall assess the reasonableness of such alternative data and may audit or request specific verification that the alternative data is accurate and representative. Acceptance of alternative data shall not constitute a waiver of any other requirement of this Standard.

5.3.4 Upon confirmed payment and receipt of all complete Ontoly Project Intake Forms, Ontoly shall deliver a unique Preliminary Ex-Ante BERU Assessment Report within fifteen (15) business days. If forms are incomplete or misaligned, the submission is returned for revision.

5.3.5 Ontoly's role at this stage is limited to eligibility screening and the application of standardized BERS calculations. All input data is accepted as provided and relied upon as accurate, having been prepared and signed off by a licensed professional engineer. Ontoly does not independently verify or audit input data at this stage.

5.3.6 In addition to the Preliminary Ex-Ante BERU Assessment Report, Ontoly shall generate a public-facing Project Description Report for posting on the Ontoly Registry at Validated status, following acceptance of Eligible Validation Documentation under Section 6, including:

- (a) non-technical project summary;
- (b) description of project technology,
- (c) detailed information about the project, including proponent details and project location to the first three digits of the postal code or ZIP code (in accordance with applicable privacy laws);
- (d) assigned methodology;
- (e) building-level baseline and intervention summary;
- (f) estimated ex-ante BERU volume;
- (g) preliminary conformance determination;
- (h) social and environmental safeguards summary;
- (i) identification of data gaps or corrective actions; and
- (j) information on how the methodology has been applied for the purpose of determining the baseline, demonstrating additionality, and quantifying GHG emission reductions.

This report shall not include commercially sensitive information provided by the Building Representative that is subject to confidentiality, proprietary, privacy, or data-protection restrictions.

5.3.7 Projects shall be linked to Buildings within the Ontoly Portal. A Building may host more than one project if the project start dates are at least one (1) calendar year apart. Ontoly shall adjust baselines and verify actual building performance to ensure no double counting.

5.4 Pre-Purchase Agreements



5.4.1 Once posted on the Ontoly Registry at Validated status, the Project Proponent may enter Pre-Purchase Agreements with a direct buyer or a buyer sourced through the Ontoly Buyer's Network.

5.4.2 Pre-purchase payments do not guarantee the issuance of BERUs. The Building Representative solely bears the risk that ex-ante BERUs may be subject to cancellation or suspension based on actual monitored performance.

5.5 Monitoring

5.5.1 Following project implementation, the Building Representative shall collect and submit an Annual Monitoring Report to Ontoly no later than March 31 of the calendar year immediately following the monitoring year (e.g. submit 2025 calendar year data for March 31, 2026).

5.5.2 All data submitted shall consist solely of actual metered performance data, submitted without weather normalization or other adjustments. Ontoly applies all required normalizations using standardized methodologies.

5.5.3 Monitoring data must be submitted using the Annual Monitoring Report template, with the option of submitting raw utility data via the template or ENERGY STAR Portfolio Manager where the data meets all BERS requirements. Where ENERGY STAR Portfolio Manager is used, the Building Representative shall ensure the data export includes all required utility types and time periods.

5.5.4 The Monitoring Report shall include, at minimum:

- (a) actual metered utility or energy consumption data for the full monitoring period;
- (b) sub-metered or building-level energy data where applicable;
- (c) disclosure of % change in occupancy levels compared to the baseline period; and
- (d) disclosure of any non-routine adjustments, operational changes, fuel source changes, or known data gaps.

5.5.5 Where specific monitoring data inputs are unavailable due to circumstances beyond the Building Representative's reasonable control (e.g., utility provider delays, metering failures), Ontoly may, at its sole discretion, accept alternative data inputs where:

- (a) the Building Representative provides written documentation of the data gap and proposed alternative; and
- (b) Ontoly determines, in its sole judgment, that the alternative data is reasonable and representative.

Ontoly may audit or require specific verification of such alternative data. No BERU issuance adjustments resulting from alternative data acceptance shall establish precedent for future monitoring periods.

5.5.6 Projects that fail to submit the Annual Monitoring Report by March 31 may be suspended. Late submissions may be permitted at Ontoly's sole discretion.

5.6 Verification and Certification

5.6.1 Following submission of the Annual Monitoring Report, the Building Representative shall pay a non-refundable Certification Fee through the Ontoly Portal prior to the initiation of all certification and verification activities over the course of the project. Certification Fees are listed in the Ontoly Fee Schedule and are scaled by project complexity.



5.6.2 Upon receipt of payment and confirmation that the Monitoring Report is complete, Ontoly shall assign the project to a Verification Cohort and contract an independent, accredited Verification Body.

5.6.3 The Verification Body shall conduct verification in accordance with Section 8 and the BERS Verification Standard, including sampling procedures, materiality thresholds, accreditation criteria, and reporting obligations.

5.6.4 The Building Representative shall fully cooperate with the Verification Body and Ontoly, including responding to clarification requests and providing supplemental documentation. Upon issuance of a positive Verification Statement for the applicable cohort, Ontoly shall update the project's Registry status to Issuance in Progress (Verified) in accordance with Section 15.2.1.

5.6.5 If the Verification Body identifies material errors, verification shall be suspended until corrected documentation is submitted. Failure to remedy deficiencies within the allotted period may result in denial of issuance.

5.6.6 No refunds are permitted, including in the instance of failed verification. Payment of fees does not guarantee BERU issuance.

5.7 BERU Issuance

5.7.1 Ontoly shall issue BERUs only after receiving a positive Verification Statement from an accredited Verification Body. BERUs shall be issued exclusively on an ex-post basis.

5.7.2 Ontoly shall deposit serialized BERUs into the Building Representative's account in the Ontoly Portal. The project's Registry status shall be Issuance in Progress (Verified) for the duration of the crediting period (Section 15.2.1) and shall transition to Issued only once all projected BERUs across the full crediting period have been verified and issued.

5.7.3 The Building Representative shall review the issuance record and notify Ontoly of any discrepancies within 30 business days of issuance.

5.7.4 BERUs may be transferred, traded, or assigned through the Ontoly Portal or through an approved off-portal transfer, subject to the Ontoly Platform Terms of Use.

5.7.5 Ontoly shall bear no liability for commercial losses, non-issuance, cancellation, or contract disputes arising from resale, retirement, or suspension of BERUs.

5.8 Ongoing Monitoring and Verification

5.8.1 The project shall repeat the monitoring and verification cycle annually for the duration of the crediting period. Each monitoring period must independently satisfy all requirements.

5.8.2 If a project is inactive for two (2) or more consecutive monitoring periods, Ontoly may terminate eligibility for future BERU issuance.

5.9 BERU Retirement

5.9.1 Retirement is the final and irreversible step in a BERU's lifecycle, permanently removing it from circulation. Retirement is the sole mechanism through which a beneficiary may make environmental claims.

5.9.2 All retirements shall be executed by an approved Buyer Account Holder in the Ontoly Portal. The retiring party shall disclose the final beneficiary and intended retirement purpose.

5.9.3 If a BERU has not been sold and is being retired for internal emissions accounting by the original Project Proponent (insetting), a Buyer Account is not required.



5.9.4 Retirement is permanent and cannot be reversed, re-issued, or re-credited. Retired BERUs shall be assigned the status "Retired" in the Ontoly Registry.

Ontoly may, at its sole discretion, correct retirement quantities, beneficiary details, or other elements of a retirement request where the Building Representative or Buyer Account holder has made an error – this can only be requested within a 7 business day window from the time of the retirement request.



6. Eligible Validation Documentation

6.1 Validation Approach

6.1.1 The BERS Program does not require a separate, formal ex-ante validation audit by a third-party Verification Body prior to registration. Instead, Ontoly relies on the professional engineering assessment already performed as part of the building retrofit design process. This approach avoids duplicating work that has already been completed to industry standards by a licensed Professional Engineer and reduces the administrative burden on Building Representatives seeking access to carbon finance.

