



Protocol for ClimeCo Certified Product™ Program



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The ClimeCo Certified Product™ Program focuses on increasing awareness of the greenhouse gas emissions of products and recognizing companies that are taking action to assess and reduce their product's climate impact.

The ClimeCo Certified Product™ labeling program was started by the Carbonfund.org Foundation in 2007, then called the Carbonfree® Product Certification Program, and is now owned and managed by ClimeCo. This program has been renamed, rebranded, and the protocol has been reviewed and updated based on current standards. Prior to this program rebranding and relaunch, the last update to the program protocol was completed in November 2022.

Authors

The first version of the Carbonfree Product Certification Carbon Footprint Protocol was developed jointly by the staff at the Edinburgh Centre for Carbon Management and Carbonfund.org in 2007. The Protocol has been updated several times since the original version by Carbonfund.org, with input from EarthShift, WAP Sustainability, ClimeCo, program participants, and the general public.

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Purpose of this document

The purpose of this protocol is to establish the requirements for the ClimeCo Certified Product™ Program (formerly called the Carbonfree® Certified Products program).

1. Background

Driven by corporate responsibility, consumer demand, investor expectations, and potential government regulation, companies are increasingly interested in quantifying, reducing, and offsetting the greenhouse gas (GHG) emissions associated with the products they manufacture and/or supply.

Carbonfund.org Foundation, a leading nonprofit provider of climate solutions for individuals and companies, developed the Carbonfree Product Certification as a globally recognized climate action product label. In October 2022, leading global sustainability company [ClimeCo LLC](#) purchased certain assets of the nonprofit Carbonfund.org, including the name “Carbonfund.org”, the website, the Carbonfree® Product Certification Program, and others.

Under the new leadership and management of ClimeCo, the Carbonfree® Product Certification Program is being renamed as the **ClimeCo Certified Product™ Program** (“Program”) and provides more opportunities to enhance value, reliability, and transparency to companies and their stakeholders. ClimeCo’s expansive suite of services and credible, high-quality market-based solutions provide customers with additional trustworthy options to bolster their ClimeCo Certified Product™ certification and take targeted steps towards positive climate action.

This document provides Program participants and affiliates a standard approach to follow when applying for the Program.

2. Key objectives

This protocol provides a credible, transparent, and practical method to determine the Global Warming Potential (GWP) of products. The method can be consistently applied by qualified third party consultants and product manufacturers across a broad range of industries and products to discover and develop strategies to reduce product carbon footprint. This method can also be used to inform decisions to offset un-abatable product carbon impacts with high quality verified carbon credits sourced from science-backed carbon offset projects.

The purpose of the ClimeCo Certified Product™ Program is to enable companies with registered products to make clear and validated claims of product carbon neutrality, including affirmation that third party validated and verified carbon credits were used to fully offset or neutralize all Product Carbon Footprint-related greenhouse gas emissions that were unable to be avoided or eliminated for each registered product sold during Program registration. This product carbon certification type includes all companies with

registered products making certifications as to product “carbon neutral” or equivalent claims, including but not limited to “climate neutral”, “fully offset”, “100% offset”, or “fully financed”.

Currently, and to the best of ClimeCo’s knowledge, the ClimeCo Certified Product™ Program is eligible for use in all countries except for France, due to the seller point-of-sale disclosure requirements of the French Climate Law.

3. Protocol updates

This iteration of updates to the Protocol has been driven by and addresses the following:

- Change in ownership:
 - ClimeCo taking over the administration of the Program;
 - Expanded opportunities for partnering with ClimeCo;
 - Provisions to avoid potential conflicts of interest.
- Market factors including increased public scrutiny and legislation of environmental labels, certifications and claims, and increasing inquiries into the quality and credibility of offsets purchased:
 - Added stringency around acceptable requirements for achieving the certification;
 - Added stringency around requirements for developing and maintaining a carbon emissions reduction plan;
 - Added transparency around acceptable categories of offsets;
 - Requirements for annual renewal.
- Ease of participation
 - Greater clarity on certification process;
 - Recommended formats for submitting Product Life Cycle Assessment (LCA) report;
 - Guidance for communication and disclosure of ClimeCo Certified Product™.

4. Glossary and acronyms

ClimeCo Certified Product™ – Products whose “cradle-to-grave” life cycle carbon footprints have been calculated, reduced where possible, reviewed, certified, approved, then offset as part of the ClimeCo Certified Product™ Program AND have been registered into the Program.

Product Carbon Footprint (PCF) – A calculation of a product-level GWP based upon an analysis of the GHG (Greenhouse Gas) emissions produced during the “cradle-to-grave” life cycle of a product and calculated using an accepted LCA methodology. Product Carbon Footprint is usually reported as a numerical value expressed in kilograms of CO₂e per defined product functional unit. Product Carbon Footprint and product GHG Footprint/assessment/inventory are considered interchangeable terms in this protocol.

