

Planet FWD Carbon Neutral Product Protocol

1. Introduction

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Planet FWD's Carbon Neutral Product Protocol for products is designed to help brands achieve carbon neutrality for products by taking the following steps:

- Calculating greenhouse gas emissions in alignment with the GHG Protocol (cradle-to-grave for final products, cradle-to-manufacturing gate for intermediate products)
- Establishing a plan for climate action that is specific, verifiable, and timebound
- Offsetting unavoidable emissions with carbon credits that meet Planet FWD's criteria for additionality, quantification, permanence, registration, and social and environmental impacts
- Communicating carbon neutrality commitments in keeping with Planet FWD guidelines to support transparency and prevent consumer confusion in carbon labeling.

To obtain certification for Carbon Neutral Products, entities must complete Carbon Neutral requirements set forth in this protocol and agree to Planet FWD terms and conditions. This includes notifying Planet FWD of any changes in operations that may affect its certification, such as significant changes to unit volumes or processes. Entities completing the requirements will be issued a certification letter for a specified period of time, either annually or for a shorter period. Misuse of the Planet FWD certification mark will result in immediate revocation of Entity's right to display the mark.

Protocol Development

The protocol was developed by Planet FWD to support brands in becoming carbon neutral, taking action to improve their climate impact, and communicating their commitment to consumers.

The protocol is developed by Planet FWD and under review by Planet FWD's Advisory Panel composed of industry experts and practitioners. The protocol is reviewed periodically and updated to reflect changes in international standards and business practices. Comments and feedback can be directed to support@planetfwd.com and will be considered for subsequent updates. Updates to the protocol do not affect certifications issued in accordance with previous versions of the protocol, but may apply to annual certification renewals.

About Planet FWD

Planet FWD is the leading carbon management platform for consumer companies to tackle climate change. Leveraging the largest LCA database for agricultural production systems for North America, the company helps brands to measure, reduce, and offset their carbon emissions. Planet FWD's core technology has robust Scope 3 emissions modeling capabilities, making it the best solution in the market for consumer brands where more than 85% of emissions come from the supply chain.

2. Subject Definition

The subject of the Planet FWD carbon neutral declaration must be clearly defined with the following:

- **Entity** making the declaration
- **Name and description of subject** (name and description of product(s), company, or division and any specifics necessary for clear definition of the subject). Carbon Neutrality can only be claimed for the listed subject, and may not be claimed for broader entities related to the subject.
- **Boundaries of the subject** (e.g. cradle-to-grave)
- **Unit(s) of analysis** for products (e.g. package sizes and types)
- **Period of Validity** (dates for which carbon neutrality declaration and commitment are valid)

Boundaries for Final and Intermediate Products

Boundaries for products must be determined according to the GHG Protocol:

- The boundary for final products shall include the complete lifecycle, from cradle-to-grave
- For intermediate products, if the function of the final product for which the Intermediate product is an input is not known, the boundary is defined as cradle-to-manufacturing gate and would exclude distribution and storage, use, and, and end-of-life.

Period of Validity

Entities must commit to achieving carbon neutrality for the previous time period (if applicable), and to maintaining carbon neutrality in the current time period. The period of validity must be a specific 12-month period that is aligned with the data provided for both the product LCA and unit quantities.

In accordance with industry standards, carbon neutrality for existing products is made retrospectively, based on validated data, such that declarations are not extrapolated. Entities actively engaged in recertifying for a subsequent period may be granted up to 3 additional months beyond the initial 12 month period to complete recertification.

For new products, carbon neutrality is established with a combination of unit production forecasts and baseline product LCA data representative of first year production and use. Offsets are purchased in accordance with this forecast and then reconciled based on validated data at the end of the time period. Entities must notify Planet FWD within one month if production exceeds forecast by more than 20%. If offset purchases are not reconciled with unit production within 3 months of the initial 12 month period, certification for the entity will be revoked.

3. LCA Calculation Methodology

To ensure consistency in life cycle assessments across all Planet FWD carbon neutral products, greenhouse gas emissions life cycle assessments use are cradle-to-grave assessments using Planet FWD's CarbonScopeData life-cycle inventory (LCI) database and aligned with the following standards:

- Greenhouse Gas Protocol Product Life Cycle Accounting and Reporting Standard (2011)
- ISO 14040:2006 and ISO 14044:2006 Environmental Management - Life Cycle Assessment Principles and Framework and Requirements and Guidelines

Emissions Sources and Boundaries

Products shall include emissions from the following processes:

- Material Acquisition and Pre-processing
 - Embodied emissions of raw materials, raw materials processing, and inputs to production and downstream packaging, including secondary packaging for distribution where applicable
 - Inbound transportation of raw materials
 - *Packaging of raw material may not be excluded if estimated to be insignificant (<1% of total footprint).
- Production
 - Emissions from energy usage
 - Direct emissions from outputs of manufacturing processes
 - Emissions from transport and management of waste generated during the manufacturing process
 - *Does not included embodied emissions of manufacturing equipment
- Distribution and Storage
 - Transportation of finished product to warehouse and retail outlets
 - Emissions from energy usage
 - Refrigeration and refrigerants used in product storage and transportation
 - Emissions from transport and management of waste generated during distribution and storage
- Use
 - Emissions from product use by end user
 - Emissions from transport and management of waste generated during product use
- End-of-Life
 - Emissions from collection, transport, and end of life management of product and/or packaging

For processes outside of the direct control of the entity making the declaration, best practice is to engage suppliers to collect primary data and collaborate on emissions reduction opportunities. If this is not practicable, secondary data from literature, industry averages, proxies etc. may be used for calculation.

Data Requirements and Transparency

Primary Data

For emissions directly under company control (Scope 1 and 2 emissions for Corporate GHG inventories under the GHG Protocol), primary activity data must be used. In addition, where primary data is available and relevant it should be used in preference to secondary data. The data should be reviewed by the reporting company to ensure the best quality data available. The time period of primary data should match the dates specified for declarations of achievement of carbon neutrality.

Secondary data

Secondary data may be used for activities not directly under company control (Scope 3 emissions for Corporate GHG Inventories), in accordance with the GHG Protocol. Secondary data may include industry averages, data from proxies, and other external sources.

Assumptions and documentation

Any assumptions made in calculation must be clearly documented and made publicly available upon request.

Materiality

The total quantified carbon footprint shall cover at least 95% of emission from the subject. Emissions sources estimated to constitute less than 1% of total subject emissions may be excluded, provided the total of estimated sources excluded is less than 5% of total emissions.

Allocation Methodologies

Planet FWD uses an attributional approach for carbon accounting, as laid out within ISO 14067 and the GHG Protocol. The attributional approach calculates the carbon impact of the individual components of the product, such as individual ingredients and packaging materials, which are then compiled to develop the final emissions value for the overall product. The result estimates the share of global emissions that belong to the product.

Planet FWD carbon assessments allocate resource use and emissions between co-products by using mass-weighted economic value or a biophysical measure (such as mass, energy or nutrition content) as appropriate. Mass-weighted economic value has proven to be the most reliable method of allocation in many real-world scenarios, particularly for product systems that produce highly dissimilar co-products, and is the preferred method for allocation, when possible.

Recycling is modeled using the "recycled content" method which allocates the costs and benefits of recycling to the input side of product systems; the system boundaries are drawn such that the system that produces the recyclable waste is responsible up to the point of delivering the waste to a recycling facility, and then any subsequent transport, processing and use of that material is included within other systems that use the material in some form.

Planet FWD Data Sources

Data obtained from external data sources include both activity data and emission factors. Activity data characterize the life cycle of a product/process by accounting for all material and energy inputs consumed, material and energy outputs generated, transport, storage, and waste outputs generated throughout the life cycle. Emission factors are then used to translate this process activity data into GHG emissions, covering both energy-related and non-energy-related GHG emissions (CO₂, as well as other significant non-CO₂ greenhouse gas emissions). Variations due to different production methods and geographical regions are preserved as much as possible in the database. The updated list of Planet FWD's data sources is available at <https://www.planetfwd.com/standards>.

4. Carbon Neutral Commitments

Entities must commit to achieving carbon neutrality for the previous time period (if applicable), and to maintaining carbon neutrality in the current time period.

Achieving Carbon Neutrality

To achieve carbon neutrality, the following must be evaluated by Planet FWD on an annual basis:

For initial certification and subsequent time periods:

- Carbon footprint for the subject, including completeness of data in accordance with GHG Protocol and completion of sensitivity analysis for uncertainty and variability
- Unit volume data for prior time period (for existing products) or forecasted time period (for new products)
- Emissions Reduction Targets and Climate Action Commitments for subsequent time periods that are specific, verifiable, and timebound. These targets and commitments are in addition to the purchase of carbon credits).
- Purchase of carbon credits in accordance with Section 5 (Carbon Offsets) of this protocol

For subsequent time periods only:

- Evaluation of changes to GHG emissions from baseline year, either absolute emissions reduction or reduction in emissions intensity.
- Evaluation and reporting of progress toward achieving Emissions Reduction Targets and Climate Action Commitments

Ongoing commitment to carbon neutrality includes the commitment to review and refresh data and calculations, evaluate achievement of emissions reduction targets and climate action commitments, and purchase offsets for any unavoidable emissions during each subsequent period. **During the commitment period, the entity must notify Planet FWD of any changes in operations that may affect its certification, such as significant changes to unit volumes or processes.**

Emissions Reduction Targets and Climate Action Commitments

Each entity committing to carbon neutrality must review Emissions Reduction and Climate Action Opportunities provided by Planet FWD and commit to a set of actions that are specific, verifiable, and timebound.