6.1.2 This validation approach is appropriate because:

(a) licensed Professional Engineers are required to design and sign off on retrofit utility savings estimates according to established industry standards such as the International Performance Measurement and Verification Protocol (IPMVP) or the International Energy Efficiency Rating (IREE) framework;

(b) BERUs are not issued at the validation stage—all BERU issuance is exclusively ex-post, based on actual measured and verified utility performance; and

(c) the risk profile of ex-ante estimates is managed through the non-binding nature of Preliminary Ex-Ante BERU Assessment Reports, which provide estimated quantities only; and

(d) this approach satisfies the intent of the CORSIA Emissions Unit Eligibility Criteria and ICVCM Assessment Framework requirements for independent third-party validation by relying on the professional engineering assurance already embedded in the building retrofit design process (IPMVP, IREE), which provides sector-appropriate independent assessment prior to registration. Critically, because all BERU issuance is exclusively ex-post, no crediting risk arises from the validation stage.

6.2 Eligible Validation Documentation

6.2.1 The Building Representative shall submit Eligible Validation Documentation as part of project registration, which may include:

- An IPMVP Report prepared by a licensed Professional Engineer.
- An IREE certification report or equivalent engineering analysis.
- Other professional engineering documentation demonstrating equivalent methods for projected utility savings.

6.2.2 Ontoly may, at its sole discretion, accept validation reports other than those expressly listed above, provided the Building Representative demonstrates to Ontoly's reasonable satisfaction that such documentation is materially equivalent in scope, rigor, and methodological approach. Acceptance of alternative documentation shall not constitute a waiver, precedent, or obligation on Ontoly to accept similar reports in the future.

6.3 Ontoly Review Scope

6.3.1 Ontoly's review of Eligible Validation Documentation is limited to a documentation completeness and eligibility alignment review. Ontoly does not independently recreate engineering models or re-perform engineering calculations.

6.3.2 Ontoly may request clarifications, resubmissions, or additional supporting documents as needed.



6.4 Relationship to Verification

6.4.1 Validation confirms the reasonableness of project retrofit design and projected GHG reductions. Verification confirms the actual, measured GHG reductions achieved during the monitoring period. Only successful verification enables BERU issuance.

6.4.2 No BERUs may be issued based on projected savings or modelled estimates. Validation enables project registration and contract formation but does not guarantee BERU issuance.

7. Monitoring Requirements

7.1 General Requirement

7.1.1 All projects registered under the BERS Program shall undergo ongoing post-implementation monitoring for the duration of their crediting period. Monitoring is a mandatory condition for BERU issuance.

7.2 Responsibilities of the Building Representative

7.2.1 Following the Project End Date, the Building Representative shall be solely responsible for collecting, compiling, and submitting all required monitoring data using the Annual Monitoring Report template (or via ENERGY STAR Portfolio Manager where accepted per Section 5.3.2).

7.2.2 The Building Representative shall maintain sufficient documentation and evidence to substantiate all monitoring data for a period of no less than seven (7) years.

7.2.3 The Building Representative shall ensure ongoing conformance with the Approved BERS Methodology.

7.3 Monitoring Period and Reporting Schedule

7.3.1 All projects shall report on a calendar-year basis (January 1 – December 31). The Monitoring Report shall be submitted no later than March 31 of the following year.

7.3.2 Projects implemented mid-year shall submit a partial first-year Monitoring Report covering the remainder of the calendar year.

7.4 Monitoring Report Content and Attestations

7.4.1 Each Monitoring Report shall include a signed declaration that the submitted data are complete, true, and accurate to the best of the Building Representative's knowledge, and the following mandatory attestations:

- **Leakage Prevention:** All replaced or displaced equipment has been retired or disposed of sustainably and was not resold for continued use elsewhere.
- **Permanence of Measures:** Installed GHG-reducing equipment has remained installed and operational and has not been reversed or replaced with higher-emitting alternatives.
- **Change of Ownership:** The Building Representative shall attest whether the property has changed ownership during the monitoring period.

7.5 Evidence Requirements and Data Access

7.5.1 The Building Representative shall retain supporting records, including utility performance, meter data, and occupancy data, and must supply copies upon request from Ontoly or the Verification Body.



7.5.2 Failure to provide requested evidence within thirty (30) calendar days may result in verification suspension and denial of BERU issuance.

7.6 Change of Ownership During Monitoring

7.6.1 If legal ownership of the building changes during the monitoring period, the Building Representative must notify Ontoly in writing within ninety (90) days. Ongoing participation is contingent upon continuous designation of a valid Building Representative and acceptance of all BERS obligations by the new owner.

7.7 Quality Assurance and Cross-Checking of Monitoring Data

7.7.1 All monitoring data inputs are defined in standardized forms that must be uploaded via the Ontoly Portal. Ontoly shall not accept monitoring data submitted outside of these prescribed forms and templates.

7.7.2 Prior to initiating verification and BERU issuance, Ontoly shall conduct internal quality assurance procedures on all submitted monitoring data, including:

- (a) automated checks for data completeness, format compliance, and consistency with prior-period submissions;
- (b) cross-referencing of submitted utility data against publicly available benchmarks, weather data, and building-specific baseline parameters; and
- (c) flagging of anomalous data patterns (e.g., consumption values that deviate materially from historical ranges or expected post-retrofit performance) for manual review.

7.7.3 Where anomalies or discrepancies are identified, Ontoly may request supplemental documentation or clarification from the Building Representative before proceeding to verification. Ontoly reserves the right to reject or suspend a monitoring submission where data quality concerns cannot be satisfactorily resolved.

7.7.4 Additional monitoring requirements specific to the quantification methodology, including parameter definitions, measurement approaches, default values, uncertainty treatment, and quality control procedures, are set out in the applicable Approved BERS Methodology.

8. Verification Requirements

8.1 Verification Process and Objectives

8.1.1 Verification is the annual, independent, and documented ex-post assessment of a project's monitored GHG data and resulting emission reductions. Verification shall include:

- (a) a review of Ontoly's standardized quantification models, datasets, and calculations for conformance with this Standard; and
- (b) a sampling-based audit of the data inputs submitted by Building Representatives assigned to a Cohort.

8.1.2 Ontoly shall not issue BERUs for any GHG emission reductions that have not been successfully verified by an accredited Verification Body. BERUs shall only be issued on an ex-post basis.

8.1.3 Following submission of a complete Monitoring Report, the contracted Verification Body shall have up to four (4) months to complete the verification process unless an extension is approved by Ontoly.



8.2 Accreditation and Performance of the Verification Body

8.2.1 All Verification Bodies performing verification services under the BERS Program shall:

- (a) be accredited to the current edition of ISO 14065 and ISO 14066 by an accreditation body that is a full member of the International Accreditation Forum (IAF);
- (b) conduct verifications in accordance with ISO 14064-3 where applicable; and
- (c) have experience and training in the relevant sectoral scopes: energy demand, energy efficiency, and fuel switching.

8.2.2 Ontoly shall be solely responsible for the selection, contracting, and remuneration of all Verification Bodies. Project Proponents shall not directly contract or pay the Verification Body.

8.2.3 Ontoly shall maintain the BERS Verification Standard, which defines eligibility criteria, conduct expectations, performance metrics, and oversight mechanisms applicable to all Verification Bodies.

8.2.4 Ontoly shall operate a formal process for monitoring Verification Body performance, including:

- (a) systematic verification report templates;
- (b) issuance of corrective action requests where deficiencies are identified; and
- (c) suspension or removal of a Verification Body where material breaches or repeated non-conformance occur.

8.2.5 If a Verification Body is suspended or terminated, Ontoly shall publicly disclose the suspension or termination and the rationale.

8.3 Level of Assurance

8.3.1 For the assessment of building-level data inputs (utility data, metered performance data, occupancy records), verification shall be conducted to a reasonable level of assurance. The Verification Body shall confirm that the input data used to compute GHG emission reductions has been verified with a high level of certainty.