Life Cycle Assessment (LCA) - An accounting and evaluation practice for assessing the potential environmental aspects and potential aspects associated with a product (or service), by compiling an inventory of relevant inputs and outputs, evaluating the potential environmental impacts associated with those inputs and outputs, interpreting the results

of the inventory and impact phases in relation to the objectives of the study. For the purposes of this Protocol, any reference to LCA refers to an analysis conducted on and the calculation of the product's cradle-to-grave lifecycle GHG emissions, or product carbon footprint, while other environmental impacts associated with the product are excluded from consideration.

IPCC - Intergovernmental Panel on Climate Change

GHGs – Greenhouse Gases, currently including:

- *CH₄* - Methane
- *CO₂* – Carbon Dioxide
- *HFC* – Hydrofluorocarbon
- *N_xO_x* – Nitrous Oxides, Nitrogen Dioxide
- *PFC* – Perfluorocarbon
- *SF₆* – Sulphur Hexafluoride

CO₂e – Carbon Dioxide Equivalent is a common, globally accepted way of measuring and expressing GHG emissions. To convert emissions of a gas into CO₂ equivalent, its emissions are multiplied by the gas's Global Warming Potential (GWP). The GWP takes into account the fact that many gases are more effective at warming Earth than CO₂, per unit mass.

Global Warming Potential - Global Warming Potential (GWP) allows comparisons of the global warming impacts of different GHGs. Specifically, it is a measure of how much energy the emissions of one (1) metric tonne of a GHG gas will absorb over a given period of time, relative to the emissions of one (1) metric tonne of carbon dioxide (CO₂). The larger the GWP, the more that a given GHG gas warms the Earth compared to CO₂ over that time period. The time period used for GWPs for the purposes of this Protocol is 100 years ("GWP-100").

"cradle-to-grave" – assesses the full product life cycle impacts to include the extraction of raw materials; the processing, manufacturing, and fabrication of the product; the transportation or distribution of the product to the consumer; the use of the product by the consumer; and the disposal or recovery of the product after its useful life.

Qualified third party consultants – Qualified third party consultants are independent service providers who are listed in the EPD database of LCA Consultants ([see list here](#)) or are service providers able to provide requested credentials for ClimeCo's review and approval. A list of qualified third-party providers is also available upon request.

5. Certification Process

The figure below describes the process for applying to the Program.



Process for achieving ClimeCo Certified Product™ certification

Applicants seeking to register their products into the Program shall adhere to the process and requirements described below:

5.1 Define

5.1.1 Subject

Applicants shall clearly define the subject for which the certification is sought, including the name and description of the subject boundary, a detailed description of the product(s) and supporting information to uniquely identify the product(s) and the product functional unit to be assessed.

5.1.2 Scope and Boundaries

Applicants must include the product(s) full life cycle “cradle-to-grave” emissions inventory in the LCA. The LCA must include at least 95% of GHG emissions associated with the raw materials, manufacture and packaging of a product, and both upstream and downstream emissions from product distribution, product use and end of life. If a single product element or source contributes 50% of the total carbon emission, then at least 95% of the remaining sources of emissions shall be covered.

5.2 Select Provider

Applicants must work with qualified third-party consultants/providers to perform the LCA analysis and develop the LCA Report and Carbon Emissions Reduction Plan (see Section 5.3.3) as the requirements stated in this Protocol. Applicants seeking to register products into the Program must bear all costs of the Product LCA assessment and any required third-party review.

5.3 Develop

Applicants are required to conduct an LCA analysis for all products for which certification is sought based on the boundaries and scope defined above. LCA Compliance Requirements are listed in **Section 5.3.1** below.

Applicants shall develop and submit to ClimeCo an LCA report (see **Section 5.3.2** for more details) based on the results of the LCA analysis. Applicants shall also develop and submit a Carbon Emissions Reduction Plan (see **Section 5.3.3** for more details).

5.3.1 LCA Requirements

Standards

The LCA report submitted by Applicants must be compliant with:

- World Resources Institute/World Business Council for Sustainable Development Greenhouse Gas Protocol for Product Life Cycle

Accounting & Reporting Standard (2015)

- PAS 2060:2014
- Any other relevant industry Standard as ClimeCo may deem necessary, and as approved by any related sustainable certification programs into which the ClimeCo Certified Product™ Program is accepted.

Note: Standards are managed by independent international organizations and are subject to changes and updates by those organizations, keeping in line with stakeholder input, regulatory requirements, and market trends. Standards are sometimes even withdrawn or replaced.