The purpose of reviewing these opportunities is to inform entities of potential actions they can take to reduce emissions from their product or to affect the larger ecosystem. The purpose of targets and commitments is for entities to prioritize emissions reduction and other climate actions over offsets.

Recognizing that entities may find limited opportunities for emissions at the individual product level, Planet FWD also encourages entities to take action with company and ecosystem opportunities that may not result in measurable emissions reductions at the product level.

Planet FWD categorizes these opportunities, estimates the potential impact of these reductions, and categorizes them with different action requirements, as follows:

High Impact opportunities (> 5% of total emissions)	→ Commit to take action - evaluate feasibility and acquire primary data <i>These may include working with suppliers on emissions reduction opportunities, or potentially switching suppliers, and may take some time to implement. We share them with you, so that you can share them with your partners, and we create more demand for change, together.</i>
Lower Impact opportunities (<5% of total emissions)	→ While these may have limited impact, you may choose to take action <i>Estimated emissions reductions may not be material when evaluated with primary data.</i>
Product Format Changes	→ Consider developing a different SKU with lower emissions <i>Format changes such as a larger size or concentrated formulation would not be emissions reductions for this SKU, but could reduce overall company emissions. Estimates are indicative of potential changes, but a full LCA would be required to confirm.</i>
Ecosystem opportunities	→ While these are not measurable, you may choose to take action <i>Some actions, such as engaging with suppliers for additional data, policy advocacy, or consumer engagement about end-of-life behavior, may not be measurable reductions.</i>

Entities committing to carbon neutrality review these opportunities and submit a set of commitments for Planet FWD to review and share on planetfwd.com.

As part of annual carbon neutral commitment renewal, these commitments are evaluated for progress, additional opportunities are provided where applicable, and additional commitments may be made. After a period of two years, if no actions have occurred, Planet FWD will reevaluate the validity of the carbon neutral certification based on an assessment of feasible actions and market benchmarks.

Climate Action Opportunities and Emissions Reductions Calculation Methodology

Planet FWD provides estimates of emissions reductions for climate action opportunities and verifies reduction numbers for reported emissions reductions.

The same methodology must be used for baseline emissions and for quantifying changes from the baseline. If alternative data or methodology become available that reduces uncertainty and yields more accurate, consistent, and reproducible results, then the baseline may be recalculated with the alternative data or methodology, for comparison purposes.

In addition to the baseline methodology in *Section 3 LCA Calculation Methodology*, the following methodology is employed for climate action opportunities and verified emissions reductions:

- **Estimates** may be based on approximations or standard industry data. **Reported reductions** must be based on primary data from the entity and include specification of type, amount (absolute or emissions intensity), and time period of reductions.
 - **High impact opportunities (>5% of total emissions):** Estimates may be used in initial years. Entities should provide primary data for these opportunities where possible, and must provide primary data for any committed action that is expected to result in emissions reductions.
 - **Lower impact opportunities (<5% of total emissions):** Estimates may be used in initial years. Entities must provide primary data for any committed action that is expected to result in emissions reductions.
 - **Product format:** Estimates are based on significant assumptions. A full LCA must be conducted for a new product format based on actual data.
 - **Ecosystem opportunity changes:** Impact may not be quantifiable. Any estimates provided are to illustrate the potential scale of such a change. The entity can not claim these as specific emissions reductions, but estimates can be used to communicate relative impact to consumers.
- Each of the product's highest emission sources is evaluated against a list of potential emissions reduction opportunities. Opportunities applicable to the product are estimated using available industry information. Any assumptions must be clearly documented and made publicly available upon request.
- Potential reductions from any emissions reduction opportunity are calculated according to the same standards and methodologies described in section 3. The impact of changing anything about the product is calculated within the system boundary, using the same quality of data, and allocation method when applicable as the baseline calculation.
- Emissions reductions calculations focus on direct replacement of the input in the baseline with a single alternative in the possible solution. The delta between those two scenarios (baseline and opportunity) should stop at that system boundary and, unless otherwise stated, does not include additional assumptions about how a direct replacement may impact other aspects of the product or its life cycle. Additional assumptions must be stated explicitly and should not be made without primary data or direct evidence of impact.

5. Carbon Offsetting

For products to claim carbon neutrality through carbon credits, the following steps must be completed:

- Entity must provide product unit volume (sales) for the specified time period
- Planet FWD confirms the total number of carbon credits that must be purchased to offset production emissions for the specified time period.
- Entity must purchase carbon credits from providers reviewed and approved by Planet FWD to meet the criteria below, and provide proof of purchase to Planet FWD.