8.3.2 For the broader assessment of Ontoly's standardized parameters, models, and calculation processes, verification shall be conducted to at least a limited level of assurance.

8.3.3 Ontoly does not require on-site verification. The BERS Program supports a digital-first approach, and verification may be conducted remotely using documentation and data submitted through the Ontoly Portal, unless the Verification Body determines that on-site inspection is necessary for a particular project.

8.4 Verification Cohorts and Reporting

8.4.1 Ontoly shall assign projects to Verification Cohorts based on the BERS Verification Scheduling Framework. Each cohort shall be capped at a maximum number of projects as defined in the BERS Verification Standard.

8.4.2 The Verification Body shall produce a Verification Report for each Cohort, including conformance findings for all projects assigned to the cohort. Each report shall include, at a minimum:

- (a) an independent verification opinion confirming the accuracy of data inputs underlying Ontoly's standardized model calculations, including the calculated quantity of GHG emission reductions; and



(b) a summary of findings related to data completeness, traceability, consistency, and accuracy of Ontoly’s models, parameters and approach for conducting GHG quantification and core carbon principle assessments on the Building Representative’s behalf.

8.5 Outcome of Verification

8.5.1 Upon completion of verification, the Verification Body shall classify each project within the cohort into one of the following categories:

- (a) Conforming — no material findings;
- (b) Non-Conforming — one or more material findings requiring corrective action; or
- (c) Disqualified — evidence of intentional data manipulation or material misrepresentation.

8.5.2 Where the cohort achieves an overall passing determination, a Verification Statement shall be issued for the cohort. All Conforming projects shall proceed to BERU Issuance (Section 5.7) without delay, regardless of the status of any Non-Conforming projects within the same cohort.

8.5.3 Non-Conforming projects shall be isolated from the cohort issuance process. Ontoly shall issue a Corrective Action Notice to the relevant Project Proponent(s) specifying the findings and required remediation. The Project Proponent shall have up to sixty (60) days to complete corrective actions. Upon satisfactory resolution, the project shall proceed to BERU Issuance independently.

8.5.4 If corrective actions are not completed within the permitted timeframe, Ontoly may grant a single extension of up to thirty (30) days where the Project Proponent demonstrates good-faith progress. If remediation remains incomplete following any extension, Ontoly may suspend the project and deny BERU Issuance for the applicable monitoring period.

8.5.5 Where a project is classified as Disqualified, Ontoly reserves the right to:

- (a) cancel any BERUs previously issued to that project;
- (b) suspend or permanently remove the project from the registry;
- (c) publicly disclose the finding; and
- (d) report suspected fraud to relevant authorities.

Disqualification of an individual project shall not affect the verification status or BERU Issuance of other Conforming projects within the same cohort.

8.5.6 Where the cohort as a whole fails verification due to systemic issues affecting all or substantially all projects, no Verification Statement shall be issued. Ontoly shall issue Corrective Action Notices to all affected Project Proponents, and the cohort shall be resubmitted for verification following remediation.

8.5.7 The verification outcomes set out in this Section 8.5 shall map to Registry statuses (Section 15.2.1) as follows: (a) Conforming projects proceed to Issuance in Progress (Verified); (b) Non-Conforming projects remain at their prior Registry status pending corrective action and, if remediation is not completed, may be moved to Suspended in accordance with Section 8.5.4; and (c) Disqualified projects may be moved to Suspended or Cancelled in accordance with Section 8.5.5.



PART 3: BERS PRINCIPLES AND REQUIREMENTS

9. Quantification of GHG Emission Reductions

9.1 Quantification Requirements

9.1.1 The specific formulas, algorithms, and procedures for quantifying baseline emissions, project emissions, and net GHG emission reductions shall be detailed in the applicable Approved BERS Methodology. Ontoly shall not permit any deviation from an approved methodology.

9.1.2 Each BERU is quantified and expressed as one metric tonne of carbon dioxide equivalent (tCO₂e).

9.1.3 The calculation of CO₂e shall be performed using the 100-year GWP values from the latest IPCC Assessment Report as mandated by Ontoly.

9.2 Ontoly Data Quality Scores

9.2.1 Each BERU issued under the BERS Program shall be assigned an Ontoly Data Quality Score reflecting the nature and reliability of the data inputs used to quantify the associated GHG emission reductions. The score shall be determined by Ontology based on the data requirements prescribed by the applicable Approved BERS Methodology and shall be disclosed on the Ontoly Registry alongside all other BERU attributes.

9.2.2 The Ontoly Data Quality Score shall be assigned on the following scale:

Score	Classification	Data Basis
3	Actual Data	Emission reductions quantified using actual metered consumption data, verified ex-post by an accredited Verification Body. No modelled or estimated inputs used in quantification.
2	Partially Estimated	Emission reductions quantified using a combination of actual metered data and estimated or modelled inputs derived from published emission factors, engineering models, or industry-accepted calculation tools.
1	Primarily Estimated	Emission reductions quantified primarily using estimated, modelled, or proxy data. Actual metered consumption data is not available or covers only a minor portion of the quantification.

9.2.3 The applicable Approved BERS Methodology shall specify the Ontoly Data Quality Score assigned to BERUs issued under that methodology, based on the data inputs the methodology prescribes. Where a methodology uses actual metered data exclusively, the assigned score shall be 3. Where a methodology permits or requires estimated inputs for any portion of the quantification, the assigned score shall reflect the degree of estimation.

9.2.4 The Ontoly Data Quality Score shall be published on the Ontoly Registry for each BERU issuance and shall be included in the Project Description Report. Where a project generates BERUs under multiple methodologies with different data quality characteristics, each methodology's contribution shall be scored and disclosed separately.

9.2.5 The Ontoly Data Quality Score is an informational attribute for transparency purposes. It does not affect the validity, fungibility, or retirement eligibility of a BERU. A BERU with a Data



Quality Score of 1 is no less valid than a BERU with a score of 3; the score reflects only the nature of the data inputs, not the rigour of the quantification methodology or verification process.

10. Additionality

10.1 Regulatory Surplus Requirements

10.1.1 A project activity shall be deemed additional only if, based on Ontoly's Regulatory Surplus Assessment, it is very unlikely that the specific GHG emission reductions the project generates are required by applicable local, provincial/state, or federal laws, regulations, or legally binding mandates in effect or enacted as of the assessment date.

10.1.2 Where BERUs are expressly recognized as an eligible and approved compliance mechanism under an applicable regulatory program or building performance standard, such use shall not negate regulatory surplus, provided the project otherwise meets all BERS requirements. The relevant municipality or jurisdiction may set parameters and limits governing how BERUs may be used in conjunction with its regulatory framework, including percentage-based compliance limitations, geographic restrictions on buyer eligibility, and other conditions designed to preserve the effectiveness of the applicable regulation.

10.1.3 Ontoly shall apply its Jurisdictional Regulatory Model, a continuously updated database of mandatory building codes, minimum efficiency standards, building performance standards, and climate regulation that directly impacts buildings across all eligible jurisdictions. Where a consumer carbon tax applies to the utility inputs for a building, the tax shall be reflected in the price assumptions used for the Financial Additionality Assessment but shall not independently negate regulatory surplus. This database shall be verified annually by the contracted third-party Verification Body. Where Ontoly's assessment identifies proposed, publicly consulted, or enacted-but-not-yet-effective regulations that could require the project's measures during the crediting period, Ontoly shall disclose this regulatory risk in the Project Description Report published on the Registry.

10.1.4 This fixed-period approach reflects the nature of building retrofit decisions as one-time capital investments made at a single point in time. Where material regulatory changes affecting a project's regulatory surplus status are enacted after the assessment date, Ontoly shall update the regulatory disclosure in the Project Description Report at the next monitoring period. This disclosure does not retroactively affect BERUs already issued but ensures buyers and stakeholders have current information.