ClimeCo continually monitors changes to Standards and strives to apply the most relevant, up to date, and widely accepted industry Standards to our Program to retain its authenticity and relevance to applicants and consumers. ClimeCo reserves the right to modify the requirements stated in this Protocol if needed, to maintain alignment with the latest standards. Such modifications will be made via updates to this Protocol and applicants may also be notified of change in requirements.

Effective 11/1/2024, all Product LCAs and/or Product Carbon Footprint analyses used for registration into the ClimeCo Certified Product™ Program must provide third-party assurance as to PAS2060 **methodology** compliance, unless ClimeCo requires compliance to a different Standard and notifies applicants and/or makes necessary updates to this Protocol.

Effective 5/1/2025, all Product LCAs/Product Carbon Footprint analyses used for registration into the ClimeCo Certified Product™ Program must provide third-party assurance as to PAS2060 **reporting** compliance, unless ClimeCo requires compliance to a different Standard and notifies applicants and/or makes necessary updates to this Protocol.

It is the responsibility of the preparer of the LCA report:

- to apply conservative processes and measurements in order to assure that the full carbon footprint of the product is analyzed and calculated,
- to attest that the resulting LCA report **is compliant** with the Program's required Standards, and
- to identify the Standard(s) to which the LCA complies.

Any material deviations or exclusions from the Standard(s) followed in the product's carbon footprint assessment must be explained, justified according to the methodologies as allowed in the Standard(s), and accepted by ClimeCo prior to the product's consideration for program registration.

Emissions to be included

The LCA report shall include an assessment of all GHGs required by the UNFCCC/Kyoto Protocol and the applicable standard(s) at the time the product inventory is being compiled and corresponding emissions shall be converted to CO₂ equivalents (CO₂e).

Global Warming Potential

The GHGs shall be assessed to the 100-year GWP values for these GHGs as defined in IPCC Assessment Reports.

Data sources and transparency of data quality

Product LCA estimates shall use primary and secondary data and data sources consistent with the requirements of the chosen Standard and its required methodology.

All data sources, assumptions and sources of evidence shall be clearly stated in the LCA report.

5.3.2 LCA Report

The results of the LCA analysis along with detailed descriptions of the subject, scope, boundaries, limitations, etc. must be summarized in the LCA report.

Methodology Consistency

Across iterations of LCA reports, the consistency in the methodology is essential. If there are any changes in the methodology including but not limited to the allocation of utility resources, the inclusion and exclusion of non-attributable processes, the treatment of using recycled content and generating manufacturing waste for recycling, and other assumptions utilized in the product manufacturing stages, transportation and distribution stage, use stage and end of life stage, the changes should be documented, and the previous LCA result should also be re-calculated if any aspect subject to the change is considered sensitive to change as per the sensitivity analysis.

Changes resulted from background data updating are not considered as inconsistency in methodology. For example: the end-of-life pathway updated by a credible agency is not considered a change in assumption. However, switching the source of end-of-life pathway may be considered inconsistency if it cannot be justified.

Sensitivity Analysis

Sensitivity analysis is not required by the acceptable LCA standards but is added by ClimeCo to ensure the traceability of PCF. The LCA study shall include sensitivity analyses conducted on the significant life cycle phases and the parameters subject to the sensitivity analyses shall include those relevant to the action described in the carbon emission reduction plan. For example: if an applicant plans to increase the use of renewable energy in the manufacturing as part of the initiative in the carbon emission reduction plan, the percentage of renewable energy utilized should be considered as one parameter for sensitivity analyses.

Use of Renewable Energy Certificates, Guarantee of Origins or other Energy Attribute Certificates

Energy attribute certificates, or similar environmental commodities, in the LCA study is allowed to represent the Applicants' effort to increase the use of renewable energy in the production. To ensure this practice is consistently implemented by the Applicant, the Applicant needs to provide evidence showing the use of energy attribute certificates will be carried out through the validity period of the LCA OR with the annual submission of carbon emission reduction plan. The retirement document of sufficient energy attribute certificates for the corresponding timeframe should be provided. Examples of

the acceptable evidence include but are not limited to an executed power purchase agreement which stipulates the percentage of renewable energy to be supplied and the type of renewable energy (solar, wind and etc.), and an executed solar panel installation contract with a capacity that is able to generate no less than the percentage of renewable energy modelled in the LCA report.

See **Appendix B** for the recommended format in which the LCA report should be submitted.

See **Appendix C** for the Product LCA review checklist that ClimeCo uses to ensure compliance with World Resources Institute/World Business Council for Sustainable Development Greenhouse Gas Protocol for Product Life Cycle Accounting & Reporting Standard (2015) and PAS2060 methodology compliance.