Criteria for Carbon Credits

Planet FWD evaluates carbon credits used to achieve carbon neutrality to ensure that they adhere to the following criteria:

- **Real and Additional** - Emissions reductions claimed through the purchase of a carbon credit would not have occurred outside of the direct investment into the project. Projects have no revenue or cost savings other than carbon market revenues (projects may provide certain community benefits that may have some economic value but not enough to justify the project without carbon credit sales).
- **Quantifiable and Transparent** - Emissions reductions from the project can be quantified and verified against a baseline year. The quantification, monitoring, and verification of reductions ensure that the reductions promised are actually achieved. Projects where **leakage** or indirect effects cannot be accounted for (e.g. forest management) do not meet this criteria.
- **Addressing Permanence** - GHG reductions must address permanence. Carbon credits that carry a risk of reversal must carry buffer reserves that account for heightened risks of natural disturbances and sufficient monitoring for tracking of reversals.
- **Independently verified, registered, and retired** - Emissions reductions must be **verified** and **registered** by an independent, certified third-party verifier. They must be **retired** to an independent and credible registry within 12 months from the delivery or purchase of the carbon credits. This addresses double counting of credits for individual entities but does not account for host country double-counting. Carbon credits may be verified and registered under the following schemes: Verified Carbon Standard (VCS), Gold Standard, Climate Action Reserve (CAR), American Carbon Registry (ACR), Clean Development Mechanism (CDM).
- **Environmental and Social Impacts** - Credits are screened to avoid programs that cause social and environmental harms and support programs that generate benefits beyond GHG emissions. Credits with co-benefit certifications are strong candidates for avoiding harms. This screening highlights projects that improve climate adaptation and resilience and support the poorest and most vulnerable affected by climate change.

Carbon Offsets for New Products

Planet FWD supports forward-looking declarations of carbon neutrality for new products. For new products only, entities must provide an estimate of unit volume for the specified time period. Carbon credits must be purchased for this estimated volume prior to any claim of carbon neutrality.

Actual unit volume and production data is verified at the end of this period and reconciled. If previously purchased carbon credits are lower than actual emissions, additional carbon credits must be purchased to fulfill carbon neutrality. If previously purchased carbon credits are higher than actual emissions, entities may choose to apply these credits to carbon neutrality claims for subsequent time periods.

If the entity does not purchase additional necessary carbon credits within 1 month of the reconciliation period, Planet FWD will purchase offsets on behalf of the entity and bill the entity accordingly.

6. Communications Guidelines

Planet FWD communications guidelines are designed to support transparency and prevent consumer confusion in carbon labeling. Misuse of the Planet FWD certification mark will result in immediate revocation of Entity's right to display the mark.

Planet FWD Carbon Neutral Mark

The Planet FWD Carbon Neutral mark may only be used upon meeting the full requirements outlined in this document. Usage of the mark shall conform to Planet FWD Carbon Neutral Mark Usage guidelines, which are provided upon completion of carbon neutral requirements. **Packaging and other marketing materials displaying the mark must be submitted to Planet FWD for review of appropriate usage and context.**

Statements Regarding Carbon Neutrality

Any marketing communications about carbon neutrality should be consistent with the subject definition (section 2) and should reference Planet FWD to enable access to more detailed information at www.PlanetFWD.com/carbon-neutral.

All communications regarding carbon neutrality must be factually based and should be clear and transparent to avoid confusion or misinterpretation. To promote transparency, communications should specify the subject (e.g. product that is now carbon neutral for the current year) and the scope (e.g. cradle-to-grave) where possible. Sharing carbon footprint information, specific reduction plans, and carbon credit standards is also highly encouraged.

If only the products have been certified, any communication about carbon neutrality should specify that the products are carbon neutral. Communications should not state that the entire brand or company is carbon neutral.

The entity being certified is responsible for ensuring that statements are factual and consistent with any national or regional guidance or legislation on green claims.

Accessible Information

The following information shall be readily accessible to consumers, either by referring to planetfwd.com or to a similar website that contains the required information:

- Entity making the commitment (e.g. company name)
- Subject of the commitment (e.g. product name)
- Time period of valid certification (e.g. dates)
- Scope (e.g. cradle to gate)
- Calculated carbon footprint (e.g. kg CO₂e per product or overall)

- Summary of emissions reduction plan
 - Summary of offset standards and credits purchased
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For definition of terms, please refer to the Glossary of the Greenhouse Gas Protocol Product Life Cycle Accounting and Reporting Standard.

Comments and inquiries are welcome at support@planetfwd.com.