10.2 Financial Additionality Assessment

10.2.1 In addition to regulatory surplus, every project shall undergo a standardized Financial Additionality Assessment conducted by Ontoly, consisting of two components:

(A) NPV Financial Additionality Test (Pass/Fail). A mandatory binary test determining whether the project is financially viable without carbon credit revenue. A project passes the test (is deemed financially additional) where the NPV of the project without carbon revenue is less than zero ($NPV < 0$), subject to sensitivity analysis (outlined in Section 10.3.8). A project fails the test where $NPV \geq 0$.

(B) Investment Analysis Rating (1–5 Scale). For all projects that pass the NPV test, Ontoly shall assign an Investment Analysis Rating based on the NPV-adjusted payback period, providing a transparent signal of the degree of financial additionality.



10.3 NPV Financial Additionality Test

10.3.1 The NPV test shall be calculated as follows:

$$NPV = -(\text{Capex} - \text{Upfront Incentives}) + \sum^n \{ [\sum_{f \in F} (S_f \times P_f \times (1 + g_f)^{t-1}) - O\&M] / (1 + r)^t \}$$

Where the following variables are defined as:

Variable	Definition
f	The set of all fuel types applicable to the project (e.g., natural gas, electricity, fuel oil, propane, district steam, district chilled water)
S_f	Annual energy volume reduction for fuel type f, expressed in the standard unit of measurement for that fuel (e.g., m ³ for natural gas, kWh for electricity, litres for fuel oil, kg for propane)
P_f	Base year price for fuel type f, expressed in \$/unit consistent with S_e
g_f	Annual price escalation rate for fuel type f, as defined in the Ontoly Public Parameter List
Capex	Total retrofit capital costs reported by Building Representative)
Upfront Incentives	Grants, rebates, and direct incentives received at project start (reported by Building Representative)
O&M	Annual incremental operations and maintenance costs attributable to the retrofit. Positive = cost; Negative = savings (reported by Building Representative)
r	Standardized discount rate, as defined in the Ontoly Public Parameter List
n	Average economic useful life in years, as defined in the applicable Approved BERS Methodology
t	The year of the assessment period, where t = 1 is the first year following the Project End Date and t = n is the final year of the asset useful life

Notes:

- The inner summation $\sum_{f \in F}$ iterates across all applicable fuel types for the project. A project that reduces only natural gas and electricity would have $F = \{\text{natural gas, electricity}\}$. A project that also displaces fuel oil would have $f = \{\text{natural gas, electricity, fuel oil}\}$.
- Each fuel type f carries its own unit of measurement, base year price, and escalation rate. These parameters shall be specified in the applicable Approved BERS Methodology.
- Where a retrofit results in increased consumption of one fuel type (e.g., increased electricity due to heat pump installation) and decreased consumption of another (e.g., eliminated natural gas), S_f shall be negative for the fuel type with increased consumption and positive for the fuel type with decreased consumption.



10.3.2 A project passes the NPV test (is deemed financially additional) where $NPV < 0$ without carbon credit revenue, subject to sensitivity analysis (outlined in Section 10.3.8). A project fails the NPV test where $NPV \geq 0$ without carbon revenue.

10.3.3 Projects that fail the NPV test are ineligible for BERU issuance under the BERS Program, unless the Building Representative provides compelling supplementary evidence of financial barriers that justifies re-evaluation, subject to Ontoly's sole discretion.

10.3.4 Annual incremental O&M costs shall always be included in the NPV calculation. Exclusion of O&M costs would inflate the apparent benefit of the retrofit and weaken the additionality determination. The NPV calculation shall incorporate a standardized fixed annual inflation rate for utility prices, as disclosed in the Ontoly Public Parameter List. The analysis shall not account for price shocks, which cannot be predicted with sufficient accuracy. Ontoly shall maintain utility price datasets by utility type and jurisdiction, which shall be verified by the contracted third-party Verification Body. Utility price datasets are proprietary and shall not be publicly disclosed.

10.3.5 Ontoly shall apply a standardized default discount rate for all NPV calculations (disclosed in Ontoly Public Parameter List). Such assumptions shall be reviewed and verified annually by the contracted third-party Verification Body. Ontoly may, at its sole discretion, accept an alternative discount rate submitted by the Building Representative, provided the rate falls within the lower and upper bounds defined in the Ontoly Public Parameter List and is supported by sufficient quality evidence (e.g., investor-grade weighted average cost of capital). Ontoly reserves the right to audit such evidence or deny the request where the submitted rate deviates significantly from industry averages.

10.3.6 In accordance with ICVCM Core Carbon Principles Criterion 8.5, Ontoly shall conduct a standardized sensitivity analysis for every project that passes the NPV Financial Additionality Test, to confirm that the conclusion of financial additionality is robust to reasonable variation in critical assumptions.

10.3.7 The sensitivity analysis shall test, at minimum, the following parameters: capital cost (CAPEX), annual energy cost savings, and standardized discount rate. The specific variation ranges applied to each parameter shall be defined in the applicable Ontoly Public Parameter List, calibrated to reflect realistic financial estimation uncertainty for building retrofit projects and reviewed as part of the minimum five-year methodology review cycle established in Section 1.2.2. These sensitivity analysis parameters will be third party verified.

10.3.8 A project shall be deemed to have a robust additionality determination where the NPV remains negative ($NPV < 0$) for the majority of sensitivity scenarios (2 of 3 sensitivity analyses) tested. Where the NPV becomes positive ($NPV \geq 0$) under more than one sensitivity scenarios, Ontoly shall flag the project for supplementary review and may, at its sole discretion, require additional financial justification, apply a conservative adjustment to the Investment Analysis Rating, or reject the project.

10.3.9 The results of the sensitivity analysis shall be summarized in the Preliminary Ex-Ante BERU Assessment Report and disclosed on the Ontoly Registry as part of the public Project Description Report. Commercially sensitive input data underlying the sensitivity analysis shall remain confidential in accordance with Section 10.5.2.



10.4 Investment Analysis Rating

10.4.1 For all projects that pass the NPV test, Ontoly shall assign an Investment Analysis Rating based on the NPV-adjusted payback period:

Payback Period	Qualitative Determination	Rating
>10 years or never achieves payback	Very High Additionality: Profound financial barriers; project highly unlikely without carbon finance	5
7–10 years	High Additionality: Substantial financial barriers; technology proven but not widely adopted due to cost	4
5–7 years	High-Moderate Additionality: Marginal investment case; carbon finance is a key enabling factor	3
3–5 years	Moderate Additionality: Moderate capital constraints	2
1–3 years	Lower Additionality: Passes NPV test, capital constraints remain, but could be deemed modest	1

10.4.2 The Investment Analysis Rating shall be publicly disclosed on the Ontoly Registry for each project.

10.5 Data Submission Requirements

10.5.1 The Building Representative shall submit the Financial Additionality Data Submission Form, including per technology retrofit measure:

- (a) estimated capital cost;
- (b) estimated annual energy savings;
- (c) anticipated incentive or rebate amounts; and
- (d) estimated annual incremental O&M costs.

10.5.2 All financial data submitted shall remain confidential and shall not be publicly disclosed unless expressly authorized by the Building Representative. Only the NPV Financial Additionality Test (Pass/Fail) and Investment Analysis Rating shall be publicly displayed.

10.5.3 All financial information may be subject to independent third-party verification. Where material misstatements are identified, Ontoly may revise the rating, suspend BERU issuance, or suspend participation. The assumptions, data, and conclusions in the investment analysis shall be:

- (a) transparently documented in the format required by Ontoly for project registration through the Ontoly Portal;
- (b) appropriately justified and substantiated by evidence; and
- (c) consistent with information presented to the entity’s decision-making management and investors or lenders.



10.5.4 Financial data submitted to Ontoly shall align with the engineering design and validation documentation for the project prepared and signed by a licensed Professional Engineer. Where financial data submitted to Ontoly does not align with engineering design documents, Ontoly may request additional evidence that the financial data is true and accurate. Ontoly may, at its sole discretion, require the contracted third-party Verification Body to audit a sample of financial data inputs, and Building Representatives shall comply with such audit requests.