5.3.3 Carbon Emissions Reduction Plan

The LCA report can be used to help Applicants identify and target GHG savings and reduction opportunities in their product supply chain. Emissions avoidance and reduction is a critical component of climate action and reductions must be pursued **before** purchasing offsets. Offsets are a last resort for emissions that are unable to be avoided/eliminated.

Pursuing avenues for emissions avoidance, reductions, implementing reduction plans and reporting on the reductions achieved are an important requirement for continued participation in the Program.

For applicants in their first year of Program participation, the ClimeCo Certified Product certification may be issued based on planned reductions and offsets purchased, provided all other requirements in this Protocol are met.

Beyond the first year however, applicants must first demonstrate emissions avoided, then emissions reduced through their Carbon Emissions Reduction Plan before purchase of any offsets to neutralize unavoidable emissions. Applicants must follow the “avoid, reduce and then offset” rule for emissions to ensure continued participation in the Program.

ClimeCo requires Applicants to submit a Carbon Emissions Reduction Plan as part of their application that describes their efforts for achieving said reductions. Carbon Emissions Reduction Plans are reviewed annually for each company with registered products to determine progress and set new Product Carbon Footprint reduction goals for the coming year.

Requirements for the carbon emissions reduction plan are listed below.

Requirements

The Applicant shall submit a Carbon Emissions Reduction Plan that includes the following:

- A statement of commitment of carbon neutrality for the registered product
- Details of historic, ongoing and planned/future emissions reduction initiatives;

- If historical reduction is taken into account, the period, and a confirmation of the data availability and the consistency of methodology shall be provided.
- Details of programs, partnerships, technologies and strategies adopted to reduce emissions across the value chain;
- Targets and timeline for achieving further reductions;

It is mandatory that the Carbon Emissions Reduction Plan defines and quantifies the CO₂ emissions reductions including target completion date. A grace period is not accepted. The reductions must be defined in absolute or relative terms and the target base year must be specified.

Elements of a product's Carbon Emissions Reduction Plan should include targets for annual product GHG emission reductions and progress towards achieving these targets, and should include an assessment of changes to areas in the product's life cycle that may have affected the product's carbon footprint, including but not limited to:

- a) changes in processes, equipment, technology and/or transportation methods due to improvements or upgrades made by the reporting organization;
- b) selection and/or changes to suppliers in any stage of the product's life cycle;
- c) deliberate and verifiable process improvements made by reporting organization and/or suppliers;
- d) improvements in the use stage and in the end-of-life stage achieved through improved product design or an improved end-of-life procedure.

Each Applicant's Carbon Emissions Reduction Plan must clearly identify and quantify emissions reductions achieved, direct reduction impact to Product Carbon Footprint values of all registered products and must provide documented and verifiable carbon emissions reduction strategies and processes implemented. Achieved emissions reductions must endure throughout the renewing four-year certification cycle. For instance, any use of environmental commodities such as Renewable Energy Certificates (RECs) or similar products to reduce Scope 2 emissions must be accompanied by a minimum four-year purchase contract.

5.4 Review

Applicants shall submit the LCA Report and Carbon Emissions Reduction Plan to ClimeCo for review.

The submitted LCA Report and Carbon Emissions Reduction Plan will be reviewed by ClimeCo.

Any findings from the review process will be shared with the Applicant to enable the Applicant to explain, edit or modify their reports and resubmit. Upon completion of the review process, a brief Review Report will be provided to the Applicant that summarizes the review findings and how they were addressed along with confirmation that the application can progress to the "Register" stage. Upon reaching this stage, the carbon emission result is deemed the initial PCF. Any subsequent LCA review by ClimeCo or a qualified third-party consultant beyond the

initial two (2) reviews may result in additional LCA review charges to the Applicant.

5.5 Register

Upon successful completion of the Review steps, the Applicant's products are eligible to be registered into the ClimeCo Product Certification Program.

The Applicant shall sign a four-year Program Agreement with ClimeCo, register all approved products and pay the first year's Program registration fees and carbon offset purchases based on first year forecasted sales of all registered products.

5.6 Offset

First Year and Subsequent Years Registration Offsets

The Applicant shall purchase, and ClimeCo will retire on behalf of the Applicant, sufficient carbon credits to offset the unavoidable GHG emissions from the total Product Carbon Footprint for all registered product sales forecasted for the first year of product registration.

To ensure purchase of sufficient carbon credits, Applicants must report actual registered product sales on a quarterly basis in arrears but must pre-purchase carbon credits based on forecasted annual sales, then report and manage the "bank" of carbon credits with ClimeCo on a quarterly basis.

ClimeCo shall facilitate the selection, purchase, and retirement of approved, relevant, high-quality carbon credits on behalf of the Applicant. All carbon credits for the ClimeCo Certified Product™ Program must be purchased through ClimeCo.