10.6 Minimum Additionality Threshold for BERU Eligibility

10.6.1 A project must pass the NPV Financial Additionality Test ($NPV < 0$ without carbon credit revenue), subject to sensitivity analysis (outlined in Section 10.3.8).

10.6.2 Version 1.0 does not include a market penetration or common practice assessment as a secondary additionality test, as standardized datasets by technology type, building type, and geography are not yet standardized or comparable across jurisdictions. Future versions of the BERS may introduce such assessments as data availability improves. Where a building is at or near end of useful life, Ontoly may, at its sole discretion, request information on common industry practices and financial data for alternative technology pathways to inform a supplementary sensitivity analysis.

10.7 Crediting Period

10.7.1 The standard crediting period for a BERS project shall be ten (10) years. Version 1.0 does not provide for crediting period renewal.

10.7.2 Where a building implements more than one project within a ten-year period, net crediting shall be restricted to the crediting period of the original project. GHG impacts from subsequent projects shall be reflected through actual building performance data. The original baseline shall be maintained and Ontoly shall attribute emission reductions to each project undertaking, provided that the net credited reductions shall not exceed the actual verified utility performance for the building, to prevent overestimation or double counting. Building Representatives shall report subsequent projects to Ontoly via the Ontoly Portal. Future versions of the BERS may update this restriction to allow for renewals or combined crediting periods.

10.7.3 The financial additionality data shall be deemed fixed as of the date the Preliminary Ex-Ante BERU Assessment Report is requested and shall not be revised during the crediting period except as expressly permitted.

11. Permanence & Leakage

11.1.1 Under Version 1.0, only GHG emission reductions are certified and carbon removals are excluded. The risk of non-permanence for BERUs does not apply to emission reductions.

11.1.2 In relation to potential reversals of physical retrofit measures, such reversals are prohibited under the BERS Program.

11.1.3 This risk is mitigated because Ontoly issues BERUs solely on the basis of measured and verified building utility performance. If an installed measure is reversed, the change in performance would be detected and BERUs would not be issued for the affected period.

11.1.4 Leakage risk is mitigated through mandatory attestation and ongoing compliance monitoring. The Building Representative shall attest, as part of each Annual Monitoring Report,



that all equipment replaced or displaced by the retrofit activity has been permanently retired or disposed of in an environmentally responsible manner and has not been resold, relocated, or redeployed for continued operational use at another facility. Ontoly reserves the right to request supporting evidence of equipment disposal. Failure to provide such evidence, or evidence of equipment resale or redeployment, may result in corrective action in accordance with Section 16.

11.1.5 The BERS Program certifies reductions in operational (Scope 1 and Scope 2) GHG emissions only. Upstream and downstream (Scope 3) emissions, including those associated with the manufacture, transport, or disposal of retrofit equipment, are outside the defined project boundary and are not included in the quantification of BERUs. The BERS Program is not a Scope 3 registry. This exclusion is conservative, as lifecycle emissions associated with energy-efficient equipment are generally lower than those of the equipment being replaced, and their omission does not result in an overestimation of credited emission reductions.

11.1.6 Activity-shifting leakage (i.e., a change in building operations that shifts energy consumption beyond the project boundary) is inherently captured within the BERS monitoring framework. Because BERUs are issued exclusively on the basis of actual, metered utility performance data within the project boundary, any increase in energy consumption resulting from activity shifting would be reflected in the monitored data and would reduce or eliminate BERU issuance for the affected period.

11.1.7 Market leakage is not applicable to building retrofit projects under Version 1.0. Building retrofits do not displace economic activity to other locations or create market-driven increases in emissions elsewhere. Unlike forestry or land-use projects, building energy efficiency improvements do not reduce the supply of a traded commodity.

11.1.8 Ecological leakage is not applicable to building retrofit projects under Version 1.0. Building retrofits do not involve land-use changes, deforestation, or ecosystem disturbance that could shift environmental impacts to other areas.

12. No Double Counting Requirements

12.1.1 BERUs shall not simultaneously receive credit under any other carbon-crediting program, renewable energy credit scheme, or emissions trading scheme, except where a regulatory authority expressly approves BERUs as a compliance pathway.

12.1.2 The Building Representative shall attest that the project does not and will not issue carbon credits for GHG emission reductions or removals where another program has issued credits to the same project and/or for the same GHG emission reductions or removals and has not cancelled those credits for the purpose of avoiding double issuance. for the duration of the crediting period.

12.1.3 The Building Representative shall further attest, to the best of their knowledge, that no utility provider, government agency, or other program is claiming credit for the same operational GHG emission reductions generated by the retrofit activity. This attestation shall be made at the time of project registration and reconfirmed annually as part of the Monitoring Report.

12.1.4 Where another party claims Scope 2 electricity grid emission reductions arising from changes in the electricity grid's emissions intensity (e.g., through the addition of renewable generation capacity), such claims do not constitute double issuance under the BERS Program. Ontoly holds the electricity grid emissions intensity factor constant throughout the crediting period specifically to avoid double counting concerns. The Building Representative is not in control of changes to the electricity grid emissions intensity, and the BERS Program does not



credit emission reductions arising from grid decarbonization. Only reductions in energy consumption attributable to the building retrofit are credited.

12.1.5 Ontoly shall screen all project submissions against publicly available carbon credit registries at the time of registration to identify potential overlapping claims. Where Ontoly identifies that a project's GHG accounting boundary overlaps with another project registered under the same or another carbon-crediting program, Ontoly shall not register the project or issue BERUs for the overlapping emission reductions unless the Building Representative provides evidence that credits issued under the other program have been cancelled to avoid double issuance.

12.2.1 Cancellation and retirement of a BERU is permanent, final, and irreversible. The Ontoly Registry shall include controls to prevent further transfer, retirement or cancellation of the BERU once it has been cancelled or retired.

12.3.1 The Ontoly Registry shall publicly disclose for every retired batch:

- (a) the quantity;
- (b) the retiring entity;
- (c) the named beneficiary; and
- (d) the declared purpose of retirement.

12.4.1 BERUs shall not be issued for GHG emission reductions achieved by a project where units related to the same climate impacts of the project are traded in other environmental markets or accounting frameworks (e.g., Renewable Energy Certificates generated from renewable energy projects). The Building Representative shall attest that no environmental attribute certificates or equivalent instruments have been issued or claimed for the same GHG emission reductions for which BERUs are sought. Where Renewable Energy Certificates (RECs) are generated by the same project activity, BERUs may only be issued for the portion of GHG emission reductions not already claimed through those RECs.

13. Environmental and Social Safeguards

13.1.1 The BERS Program applies an attestation-based safeguard framework proportionate to the risk profile of single-building retrofit projects. Safeguard compliance is based on mandatory attestation; supporting evidence is required only where material risks are identified.

13.2.1 The Building Representative shall complete and submit the Data Quality & Safeguard Attestation Form declaring that the project:

- (a) complies with all applicable laws and regulations, and, where relevant, international conventions and agreements; and
- (b) adheres to the following safeguard principles derived from the ICVCM Assessment Framework, including assessing and, where applicable, mitigating risks of negative environmental and social impacts with regard to the safeguards below:
 - **Labour Rights and Working Conditions:** (1) provides safe and healthy working conditions for employees; (2) provides fair treatment of all employees, avoiding discrimination and ensuring equal opportunities; (3) prohibits the use of forced labour, child labour, or trafficked persons, and protects contracted workers employed by third parties.
 - **Land Acquisition and Involuntary Resettlement:** The project avoids, or where this is not feasible, minimises forced physical and/or economic displacement.