Carbon credits purchased through ClimeCo are carefully vetted for the highest quality, credibility and transparency and meet the following internationally accepted standards for credible carbon credits:

- Carbon credits are procured from globally recognized Standards including:
 - Gold Standard
 - Verified Carbon Standard
 - American Carbon Registry
 - Climate Action Reserve
 - Projects have been validated and carbon credits have been verified by a third-party verifier against an established Standard.
- Credits are generated from GHG reduction or removal enhancement projects.
- Projects generating the credits meet the criteria of additionality, leakage and double counting as defined in the WRI GHG Protocol for Project Accounting and/or ISO 14064:2.
- Carbon credits are retired by ClimeCo by unique serial numbers on the public registry maintained by the applicable Standard.
- Final carbon credits retirement information and corresponding e-

certificates are delivered directly to each Applicant company making those purchases.

- Offsets sourced from large-scale (10 MW+) renewable energy projects are ineligible.

ClimeCo's Certified Product™ Program utilizes carbon offset credits and projects that adhere to the following requirements:

- 1) The methodology and types of credits used must represent genuine, additional reductions.
- 2) Carbon credits must:
 - a) be verified by an independent third-party verifier.
 - b) be issued only after the emissions reduction associated with the offset project has taken place
 - c) meet conditions that avoid double-counting.
 - d) be supported by publicly available project documentation on a registry or equivalent publicly available record, which must provide information about the offset project, quantification methodology and validation and verification procedures.
 - e) be stored and retired in an independent and credible registry or equivalent publicly available record.

ClimeCo provides carbon offset-related documentation that includes:

- 1) which GHG emissions have been offset;
- 2) the actual amount of carbon credit required,
- 3) the type of offset and projects involved,
- 4) confirmation that the carbon offset scheme was used in compliance with the policy listed herein,
- 5) the number and type of carbon credits used, the time period over which the credits have been generated and the date of retirement.
- 6) specify third-party verifier
- 7) be on company letterhead,
- 8) specify standard and methodology used to achieve carbon offset.

5.7 Communicate

Once all Applicant requirements have been met, including the purchase of forecasted first year offsets from ClimeCo, the ClimeCo Certified Product™ evidence of certification will be given to the Applicant. Applicant will receive a certificate, a license agreement and marketing kit, and will be permitted the use of the ClimeCo Certified Product™ badge for the relevant products.

The Applicant now can communicate their achievement of the ClimeCo Certified Product™ certification status and may use the ClimeCo Certified Product™ badge on their website, in advertising, literature, publicity, labels, and technical bulletins in printed or electronic media. All communications related to the ClimeCo Certified Product™ certification must be in accordance with the guidelines provided in the license agreement and marketing kit.

ClimeCo can provide additional communication support, upon request, to enable Applicants to communicate their achievement effectively and in accordance with relevant standards.

Recommended Disclosure

Applicants are encouraged to disclose the following key information to further enhance transparency and build trust with their stakeholders:

- a) The carbon footprint of their products registered into the Program
When the carbon footprint of the product is disclosed to the public, the results shall be clearly shown in kilograms of carbon dioxide equivalent per LCA-assessed functional unit of product, and in accordance with any requirements for carbon footprint reporting and/or communication as set forth in the applicable standards in **Section 5.3.1**.
- (b) The certificate along with details of products covered under the certification, the Scope of the certification and date of certification
- (c) The offset registry or program
- (d) The project identification number
- (e) The project name as listed in the registry or program
- (f) The offset project type and site location
- (g) The specific methodology used to estimate all greenhouse gas emission reductions

6. Renewal Requirements

The ClimeCo Certified Product™ certification is valid for a period of twenty-four (24) months from the date of issue. Annual program renewal is required to continue use of the certification and logo.

For successful annual renewals, the Applicant shall provide the following information:

- Third-party prepared or assured full narrative Product LCA report
 - Submitted at the outset of the first certification term
 - Valid for up to four years if fully compliant with World Resources Institute/World Business Council for Sustainable Development Greenhouse Gas Protocol for Product Life Cycle Accounting & Reporting Standard (2015) and PAS 2060:2014 and any other Standard as ClimeCo may require;
 - Subject to annual confirmation of no changes to the registered products' life cycle.
 - A new LCA report, if required by changes to registered products' life cycle or at the end of each four-year certification term, to be submitted one month prior to the expiration date of the incumbent LCA.
- Carbon Emissions Reduction Plan
 - Submitted and updated annually, in compliance with the Program Protocol;
 - Reviewed by ClimeCo and confirmed to demonstrate meaningful, documented and verifiable carbon emissions reductions that will lower Product Carbon Footprint of registered products.
- List of products for Program registration renewal with Product Carbon Footprint values as supported by current LCA, along with forecasted annual sales data
 - Submitted and updated annually
- Attestation as to any changes in the registered product's life cycle
 - Submitted and updated annually except when new/updated LCA report is submitted

6.1 Statement of Confirmation or Updates to LCA Report

The recommended format and the requirements in the form of checklist can be found in Appendix B and Appendix C respectively. While ClimeCo uses the checklist to facilitate the review of the LCA report to ensure the LCA is compliant with the acceptable LCA standard, some requirements are added with specification by ClimeCo to enhance transparency and the comparability between the reports of different iterations and the LCA reports with carbon emission reduction plans and/or other documents claiming changes in the PCF.

If there are no changes to any areas in the product's life cycle that affected the product's carbon footprint, the Applicant shall provide a signed Statement of Confirmation stating the same.

If there are any changes to areas in the product's life cycle that may have affected the product's carbon footprint, the Applicant must submit an updated LCA report summarizing the changes to the product carbon footprint.

Changes to the product's life cycle may include, but are not limited to:

- changes in processes, equipment, technology and/or transportation methods due to improvements or upgrades made by the reporting organization;
- selection and/or changes to suppliers in any stage of the product's life cycle;
- deliberate and verifiable process improvements made by reporting organization and/or suppliers;
- improvements in the use stage and in the end-of-life stage achieved through improved product design or an improved end-of-life procedure.

6.2 Updated Carbon Emissions Reduction Plan

A carbon emission reduction plan must be submitted at application then updated annually, based on factors including the findings identified in the LCA report through exercise of contribution analysis and sensitivity analysis. As an effective method to help ClimeCo track the changes, either incremental or transformational, the proposed items in the plan are required to be relevant, measurable, transparency and preferably time bound.

6.2.1. Relevance

The proposed items shall relate to the products in the LCA study, so that any changes to the execution of the carbon emissions reduction plan brings can translate to the PCF change. For example: the electricity consumed by the production facility.

6.2.2. Measurability

Regardless of a reduction goal in absolute terms or relative terms, the change is required to be measured in relation to the functional unit in the LCA study. The original data item that is used in the LCA study should be reported as a baseline for comparison. For example, if the action item is to reduce the electricity usage in the production facility, then the electricity usage per functional unit of the registered product utilized in the LCA study

should be reported as the baseline, and the reduction item is executed, the progress should be reported in the same manner.

6.2.3. Transparency

The calculation of PCF involves much data processing, and a change in a life cycle phase may unintentionally influence another life cycle phase. To ensure the execution of an action per the plan will result in a net decrease in PCF, transparent communication is necessary. ClimeCo may request more information about the action Plan and validate the effect.

An updated Carbon Emissions Reduction Plan must provide information, calculations and validation regarding:

- Progress of emissions reduction initiatives described in previous Carbon Emissions Reduction Plan
- Amount of actual reductions achieved and the areas in which they were achieved
- Methodology and verifiable calculations of carbon emissions reduction and direct reduction impact to Product Carbon Footprint values of all registered products
- Areas where reductions did not meet the set targets and the Applicant's plans to address the same
- Updated targets for continued emissions reduction
- New or updated initiatives to achieve additional reductions.

Product-level emissions reduction is an important requirement for continued participation in the Program. Applicants must take efforts to reduce product-level emissions and report said reductions in the Updated Carbon Emissions Reduction Plan in a manner that easily permits validation of quantified emissions reductions.

Product-level carbon emissions reductions must be verified and documented in the Applicant's Carbon Emissions Reduction Plan by the end of the first two-year certification period

6.3 UPDATED List of LCA-assessed and Approved Products

An updated list of LCA-assessed and approved products to be registered for the upcoming annual program period.

7. Risk of Decertification

The ClimeCo Certified Product™ Program requires annual renewal, but the certification term is considered to be up to two (2) years, barring any program changes or changes to the registered product's carbon footprint value.

Product LCAs used to determine a registered product's carbon footprint must be fully updated after the initial two (2) certification terms (a total of four (4) years), and every four (4) years thereafter, and must be updated as to any product carbon footprint change annually if those changes are anticipated to have increased the product carbon footprint values. Between the iterations of LCA updating, the registered product's carbon footprint is tracked by the carbon emission reduction plan submitted annually.

If a registered product's carbon footprint, as reassessed through a full Product LCA and Applicant's Carbon Emissions Reduction Plan:

- has failed to demonstrate carbon emissions reductions through the Carbon Emissions Reduction Plan by the end of the first two-year certification term,
- has increased after two successive certification terms (a total of up to four (4) years), or
- has remained unchanged after three successive certification terms (a total of up to six (6) years),

then the next subsequent annual renewal will be denied, and the registered product will be decertified from the Program.