- **Sustainable Management of Living Natural Resources:** Minimises water consumption and stress through the project.
- **Indigenous Peoples, Local Communities, and Cultural Heritage:** Where the project directly or indirectly impacts Indigenous Peoples and Local Communities (IPs & LCs), including livelihoods, ancestral knowledge, and cultural heritage, the Building Representative shall ensure that the project: (1) recognises, respects, and promotes the protection of the rights of IPs & LCs in line with applicable international human rights law, the United Nations Declaration on the Rights of Indigenous Peoples, and ILO Convention 169 on Indigenous and Tribal Peoples; (2) identifies the rights-holders possibly affected by the project, including customary rights of local rights holders; (3) when relevant to circumstances, has applied the Free, Prior and Informed Consent (FPIC) process; (4) does not force eviction or any physical or economic displacement of IPs & LCs, including through access restrictions to lands, territories, or resources, unless agreed upon with IPs & LCs during the FPIC process; (5) preserves and protects cultural heritage consistent with IPs & LCs protocols, rules, and plans on the management of cultural heritage, or UNESCO Cultural Heritage conventions.
- **Fair Treatment and Non-Discrimination:** (1) avoids discrimination and respects human rights; (2) abides by the International Bill of Human Rights and universal instruments ratified by the host country; (3) takes into account and responds to local stakeholders' views.
- **Resource Efficiency and Pollution Prevention:** (1) minimizes pollutant emissions to air; (2) minimizes pollutant discharges to water, noise, and vibration; (3) minimizes generation of waste and release of hazardous materials and chemicals; (4) promotes sustainable use of resources, including energy and water.
- **Cultural Heritage Protection:** No adverse effect on cultural or heritage assets.
- **Gender Equality:** (1) provides for equal opportunities in the context of gender; (2) protects against and appropriately responds to violence against women and girls; (3) provides equal pay for equal work.
- **Stakeholder Consideration:** Where reasonably expected to affect tenants, workers, or community stakeholders, concerns have been appropriately considered.

Where, pursuant to the criteria above, the Building Representative has assessed that the project poses risks of negative environmental and/or social impacts, the Building Representative shall include information on the measures implemented to mitigate identified risks, commensurate with the severity of those risks, in each Monitoring Report.

13.3.1 If material risks are identified, the Building Representative shall upload supporting documentation. Where no risks are triggered, attestation alone is sufficient. The attestation-based approach reflects the low-risk profile of building retrofit projects on private property, where the potential for adverse public impacts is substantially lower than for land-use or nature-based activities.

13.4.1 Projects may optionally report qualitative contributions to the UN Sustainable Development Goals (SDGs) beyond SDG 13. Such claims are qualitative and are not verified by Ontoly. Projects may also optionally disclose how monetary project benefits will be shared with building tenants (e.g., reduced utility costs). As the Building Owner must authorize the creation of BERUs through the Building Owner Attestation & Representative Authorization, benefit-sharing arrangements between parties are a matter of private negotiation to which Ontoly is not privy. Benefit sharing is not a mandatory requirement under Version 1.0.



13.5 Contribution to Net Zero Transition

13.5.1 Ontoly shall ensure that all new or revised BERS Methodologies require the Building Representative to assess the compatibility of the project with the transition to net zero by reference to the net zero objectives of the host country. This assessment shall consider whether the retrofit measures are consistent with long-term decarbonization pathways for the building sector in the applicable jurisdiction.

13.5.2 Building retrofit projects under the BERS Program inherently contribute to the net zero transition by reducing operational GHG emissions from the existing building stock. The BERS Program technology categories are aligned with recognized decarbonization pathways, including energy efficiency improvements, electrification of heating systems, and fuel switching away from fossil fuels.



PART 4: BERUs AND THE ONTOLY REGISTRY

14. Building Emissions Reduction Units (BERUs)

14.1.1 A BERU is a unique, serialized, and transferable digital unit issued exclusively by Ontoly. Each BERU represents one metric tonne of certified tCO₂e emission reductions achieved by a registered BERS Project and verified in accordance with this Standard.

14.1.2 BERUs shall be issued only upon successful completion of all BERS Program requirements, including monitoring, reporting, and verification. BERUs shall only be issued on an ex-post basis.

14.1.3 Each BERU shall be assigned a unique serial number encoding the country of origin, vintage year, issuing registry ("ONT"), and unique batch identifier(s).

14.1.4 Legal title to a BERU shall vest in the entity registered as the current holder of that BERU in the Ontoly Portal. Title transfers are effective only upon recording in the Ontoly Portal, and retirement is effective only upon execution through the Ontoly Portal. The Ontoly Registry shall reflect the current status of each BERU for public transparency, but the Ontoly Portal shall serve as the authoritative record of legal ownership.

15. The Ontoly Registry System

15.1.1 The Ontoly Registry shall operate as a public, transparent database of all projects submitted under the BERS Program, including:

- (a) project description documentation;
- (b) project location, scope, and type;
- (c) Financial Additionality Rating;
- (d) Monitoring Report summaries;
- (e) Verification Statement summaries;
- (f) current registration and issuance status; and
- (g) specific data tied to BERUs including: issued and retired BERU quantities, serial numbers, date of retirement, unit type, host country, methodology, vintage year, crediting period start date, CORSIA compliance periods (if applicable), retirement account identifier, beneficiary, and retirement purpose; and

15.1.2 If BERUS are approved as Eligible Emissions Units for CORSIA compliance purposes, Ontoly Registry shall implement the following registry processes:

(a) process and publicly display retirement of CORSIA Eligible Emissions Units within one to three (1–3) business days of receipt of formal instruction from a duly authorized representative of the account holder, barring system downtime that is scheduled in advance or beyond the control of the registry administrator. For these purposes, a “business day” is Monday through Friday, 9:00 AM to 5:00 PM Pacific Standard Time (PST), excluding Canadian federal statutory holidays.

(b) enable machine-readable format (CSV and XLSX), searchable by data field, for downloadable BERU retirement data at no cost and with no login credentials required.



15.2 Registry Status Categories

15.2.1 Every project shall be assigned a status as follows. The Unvalidated (Listed) status applies exclusively to the Ontoly Buyers Portal and does not constitute a public Ontoly Registry status. All other statuses are assigned on the public Ontoly Registry:

Status	Description
Unvalidated (Listed)	Project is listed on the Non-Validated tab of the Ontoly Buyers Portal based on basic eligibility responses submitted by the Building Representative. Listed projects are viewable only by registered Buyer Accounts in good standing. Listed projects do not appear on the public Ontoly Registry. Listing confers no validation, certification, eligibility determination, or assurance of any kind from Ontoly under the BERS Program. All information displayed is provided by the Building Representative and has not been reviewed, verified, or independently assessed by Ontoly.
Validated	Project has been assessed through a Preliminary Ex-Ante BERU Assessment, Eligible Professional Engineering Validation Documentation has been accepted, and the project has been posted to the public Ontoly Registry. Ex-ante BERUs are preliminarily estimated but not yet verified or issued. The project is available for Pre-Purchase Agreements through the Ontoly Buyer's Network or with a direct buyer.
Issuance in Progress (Verified)	<p>The retrofit project has been completed and the Building Representative has submitted an Annual Monitoring Report containing actual metered performance data. An independent, accredited Verification Body contracted by Ontoly has conducted verification on a cohort-sample basis in accordance with the BERS Verification Standard and issued a positive Verification Statement. BERUs are pending issuance by Ontoly.</p> <p>Serialized BERUs are being issued on an ex-post basis following successful verification. The project repeats the monitoring, reporting, and verification cycle annually for the duration of the 10-year crediting period. BERUs issued for each monitoring period are available for purchase, transfer, or retirement as they are deposited into the Building Representative's account on the Ontoly Portal.</p>
Issued	All projected BERUs for the full crediting period have been verified, serialized, and issued to the project. No further monitoring or verification cycles remain. Issued BERUs that have not been sold or retired remain available for purchase or transfer through the Ontoly Portal.
Retired	All BERUs associated with this project have been permanently and irreversibly removed from circulation by a registered Buyer Account Holder through the Ontoly Portal. Retirement is the sole mechanism through which a beneficiary may make environmental claims associated with the underlying emission reductions. Retired BERUs cannot be reversed, re-issued, or re-credited.
Suspended	Project has been temporarily halted due to non-conformance identified during verification or monitoring. BERU issuance is paused pending completion of corrective action by the Building



	Representative in accordance with the procedures set out in this Standard.
Cancelled	Project has been permanently removed from BERS Program eligibility. Any previously issued BERUs may be subject to cancellation at Ontoly's sole discretion. Cancelled projects shall not be reinstated.

15.2.2 Where applicable, the Ontoly Registry shall indicate ICVCM Core Carbon Principles (CCP) approval status, Article 6, CORSIA, or any other applicable label for any recognized BERU.

15.3 Registry Security

15.3.1 The Ontoly Registry shall serve as the official system of record for issuance, holding, transfer, cancellation, and retirement of all BERUs. The Registry shall be subject to periodic independent security assessments.

15.3.2 Upon identifying any breach of registry data security or integrity that affects a CORSIA participant account holder, the Ontoly Registry shall: (a) notify the affected account holder(s) within seventy-two (72) hours of breach confirmation; and (b) inform the ICAO Secretariat in the same manner as required for material deviations from the Programme's application form.

15.3.3 The Ontoly Registry shall retain all documents and data relevant to CORSIA Eligible Emissions Units retirements on an ongoing basis and for at least three (3) years beyond the end date of the latest compliance period in which the BERS Program is determined to be eligible. In the event of programme dissolution, Ontoly shall ensure the transfer or escrow of all CORSIA-related registry data to a qualified successor entity or third-party custodian, maintaining public access to retirement records beyond the end of any applicable compliance period.

15.4 Optional BERU Labels and Attributes

15.4.1 The Building Representative may request optional labels or attributes be applied to issued BERUs by submitting the relevant additional documentation to Ontoly in accordance with the applicable separate guidance documents published by Ontoly. The availability and requirements for each label are subject to change as external frameworks evolve.

15.4.2 CCP Attribute 1 — Host Country Authorization Pursuant to Article 6 of the Paris Agreement. Ontoly shall maintain a unique tag for this attribute. Ontoly shall ensure that an Article 6 authorization associated with the BERUs has been provided by the host country before granting the attribute and marking BERUs accordingly in the Ontoly Registry. Ontoly shall:

(a) make all information received in relation to Article 6 authorizations publicly available and keep such information up to date on its website;

(b) prepare regular reports on the status of BERUs associated with Article 6 authorizations, including data disaggregated by host country, project, and vintage, and make these publicly available;

(c) provide each host country with information relating to BERUs associated with Article 6 authorizations by that country; and

(d) regularly seek evidence of the appropriate application of corresponding adjustments pursuant to Article 6.



If such evidence cannot be obtained within two years of the required application of corresponding adjustments, Ontoly shall withdraw this attribute from BERUs in its registry and inform the relevant account holders.

15.4.3 CORSIA Label. Where the BERS Program is determined to be eligible by the ICAO Council under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), the Ontoly Registry shall apply a publicly visible CORSIA Label to BERUs that satisfy all applicable eligibility criteria, including vintage period, methodology type, and any programme-specific conditions established by the ICAO Council. The CORSIA Label shall be: (a) visible in all registry account types and on the public registry interface; (b) searchable and filterable; (c) maintained throughout the BERU’s lifecycle, including after retirement or cancellation; and (d) applied and administered in accordance with the ICAO Document “CORSIA Eligible Emissions Units” and separate Ontoly CORSIA Eligible Emissions Unit Designation Procedures.

15.4.3.1 Ontoly shall maintain Article 6 Label Guidance that establishes detailed procedures for: (a) verifying the authenticity and scope of host country Article 6 authorizations; (b) confirming that corresponding adjustments have been applied or are committed to by the host country; (c) communicating with host country designated national authorities regarding the status of authorizations; and (d) removing the Article 6 label from BERUs where authorization is revoked or corresponding adjustments are not applied within the required timeframe.

15.4.3.2 Ontoly shall maintain Host Country Attestation Procedures requiring Building Representatives seeking the Article 6 label to submit: (a) a copy of the host country’s Article 6 authorization letter or equivalent instrument; (b) confirmation that the host country has committed to apply corresponding adjustments for the credited emission reductions; and (c) any additional documentation required by the host country’s designated national authority. Ontoly shall publicly disclose all Article 6 authorization information and maintain up-to-date records on its website.

15.4.3.3 Where BERUs carrying the Article 6 label are retired for CORSIA compliance purposes, Ontoly shall ensure that the CORSIA retirement records clearly identify the Article 6 authorization status, enabling verification that corresponding adjustments have been applied to prevent double claiming between CORSIA offsetting and host country Nationally Determined Contributions (NDCs).

15.4.3.4 For the purposes of the CORSIA Emissions Unit Eligibility Criteria (EUC Paragraph 5.3), the BERS Program identifies and monitors the following sustainable development contributions inherent to building retrofit projects: (a) Economic: job creation in the construction and energy services sector; reduced operating costs for building owners and tenants; stimulation of local economic activity through retrofit investment. (b) Environmental: reduction of greenhouse gas emissions from the existing building stock; improved energy efficiency and reduced energy consumption; reduced demand on fossil fuel-based energy infrastructure. (c) Social: improved indoor environmental quality and occupant comfort; reduced energy cost burden, particularly for multi-family residential buildings; contribution to local air quality improvement through reduced combustion-based heating. These sustainable development contributions are reported qualitatively and are inherent to all building retrofit projects registered under the BERS Program. Additional details are published in the Ontoly CORSIA Guidance Document.

15.4.4 CCP Attribute 2 — Share of Proceeds for Adaptation. Ontoly shall maintain a unique, public tag for this attribute. Ontoly shall ensure the following requirement has been satisfied



before granting the attribute: the Project Proponents have provided satisfactory information to demonstrate that

(a) a monetary contribution equivalent to five percent of the revenue associated with the issued BERUs has been made to the Adaptation Fund; and/or

(b) at least five percent of issued BERUs have been forwarded to a dedicated registry account managed by or on behalf of the Adaptation Fund.

15.4.5 CCP Attribute 3 — Quantified Positive SDG Impacts. Ontoly shall maintain a unique tag for this attribute. Ontoly shall ensure the following requirements have been satisfied before granting the attribute:

(a) the SDG impacts of the project have been monitored and quantified ex-post using a method, tool, or standard recognised by a CCP-eligible carbon-crediting program;

(b) the application of the method, tool, or standard demonstrates quantified positive impact for one or more SDGs (other than SDG 13); and

(c) the quantification of the positive SDG impacts has been verified by an accredited Verification Body.

16. Program Compliance and Enforcement

16.1.1 Ontoly reserves the unrestricted right to review or request additional evidence from any project at any time, including post-issuance.

16.2.1 Where Ontoly determines non-compliance, it may impose corrective measures including: formal corrective action notices, temporary holds on BERU issuance, moving the project to Suspended status, mandatory re-verification, or moving the project to Cancelled status.

16.2.2 Cancellation shall be applied in cases of severe, intentional, or repeated violations. Ontoly shall maintain a transparent public record of all enforcement actions.

16.3.1 Where evidence demonstrates BERUs were issued on the basis of fraudulent or materially inaccurate data, Ontoly reserves the right to cancel, suspend, or restrict future BERU issuance. All legal and contractual consequences to compensate prospective or secured buyers of the BERUs shall be borne solely by the Building Representative.

17. Delivery Risk and Insurance

17.1.1 The Building Representative bears full responsibility for delivery risk. Ontoly's review of ex-ante documentation is not a guarantee of future performance or issuance volumes.

17.1.2 Ontoly recommends parties establish a contractual performance buffer of approximately twenty to thirty percent (20–30%) of estimated ex-ante BERU volumes to mitigate delivery risk.

17.1.3 Buyers and Building Representatives may include contractual risk-mitigation instruments, such as non-delivery insurance, at their discretion. Ontoly does not guarantee BERU delivery or act as an insurer.

17.1.4 Following the successful verification of the first year of monitoring data, the Building Representative may, at its discretion, enter contracts for the sale of BERUs for up to one hundred percent (100%) of the remaining estimated crediting period volume, as a minimum of one year of actual building performance data has been verified against the baseline. However,



Ontoly strongly recommends that pre-purchase agreements and forward sale contracts include contractual terms addressing non-delivery buffer provisions to manage the risk that actual verified volumes may differ from estimated ex-ante volumes in future monitoring periods.

17.1.5 Prior to first-year verification, the contractual performance buffer of twenty to thirty percent (20–30%) recommended in Section 17.1.2 should be reflected in all pre-purchase agreements. It is the sole responsibility of the Building Representative and the buyer to negotiate appropriate contractual protections for delivery risk.



18. BERS Program Document List

The following documents comprise the complete set of normative and supporting documents for the BERS Program. All Program Participants shall ensure they are referencing the most current versions, available at www.ontoly.org:

Document Name	Description
BERS Standard	This document. The core governing framework for the BERS Program.
BERS Verification Standard	Defines the verification procedure, independence requirements, accreditation, cadence, and level of assurance.
Ontoly Fee Schedule	All applicable fees for program participation.
Methodology Development and Review Process	Process for developing, approving, and amending BERS Methodologies.
Approved BERS Methodologies	Detailed quantification methodologies for specific project types.
Ontoly Platform Terms of Use	Governing terms for all Ontoly Platform and Registry Activities.
Conflict of Interest Policy	Policy governing conflicts of interest for all program participants.
Know Your Customer (KYC) Policy	Due diligence and identity verification requirements.
Anti-Bribery, Anti-Corruption Policy	Financial integrity requirements.
Ontoly Corrective Actions	Details corrective measures under the BERS.
Ontoly Project Intake Forms	Required project submission forms, available via the Ontoly Portal.
Project Description & Baseline Utility Data Form	Detailed project and baseline data collection form, available via the Ontoly Portal.
Financial Additionality Data Submission Form	Financial data for additionality assessment, available via the Ontoly Portal.
Building Owner Attestation & Representative Authorization	Building Owner authorization form, available via the Ontoly Portal.
Data Quality & Safeguard Attestation Form	Environmental and social safeguard attestation, available via the Ontoly Portal.
Annual Monitoring Report Template	Template for annual monitoring submissions, available via the Ontoly Portal.
Verification Statement Report Template	Template for Verification Body reporting.
Preliminary Ex-Ante BERU Assessment Report Template	Private report for preliminary project assessment prepared for Building Representative, requested and delivered via the Ontoly Portal.
Project Description Report	Public-facing project documentation, available via the Ontoly Registry.
Pre-Purchase Agreement Template (Optional)	Recommended template for pre-purchase contracts, available via the Ontoly Portal.
Ontoly Public Parameter List	Standardized parameters (discount rates, useful life, inflation rates) used across all projects.



Verification Body Conflict of Interest Disclosure Form	Standardized form for Verification Bodies to disclose potential conflicts of interest prior to engagement under the BERS Program.
Ontoly CORSIA Guidance (CORSIA Eligible Emissions Unit Designation Procedures)	Internal procedures for applying, maintaining, and removing the CORSIA Label, including vintage filtering and methodology eligibility checks. Includes sustainable development indicators mapped to CORSIA EUC Paragraph 5.3 requirements, with monitoring and reporting procedures.
Registry Security Disclosure	Summary of registry security architecture, access controls, and incident response procedures, available to ICAO and TAB upon request.

Appendix A: ICVCM Core Carbon Principles Alignment Assessment

The following assessment maps the BERS Standard against the ICVCM Assessment Framework (Section 4, Version 1.1) to identify areas of alignment and areas where Ontoly's approach intentionally differs due to the specific nature of building retrofit projects.

ICVCM Criterion	BERS Alignment	Notes
1.1 Effective Governance	Aligned- Pending ICVCM Review	Independent BERS Governance Board (Section 2.2); annual reporting (Section 2.8); KYC/AML policies (Section 2.6).
1.2 Public Engagement & Grievances	Aligned- Pending ICVCM Review	Stakeholder consultation (Section 2.3); grievance mechanism (Section 2.4); no fees for IPs & LCs.
2.1 Effective Registries	Aligned- Pending ICVCM Review	Ontoly Registry tracks issuance, transfer, retirement (Section 15); retirement requires beneficiary identification and purpose disclosure (Section 5.9); erroneous issuance procedures (Section 16.3).
3.1 Transparency & Information	Aligned- Pending ICVCM Review	Public Project Description Reports (Section 5.3.6); Registry data publicly accessible (Section 15); all program documents publicly available.
4.1 Validation & Verification	Intentional Variation — See Below. Pending ICVCM Review.	BERS does not require separate third-party ex-ante validation. Ex-post verification is fully aligned. See detailed note below.
5.1 Methodology Approval	Aligned- Pending ICVCM Review	Methodology Development and Review Process (Section 1.2.2); public consultation required; five-year review cycle.
5.2 Quantification Requirements	Aligned- Pending ICVCM Review	1 BERU = 1 tCO ₂ e (Section 9.1.2); GWP values from latest IPCC (Section 9.1.3); 10-year crediting period (Section 10.7); conservative approach (Section 1.3.1); existing policies included in baseline (Section 10.1).
5.3 Ex-Post Issuance	Aligned- Pending ICVCM Review	BERUs issued exclusively ex-post after monitoring and verification (Section 5.7.1). No ex-ante issuance.
6.1 No Double Issuance	Aligned- Pending ICVCM Review	Prohibition on dual registration (Section 12.1); attestation required (Section 12.1.2); screening against public registries.



6.2 No Double Use	Aligned- Pending ICVCM Review	Retirement is permanent and irreversible (Section 12.2.1); Registry controls prevent reactivation.
7.1–7.11 Safeguards	Aligned via Attestation. Pending ICVCM Review	Attestation-based framework proportionate to low-risk building retrofit scope (Section 13). Covers labour rights, non-discrimination, pollution prevention, cultural heritage, gender equality, stakeholder engagement. SDG reporting optional.
8. Additionality	Aligned with Enhanced Approach. Pending ICVCM Review	Binary regulatory surplus test (Section 10.1) plus NPV financial additionality test (Section 10.3) plus transparent payback-period rating (Section 10.4). Exceeds typical binary pass/fail.
9. Permanence	Aligned- Pending ICVCM Review	Low risk for emission reductions (not removals); monitored through actual utility data; reversals detected through performance data (Section 11).
10. Robust Quantification	Aligned- Pending ICVCM Review	Standardized methodology; centralized quantification by Ontoly; third-party verified annually (Section 9).
13. Net Zero Transition	Aligned- Pending ICVCM Review	Building retrofits directly contribute to net-zero transition; technology categories aligned with RED Framework progression toward full electrification.

Note on Validation (Criterion 4.1)

The ICVCM Assessment Framework requires robust independent third-party validation and verification. The BERS Program fully satisfies the verification requirement through annual, independent, ISO 14065-accredited ex-post verification of all projects (Section 8).

Regarding validation, the BERS Program intentionally does not require a separate third-party ex-ante validation audit prior to registration. This is because:

- Licensed Professional Engineers already prepare and certify ex-ante utility savings estimates as part of standard building retrofit design processes (IPMVP, IREE), providing independent professional assurance of projected performance.
- No BERUs are issued based on ex-ante estimates. All BERU issuance is exclusively ex-post, based on actual measured and verified utility performance, eliminating the risk of over-crediting from unverified projections.
- Requiring a separate validation audit would duplicate existing professional engineering assurance, increasing costs and barriers to entry for building retrofit projects without proportionate integrity benefit.

This approach is consistent with the ICVCM's stated objective of ensuring robust project assessment while allowing carbon-crediting programs discretion in how they structure validation requirements proportionate to the risk profile of the project type. Ontoly will continue to monitor ICVCM guidance and adjust its approach as needed.