8. Updating the Protocol

The Protocol will be reviewed and updated periodically. ClimeCo will lead the review and update process, and will include input from program participants, qualified third-party consulting firms and the public, as ClimeCo determines is necessary and beneficial to the program, its protocol and achieving the programs goals. If updates to the protocol are significant, ClimeCo will also seek input from the public via a 30-day public comment period. After the public comment period, recommendations will be incorporated into the document and posted to the website for common use.

9. Contact information

Please send comments and suggestions to:

ClimeCo Certified Product™ Program
Attn: Linda Kelly or Catherine Bates
1 E Philadelphia Ave.
Boyertown, PA 19512

Or by e-mail to: lkelly@climeco.com and cbates@climeco.com

Additional information

Below are databases that may be useful in the development of the LCA report:

National Renewable Energy Laboratory's US Life Cycle Inventory Database (NREL)
(<http://www.nrel.gov/lci/>)

NREL and its partners created the U.S. Life Cycle Inventory (LCI) Database to help LCA experts answer their questions about environmental impact. This database provides a cradle-to-grave accounting of the energy and material flows into and out of the environment that are associated with producing a material, component, or assembly. It's an online storeroom of data collected on commonly used materials, products, and processes.

European LCA platform (<http://eplca.jrc.ec.europa.eu/>)

The European LCA platform was created to help LCA experts integrate life cycle thinking into product development and policy making by providing them with structured, cost free and independent information.

EDP List of LCA Consultants (<https://www.environdec.com/resources/lca-consultants>)

EPD International AB offers a list of LCA consultants as an Information Service, without any warranties, for manufacturers and consultancies to facilitate for the initial contact between manufacturer and external LCA consultancy firms.

It provides a list of organizations that claim that they offer technical support for LCA/EPD and have requested to be listed on the EPD page.

APPENDIX A

Short Summaries of Relevant Standards Publications

WRI/WBCSD Greenhouse Gas Protocol for Product Life Cycle Accounting & Reporting Standard:

The World Business Council on Sustainable Development (WBCSD) – World Resources

Institute (WRI) GHG Protocol Product Life Cycle Accounting and Reporting Standard (referred to as the Product Standard) provides requirements and guidance for Applicants and other organizations to quantify and publicly report an inventory of GHG emissions and removals associated with a specific product.

The primary goal of this standard is to provide a general framework for Applicants to make informed choices to reduce greenhouse gas emissions from the products (goods or services) they design, manufacture, sell, purchase, or use. In the context of this standard, public reporting refers to product GHG-related information reported publicly in accordance with the requirements specified in the standard. It is widely expected to become one of the leading standards used for product LCAs, particularly in the United States.

The Standard is available for public download at: http://www.ghgprotocol.org/files/ghgp/public/Product-Life-Cycle-Accounting-Reporting-Standard_041613.pdf

PAS 2060:2010 (DEFRA, UK)

The Publicly Available Specification (PAS) 2060 was developed in response to broad community and industry desire for a consistent method for assessing the life cycle GHG emissions of goods and services. Life cycle GHG emissions are the emissions that are released as part of the processes of creating, modifying, transporting, storing, using, providing, recycling or disposing of such goods and services.

PAS 2060 offers organizations a method to deliver improved understanding of the GHG emissions arising from their supply chains, but the primary objective of this PAS is to provide a common basis for GHG emission quantification that will inform and enable meaningful GHG emission reduction programs.

The PAS 2060 standard is not available for public download, but is available for a fee:

<http://shop.bsigroup.com/ProductDetail/?pid=000000000030286698>

APPENDIX B

RECOMMENDED FORMAT FOR LCA REPORT

1. COVER PAGE

- Applicant’s name
- Products Covered
- Date of LCA Report

2. SUMMARY TABLE

MANUFACTURER	
PRODUCTS	
DECLARED FUNCTIONAL UNIT	
PRODUCT CARBON FOOTPRINT	
REFERENCE STANDARDS	
LCA SCOPE	
LCA STUDY DETAILS	
YEAR OF PRIMARY DATA	
LCA SOFTWARE	
LCA DATABASE	
LCA METHODOLOGY	
APPLICABLE REGIONS	

3. TABLE OF CONTENTS

4. EXECUTIVE SUMMARY

- Introduction to Company, Products
- LCA Results Summary
- Company Profile
- Details of LCA Commissioners and Practitioners
- Reporting Date
- Intended Application and Reasons for Study
- Target Audience
- Comparative Assertions and Public Disclosure
- Standards
- Product Description (including Classification and Applicability)

5. SCOPE OF THE STUDY

- LCA methodological framework
- Declared Unit

- **Reference Service Life**
- **System Boundary**
 - **Product Stage (A1-A3)**
 - **Delivery**
 - **Use Stage**
- **End-of-life Cut-off Criteria**
- **Allocation Procedures**
- **Data Quality Requirements**
 - **Geographical Coverage**
 - **Time Coverage**
 - **Technological Coverage**
 - **Treatment of Missing Data**
 - **Data Quality Assessment**

6. LIFE CYCLE INVENTORY ANALYSIS

7. LIFE CYCLE IMPACT ASSESSMENT

- **Selection of Impact Parameters**
- **LCA Results (for each Product)**

8. INTERPRETATION

- **Summary and product emissions reduction recommendations**

9. REFERENCES

10. LIST OF TABLES AND FIGURES

APPENDIX C

**Product LCA Review Checklist in Compliance with World Resources Institute/World Business Council for Sustainable Development Greenhouse Gas Protocol for Product Life Cycle Accounting & Reporting Standard (2015)
And PAS 2060:2014**

LCA Review and Approval Checklist **ClimeCo Certified Product Program®**

Product Name:

Product Company:

Date Received:

Date of LCA:

Reviewed by:

Impact per Unit:

Overall Comments/Recommendations:

Next Step:

LCA Practitioner and Contact Information:

***Product carbon footprint by product code which includes buffer for secondary data (1% increase to CO2 results per every 10% of secondary data)**

**In compliance with GHG Protocol Standard for Product Reporting and Accounting*



Checklist

Category	Requirement	GHG Protocol - Product	Page #	Notes
1. Goal and Scope	Contact information	req		
1. Goal and Scope	Goal of the study	optional		
1. Goal and Scope	Approach type	req		Attributional
1. Goal and Scope	Use of product rules and sector guidances	optional		
1. Goal and Scope	Reference of the PCR applied or other supplementary requirements used	req		
1. Goal and Scope	Product rule or sector guidances should not override the protocol	req		
1. Goal and Scope	Description of the system under study and its functions	req		function should be defined
1. Goal and Scope	Functional or declared unit and reference flow	req		finished product and intermediate product treated differently
1. Goal and Scope	List of GHGs taken into account	req		co2, ch4, n2o, pfcs and hfcs as minimum
1. Goal and Scope	The selected characterization factors	req		most recent one
1. Goal and Scope	Life cycle stages	req		C2Grave or C2Gate with justification



1. Goal and Scope	Justification of a cradle-to-gate boundary, when applicable	req		
1. Goal and Scope	Attributable processes	req		All or with justification
1. Goal and Scope	Non-attributable process	req		Report if included.
1. Goal and Scope	Time period of inventory	req		Similar to RSL but expanded to the end of EOL stage, default to 100 year if no science, pcr or sector guide.
1. Goal and Scope	Method used to calculate land-use change impacts, when applicable	req		Appendix B for relevance determination; indirect land use change is not required. If included, should be reported separately.
1. Goal and Scope	Scope exclusions, with justification	req		
1. Goal and Scope	Time period of validity, including date of publication	req		
1. Goal and Scope	Type of critical review, if any	req		
2. LCI	Description of life cycle stages	req		
2. LCI	Description of use scenario	req		
2. LCI	Description of end of life scenario	req		



2. LCI	Process map including attributable processes in the inventory	req		
2. LCI	Data collection information, including data sources	req		shall use primary data for direct controlled processes
2. LCI	Description of data	req		
2. LCI	Primary data shall be used for processes under the control of the reporting org	req		
2. LCI	Secondary data shall be justified and documented with references	req		
2. LCI	Description of any assumptions	req		
2. LCI	Assessment of data quality, characterized by both quantitative and qualitative	req		
2. LCI	Allocation procedures, including co-products and recycling allocation	req		Avoid if possible.
3. LCIA	Results in mass of CO ₂ e per functional or declared unit	req		
3. LCIA	GHG values:	req		



3. LCIA	Absolute values by life cycle stage	req		
3. LCIA	Relative values by life cycle stage	req		
3. LCIA	Net fossil GHG emissions and removals	req		
3. LCIA	Biogenic GHG emissions and removals separately	req		
3. LCIA	GHG emissions and removals from dLUC separately	req		
	Not including weighting factors, offset, avoided emission	req		
3. LCIA	Amount of carbon contained in the product that isn't released during EOL, when applicable	req		
3. LCIA	For CtG inventories, amount of carbon contained in the intermediate product	req		
4. Interpretation	Qualitative statement on inventory uncertainty	req		Use profile, EOL profile, allocation methods, recycling allocation methods, GWP, and models

4. Interpretation	Disclosure and justification of value choices made	req		
4. Interpretation	Disclaimer stating the limitations of various potential uses of the report including product comparison	req		

Senior Program Specialist

Signature:

Senior Management Signature: