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The CarbonNeutral Protocol 2024

The clear, credible, and transparent framework for carbon neutral programs



Climate Impact Partners works with and supports
the following internationally recognized bodies:



Cover photo

Mississippi Valley Reforestation, USA: Carbon finance has helped GreenTrees become the largest reforestation initiative in the United States, working with farmers to plant trees on their land. Photo Copyright of GreenTrees, 2024.

About Climate Impact Partners

Climate Impact Partners is a leader in developing and delivering high-quality, high-impact carbon market solutions for climate action.

For more than 25 years the company has worked with climate-leading businesses to support more than 600 projects which reduce carbon emissions, improve health and livelihoods, and protect and restore biodiversity.

Through its quality-first approach, Climate Impact Partners' clients are able to achieve ambitious climate targets, meet net zero goals, and deliver real impact.

Awards

Climate Impact Partners has been recognized in Environmental Finance's Voluntary Carbon Market Rankings every year since 2011, including winning the Best Offset Retailer eleven times, Best Advisory Service, and Best Project Developer award categories.



Summary of clarifications published in April 2024

Section 2.5.2: Treatment of Energy Attribute Certificates (EAC) in Scope 3 emissions

- Minor language edits to clarify that for 'product' and 'product-as-a-service' certifications, all remaining emissions from electricity usage during the use phase of a product must be covered by EACs and where that is not possible, using carbon credits.

Section 3.4: Net zero targets

- Updated wording referencing the now-published Science-Based Targets Initiative's (SBTi) Beyond Value Chain Mitigation (BVCM) report. The change reflects the more specific recommendation that organizations purchase carbon credits equal to at least 50% of unabated value chain emissions annually on the pathway to net zero to support global efforts to achieve net zero.

Section 4.1: Internal abatement requirements

- Minor language edits to clarify that where organizations have not met any of the below criteria, that it must publicly explain whether and how it considers itself on track to achieve its near-term science-aligned target and publicly disclose planned and ongoing corrective actions it is taking to ensure that emissions reductions will be achieved in subsequent years.

Criteria:

- Have demonstrated an emissions reduction vs. the baseline year
- Have demonstrated an emissions reduction vs. the prior year
- Consider itself on track to achieve its near-term science-aligned target.

Section 4.2.1.2, Table 11: Approved Energy Attribute Certificate (EAC) Standards

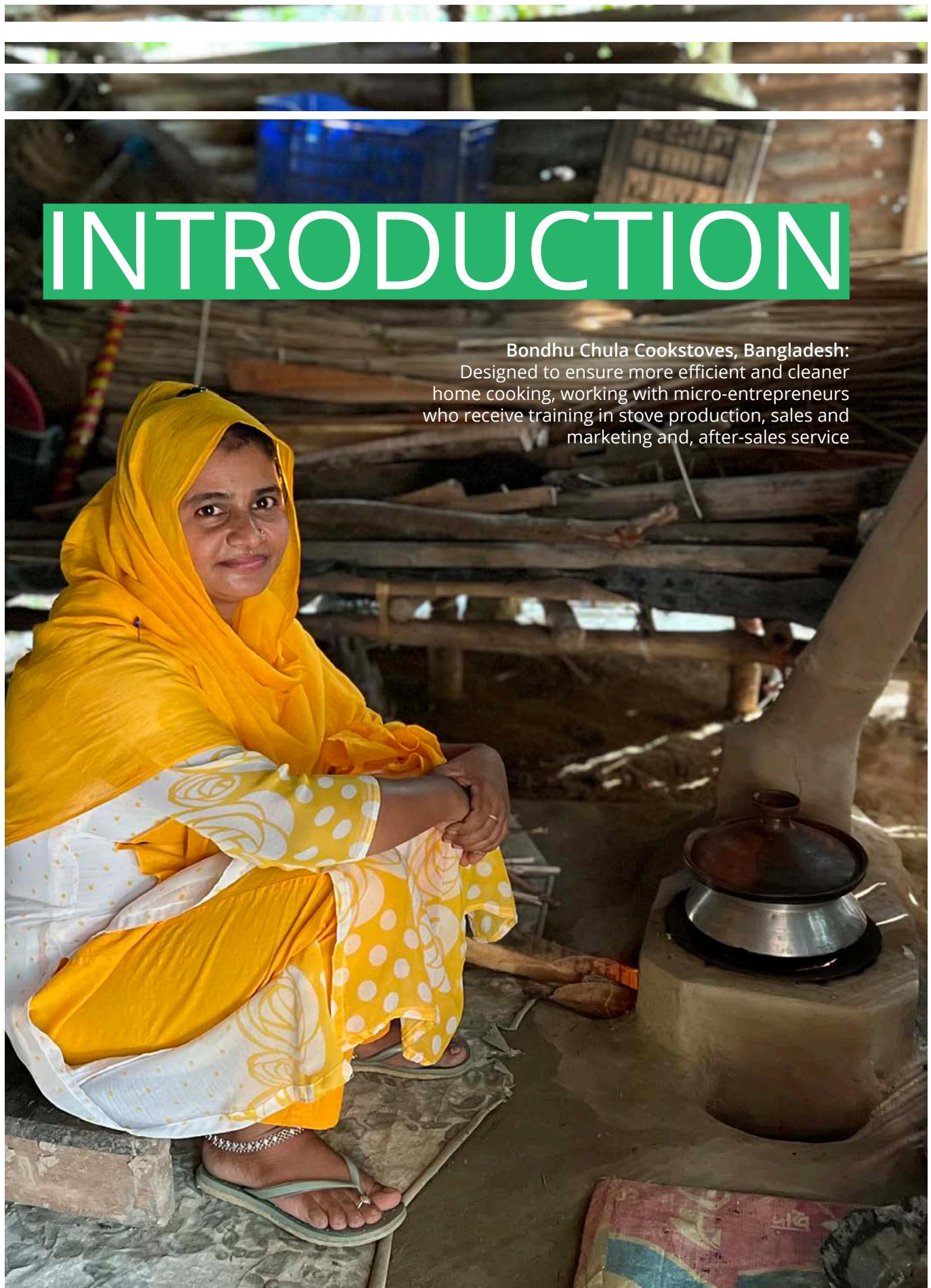
- Expansion of allowed Japanese EAC standards
- Corrected name of New Zealand's Approved standard/Governing body.

'Carbon neutral' definition

- Minor language edits to clarify that all remaining emissions, after reduction efforts, are offset for carbon neutrality.

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INTRODUCTION

Bondhu Chula Cookstoves, Bangladesh:

Designed to ensure more efficient and cleaner home cooking, working with micro-entrepreneurs who receive training in stove production, sales and marketing and, after-sales service

The CarbonNeutral Protocol: A framework for Climate Responsibility

For over two decades, The CarbonNeutral Protocol has played a critical role in enabling organizations to make claims about their climate strategies and programs. The Protocol provides a clear, credible and transparent framework for carbon neutral programs and a certification logo to demonstrate when that framework is adopted.

The CarbonNeutral Protocol was developed to ensure that corporates taking action ahead of regulatory requirements are able to report those in a way that recognizes their ambition. This 2024 version of The CarbonNeutral Protocol continues our process of annual revisions to embrace and promote evolving best practice.

Introducing The CarbonNeutral Protocol 2024

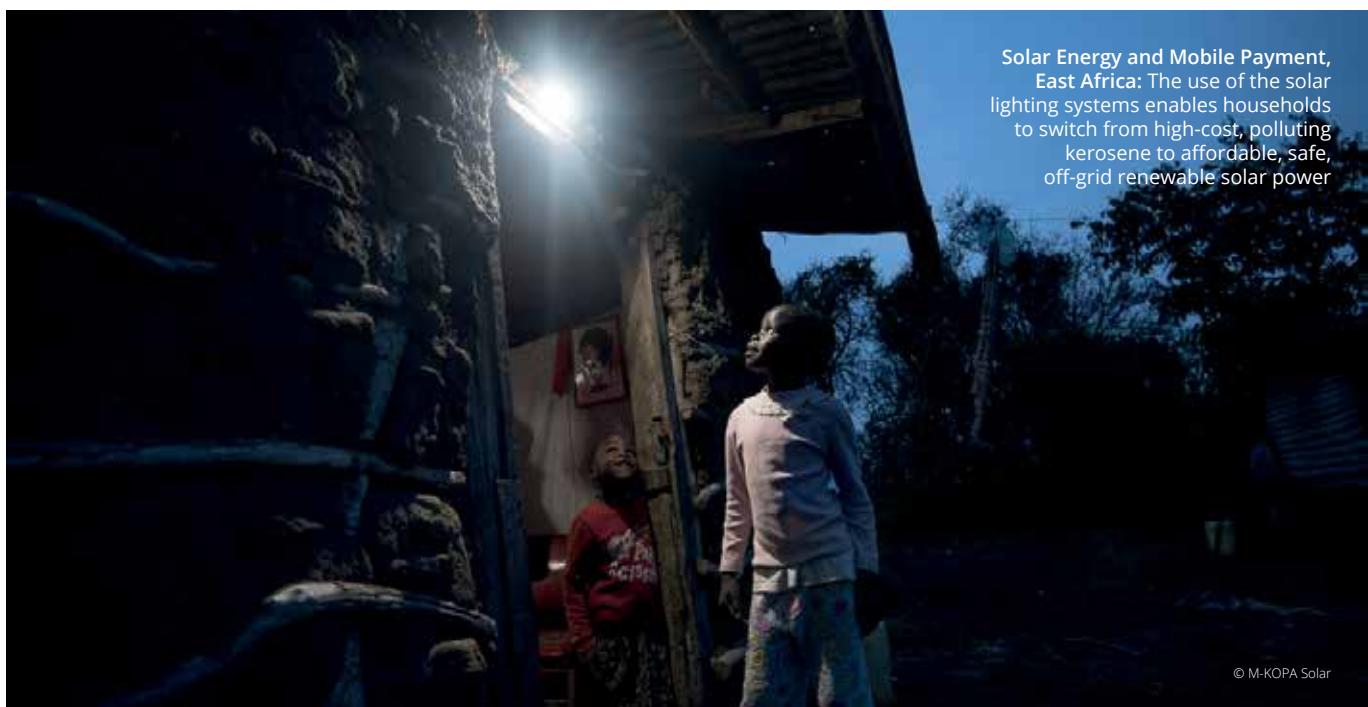
We are pleased to present this 2024 edition of The CarbonNeutral Protocol. First developed and published in 2002, the Protocol is revised and updated annually to reflect developments in climate science, international policy, standards and business practice. It is an open access standard and guide developed for business, by business that draws together leading independent standards for greenhouse gas (GHG) accounting into a practical guide to carbon neutrality.

It underpins CarbonNeutral® certifications awarded by Climate Impact Partners to recognize carbon neutral organizations, products and activities, and provides a detailed framework for the design and implementation of credible carbon neutral programs.

Purpose

The CarbonNeutral Protocol is designed for:

- **Businesses and organizations** – To understand what is required to develop a credible carbon neutral program and to achieve CarbonNeutral® certification
- **Technical partners** – To ensure Climate Impact Partners' technical partners (e.g. GHG assessors) understand what is required of them so that their services are consistent with the requirements of each CarbonNeutral® certification
- **The wider "Climate Action Community"** – To encourage partnerships amongst business, NGOs, policy-makers, regulators, and civil society to promote high standards for carbon accounting and the offsetting of greenhouse gas emissions



Introduction

The CarbonNeutral Protocol has been developed as a set of requirements to provide organizations with a single-source guide to achieve technical carbon neutrality. As third-party standards are developed, The CarbonNeutral Protocol aims to provide a framework which builds upon the best technical guidance in the market.

Principles

Three principles are the foundation for CarbonNeutral certifications:

1. Promote immediate action to support deeper and widespread transformation

Carbon neutrality is the action taken immediately by an entity to fully compensate for the global warming impact from its GHG emissions. Transformation to a sustainable and resilient net zero economy is accelerated by carbon neutrality as entities act ahead of and beyond regulation. Carbon neutral entities reduce emissions under their direct control and enable mitigation activities elsewhere that require finance to deliver progress in line with the UNFCCC's goals and contribute to the UN's Sustainable Development Goals.

2. Built on conservative estimation, best practice, transparency, and continuous improvement

Entities that are certified use the CarbonNeutral® logo as a credible marker of climate action when communicating their voluntary climate activities to key stakeholders. Entities commit to disclosing the basis of their claims – including GHG emission inventories, management processes, methodologies, standards and protocols that deliver carbon neutrality in accordance with the requirements of The CarbonNeutral Protocol – and accept that these requirements may change to align with emerging best practice.

3. Committed to pragmatism and impact

Achieving carbon neutrality is an actionable, understandable, and pragmatic response that can be adopted by any entity to meet its climate objectives and play a meaningful role in driving the transition to net zero across the global economy. The CarbonNeutral certification logo enables entities to communicate their commitment to technical carbon neutrality to key stakeholders so they may be recognized and rewarded for their progressive action.

These principles guide the development and application of The CarbonNeutral Protocol, particularly when the application of The CarbonNeutral Protocol's requirements to specific issues or situations is ambiguous or unclear. When specific circumstances arise where the application of The CarbonNeutral Protocol's requirements would not align with the intent of the principles, Climate Impact Partners reserves the right to amend the requirements of The CarbonNeutral Protocol to ensure the integrity of the The CarbonNeutral certification.

Structure of The CarbonNeutral Protocol

High-level requirements for achieving CarbonNeutral® certification are set out in the Core Requirements section of this document. More detailed requirements are set out in the Technical Specifications that follow it. Detailed advice and clarification on selected topics can be found in the subsequent Guidance.

The term "must" is used in this document to indicate a requirement of the Protocol. The term "must not" indicates prohibited actions. The term "should" is used to indicate a recommendation, but not a requirement.

Development of The CarbonNeutral Protocol

The CarbonNeutral Protocol undergoes an annual development cycle which involves input from multiple stakeholders.

Climate Impact Partners' Advisory Council¹ is consulted on development priorities within the annual revision cycle. In addition, we consult with certified companies, our assessment partners, and other sustainability leaders and environmental NGOs.

Climate Impact Partners also invites and encourages input from clients and others with an interest in carbon neutrality. Suggestions for development priorities for subsequent versions of The CarbonNeutral Protocol should be sent to Climate Impact Partners at business@climateimpact.com.

Based upon our experience and understanding of changing client needs, developments in the market for climate solutions and guidance from our Advisory Council, material changes to The CarbonNeutral Protocol in this 2024 version include:

- Updated requirement for the annual measurement, estimation or evaluation of the entities organizational GHG inventory (**Technical Specification 2.3**)
- Updated requirement for organizations to set a near-term science-aligned reduction target (**Technical Specification 3.2**)
- Updated requirement for achievement of internal emissions reductions requirement (**Technical Specification 4.1**)
- Updated guidance on corresponding adjustments under the Paris Agreement (**Guidance 4.8**)
- Updated Approved Environmental Instrument Standards (**Table 10** and **Guidance 4.2**)
- Updated requirements for disclosure of GHG inventories, internal abatement targets and strategies, and use of carbon credits (**Technical Specification 5.1**)

¹ www.carbonneutral.com/who-we-are/advisory-members

Introduction

Relationship to other initiatives

The CarbonNeutral Protocol is both influenced by and contributes to the evolution of best practices in the areas of measurement and monitoring of GHG emissions and the design and certification of emission mitigation projects. These are critical to The CarbonNeutral Protocol's evolution and The CarbonNeutral Protocol's experience of being used as a framework for climate action around the world makes it a key point of reference.

A comparison of the requirements of The CarbonNeutral Protocol alongside main third party claims, certifications and standards is published by Climate Impact Partners in its [Climate Action Protocol](#).¹

Concerning how The CarbonNeutral Protocol relates to other GHG measurement initiatives, The CarbonNeutral Protocol is aligned with the GHG Protocol Corporate Standard (including the separate Guidance on Scope 2 and 3 accounting), the GHG Protocol Product Standard, ISO standards for Life Cycle Assessment and Carbon Footprinting, and the principles of the BSI PAS 2050 standard for products and services.

Concerning how The CarbonNeutral Protocol relates to initiatives around the design and certification of emission mitigation projects, The CarbonNeutral Protocol is both influenced by and contributes to the evolution of: [ICROA's Code of Best Practice](#); [Integrity Council for the Voluntary Carbon Market \(IC-VCM\)](#).

Concerning how The CarbonNeutral Protocol relates to wider corporate environmental initiatives, the Protocol recognizes the importance of taking action that is appropriate and proportionate to the range and scale of a client's sustainability impacts. CarbonNeutral® certifications by definition are focused on climate impacts. Clients should assess their material environmental, social, and economic impacts and take action related to these impacts. Clients should use internationally recognized management standards, appropriate to the scale of their impacts, to identify and manage their key impacts. Such management standards include but are not limited to the ISO 14000 and ISO 9000 series.

Acknowledgements

Climate Impact Partners is solely responsible for the development and deployment of The CarbonNeutral Protocol as an open access standard. However, we wish to acknowledge and thank our clients, members of our Advisory Council, and the many organizations and individuals that have encouraged, supported and shared their expertise with us during the development of The CarbonNeutral Protocol since it was first launched in 2002.

We could not have done our work without their invaluable help.

Solar Water Heating, India:
Carbon finance enables the use of solar technology to meet the energy needs of a growing population while promoting low carbon development



¹ <https://www.climateimpact.com/climateclaims>

Introduction

Definition and scope

The CarbonNeutral Protocol is a technical framework for achieving CarbonNeutral® certification, privately developed by Climate Impact Partners. It aims at helping organizations understand what is required to achieve CarbonNeutral® certification.

If an organization, product or activity is assessed and considered as meeting the technical criteria set in the CarbonNeutral Protocol, said organization, product or activity will benefit from a personal, revocable, limited license to use the trademark CarbonNeutral® for one year, as further defined in the applicable license agreement.

The CarbonNeutral Protocol provides a framework of best practice measures, supported by principles of conservative estimation, transparency, continuous improvement, pragmatism, impact and immediate action. There are alternative options for corporates to talk about their climate action efforts, which organizations should consider in their decision making and which may be more appropriate for some organizations depending on their individual priorities, the nature of their operations, and their geographical footprint. The Climate Action Protocol provides information and guidance on alternative claims.

Use

The benefits and use of The CarbonNeutral Protocol and the CarbonNeutral® certification are subject to the terms and conditions of agreements entered into between Climate Impact Partners and organization that are seeking to be certified, which relate to the use of copyright, logos and trademarks owned by Climate Impact Partners, among other matters.

CarbonNeutral® licenses granted are limited in time and subject to annual review and assessment. Certifications that are made in accordance with previous versions of The CarbonNeutral Protocol are not retroactively affected by subsequent changes to The CarbonNeutral Protocol until the end of the contractual certification term. In practice, this means that the version of The CarbonNeutral Protocol applicable to a certification is the version as of the date when the contract for certification of the relevant subject is signed. However, organizations are encouraged to apply the latest version of The CarbonNeutral Protocol.

All communications and branding relating to a client's CarbonNeutral® certification must be factually based, and consistent with the CarbonNeutral® certification achieved. Climate Impact Partners strongly recommends that organizations regularly seek legal advice to ensure such communications and branding are and continue to be in compliance with all applicable laws and regulations, and meet the evolving expectations of regulatory agencies and consumers.

Following publication of a new version of The CarbonNeutral Protocol, a grace period is permitted for organizations which hold active CarbonNeutral® certification to adapt to new requirements.

The grace period allows for a deferral in incorporating any new requirements introduced in the latest revision to The CarbonNeutral Protocol until the next renewal date of the certification period. The grace period extends until the publication of the subsequent version of The CarbonNeutral Protocol, which is approximately 12 months, and can be applied to certification renewals that begin within this period of time.

Disclaimer

The CarbonNeutral Protocol and corresponding certification assess compliance with the technical requirements developed by Climate Impact Partners, as outlined within relevant version of The CarbonNeutral Protocol.

Achievement of CarbonNeutral® certification means that the subject of the certification is in compliance with technical requirements of The CarbonNeutral Protocol. Continued compliance with the requirements of The CarbonNeutral Protocol for the full certification period is the responsibility of the certified organization.

Achievement of a CarbonNeutral® certification cannot be considered as a validation of the right to make any ESG claims under any jurisdiction and cannot be considered as a legal opinion. The expectations of consumers and the regulatory framework in relation to ESG claims are rapidly evolving. Climate-related claims are increasingly regulated by national and supra-national laws, which may impose additional restrictions, requirements and disclosures beyond the requirements of The CarbonNeutral Protocol and CarbonNeutral® certification. To find out general information about relevant laws and regulations across any jurisdictions please refer to <https://www.climateimpact.com/climate-claims-regulation-tracker>.

This information is intended as a general resource for guidance purposes only and does not constitute legal advice, nor is it a complete and comprehensive list of all applicable laws and regulations. It is the responsibility of the certified organization to ensure compliance with local laws and regulations.

We strongly recommend that you seek legal advice on a regular basis to ensure that the use The CarbonNeutral® logo as a marketing and claims tool is lawful and permitted.

Trademark and copyright

CarbonNeutral® logo is the proprietary trademark of Climate Impact Partners. The copyright notice displayed in this document indicates when the document was last issued.

The CarbonNeutral Protocol is protected under copyright and cannot be adapted, reproduced, modified, distributed in any way and for any purpose.

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Climate Action Protocol

Navigate the complexity to make confident climate claims

Companies are looking for clarity in the climate claims landscape. Climate Impact Partners, leaders in the voluntary carbon market, have developed a resource bringing together the leading carbon credit related claims, and helping companies work through them.

Protocol - comparing the requirements of leading carbon credit related claims

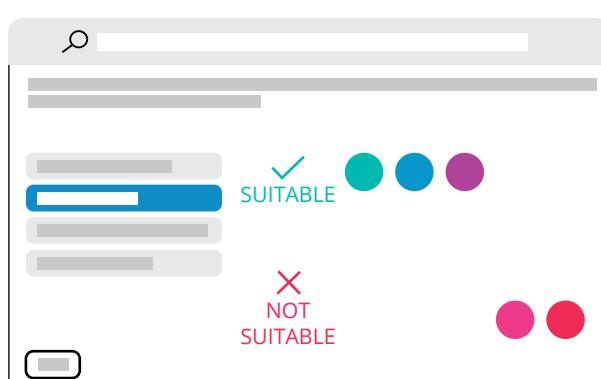
	Green	Blue	Purple	Pink	Red
1	✓	✓	✓	✓	✓
2	✗	✓	✓	✓	✗
3	✓	✗	✓	✗	✓
4	✗	✗	✓	✓	✗
5	✗	✗	✓	✗	✗

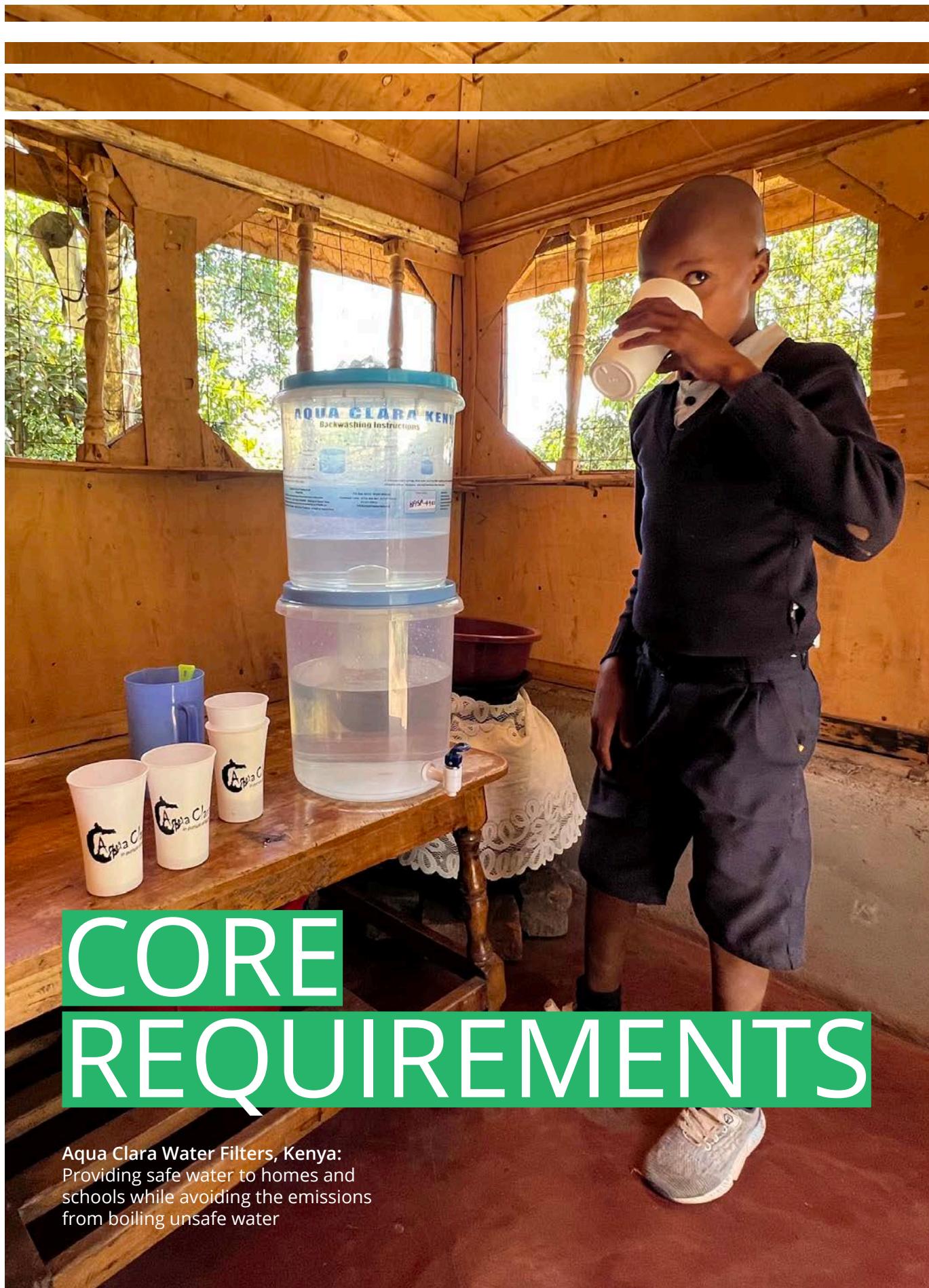
**[climateimpact.com/
climateclaims](http://climateimpact.com/climateclaims)**



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**CLIMATE
IMPACT
PARTNERS**

Digital tool - giving guidance on which claims are likely to be best suited to a company





CORE REQUIREMENTS

Aqua Clara Water Filters, Kenya:
Providing safe water to homes and schools while avoiding the emissions from boiling unsafe water

Introduction to Core Requirements

Governance

An organization making use of certification should establish appropriate governance processes, procedures and controls to enable delivery of its broader environmental and social goals. Strong governance starts with leadership putting the right frameworks in place; the integration of climate considerations can then trickle down across the organization.

A strong governance framework is developed and defined at the board level, which may include:

- Board engagement, information and reporting to define the company's Environmental, Social, and Governance (ESG) strategy, with climate change and ESG always on the Board's agenda
- ESG performance linked to executive pay and bonuses
- Board structure, independence and diversity
- Dedicated resource and expertise within the organization to deliver on goals

- Effective management of conflicts of interest
- Implementation of a responsible tax strategy
- Building climate targets into financial decisions, including investment decisions
- Reference to double materiality to identify key topics for the organization

Organizations should also consider impacts beyond strictly their GHG emissions within their climate strategies, such as:

- Social impacts and human rights
- Conservation and enhancement of biodiversity and nature
- Just transition and equity

Finally, organizations' communication and public policy advocacy should be aligned with their climate and ESG goals – including the global transition to a low-emissions economy in line with the Paris Agreement.



Aqua Clara Water Filters, Kenya:
Providing safe water to homes and schools while avoiding the emissions from the need to boil unsafe water

Core Requirements

Application of a grace period

Following publication of a new version of The CarbonNeutral Protocol, a grace period is permitted for organizations which hold active CarbonNeutral® certification, to adapt to new requirements.

The grace period allows for a deferral in incorporating any new requirements introduced in the latest revision to The CarbonNeutral Protocol until the next renewal date of the certification period. The grace period extends until the publication of the subsequent version of The CarbonNeutral Protocol, which is approximately 12 months, and can be applied to certification renewals that begin within this period of time.

Where an organization has been awarded a certification type which does not have a defined period and expiry, such as a CarbonNeutral event, the grace period is permitted where a certification of the same type was awarded within the 12 months prior to the publication of the current version of The CarbonNeutral Protocol. All organizations are highly encouraged to adopt new requirements immediately, where they are able to do so.

Scheduled changes which have been published and communicated in previous versions of The CarbonNeutral Protocol may not be deferred. This restriction is in place because the intention of the grace period is solely to allow organizations to adapt to previously unknown changes to The CarbonNeutral Protocol and should not be used merely to delay action.

Table 2 shows illustrative examples of the application of the grace period, and allowances for small and medium enterprises.

Allowances for small and medium enterprises (SMEs)

Measuring and reporting on sustainability can be a challenge for any organization.

For small companies, which often have more limited resources, this is especially true. As a result, organizations which hold active certification and are considered an SME, will be permitted one year to comply with the new requirements implemented within this version of The CarbonNeutral Protocol, in addition to the grace period specified above. Illustrative examples of the application of the grace period for SMEs are shown in **Table 2**.

There is not currently one generally recognized definition of what constitutes an SME. Different regulatory agencies and standards around the world maintain different definitions. In order to take advantage of the additional year available to comply with updated requirements, organizations should evaluate themselves as an SME only under an appropriate and aligned standard. For example, an EU-based organization may consider the requirements of the EU Corporate Sustainability Reporting Directive (CSRD) the most appropriate due to geographic alignment and their existing classification for regulatory ESG reporting.

Commonly used and accepted definitions of SMEs are shown in **Table 1**. This list is not exhaustive, so organizations operating outside of these regions should use local regulatory or other relevant, recognized frameworks.



Bondhu Chula Cookstoves, Bangladesh: The Bondhu Chula stove is designed to ensure more efficient and cleaner home cooking, working with micro-entrepreneurs who receive training in stove production, sales and marketing and after-sales service

Table 1: Commonly Used and Accepted Definitions of SMEs

Organization / Framework	Description
US Securities and Exchange Commission (SEC)	Defines a smaller reporting company as an issuer that: <ul style="list-style-type: none"> - Had a public float of less than \$250 million; or - Had annual revenues of less than \$100 million and either: <ul style="list-style-type: none"> - No public float; or - A public float of less than \$700 million
EU Corporate Sustainability Reporting Directive (CSRD)	The threshold for an SME requires that two or more of the following <u>must</u> be true: <ul style="list-style-type: none"> - Employ less than 250 employees - Turnover of less than €50 million - Total assets of less than €25 million
UK Streamlined Energy and Carbon Reporting (SECR)	The threshold for an SME requires that two or more of the following <u>must</u> be true: <ul style="list-style-type: none"> - Employ less than 250 employees - Turnover of less than £36 million - Total assets of less than £18 million
Science Based Targets initiative (updated 1 January 2024)	For a company to be considered an SME, all of the following <u>must</u> be true: <ul style="list-style-type: none"> - Have less than 10,000 tCO₂e annual emissions across Scope 1 and location-based Scope 2 - Do not own or control maritime transport vessels - Do not own or control power generation assets - Are not classified in the Financial Institution (FI) Sector or Oil & Gas (O&G) Sector - Are not a subsidiary of a parent company whose combined businesses do not satisfy all of these conditions And two or more of the following <u>must</u> be true: <ul style="list-style-type: none"> - Employ less than 250 employees - Turnover of less than €40 million - Total assets of less than €20 million - Are not classified in the Forest, Land and Agriculture (FLAG) sector

Table 2: Illustrative Examples of the Application of the Grace Period and Allowance for Small Companies

Company	Large organizations	Small and medium enterprises (SMEs)
A	Signed its CarbonNeutral company certification contract on 1 July 2023 with a certification period of 1 July 2023 to 30 June 2024. As of the publication date of the CarbonNeutral Protocol 2024, the certification was in place and current. When Company A renews its CarbonNeutral company certification on 1 July 2024, it is permitted to delay adoption of new requirements until the subsequent certification period, beginning 1 July 2025.	Signed its CarbonNeutral company certification contract on 1 July 2023, with a certification period of 1 July 2023 to 30 June 2024. As of the publication date of the CarbonNeutral Protocol 2024, the certification was in place and current. When Company A renews its CarbonNeutral company certification on 1 July 2024, it is permitted to delay adoption of new requirements until the subsequent certification period plus one additional year, beginning 1 July 2026.
B	Wishes to obtain CarbonNeutral company certification for the first time in March 2024. As Company B does not have active company certification, it <u>must</u> meet the requirements of The CarbonNeutral Protocol 2024.	Wishes to obtain CarbonNeutral company certification for the first time in March 2024. As Company B does not have active company certification, it <u>must</u> meet the requirements of The CarbonNeutral Protocol 2024.
C	Signed its CarbonNeutral event certification in 2023. In 2024, Company C elects to continue its program to certify its events. As Company C was awarded CarbonNeutral event certification in the 12 months prior to the publication of The CarbonNeutral Protocol 2024, it is permitted to delay adoption of new requirements until the publication of The CarbonNeutral Protocol 2025.	Signed its CarbonNeutral event certification in 2023. In 2024, Company C elects to continue its program to certify its events. As Company C was awarded CarbonNeutral event certification in the 12 months prior to the publication of The CarbonNeutral Protocol 2024, it is permitted to delay adoption of new requirements until the publication of The CarbonNeutral Protocol 2026.
D	Wishes to certify one of its products as CarbonNeutral for the first time. The grace period is not available to this certification as it is a new certification type or new subject of certification for the organization.	Wishes to certify one of its products as CarbonNeutral for the first time. The grace period is not available to this certification as it is a new certification type or new subject of certification for the organization.

The Five Steps to Achieving CarbonNeutral® Certification

As illustrated in Figure 1, there are five steps to achieving CarbonNeutral® certification. These five steps are mandatory for all classes of certification. While these steps are set out sequentially, they may be carried out in parallel.

Figure 1: Five Steps to Achieving CarbonNeutral® Certification



Step 1: Define

The first step is to clearly define the subject that will be certified CarbonNeutral®. The subject is the entity, product or activity being certified CarbonNeutral® and may be distinct from the client.

Overview of requirements

The subject to which The CarbonNeutral Protocol is being applied must be clearly defined, by name and by description of the relevant legal and/or physical boundaries. The duration of a CarbonNeutral® certification must also be defined with a start and end date applicable to the award of the certification.

The CarbonNeutral® certification to be applied must also be defined and must be compatible with the subject. The definition of the subject and the certification must be recorded by the CarbonNeutral certifier and the information retained for the purpose of auditing.

CarbonNeutral® certifications and their emission sources

To provide consistency across a wide range of possible situations, the Protocol provides for a number of different CarbonNeutral® certifications corresponding to different possible entities, products and activities.

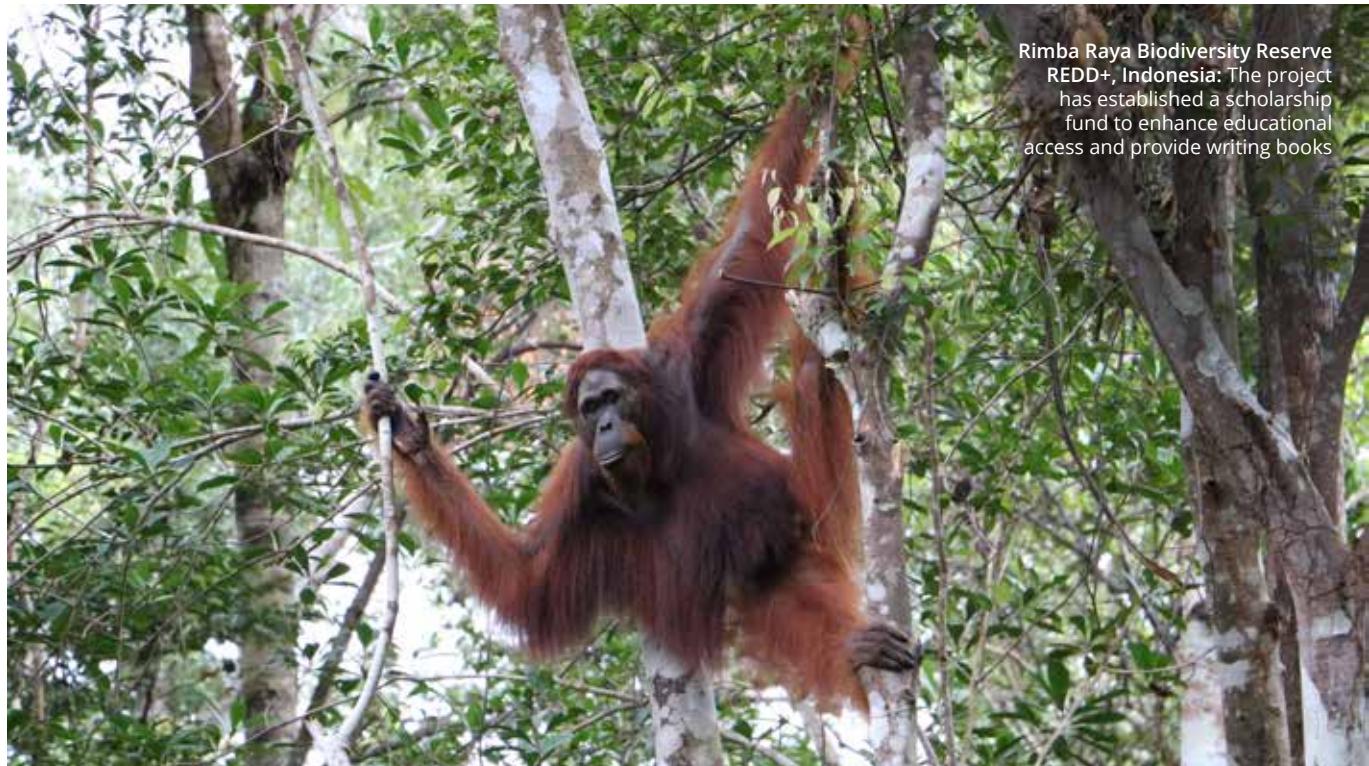
These certifications are grouped into three classes:

Entities: Defined by legal status and spatial boundaries, covering all types of organizations, including companies and public sector bodies. Where this applies to a Group or parent company, all subsidiary companies must be included.

Products: Defined as an article, substance, capital asset or combination of product and service produced, manufactured or refined for the purpose of onward sale. This class includes mass produced goods such as food and equipment; single use and custom built products such as buildings and urban developments; and, products-as-a-service, such as on-demand printing and personal transport.

Activities: Defined by the delivery of utility through a combination of mobile and stationary activities, including traditional transportation services (flights, car journeys, logistics, etc.), information provision such as hosting of data, or professional services, and one-off events that involve a combination of mobile and stationary activities (events, conferences etc.).

Technical Specification 1.1 includes tables, organized by certification class, that specify required and recommended emission sources to be included in a subject's GHG assessment and CarbonNeutral® certification.



Rimba Raya Biodiversity Reserve
REDD+, Indonesia: The project has established a scholarship fund to enhance educational access and provide writing books

Step 2: Measure

The second step is to measure the GHG emissions of the defined subject and broader organization, to provide a complete and accurate GHG inventory over a relevant timescale.

Overview of requirements

PART 1: Measurement of the defined subject's carbon footprint

The subject's GHG emissions must be assessed in accordance with the requirements set out for entities, products and activities in **Table 8**.

PART 2: Measurement of the organizational carbon footprint

In addition to the GHG Assessment of the defined subject, an organization is required to measure, estimate or evaluate its organizational GHG inventory on an annual basis.

Guidance 2 provides additional information regarding the measurement of GHG emissions. CarbonNeutral certifiers and technical partners should also pay particular attention to the contents of **Technical Specification 1.2** which provides further guidance and clarification on defining the subject for certifications.



Step 3: Target

The third step is to set a credible science-aligned target to reduce the measured emissions of the subject and broader organization through the internal abatement of GHG emissions. The aim is to undertake these reductions in a way that ensures business value from clear, ambitious, and immediate action.

Overview of requirements

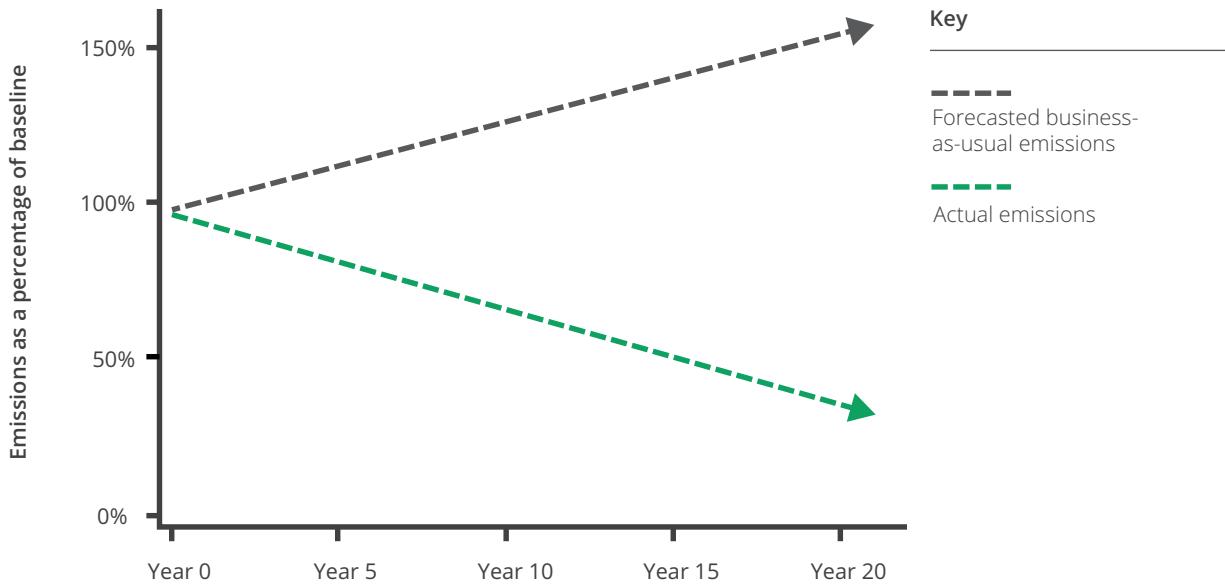
The organization must set a short-term science-aligned internal abatement target to ensure the subject's emissions decrease over time. The target may be expressed as an absolute GHG emission reduction or as a decrease in GHG intensity, with absolute GHG reduction targets preferred. An example of an absolute GHG reduction target is demonstrated in **Figure 2**. The organization is encouraged to set a long term abatement target and net zero commitment.

For more about approaches to setting abatement targets see **Guidance 3.3**.

Internal abatement targets must be specified in a client's CarbonNeutral® Certification Target and Reduce Form (see **Technical Specification 3.1**).

Targets may be extended to net zero (see **Guidance 3.4**) or to other impacts on the Sustainable Development Goals.

Figure 2: Emissions Profile for Subject of CarbonNeutral® Certification



Step 4: Reduce

The fourth step is to take actions that abate emissions of the subject and across the organization, accompanied by compensation of unabated emissions of the subject through purchase and retirement of qualifying environmental instruments – specifically carbon credits.

Overview of requirements

PART 1: Internal abatement

The organization should action a GHG abatement plan to deliver internal emission reductions for the subject and wider value chain in accordance with its near-term science-aligned reduction targets.

Achievement of internal emission reductions must be reported in a client's CarbonNeutral® Certification Target and Reduce Form (see **Technical Specification 3.1**).

In the case of one-off subjects, such as events, this should include consideration of emission-minimizing measures during the planning phase.

Technical Specification 4.1 outlines the precise requirements for internal abatement.

PART 2: External compensation

Unabated emissions for the subject and duration defined within the CarbonNeutral® certification must be compensated for through the purchase and retirement of eligible carbon credits. Reduction measures to achieve carbon neutrality is demonstrated in **Figure 3**.

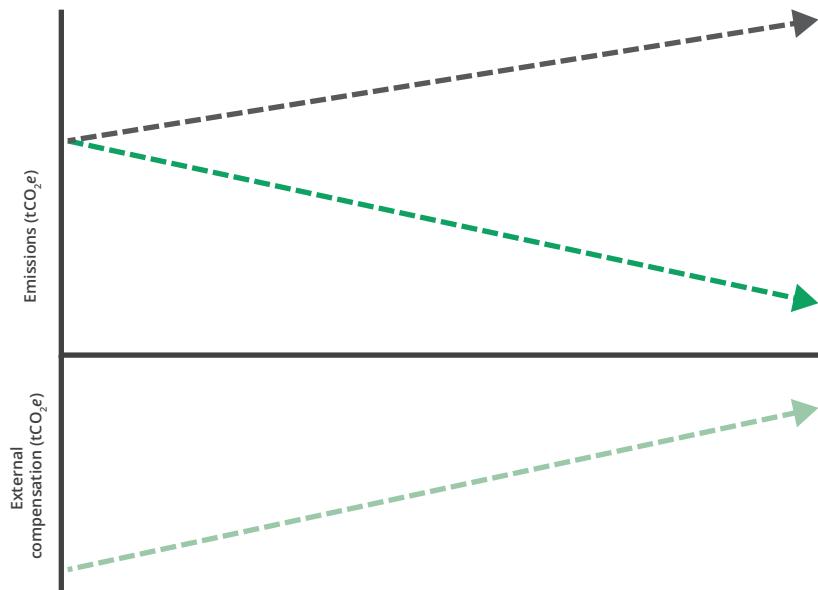
Figure 3: Reduction Measures to Achieve Carbon Neutrality

Key

Forecasted business-as-usual emissions

Actual emissions

Offsetting through external emission reduction and avoidance projects



Step 5: Inform

The fifth step is to disclose accurate and transparent information on how CarbonNeutral® certification is achieved. As public pressure for action on climate change grows, so does scrutiny of companies' climate action, coming from a range of stakeholders including: individuals, campaigns, NGOs and other civil society organizations, and authorities that regulate consumer-facing advertising and marketing claims. This fifth part of certification is important to proactively address and respond to that increased scrutiny.

Overview of requirements

Once certified CarbonNeutral®, clients should communicate their action through use of the CarbonNeutral® certification logo. The logo is a key mechanism by which clients communicate the certification, providing reference to carbonneutral.com which provides open access to an explanation and requirements of certification.

Clients should have a high-level understanding of all their major environmental, social, and economic impacts, and ensure that their use of the CarbonNeutral® certification is an appropriate response and priority in relation to these major impacts.

Organizations must publicly disclose GHG inventory, and reduction and compensation metrics in relation to their CarbonNeutral® certification, as set out in **Technical Specification 5.1**.

All communications relating to a client's CarbonNeutral® certification must be factually based and should be clear and transparent so as to avoid confusion or misunderstanding. Communications must be consistent with the specific CarbonNeutral® certification achieved. The use of the CarbonNeutral® certification logo must conform to requirements and guidance (see **Technical Specification 5.2**).

The CarbonNeutral Protocol does not aim at giving a legal opinion on the possibility to use CarbonNeutral® certification to make any sort of claims. Therefore, organizations must ensure that all claims are consistent with and lawful under subnational, national and/or regional guidance or legislation that defines and controls environmental claims, such as the U.S. Federal Trade Commission's Green Guides, the UK Competition and Markets Authority's Green Claims Code, relevant EU Directives such as the Empowering Consumers for the Green Transition Directive and Green Claims Directive, and the International Chamber of Commerce's Framework for Responsible Environmental Marketing. Regional guidance and legislation is subject to change and should be actively monitored by all organizations communicating CarbonNeutral® certification.

Figure 4: Example CarbonNeutral® Certification Logos





Ghost, Brooks Running's most popular shoe, is carbon neutral on the company's journey to achieve net zero

GOVERNANCE: With a dedicated sustainability team, Brooks commits resources and expertise to deliver on its climate goals, embedding sustainable practices across its value chain

DEFINE: In 2022, Brooks wanted to make its highest-volume style of shoe, the Ghost, a certified CarbonNeutral® product

MEASURE: Brooks performed a life cycle impact assessment using the Product Environmental Footprint (PEF) methodology, the current standard of the European Commission. This assessment calculated the carbon emissions from each life-cycle stage of the Ghost 15 – including raw material extraction, material manufacturing, product assembly, packaging, distribution, and end-of-life

TARGET: Brooks is committed to achieving Science Based Targets to reduce absolute Scope 1 & 2 greenhouse gas emissions 50% by 2030 and 90% by 2040. It has also committed to reducing Scope 3 greenhouse gas emissions

52% per unit of production by 2030, and 97% per unit of production by 2040. These targets use a 2021 base year. Brooks has also committed to reach net zero greenhouse gas emission across the value chain by 2040

REDUCE: Carbon emissions per pair reduced 6% between the Ghost 14 and Ghost 15. This reduction was predominantly driven by increased use of recycled materials and a decrease in air shipments from factory to distribution center. Brooks recognizes that current reductions are just one step towards meeting its targets, so the company supported external emission reduction projects in the U.S. and globally to offset the unabated carbon emissions of the Ghost 15

INFORM: Brooks frames its sustainability program as "Running responsibly". Credentials are communicated on Brooks' e-commerce website for the majority of its products, and the Ghost 15 page includes information about its CarbonNeutral® product certification



TECHNICAL SPECIFICATIONS & GUIDANCE

14Trees Sustainable Building, Malawi: Winner of the Better Society 2021 Built Environment Award, this project makes compressed bricks made of local earth, sand, cement and water - reducing emissions by avoiding the need to fire the bricks

Step 1: Define Technical Specification

1.1 Required GHG emissions sources

The certifications are grouped into three classes, as shown in **Table 3** below.

Table 3: CarbonNeutral® Certification Classes

Entity certifications	Product certifications**	Activity certifications
Company/Organization/Manufacturer	Product	Service
Department/Division	Brand	Delivery/Shipment*
Operations	Product (excluding...)*	Driving/Fleet
Data centers*	Product-as-a-service*	Hosting/cloud services*
Building/Office/Venue	Paper/Publication	Event/Exhibitor
	Packaging	Business travel*
	Development/Fit-out*	Production* (media)
	Usage*	

*See **Technical Specification 1.2**.

**Products or packaging may only carry a CarbonNeutral® product or CarbonNeutral® packaging logo respectively.

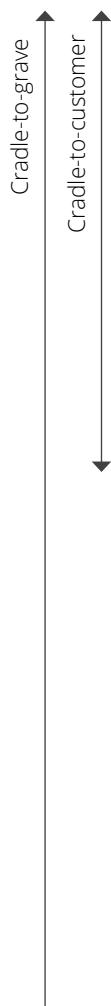


Table 4 CarbonNeutral® Entity Certifications – Required GHG Emissions Sources

GHG assessment emission sources					CarbonNeutral® entity certifications							
Category		Emission source category (Aligned to the GHG Protocol: Corporate Standard and Value Chain Standard – numbers refer to the emission source numbering within the Value Chain Standard in Guidance 1.3)			Company/ Organization/ Manufacturer	Department/ Division	Operations	Data centers	Building/ Office/Venue			
GHG Protocol: Corporate Standard Scope 1 and 2, Value Chain Standard Scope 3	Scope 1	Direct emissions arising from owned, leased or directly controlled stationary sources that use fossil fuels and/or emit fugitive emissions (e.g. refrigerant gases)			✓	✓	✓	✓	✓			
		Direct emissions from owned, leased or directly controlled mobile sources			✓	✓	✓					
	Scope 2	Emissions from the generation of purchased electricity, heat, steam or cooling	Location based		✓	✓	✓	✓	✓			
			Market based		✓	✓	✓	✓	✓			
	Scope 3 upstream	1	Purchased goods and services			●	●	●	●			
		2	Capital goods			●	●	●	●			
		3	Fuel- and energy-related activities (not included in Scope 1 or Scope 2)	3a	Upstream emissions of purchased fuels	●	●	●	●			
			3b	Upstream emissions of purchased electricity			●	●	●			
			3c	Transmission and distribution (T&D) losses ¹			✓	✓	✓			
		4	Upstream transportation and distribution ²	Outbound courier deliveries of packages ³			●	●	●			
				Third-party transportation and storage of inbound production-related goods, including internal movement of production-related goods			●	●	●			
				Third-party transportation and storage of sold products to first customer ⁴			✓	✓	✓			
		5	Waste generated in operations	Wastewater			●	●	●			
				Other waste			✓	✓	✓			
		6	Business travel	All transportation by air, public transport, rented/leased vehicle and taxi			✓	✓	●			
				Emissions arising from hotel accommodation associated with business travel			●	●	●			
		7	Employee commuting	Employee transport between home and places of work			●	●	●			
				Emissions arising from employee homeworking and remote work ⁵			✓	✓	✓			
	As defined in the Value Chain Standard, Scope 3 upstream emission source category 8 is not currently required or recommended under any of the CarbonNeutral® entity certifications, for further details see Guidance 1.3											
Scope 3 downstream	9	Downstream transportation and distribution ²	Third-party transportation and storage of sold products to first customer (not already included in Category 4) ⁴			✓	✓	✓				
			Third-party transportation and storage of sold products beyond first customer, including retail and storage			●	●	●				
	11	Use of sold products			●							
As defined in the Value Chain Standard, Scope 3 downstream emission source categories 10 through 15 are not currently required or recommended under any of the CarbonNeutral® entity certifications, for further details see Guidance 1.3												
Certification specific requirements (See Technical Specification 1.2)									▲			

Legend: ✓ Required ● Recommended ▲ Guidance

¹ T&D losses must be included where relevant emissions factors are available (e.g. UK based assessments based upon DEFRA emissions factors). Where EACs are used to manage Scope 2 emissions, EACs do not address Scope 3 T&D losses. T&D losses may be offset using carbon credits or EACs.² Upstream transportation and distribution relates to transportation and distribution services purchased by the reporting company, that are not included in Scope 1 or 2. Downstream transportation and distribution relates to transportation and distribution which is not purchased by the reporting company. This is intended to capture significant emissions from transportation and storage of production-related goods and final products manufactured and/or sold by the reporting entity. Where there are transportation and distribution emissions relating to a third-party site, e.g., a third-party warehouse, this must include Scope 1 and Scope 2 emissions of that site. Where assessors identify further emission sources that are material according to their professional judgment, these must also be calculated and included.³ Excludes letters sent by general mail service suppliers.⁴ This is only a required source of emissions for product manufacturers and for companies whose primary business is distribution of products manufactured by other entities. This does not include emissions from the day-to-day movement of non-core business consumables.⁵ This is intended to capture the additional emissions not included in Scope 1 and 2 that result from facilities outside of a company's control, either permanently or temporarily, on top of a baseline scenario that would occur regardless of whether the employee was at home.

Table 5: CarbonNeutral® Product Certifications - Required GHG Emissions Sources


Required assessment emission sources		CarbonNeutral® product certifications							
Category	Emissions source category	Product	Brand	Product (excluding...)	Product-as-a-service	Paper/ Publication	Packaging	Development/ Fitout	Usage
Extraction and processing of raw materials and packaging	Cradle-to-grave or cradle-to-customer embodied emissions of raw materials ¹ , inputs to production ² and packaging ³	✓	✓	✓	✓	✓	✓	✓	✓
	Inbound deliveries of raw materials and inputs to production	✓	✓	✓	✓	✓	✓	✓	✓
Manufacturing and storage of product and packaging	Direct emissions from on-site fossil fuel use and fugitive emissions	✓	✓	✓	✓	✓	✓	✓	✓
	On-site consumption of purchased electricity ²	✓	✓	✓	✓	✓	✓	✓	✓
	Emissions from waste disposal ⁴	✓	✓	✓	✓	✓	✓	✓	✓
Distribution	Transportation of sold products to first customer ⁵	✓	✓	✓	✓	✓	✓	✓	✓
Onward distribution	Onward storage and transportation	✓	✓	●	✓	●	●		
Retail	Direct emissions from on-site fossil fuel use and fugitive emissions	✓	✓	●	✓	●			
	On-site consumption of purchased electricity and/or steam	✓	✓	●	✓	●			
Use	Use emissions, including maintenance	✓	✓	●	✓				✓
Disposal	Emissions from disposal of sold products at end of life	✓	✓	●	✓	●	●	●	
Other	Construction worker travel to and from development site								✓
Certification specific requirements (See Technical Specification 1.2)		▲	▲	▲			▲	▲	▲

Legend: ✓ Required ● Recommended ▲ Guidance

The boundary for product-type certifications must be consistent with the definition of the subject. For cradle-to-customer subjects, the boundary must extend from cradle to the point at which the client applying for CarbonNeutral® certification is no longer the owner or purchaser of the transportation/storage service. If using an EPD which meets the requirements specified in **Guidance 2.8**, the emission sources required for the EPD shall prevail over the emissions sources specified above. For further information regarding appropriate boundaries for cradle-to-customer certifications, see **Guidance 1.4**. For cradle-to-grave subjects, the boundary must extend to end-of-life disposal.

¹ Land use change (LUC) emissions are required for those product certifications that have a significant impact on LUC associated with agricultural and commodity supply chains. For agricultural and commodity supply chains, LUC emissions can be excluded if a sufficient farm-level certification was in place (e.g. Rainforest Alliance, UTZ). The CarbonNeutral Protocol accepts the guidance set out by Quantis (See Recommendation 9, Quantis, 2019, *Accounting for natural climate solutions* <https://quantis-intl.com/report/accounting-for-natural-climate-solutions-guidance>).

² Although we encourage clients to offset the wider scope of emissions, T&D losses are not a required emissions source in a CarbonNeutral product-type certification.

³ Primary packaging must be included and secondary and tertiary is recommended. Any packaging that carries information about the brand and product, and which is included with the product when it is bought by the final customer is primary – all other packaging is secondary (e.g. for delivery to retailer or tertiary (e.g. for long-distance distribution)).

⁴ Where data is available, it is recommended that emissions arising from water consumption and also wastewater treatment are included within these categories.

⁵ Where emissions from transportation and storage are included, this must be accounted for until the first customer receives the product, regardless of which party is responsible for the associated expense.

Table 6: CarbonNeutral® Activity Certifications – Required GHG Emissions Sources

Required assessment emission sources	CarbonNeutral® activity certifications						
	Service	Delivery/Shipment	Driving/Fleet	Hosting/Cloud services	Event/Exhibitor	Business travel	Production (media)
All direct emissions from on-site sources used to deliver the activity ¹	✓	✓		✓	✓		✓
All direct emissions from mobile sources used to deliver the activity ¹	✓	✓	✓			✓	✓
Emissions from the consumption of purchased electricity (including transmission and distribution) and/or steam used in the delivery of the activity	✓	✓	✓	✓	✓	✓	✓
Travel of employees/contractors—by air, public transport, rented/leased vehicle and taxi—involved in the delivery of the activity	●		●	✓			✓
Travel of individuals to and from the activity - by air, public transport, rented/leased vehicle and taxi, and hotel accommodation				●			✓
Emissions from hotel accommodation due to business travel						✓	
Waste disposal ²	●			✓	✓		✓
Embodied emissions of consumables used in the delivery of the activity							✓
Transportation of products associated with the activity to the first customer							
Certification specific requirements (See Technical Specification 1.2)		▲		▲	▲	▲	▲

Legend: ✓ Required ● Recommended ▲ Guidance

¹ Inclusion of upstream emissions of purchase fuel is recommended.² Where data is available, it is recommended that emissions arising from wastewater treatment are included within this category.

1.2 Certification specific requirements

This Technical Specification provides further details on the requirements of certification categories as set out in **Tables 4, 5 and 6**.

CarbonNeutral® entity certification specific requirements

CarbonNeutral® data centers

Includes refrigerant gas loss at the data center; office emissions of specific account management staff (if they are not physically located in the data center); business travel of any staff specifically assigned to manage the account/equipment of the organization that is using the data center.

CarbonNeutral® product certification specific requirements

CarbonNeutral® brand

This is listed as a product certification because the scope of a CarbonNeutral brand must include all products which fall under that brand name. In addition, the scope must include non-product-related emissions relating to the operation of the brand where those emissions are not already accounted for in the footprint or Life Cycle Assessment (LCA) of the products, in accordance with the CarbonNeutral division certification (see **Technical Specification 1.1** for the required GHG emissions sources for CarbonNeutral entity certifications). Individual products and product lines are not expected to have disaggregated footprint data.

CarbonNeutral® product (excluding ...)

Where any recommended emissions sources are excluded, this must be appropriately and transparently communicated. The name of the certification must be amended appropriately. For example, where only use-phase emissions are excluded, the appropriate use is CarbonNeutral® product (excluding use); where use-phase and disposal emissions are excluded, the appropriate use is CarbonNeutral® product (excluding use and disposal). Use of CarbonNeutral product (excluding...) certifications must be pre-approved and agreed with the CarbonNeutral certifier.

CarbonNeutral® product-as-a-service

Includes all emissions arising from: a product, annualized for the length of the certified service or per unit of usage; and the usage of the entire service for which the product is certified.

CarbonNeutral® development

Emissions from the ongoing use of the development post construction are excluded.

CarbonNeutral® usage

Includes all direct and indirect GHG emissions from the end-consumer use, for a period equivalent but not limited to the expected average lifetime of the product.



**Rimba Raya Biodiversity Reserve
REDD+, Indonesia:** The project has established a scholarship fund to enhance educational access and provide writing books

CarbonNeutral® activity certification specific requirements

CarbonNeutral® delivery/shipment

Includes intermediate emissions from static operations e.g. warehousing and storage.

When the CarbonNeutral® delivery certification logo is carried on a delivered product, the scope must include the entire distribution chain for the finished product from point of manufacture or ownership to the end user, or in the case of consumer products, to the point of retail to the end consumer.

When the CarbonNeutral® delivery certification logo is used by a logistics provider to differentiate their logistics service and the logo is not carried on a delivered product, the scope need only include the portion of the distribution chain over which the logistics provider is the provider/purchaser of the service.

CarbonNeutral® hosting/cloud services

Includes refrigerant gas loss at the data center; office emissions of specific account management staff (if they are not physically located in the data center); business travel of any staff specifically assigned to manage the account/equipment of the organization that is being provided with the hosting service.

Emissions are calculated for the entity as a whole and allocated to the subject using a methodology that accurately apportions emissions to the service provided. Allocation methodologies could include the amount of: memory (RAM), storage space, processing power, bandwidth, or the level of managed service (labor), and need to be agreed on a case-by-case basis.

CarbonNeutral® event/exhibitor

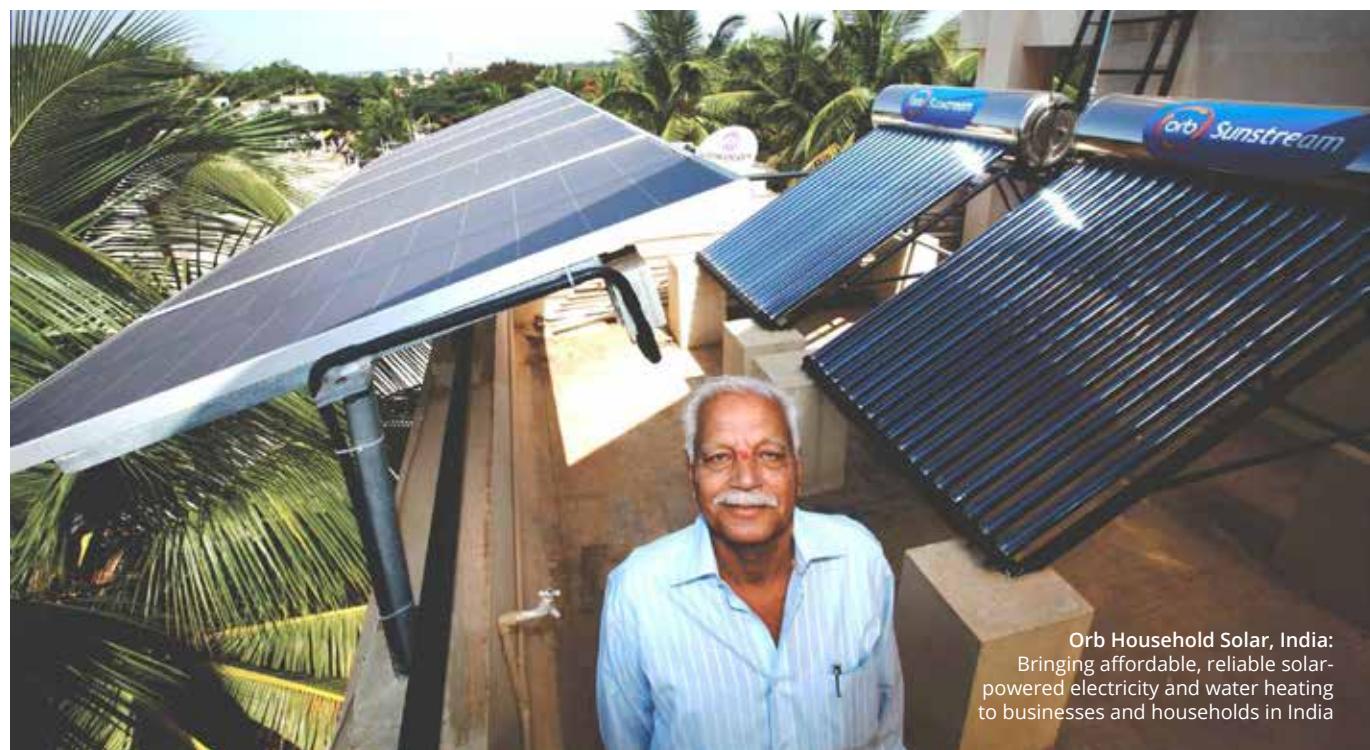
Emissions from hotel accommodation should be included.

CarbonNeutral® business travel

Boundaries must include emissions arising from business travel - by air, public transport, rented/leased/owned vehicles and taxis, and emissions from hotel accommodation due to business travel.

CarbonNeutral® production (media)

Boundaries must include all emissions arising from financed activities directly related to the production of the entertainment media subject (i.e., motion picture, television episode, etc.), beginning with the commencement of pre-production and ending with the conclusion of postproduction for the specific subject. For the sake of clarity, emissions arising from the development (e.g., initial writing of a screenplay and other activities preceding "green light") and distribution (e.g., duplication, marketing, audience travel, and other activities succeeding the creation of the final master copy) of the subject are excluded, but hotel accommodation during the production must be included.



Orb Household Solar, India:

Bringing affordable, reliable solar-powered electricity and water heating to businesses and households in India

Step 1: Define Guidance

1.3 Corporate value chain (Scope 3) accounting and reporting

The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (also referred to as the Scope 3 Standard) developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) provides requirements and guidance for companies preparing and publicly reporting GHG emission inventories that include indirect emissions resulting from value chain activities (i.e. Scope 3 emissions). The Scope 3 Standard complements and builds upon the GHG Protocol Corporate Accounting and Reporting Standard to promote additional completeness and consistency in the way companies account for and report on indirect emissions from value chain activities.

The Scope 3 Standard groups Scope 3 emissions into 15 distinct categories, as shown in **Table 7**. The categories are intended to provide companies with a systematic framework to organize, understand, and report on the diversity of Scope 3 activities within a corporate value chain.

For additional information about the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard and its 15 Scope 3 categories refer to:
www.ghgprotocol.org/standards/scope-3-standard.

Degraded Grasslands Afforestation, Uruguay:
Using carbon finance, this project is implementing sustainable wood production, land restoration, and carbon sequestration through afforestation on degraded land in Uruguay



Table 7: The GHG Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard¹

Upstream or downstream	Scope 3 category	Category description
Upstream Scope 3 emissions	1. Purchased goods and services	Extraction, production, and transportation of goods and services purchased or acquired by the reporting company in the reporting year, not otherwise included in Categories 2 – 8.
	2. Capital goods	Extraction, production, and transportation of capital goods purchased or acquired by the reporting company in the reporting year.
	3. Fuel- and energy-related activities (not included in Scope 1 nor 2)	Extraction, production, and transportation of fuels and energy purchased or acquired by the reporting company in the reporting year, not already accounted for in Scope 1 nor 2.
	4. Upstream transportation and distribution	Transportation and distribution of products purchased by the reporting company in the reporting year between a company's tier one suppliers and its own operations (in vehicles and facilities not owned or controlled by the reporting company). Transportation and distribution services purchased by the reporting company in the reporting year, including inbound logistics, outbound logistics (e.g. of sold products), and transportation and distribution between a company's own facilities (in vehicles and facilities not owned or controlled by the reporting company).
	5. Waste generated in operations	Disposal and treatment of waste generated in the reporting company's operations in the reporting year (in facilities not owned or controlled by the reporting company).
	6. Business travel	Transportation of employees for business-related activities during the reporting year (in vehicles not owned or operated by the reporting company).
	7. Employee commuting	Transportation of employees between their homes and their places of work during the reporting year (in vehicles not owned or operated by the reporting company).
	8. Upstream leased assets	Operation of assets leased by the reporting company (lessee) in the reporting year and not included in Scope 1 or Scope 2 – reported by lessee.
Downstream Scope 3 emissions	9. Downstream transportation and distribution	Transportation and distribution of products sold by the reporting company in the reporting year between the reporting company's operations and the end consumer (if not paid for by the reporting company), including retail and storage (in vehicles and facilities not owned or controlled by the reporting company).
	10. Processing of sold products	Processing of intermediate products sold in the reporting year by downstream companies (e.g. manufacturers).
	11. Use of sold products	End use of goods and services sold by the reporting company in the reporting year.
	12. End-of-life treatment of sold products	Waste disposal and treatment of products sold by the reporting company (in the reporting year) at the end of their life. Transportation and distribution services purchased by the reporting company in the reporting year, including inbound logistics, outbound logistics (e.g. of sold products), and transportation and distribution between a company's own facilities (in vehicles and facilities not owned nor controlled by the reporting company).
	13. Downstream leased assets	Operation of assets owned by the reporting company (lessor) and leased to other entities in the reporting year, not included in Scope 1 or Scope 2 – reported by lessor.
	14. Franchises	Operation of franchises in the reporting year, not included in Scope 1 or Scope 2 – reported by franchisor.
	15. Investments	Operation of investments (including equity and debt investments and project finance) in the reporting year, not included in Scope 1 nor Scope 2.

¹ GHG Protocol, 2011, *Corporate Value Chain (Scope 3) Accounting and Reporting Standard*, <https://ghgprotocol.org/standards/scope-3-standard>.

1.4 Product-type certifications

Figure 5 sets out the different boundaries for various life-cycle stages within an illustrative product supply chain.

The Greenhouse Gas Protocol Corporate Standard gives a clear list of the different emission sources, but does not give clarity about where the responsibility of companies begins and ends. Understanding responsibilities for Scope 1 and Scope 2 is relatively straightforward. A utility company's Scope 1 is a power user's Scope 2, and those corporates taking climate action take responsibility for the power they use. Scope 3, however, is entirely different, and it can be a case of unpicking multiple responsibilities from a long value chain of many different actors, materials and activities. The process can be particularly difficult for products that are a component part of a product or an intermediary product, and for products where consumer behavior greatly affects the emissions during the use and disposal phases. Central to this topic is the question of whether companies should be responsible for cradle-to-customer or cradle-to-grave emissions. Cradle-to-grave includes the emissions from use and disposal phases, whereas cradle-to-customer does not.

For CarbonNeutral® product certification, the boundary for required emissions sources is cradle-to-grave emissions, with one exception: products using an Environmental Product Declaration (EPD) to document its footprint, where the Product Category Rules underpinning the EPD only require emissions from fewer life cycle stages, e.g. cradle to customer.

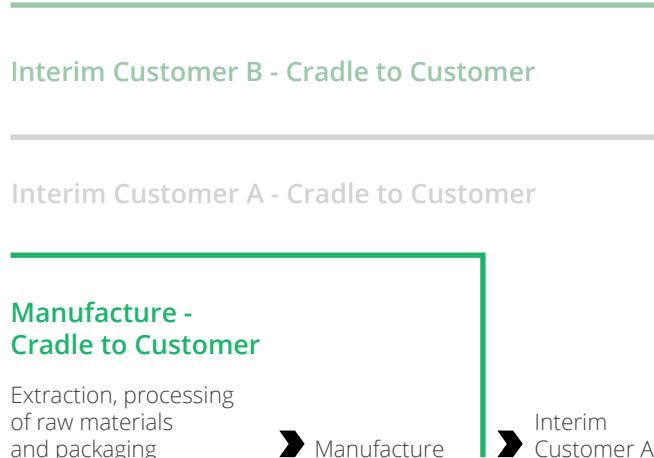
Only in such an instance can CarbonNeutral® product certification be achieved with fewer life cycle stages.

More information on EPDs is set out in **Technical Specification 2.8** (Using EPDs for CarbonNeutral® products). All other products measuring less than cradle-to-grave emissions cannot use CarbonNeutral® product certification, but may use CarbonNeutral® product (excluding...) certification.

The logic behind the Protocol's standardization of CarbonNeutral® product certification around cradle-to-grave emissions is to ensure the integrity of the communications around CarbonNeutral® products to customers and/or consumers. For some products, certain emissions, for example those in the use or disposal phase, can be avoided by individual consumers' behaviors, and are therefore not intrinsic to the product. This can lead some to think that use or disposal phase emissions need not be accounted for when undertaking a footprint of the product. However, the standardization of CarbonNeutral® product certification around cradle-to-grave emissions effectively says that the footprint must be calculated from the best available evidence of what, on aggregate, actual consumer behavior is when using or disposing the product, not on the basis of one low- or zero-emissions option available to the consumer. Where Product Category Rules underpinning the EPD require emissions from fewer life cycle stages, e.g. cradle-to-customer, we defer to those rules and deem them to have assessed that the stages not included are not material to the footprint for the specified type of product.

Figure 5: Boundaries for Life-Cycle Stages Within a Product Supply Chain

Cradle to Grave





In summary, CarbonNeutral® product certification is available for those entities able to take climate action on all the emissions associated with the product, and CarbonNeutral® product (excluding...) certification gives an option to entities that can only take climate action on the emissions associated with the creation and manufacture of the product but not (yet) the emissions of the use and disposal of the product. In a world where only a minority of companies are carbon neutral today and there is a need to ensure wider adoption, and where maintaining clear and credible communication to consumers is a must, we deem that this approach helps navigate the complexity of product value chains with a simple, pragmatic and flexible approach.

We anticipate that the scope of product certifications will be refined with time and application, and that this guidance will be updated in subsequent revisions to the Protocol.

1.5 Treatment of assets rented or leased to customers of CarbonNeutral® entities

In line with Annex G to the GHG Protocol Corporate Standard, emissions arising from entity assets rented/leased to a third party can be treated as either Scope 1 or Scope 3 emissions. The correct treatment is dependent on whether the entity is taking an “equity share” or “operational control” approach to their GHG emissions, as defined by the GHG Protocol Corporate Standard. Most applications of The CarbonNeutral Protocol take an “operational control” approach to entity emissions, resulting in emissions from rented or leased assets being categorized as Scope 3 emissions for the entity providing the assets that are being rented/leased.

An example of an entity taking an “operational control” approach to their GHG emissions would be that of a car rental company. When their vehicles are leased to customers, the emissions arising from customer use are counted as Scope 3 by the company. The emissions count as a Scope 1 emission for the customer of the company, as they have operational control of the vehicle for the duration of the lease.

Step 2: Measure Technical Specifications

PART 1: Measurement of the defined subject's carbon footprint

2.1 GHG emission quantification requirements for the defined subject

This section in the Technical Specification provides requirements and guidance for the GHG emissions data required for assessments provided to support CarbonNeutral® certifications for the defined subject. A GHG Assessment for the defined subject must be undertaken and provided to the certifier. The requirements of the GHG Assessment are detailed in **Table 8** and **Technical Specifications 2.2**. **Figure 7** summarizes how emissions assessments are determined to have met the requirements of The CarbonNeutral Protocol.

Table 8: GHG Emission Quantification Requirements for Different Classes of Certifications

Step	Entities	Products not using an EPD ¹	Activities
1. Select GHG accounting protocol	The GHG Protocol Corporate Standard, ISO 14064-1, the Climate Registry's General Reporting Protocol or similar consistent protocols <u>must</u> be used. Joint ventures <u>must</u> be treated as outlined in the GHG Protocol. ²	The GHG Protocol Product Standard, PAS 2050, ISO 14067, ISO 14025 Environmental Product Declaration following applicable Product Category Rules (PCR), ISO 14040-14044, ISO 21930 (for building products), EN 15804 or methods set out in steps 2-7 below <u>must</u> be applied unless the CarbonNeutral® certifier identifies valid reasons for using other methods.	The GHG Protocol Product Standard, PAS 2050 or methods set out in steps 2-7 <u>must</u> be applied unless the CarbonNeutral® certifier identifies valid reasons for using other methods.
2. Define boundary	The boundary <u>must</u> include all sites, plants and vehicles owned by or under operational control of the certifying entity.	The boundary <u>must</u> be consistent with the definition of the subject. For cradle-to-customer subjects, the boundary <u>must</u> extend to the point of customer delivery. For cradle-to-grave subjects, the boundary <u>must</u> extend to end-of-life disposal.	The boundary <u>must</u> be consistent with the definition of the subject and <u>must</u> include the sites and/or vehicles involved in the delivery of the activity.
3. Identify emissions sources	Assessments <u>must</u> include specific required emissions sources as specified in Tables 4, 5 and 6 for CarbonNeutral® certifications.		
4. Identify GHGs to be measured	All GHGs recognized under the UN Framework Convention on Climate Change, which currently include carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), hydrofluorocarbons, perfluorocarbons, sulphur-hexafluoride (SF ₆) and nitrogen trifluoride (NF ₃) <u>must</u> be measured in the assessment, insofar as they apply to the subject.		
5. Establish time period	Assessments <u>must</u> at a minimum be conducted annually and should relate to a twelve month data period. The start date of the CarbonNeutral® certification period <u>must</u> be no later than nine months after the end of the assessment data period (e.g., the data period 1st January 2023 – 31st December 2023 may be used towards a certification period that starts no later than 30th September 2024).	For standard consumer products, assessments should relate to a 12-month data period. The start date of the certification period <u>must</u> be no later than five years after the end of the assessment data period (e.g., the data period 1st January 2019 – 31st December 2019 may be used towards a certification period that starts no later than 31st December 2024). Assessments may remain valid for up to five years. In intermediate years, where an existing assessment is in place, an annual declaration ³ <u>must</u> be made that the assessment remains an accurate assessment of the carbon footprint of the product. If there is a significant change to the product supply chain within that five year period, the footprint <u>must</u> be adjusted to reflect that change within twelve months.	For standard consumer activities, assessments <u>must</u> at a minimum be annual. For one-off or custom activities the timescale <u>must</u> relate to the production and delivery period.
6. Determine data validity	Primary data <u>must</u> be used in preference to estimates, where it is available, up to date and geographically relevant. Estimates, extrapolations, models and industry averages may be used where actual data is unavailable. When this is done, these assumptions <u>must</u> be recorded by the party carrying out the assessment. A qualitative and/or quantitative description of the uncertainty associated with the client-supplied data should be made. In cases where the quality of client supplied data is not known (e.g. in online calculators), the dependency of results on the quality of input data <u>must</u> be made clear. The Protocol does not mandate a minimum percentage of the total GHG emissions inventory that is from primary data, however where the percentage of primary data is low this should be improved in the following assessment. The CarbonNeutral® certifier reserves the right to not accept the assessment where the third party assessor has material concern over the accuracy and robustness of the footprint. A minimum threshold for primary data may be introduced to The CarbonNeutral Protocol in the future.		
7. Measure GHG emissions	The subject's GHG emissions <u>must</u> either be directly measured or quantified using national, regional, international, or other relevant emission factors, with preference given to emission factors most closely associated with the emissions source. The assessment <u>must</u> be reported in units of CO ₂ e according to the 100-year warming potential of each gas. Preference should be given to the global warming potential (GWP) factors included within the latest assessment report of the Intergovernmental Panel on Climate Change (IPCC). In instances where most relevant emission factors available use previous GWP factors, it is still acceptable to use these emission factors. GWP factors applied <u>must</u> be clearly stated in the assessment. Emission sources that are required to be assessed (see Tables 4, 5 and 6) but are estimated to each represent less than 2% of the subject's total GHG emissions and collectively no more than 5% of the subject's GHG emissions <u>must</u> be included and may be calculated and reported using simplified estimation methods.		
8. Quality assurance	All GHG assessments <u>must</u> either be conducted or checked, and in the case of GHG tools and calculators, be approved, by an Assessment Partner or Assessment Provider approved by Climate Impact Partners to ensure they have met the requirements in this table. Technical Specification 2.2 details the requirements for the presentation of GHG assessments; and, Guidance 2.4 provides further guidance on quality assurance and verification.		

¹ If the subject is covered by an EPD which meets the requirements specified in **Guidance 2.8**, it shall fulfil the GHG emission quantification requirements for CarbonNeutral® product certification. Refer to **Guidance 2.8** for further guidance on EPDs.

² GHG Protocol, 2004, *Setting Organizational Boundaries*, http://pdf.wri.org/ghg_protocol_2004_chp003.pdf.

³ A copy of the annual declaration to be completed by the company is available by request from assessments@climateimpact.com.

2.2 GHG emissions assessments

Presentation of data

When preparing assessment results for a subject for CarbonNeutral® certification, the following data must be made available to the CarbonNeutral® certifier:

- Full and unambiguous definition of the subject
- Time period that data collected pertains to
- Methodology applied
- Full details of GHG emissions sources included within scope of assessment
- Full list of any GHG emissions sources omitted, including reason for omission
- Full details of all calculations undertaken – including source data, emissions factors applied, calculated results, any additional factors applied (e.g. uplift factors)
- Full list of emissions factors applied with dated, referenced sources
- Full details of estimates, extrapolations, models and industry models applied
- Full results of calculations (including without limitation, total emissions per unit, organized by subject)
- Volume of carbon credits or other environmental instruments to offset emissions in order for subject to achieve CarbonNeutral® certification
- Percentage of the total GHG emissions inventory that is from primary data vs. the percentage that is calculated based on upon estimates (the exact percentage is recommended)
- Provide recommendations to improve the accuracy of the calculations or methodology for future assessments to align with best practice

As many product certifications will initially be based on estimated sales, a reconciliation based on actual sales data must be submitted via an attestation once data becomes available. Attestation templates for annual sales data may be obtained from assessments@climateimpact.com.

Presentation of results for subject for CarbonNeutral® certification

Assessment results for a subject for CarbonNeutral® certification should be clear and unambiguous:

- GHG emissions sources included within the assessment should be categorized by "emissions source category" as defined within **Tables 4, 5 and 6**
- Each relevant "emissions source category" as defined within **Tables 4, 5 and 6** for the relevant certification should be listed and include either:
 - The calculated result (including both location- and market-based Scope 2 emissions)
 - A zero result
 - A clear indication of exclusion from the subject's CarbonNeutral® certification
- The total volume to be offset must be included (for Scope 2, the market-based total must be used)

Where multiple subjects are included within a single assessment, any "overlap" or potential double counting between the subjects must be clearly calculated and presented.

For example, a single assessment may cover the GHG footprint of an organization and the products manufactured by the organization. The emissions categories for CarbonNeutral® company and CarbonNeutral® product should be listed and presented separately. Emissions sources which relate to both certifications should be listed, with the value of the overlap stated.

Requirements for a CarbonNeutral® compliant Environmental Product Declaration

Where an organization uses an EPD to fulfill the requirements of the GHG Assessment in support of a CarbonNeutral® certification, the following must be met:

- The EPD must be developed using a suitable PCR which follows ISO 14025 guidelines, and additionally with ISO 21930 and/or EN 15804 if used for construction products
- The LCA must conform to the ISO 14040 series of standards
- The EPD must be validated by an independent, qualified third party to ensure it has met the necessary requirements

PART 2: Measurement of the organizational carbon footprint

2.3 Requirements for measurement of the organizational carbon footprint

In addition to the GHG Assessment of the defined subject, an organization awarded CarbonNeutral® certification is required to measure, estimate or evaluate its organizational GHG inventory on an annual basis. The organization must demonstrate to the certifier that it has fulfilled the requirements below in support of its CarbonNeutral® certification. The organization does not need to present its organizational emissions as part of the GHG Assessment as outlined under Part 1: Measurement of the defined subject's carbon footprint.

On an annual basis, the organization must:

- Measure, estimate or evaluate its value-chain emissions inventory in accordance with The GHG Protocol Corporate Reporting and Accounting Standard and the GHG Protocol Corporate Value Chain (scope 3) Accounting and Reporting Standard
- Include Scope 1 and 2 emissions, reporting both location-based and market-based emissions for Scope 2 emissions in line with the GHG Protocol Scope 2 Guidance;
- Include Scope 3 emissions for all emissions sources, according to the minimum boundary established for each of the 15 Scope 3 categories according to the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

The organization may elect to use a similar or equivalent standard, such as ISO 14064. In this case, the organization should ensure that all material emissions sources have been included.

Step 2: Measure Guidance

2.4 Quality assurance and verification

Purpose of this guidance

The foundation of a CarbonNeutral® certification is the GHG assessment of the defined subject, in accordance with *Part 1 – Measurement of the defined subject's carbon footprint*. The CarbonNeutral Protocol places strong emphasis on quality assurance to support the integrity of CarbonNeutral® certifications. This guidance explains how quality assurance is conducted and the roles and responsibilities of the CarbonNeutral® certifier; the client applying for and using CarbonNeutral® certifications; and independent third-party consultants.

Quality assurance roles and responsibilities

The CarbonNeutral® certifier's primary responsibility is to ensure that the requirements of the Protocol are met for the award of the specified certification. The client is responsible for completing a Protocol-compliant GHG assessment that is the foundation of all certifications.

The CarbonNeutral® certifier requires that assessments are undertaken or reviewed by a qualified independent third-party which has the responsibility for attesting that GHG assessments meet the requirements of the Protocol and are in line with the approach and principles of The CarbonNeutral Protocol.

To this end, the CarbonNeutral certifier recognizes two types of assessors:

1. Assessment Partner: a qualified third-party assessor with a formal agreement with the CarbonNeutral® certifier to conduct GHG assessments on behalf of clients in accordance with The CarbonNeutral Protocol

Assessments conducted by Assessment Partners are accepted as CarbonNeutral Protocol compliant without additional review

2. Assessment Provider: a qualified third-party assessor with no formal agreement with the CarbonNeutral® certifier, contracted by the client to conduct its GHG assessment in accordance with the requirements of The CarbonNeutral Protocol

Where an assessment is conducted by an Assessment Provider, the Assessment Provider must complete and provide an attestation that the underlying assessment meets the requirements of The CarbonNeutral Protocol and was undertaken based upon complete, accurate and correct data.

Assessment Partners

The appointment of Assessment Partners is conditional on evidence of the following competencies and experience specific to the relevant type of assignment (assessment or assessment review) and type of certification (entity, product or activity):

- Organizations qualified and experienced in GHG accounting, LCAs and / or EPDs having performed at least three assessments following one or more of the referenced product standards;
- Experienced individuals having performed at least three GHG assessments, LCA or EPD critical reviews following one or more of the referenced standards

The work products, qualifications and expertise of Assessment Partners are reviewed periodically to ensure that qualifications are maintained, and that Partners maintain satisfactory performance.

Verification, quality control and quality assurance requirements

Verification is an independent evaluation conducted by an expert third party to the requirements of a recognized verification standard (such as ISO 14064:3 or ISAE 3410) to confirm that the quality of input data, a GHG assessment, or that the use of a CarbonNeutral® certification logo meets the requirements of CarbonNeutral® certification and is in line with the approach and principles of The CarbonNeutral Protocol.

The CarbonNeutral® certifier reserves the right to review and approve/deny the Assessment Provider and the completed attestation, to determine whether the Assessment Provider has sufficient and appropriate experience and expertise to undertake a high quality, compliant review, and to determine whether the attestation has been completed satisfactorily. Attestation templates may be obtained at www.carbonneutral.com/attestation-form or by emailing assessments@climateimpact.com.

Independent assurance or verification of input data, calculations and CarbonNeutral® communications is at the discretion of the client and are not mandatory, though recommended.

Independent assurance or verification is particularly encouraged where:

1. The organization is large in size and/or is operating in a high emissions-intensity industry
2. Certifications are publicly reported or presented to audiences which may use CarbonNeutral® certifications to make commercially material decisions
3. Certifications are used in support of mandatory reporting requirements or submissions to regulatory authorities

The additional costs of verification should be weighed against the value derived from third-party review. The value of third-party review comes from increased rigor and integrity, and from the identification of management system improvements which increase cost-effectiveness and improve management of climate risks.

Routes to increased rigor and integrity of certifications include, but are not limited to:

1. Maintaining on file the data, assumptions, models and supporting calculations to a recognized standard such as ISO 14064-1 or the GHG Protocol
2. Ensuring that staff and management involved in the CarbonNeutral® certification have the requisite qualifications, competencies and experience
3. Subjecting the accuracy of the input data, assessments, and carbon neutral claims to third-party verification against a recognized verification or assurance standard such as ISO 14064 or ISAE3410 and ISAE3000
4. Independent confirmation of the accuracy of the CarbonNeutral® communications

2.5 Energy use (gas and electricity)

2.5.1 Treatment of renewable electricity in Scope 2 emissions

This guidance details how the carbon attributes of renewable energy in the form of energy attribute certificates (EACs) are accounted for in Scope 2 of the GHG inventories that underpin CarbonNeutral® certifications.

The “Scope 2 Guidance” amendment to the GHG Protocol, published in 2015 after four years of development and industry consultation, provides guidance for how corporations should measure emissions from electricity and energy purchases, including renewable energy, and covers:

- Requirements: Accounting and reporting requirements which entities must meet to be in conformance with the GHG Protocol Corporate Standard
- Quality Criteria: A list of Scope 2 quality criteria that all electricity purchasing instruments, termed “contractual instruments,” need to meet in order to be used in market-based method accounting
- Recommendations: Additional features entities are recommended to disclose include their electricity purchases, as well as other metrics such as total electricity, steam, heating, and cooling consumed and what percentage of a corporation’s operations have market-based method data available

From the date of publication of the GHG Protocol Scope 2 amendment, entities using the GHG Corporate Protocol to meet the GHG inventory requirements of The CarbonNeutral Protocol are required to meet its Scope 2 Guidance, as officially amended from time to time by the WRI.

Entities using any other GHG inventory standard recognized under The CarbonNeutral Protocol are subject to The CarbonNeutral Protocol’s original requirements that:

1. Zero emissions may only be claimed when double-counting is avoided. Evidence should be made available to establish either that the renewable electricity is not supplied to the national grid in the country concerned; or, that the benefit of the renewable energy is not included within national average grid factors or any other reporting factors
2. Emissions from energy supplied as “green,” “clean,” or “low-carbon” can be treated as zero where the energy consumed has been fully offset by the supplier or a third party using carbon credits that meet the requirements of The CarbonNeutral Protocol (as detailed in **Technical Specifications 4.2.1**)

For more information see: RECS International, 2020, *Maximising the reliability and impact of buying renewables: guidance for market participants*, https://recs.org/app/uploads/documents/Maximising-reliability-and-impact-guidance_FINAL.pdf&file_type=documents.

2.5.2 Treatment of Energy Attribute Certificates (EAC) in Scope 3 emissions

This guidance details how EACs may be applied to emissions resulting from:

- Electricity consumption in the use phase of CarbonNeutral® product and product-as-a-service certifications
- Electricity consumption from employee homeworking and remote work
- Transmission & Distribution (T&D) losses

This guidance – first published in January 2022 – is the result of market guidance and is expected to be reviewed and updated once new guidance becomes available from the GHG Protocol and/or other recognized standards.

Use phase of CarbonNeutral® product and product-as-a-service

The following requirements must be met when EACs are applied to use-phase emissions:

- The emissions to which EACs are applied as part of CarbonNeutral® product or CarbonNeutral® product-as-a-service certifications must be those from electricity consumption in the use phase

Use-phase emissions for the entirety of the product lifespan must be reduced to zero through the application of EACs and/or all remaining emissions must be offset through carbon credits to ensure a valid use of CarbonNeutral®.

- The GHG Protocol Scope 2 Guidance recommends matching the consumption period of electricity to the generation period. Therefore, vintage of EACs must match the period of electricity consumption as closely as possible. If EACs cannot be applied for the entirety of the product lifespan, entities must ensure that remaining emissions from the entire use phase are offset via carbon credits.
- For example, in the case of a product whose lifespan is seven years, if EACs are procured for years 1 and 2 but are unavailable for years 3-7, then carbon credits equivalent to the estimated electricity emissions for years 3-7 must be held in inventory until EACs are purchased and retired. At the end of the certification period, upon reconciliation of the actual product use, a sufficient quantity of EACs and/or carbon credits must be retired.

■ CarbonNeutral® products and products-as-a-service (PaaS) must calculate emissions for a defined function, as well as the duration and level of the service provided by the product, referred to as the use phase, as defined in the [GHG Protocol Product Life Cycle Accounting and Reporting Standard](#)

- EACs must be retired/cancelled as appropriate for their specific market. The retirement shall be made on behalf of end users of the product or product-as-a-service where practical and possible
- Methodologies and assumptions for determining electricity consumption for the use phase must be provided as described in [Technical Specification 2.2](#)
- Use-phase emissions must be reported using both a location-based and market-based method (i.e., with and without the application of EACs)

Use phase emissions shall be determined according to the following requirements:

- Primary data must be used where available
- Use data must be attributable to the country/region where the electricity is being consumed by the product or product-as-a-service. Where actual location is not available, a reasonable estimate of the country or region must be made
- Disclosure in the product or product-as-a-service terms and conditions must reference the retirement of EACs on end users' behalf

Employee homeworking

The following requirement must be met when EACs are applied to electricity consumption from employee homeworking and remote work:

- The location of the electricity consumption must match the location of the EAC, e.g., US employees must use North American RECs

2.5.3 Market-based Scope 2 reporting declaration to support CarbonNeutral® certification

This guidance details the disclosure requirements for organizations seeking to make a market-based Scope 2 reporting declaration in support of CarbonNeutral® certification. The disclosure only needs to be made when the party supplying the contractual instrument is not the primary CarbonNeutral® certifier, for example, when an entity sources renewable electricity directly from a utility company.

The disclosure table will be provided by the CarbonNeutral® certifier upon request. A column should be added to the table to account for each contractual instrument claim made within a corporate GHG inventory. Often this will involve engaging the contractual instrument supplier to determine the appropriate form of evidence that can be supplied to substantiate a market-based claim. The disclosure table should be completed at the time of preparing the GHG inventory and should be signed by an organization representative to warrant that the information provided is up to date, accurate, and that the CarbonNeutral® certifier can rely on the information.

When an entity's location is neither consuming renewable energy nor applying EACs to reduce their Scope 2 emissions, and the emissions associated with its energy use, for examples through a published residual mix emissions factor, is available, then the residual emissions factor(s) must be applied, resulting in a market-based total for Scope 2 emissions.

2.5.4 How to report GHG emissions from green gas certificates

Green gas certificates are relatively new products that are being adopted by organizations to manage their Scope 1 GHG emissions.

Green gas, known also as biogas, refers to gas produced by the breakdown of organic matter, through anaerobic digestion or fermentation. Feed stocks include biodegradable materials such as manure, sewage, municipal water, green waste and plant material.

Before biogas can be introduced to the gas grid it needs to be upgraded to pipeline quality natural gas standards. This upgraded gas becomes biomethane, which can be used for any purpose currently satisfied by conventional natural gas.

Injecting biomethane into the natural gas grid displaces the need for a unit of conventional natural gas. Therefore, certificates and contracts are the only practical means of tracking the green gas from production to end use. Projects such as the Green Gas Certification Scheme¹ aim to provide a certified means of tracking green gas injected into the grid through to end user consumption claims, similar to renewable electricity tracking schemes such as I-REC (International REC standard) and EECS-GO (European Energy Certificate System – Guarantee of Origin).

Clear guidance on extending market-based reporting approaches to renewable gas is still forthcoming. In their [Technical Note: Accounting of Scope 2 emissions](#), the CDP recommends referring to the GHG Protocol's Scope 2 Guidance when using green gas certificates.

2.6 Aviation

2.6.1 Calculating the climate impact of aviation

The purpose of this guidance is to set out how The CarbonNeutral Protocol considers the global warming impact of aviation, and to clarify the accounting method to be applied to the emerging use of Sustainable Aviation Fuels (SAFs).

How The CarbonNeutral Protocol addresses climate impacts from aviation

The CarbonNeutral Protocol recognizes the strengthening scientific consensus that high altitude climate impacts from aviation are greater than the impact of recognized GHG emissions alone. This includes but is not limited to: short and long term impacts from non-GHGs with global warming influence (including for example, soot particles and aviation induced clouds); and, direct and indirect impacts (for example, the interaction of NO_x with methane gases and ozone at high altitudes).

Guidance on accounting for the global warming impact of emissions from aviation

Although previously required, following the latest science around the impacts of aviation, it has become clear that the application of a separate Aviation Impact Factor (AIF) is misaligned.

As a result, The CarbonNeutral Protocol no longer requires an adjustment to emissions from aviation with the application of an AIF. Instead, organizations should consider how conversion factors applied during the calculation of emissions from aviation account for Radiative Forcing.

Examples of these can be taken from the UK Government who publish factors for emissions from aviation including Radiative Forcing¹ and the United States Environmental Protection Agency (EPA) who published the most recent version of its Emission Factors Hub in March 2023². It bases its aviation-related factors on guidance from the 2022 Guidelines to DEFRA / DECC's GHG Conversion Factors for Company Report.

The CarbonNeutral Protocol highly recommends that organizations use emissions factors that include impacts of Radiative Forcing.

¹ UK Government Department for Business, Energy and Industrial Strategy, 2021, *Greenhouse Gas Reporting: Conversion Factors*, <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2022>.

² United States Environmental Protection Agency, 2023, *Emission Factors for Greenhouse Gas Inventories*, <https://www.epa.gov/climateleadership/ghg-emission-factors-hub>.

Interpreting guidance on impacts on climate from aviation into The CarbonNeutral Protocol

Climate Impact Partners first reviewed the science underpinning the climatic impact of aviation in 2009, when it commissioned Professor John Murlis to provide guidance on the issue. The 2009 review, and its subsequent updates¹, highlighted that complex atmospheric chemistry associated with high altitude emissions of GHGs, other gases and effects, such as short- lived contrails and cloud formation, supported the view that the impact of aviation on climate may be greater than from recognized GHGs.

The CarbonNeutral Protocol recommends but does not require organizations to account for Radiative Forcing for two main reasons:

1. The scientific evidence, although strengthening, is still associated with some uncertainty in its ability to take accurate account of the wider impacts of aviation on climate

Although knowledge of the processes at play is strengthening, the scale of impacts remains in some important cases, subject to wide confidence limits. This is particularly the case for impacts of contrail induced cirrus clouds.

2. There is no publicly accessible record of climate regulations or compliance regimes applying an AIF greater than one for emissions from aviation

The EU's Emission Trading Scheme for aviation considers only emissions of carbon dioxide. DEFRA, the UK Government ministry responsible for environmental affairs, has provided internationally recognized guidance in support of a multiplier factor of 1.9. This factor is not actively applied within UK regulatory programs, nor to any voluntary action on climate mitigation by the UK Government and its ministries. The aviation sector's plans for a global carbon offset scheme to ensure carbon neutral growth from 2027 – the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) – also considers only carbon dioxide emissions.

The CarbonNeutral Protocol will continue to review the impact of aviation annually to align to best practice, including the outcomes of the ongoing consultations to The GHG Protocol Standard and related guidance.

Accounting for the use of Sustainable Aviation Fuels (SAFs)

The guidance above is based on the use of the conventional liquid hydrocarbon fuels (LHFs) available widely for aviation. However, in light of the Paris Agreement's 1.5°C warming target, the aviation industry, in partnership with the International Civil Aviation Organisation (ICAO), has now adopted a set of goals to reduce aviation's climate impact.

SAFs come in many forms, including hydrocarbons produced from renewable or waste feedstocks and a range of alternative fuels including hydrogen or electricity. In the short term, SAFs most commonly take the form of blends of conventional LHF and chemically equivalent fuels processed from waste oils, agricultural wastes and biomass feedstocks that can immediately replace LHF.

SAF displaces conventional LHF, replacing the fossil carbon with renewable carbon so that the direct impacts of flights are reduced proportionally to the amount of SAF in the blend. However, the secondary effects of aircraft flights, including impacts of non-CO₂ engine emissions and of the flight itself (contrails and induced cirrus), are currently recognized as of a similar order to their direct impacts — emerging evidence suggests that future assessment may put them on an order of twice the direct impacts of total engine CO₂ emissions. This dilutes the direct benefits of SAF by factor of approximately 2 today, but possibly more in future. There are, then, direct Scope 1 gains from the use of SAF, but at current blending levels, they are relatively modest.

While the development and deployment of SAFs is currently limited, its use in commercial flights is growing and expected to increase over time. Clients able to access SAF fueled flights can account for their impact under the guidance provided in **Guidance 2.7**, subject to availability of reliable use data and appropriately adjusted AIFs.

Clients pursuing increased deployment of SAFs to reduce emissions from their air travel should make themselves aware of the wider sustainability issues associated with the production of SAFs (see Murlis 2021 guidance – www.carbonneutral.com/aviation-guidance-in-full) and seek assurances about the adequacy of environmental safeguards applied to the production of SAF feedstocks.

¹ Climate Impact Partners, 2021, *Guidance to Climate Impact Partners on the Treatment of Offsetting for Air Travel in The CarbonNeutral Protocol*, www.carbonneutral.com/aviation-guidance-in-full.

2.6.2 Determining aviation emissions from flight distances

Where exact fuel consumption data is not available for GHG emission calculations, passenger kilometers travelled should be used as a basis for calculation instead. Depending on flight distances, different emissions factors are applicable and are often classified as domestic, short haul, medium haul or long haul. Due to the extreme variability in country sizes, the use of "domestic" classification provided for use in one country can be counter-productive when applied to flights within another country.

This applies particularly when using DEFRA emission factors for air passenger transport conversion figures in countries other than the United Kingdom.

Therefore, for the purposes of consistency, the following classifications should apply:

- Short haul: Flight distance of less than 785km (DEFRA emission factors for "domestic" should be applied)
- Medium haul: Flight distance between 785km and 3,699km inclusive (DEFRA emission factors for "short-haul international" should be applied)
- Long haul: Flight distances of 3,700km or greater (DEFRA emissions for "long-haul" should apply)

For clarity, these distance classifications should be applied when calculating emissions arising from passenger flights (passenger km) and/or air freight transportation (tonne km). These distance categories must be applied internationally, in the absence of robust, country-specific factors.

2.7 How to report GHG emissions from carbon neutral services within a corporate GHG inventory

Organizations are increasingly considering the environmental performance of suppliers as part of their procurement process. If a business has selected a supplier because they provide a carbon neutral service, this guidance sets out best practice with regards to reporting the GHG emissions from the service within the business' annual GHG inventory. Services that are frequently supplied as carbon neutral services include flights and logistics services. This approach would apply equally to the GHG inventory of a product where components of the product are sourced as carbon neutral products. Given carbon neutral services are more widely available in the market, this guidance focuses on services in the context of an annual corporate GHG inventory.

This guidance aligns with the GHG Protocol's Scope 3 Standard¹ and UK DEFRA's Environmental Reporting Guidelines.²

This guidance recommends the following steps:

1. Request suppliers provide a breakdown of the GHG emissions associated with the services consumed

The total gross carbon footprint for a specific time period (e.g. financial year) plus an intensity measure relevant to how the service is consumed. For example, if document storage is outsourced to a cloud-based service, request the figure for CO₂e emitted per gigabyte per year. The carbon intensity metric is useful for forecasting how GHG emissions will vary based on the level of consumption

2. Confirm if the service purchased is carbon neutral

To deliver a carbon neutral service the provider will need to offset (retire) a volume of carbon credits equivalent to the emissions created by the provision of the service. For example, if the gross footprint of the service equals 10 tCO₂e, then 10 tCO₂e of carbon credits need to be purchased and retired, and once retired the net footprint equals 0 tCO₂e, i.e. the service is carbon neutral. To ensure the service provider is using high quality carbon credits which guarantee emissions reductions from credible project types, you should request that they work with a carbon credit supplier that complies with the requirements set out in **Technical Specification 4.2.1.1**. If a supplier is not using credits in compliance with the ICROA Code, then those credits cannot be included in support of a CarbonNeutral® certification

3. When preparing a corporate GHG inventory, categorize the carbon neutral service according to requirements of the GHG Protocol standards. To maintain the integrity of the GHG inventory, total GHG emissions should be reported, before reporting a lower figure for net emissions that has been reduced by the retirement of carbon credits by the product or service provider

¹ Greenhouse Gas Protocol, 2011, Corporate Value Chain (Scope 3) Standard, <https://ghgprotocol.org/standards/scope-3-standard>.

² Environmental Reporting Guidelines: including mandatory greenhouse gas emissions reporting guidance, <https://www.gov.uk/government/publications/environmental-reporting-guidelines-including-mandatory-greenhouse-gas-emissions-reporting-guidance>.

2.8 Using environmental product declarations (EPDs) for CarbonNeutral® products

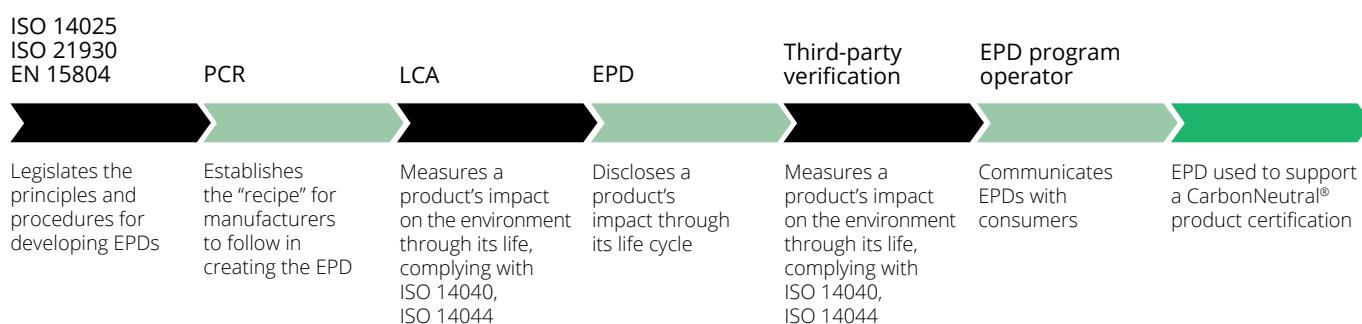
Environmental Product Declarations (EPDs) are an alternative way to demonstrate achievement of Steps 1 and 2 of the CarbonNeutral® certification process for products. Step 1 covers the definition of the subject and Step 2 covers measurement of the subject's GHG emissions.

An EPD is a type III environmental label meaning it declares the environmental impacts of a product over its expected life. EPDs can be thought of as the environmental equivalent to nutrition labels for food products, stating a product's carbon footprint and other environmental impacts such as resource depletion, acidification, and eutrophication. It is a comprehensive, voluntary, internationally recognized report that compiles and standardizes technical LCA information, eliminating the need to contend with numerous individual documents.

Figure 6 demonstrates how the integrity of EPDs is established by the application of a variety of third-party standards and processes:

- Transparency is a key component of EPDs, and upon completion, all EPDs should be publicly registered with an EPD program operator, in addition to being independently verified
- Program operators are responsible for maintaining type III EPD programs, and establishing procedures for the development of Product Category Rules and EPDs

Figure 6: Establishing the Integrity of EPDs



Given the rigor applied to the development of Product Category Rules (PCRs), the strict requirements of ISO LCA methodologies and the need for independent third-party verification, The CarbonNeutral Protocol recognizes that EPDs provide robust, high quality GHG measurement outputs.

There may be minor differences in requirements of The CarbonNeutral Protocol relative to an EPD. EPD product category rules for any given subject will by definition be more relevant to the subject than the general requirements of The CarbonNeutral® product certification. Therefore, where there are differences, the EPD prevails and is deemed to have met the requirements of The CarbonNeutral Protocol. **Table 9** explores some of these requirements in more detail.

Table 9: Comparison of Requirements Between The CarbonNeutral Protocol and EPDs for CarbonNeutral® Product Certification

Step 1: Define the subject		
	The CarbonNeutral Protocol requirements	EPD requirements¹
Requirements	The subject to which The CarbonNeutral Protocol is being applied <u>must</u> be clearly defined, by name and by description of the relevant legal and/or physical boundaries. The duration of a CarbonNeutral® certification <u>must</u> also be defined. Where applicable, a start date should be defined. The CarbonNeutral® certification to be applied <u>must</u> also be defined and <u>must</u> be compatible with the subject. The definition of the subject and the certification <u>must</u> be recorded by the CarbonNeutral® certifier and the information retained for the purpose of auditing.	Covers The CarbonNeutral Protocol requirements, and goes beyond by requiring, for example, an in-depth description of the functions of the product system, and a description of the cut-off criteria for initial inclusion of inputs and outputs.
Step 2: Measure the subject's GHG emissions		
Stage	The CarbonNeutral Protocol requirements	EPD requirements¹
1. Select GHG accounting protocol	The GHG Protocol Product Standard, PAS 2050, ISO 14067 or methods set out in steps 2-7 below <u>must</u> be applied unless the CarbonNeutral® certifier identifies valid reasons for using other methods.	The carbon footprint of the product should be based on the ISO 14040 series of standards (or ISO 21930 for building products), and measurement should follow the ISO 14067. EPDs are deemed to match the requirements of The CarbonNeutral Protocol.
2. Define boundary	The boundary <u>must</u> be consistent with the definition of the subject. For cradle-to-customer subjects the boundary <u>must</u> extend to the point of delivery to the first customer. For cradle-to-grave subjects the boundary <u>must</u> extend to end-of-life disposal.	The boundary covered by Product Category Rules (PCRs) extends from cradle-to-grave and is designed to capture material impacts. In some cases it only covers extraction, processing of raw materials and packaging and manufacture (cradle-to-customer, but excluding the distribution to the first customer).
3. Identify emissions sources	Assessments <u>must</u> include emissions sources as specified in Tables 4, 5 and 6 for CarbonNeutral® certifications and their specific required assessment emissions sources.	PCRs define the emissions sources which are required for the EPD. These emissions sources are determined by industry and LCA experts, and represent best industry practice. The requirements of EPDs go beyond the detail in Tables 4, 5 and 6 of The CarbonNeutral Protocol, therefore they are deemed to meet and exceed The CarbonNeutral Protocol requirements.
4. Identify GHGs to be measured	All GHGs recognized under the UN Framework Convention on Climate Change <u>must</u> be measured in the assessment, insofar as they apply to the subject.	The measurement of all GHG emissions and removals that provide a significant contribution to the carbon footprint of the product system. EPDs are deemed to meet the requirements of The CarbonNeutral Protocol.
5. Establish time periods	For standard consumer products, assessments <u>must</u> at a minimum be every five years, unless a significant change to the product supply chain has occurred, in which case another assessment <u>must</u> be undertaken. For one-off or custom-produced products the timescale <u>must</u> relate to the production and delivery period.	The validity of the EPD is set at a minimum of five years after which the declaration <u>must</u> necessarily be revised and reissued. EPDs are deemed to meet the requirements of The CarbonNeutral Protocol.

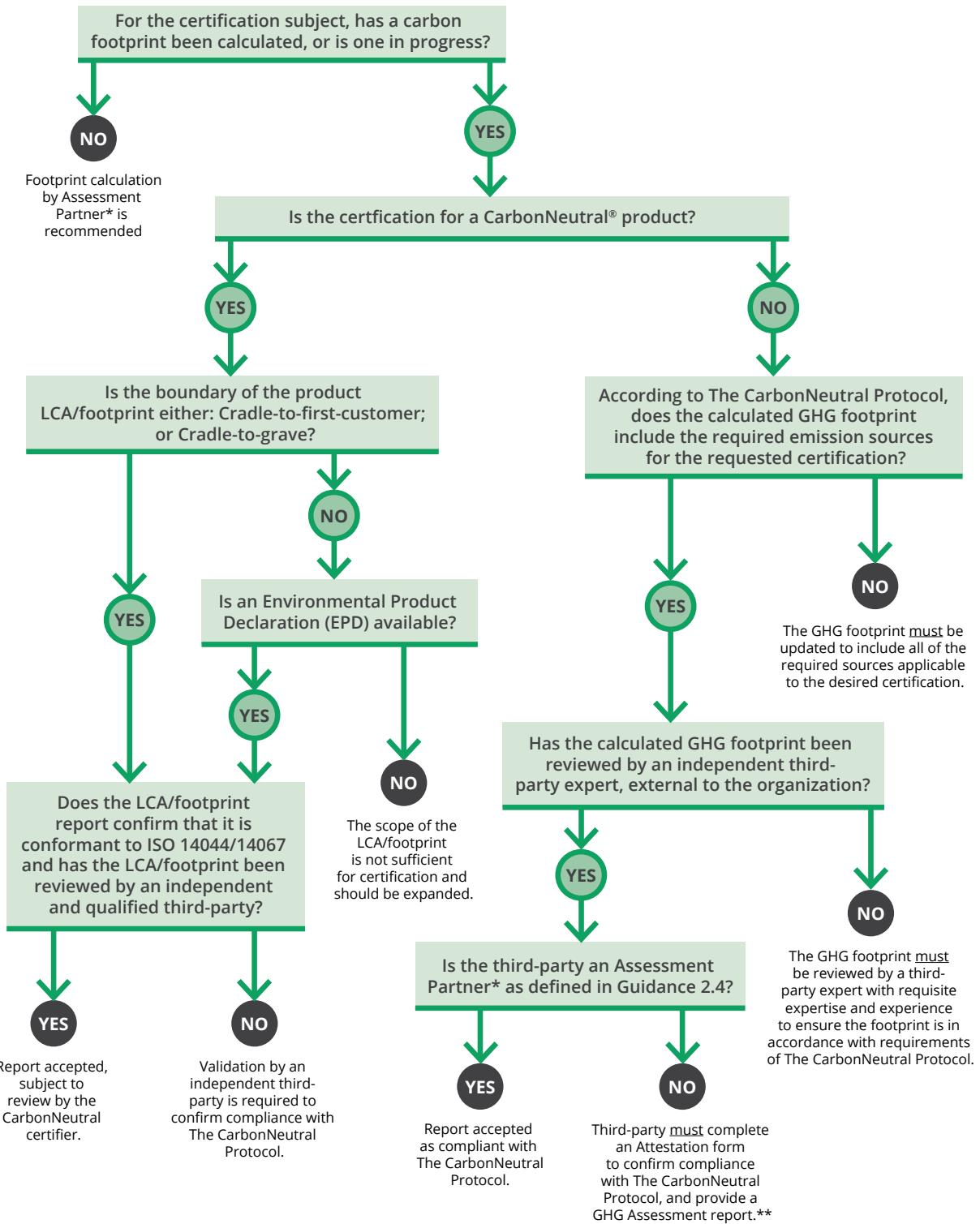
¹ As recommended by ISO 14067.

Step 2: Measure the subject's GHG emissions (continued)		
Stage	The CarbonNeutral Protocol requirements	EPD requirements ¹
6. Determine data validity	<p>Primary data <u>must</u> be used in preference to estimates, where it is available, up-to-date and geographically relevant. Estimates, extrapolations, models and industry averages may be used where primary data is unavailable. When this is done, these assumptions <u>must</u> be recorded by the party carrying out the assessment.</p> <p>A qualitative and/or quantitative description of the uncertainty associated with the client-supplied data should be made. In cases where the quality of client supplied data is not known (e.g. in online calculators), the dependency of results on the quality of input data should be made clear.</p>	<p>Site-specific data shall be collected for individual processes under the financial or operational control of the organization, and shall be representative of the processes for which they are collected. Site-specific data should also be used where practicable for those unit processes that contribute significantly, but are not under the financial or operational control of the organization.</p> <p>Data that is not site-specific data, based on global or regional averages, collected by regional or international organizations and which have undergone third-party verification should be used when the collection of site-specific data is not practicable.</p> <p>EPDs are deemed to meet the requirements of The CarbonNeutral Protocol.</p>
7. Measure GHG emissions	<p>The subject's GHG emissions <u>must</u> either be directly measured or quantified using national, regional, international, or other relevant emission factors, with preference given to emission factors most closely associated with the emissions source.</p> <p>The assessment <u>must</u> be reported in tonnes of CO₂e according to the 100 year potential of each gas. GWP factors applied <u>must</u> be clearly stated in the assessment.</p> <p>Emission sources that are required to be assessed (see Tables 4, 5 and 6) and are estimated to represent less than 2% of the subject's total GHG emissions, but collectively no more than 5% of the subject's GHG emissions <u>must</u> be included, but may be calculated and reported using simplified estimation methods.</p>	<p>Data that are not site-specific data may include literature data, such as default emission factors, calculated data, estimates or other representative data.</p> <p>The potential climate change impact of each GHG emitted and removed by the product system shall be calculated by the 100-year GWP given by the IPCC in units of "kg CO₂e per kg emission."</p> <p>Include all GHG emissions and removals that provide a significant contribution to the carbon footprint of the product system being measured.</p> <p>EPDs are deemed to meet the requirements of The CarbonNeutral Protocol.</p>
8. Quality assurance	<p>All GHG assessments <u>must</u> either be conducted or checked, and in the case of GHG tools and calculators, be approved, by an Assessment Partner or Provider to ensure they have met the above requirements in this table. Input data (or activity data) used in assessments should also be checked by Assessment Partners and Providers.</p> <p>Technical Specification 2.2 details requirements and recommendations for the presentation of GHG assessments.</p>	<p>Requires third-party verification. A critical review which ensures consistency between an LCA and the principles and requirements of the international standards on LCA can also be conducted.</p> <p>EPDs are deemed to meet the requirements of The CarbonNeutral Protocol.</p>

¹ As recommended by ISO/TS 14067.

Figure 7: Determining if GHG Emissions Assessments Meet the Requirements of The CarbonNeutral Protocol

This flow-chart sets out some of the procedural elements to evaluate conformance of GHG Emissions Assessments to the requirements of The CarbonNeutral Protocol.



* Assessment Partner: third-party with a formal agreement with the CarbonNeutral certifier to conduct GHG assessments on behalf of clients in accordance with the requirements of The CarbonNeutral Protocol. Assessments conducted by Assessment Partners are accepted as CarbonNeutral Protocol compliant without additional review. Assessment Partners include: RSK, Ecometrica, Turley.

** Attestations will be accepted from Assessment Providers, subject to review and approval by the CarbonNeutral certifier, where Assessment Providers are deemed to have sufficient and appropriate experience and expertise to undertake a high quality, compliant review and the attestation has been completed satisfactorily.

Step 3: Target Technical Specification

3.1 Requirements for emissions reduction targets

This section specifies the abatement targets which must be in place for organizations awarded any CarbonNeutral® certification. Where an organization does not have an appropriate abatement target in place, it is permitted to set one during its GHG Assessment process. The certifier acknowledges that setting an appropriate reduction target may take more than 12 months, and therefore in the first year of achieving certification an organization must as a minimum have demonstrated material commitment and progress.

The organization must specify its reduction targets within a CarbonNeutral® Certification Target and Reduce Form. This Target and Reduce Form may be revised from time to time within the annual Protocol publication cycle. Visit www.carbonneutral.com/target-and-reduce-form for the most up to date version.

3.2 Near-term targets

Organizations must set a near-term science-aligned target. The abatement targets and trajectories must align with the IPCC's science-based guidance and entities should give preference to guidance provided by independent, internationally recognized abatement standards.

Application of a specific framework for setting science-aligned targets is not mandated for CarbonNeutral® certification, however it is acknowledged that currently, the Science Based Targets initiative is the only established framework. Where organizations apply the SBTi recommendations and guidance, they are not required to submit the near-term target for validation to the SBTi.

The SBTi considers near-term targets as a minimum of five years and a maximum of ten years from when the data and target is submitted to the SBTi for validation, with a base year of no earlier than 2015.

An organization's near-term target must have been set and/or reviewed by a qualified third party which has appropriate experience in setting or evaluating the integrity of science aligned targets.

Step 3: Target Guidance

3.3 Long-term targets

Whilst not mandated, organizations are encouraged to:

- Set a long-term science-aligned target in line with the latest climate science to achieve global or sector net zero on a 1.5°C pathway before 2050
- Commit to achieving Net Zero by 2050, which requires achievement of long-term targets and balancing residual emissions with removal of CO₂e from the atmosphere

3.4 Net zero targets

Historically the terms carbon neutral and net zero have been interchangeable, but recently greater clarification on what net zero could and should mean has been published. This guidance provides an overview of the concept of net zero, and sets out three different ways in which CarbonNeutral® certifications support net zero objectives.

Net zero concept

Net zero is still a relatively new concept with approaches and definitions being published frequently (See **Net zero** in the Glossary for some of the latest definitions). We anticipate that definitions of net zero will be refined with time and application, and this guidance will be updated in subsequent revisions to the Protocol.

The rising prominence of net zero targets was initiated by The Intergovernmental Panel on Climate Change's (IPCC) Special Report on Global Warming of 1.5°C, which advised of the critical importance of achieving net-zero emissions as soon as possible to improve the probability of limiting warming to 1.5°C. Adoption of net zero by the private sector is driven in large part by the desire to align with the ambition set out in the Paris Agreement of net zero emissions by or before 2050, and the growing number of nations which have refined their national climate plans to target the same.

2023 research by Climate Impact Partners into the Fortune Global 500 found that 40% (199) of companies have a net zero target, up from 39% (188) a year ago. Most targets are set for between 2031 and 2050 (33% of all companies), whereas 6% have set a net zero target to be achieved earlier. This compares to 7% (37) that are carbon neutral today, a further 10% (50) that have a target to be carbon neutral by 2030, and an additional 17% (87) that have a target to be carbon neutral by 2050.¹

How CarbonNeutral® certifications support net zero ambitions

There are three main ways in which CarbonNeutral® certifications support net zero ambitions:

1. Annual carbon accounting and action on all unabated emissions

Defining and measuring carbon footprints on an annual basis and taking action on unabated emissions are processes that are common in carbon neutral programs and will be necessary for corporates achieving net zero. Carbon neutrality's requirement to compensate for all unabated emissions through offsetting provides a reference price for GHG emissions that helps entities identify opportunities for deeper internal reductions. In addition to helping an individual organization become carbon neutral, offsetting unabated emissions to achieve a CarbonNeutral® certification finances emission reductions and transformation in the wider economy. The Science-Based Targets Initiative's (SBTi) Beyond Value Chain Mitigation (BVCM) report, published in February 2024, recommends that organizations purchase carbon credits equal to at least 50% of unabated value chain emissions annually on the pathway to net zero to support global efforts to achieve net zero.²

We discuss the requirements of SBTi's BVCM on page 8 of our 2024 *Climate Action Protocol*.³

¹ Climate Impact Partners, 2023, *Commitment Issues*, <https://www.climateimpact.com/news-insights/fortune-global-500-climate-commitments/>.

² Science Based Targets initiative, 2023, *Net Zero Standard*, <https://sciencebasedtargets.org/resources/files/Net-Zero-Standard.pdf>, page 21.

³ Climate Impact Partners, 2024, *Climate Action Protocol*, <https://www.climateimpact.com/business-solutions/climate-claims/>, page 8.

Technical Specifications & Guidance

2. Increasing removals

For an organization to achieve a net zero target, unabated emissions are offset through removal projects, e.g. natural climate solutions such as protecting forests that remove carbon from the atmosphere (or “neutralisation measures” in SBTi’s language). To align CarbonNeutral® certifications with a net zero target, organizations must increase the proportion of removals in their offset portfolio until all unabated emissions are offset only with removal projects. Boston Consulting Group exemplifies this approach, with its commitment to steadily increase its portfolio of removal projects while achieving carbon neutrality, on the path to its net zero by 2030 target.¹ (see **Figure 8**).

During the transition to net zero, financing reductions and avoided emissions projects (“compensation measures” in SBTi’s language) continues to play a “critical role in accelerating the transition to net-zero emissions at the global level”. In addition, organizations are also increasingly looking for approaches that integrate climate action with other Sustainable Development Goals (SDGs). Many avoidance and reduction projects deliver quantified impacts for sustainable development such as health and livelihoods, biodiversity conservation, and education. As a result, mixed portfolios of these projects, alongside removal projects which may not have the same level of SDG impact, can offer an optimal solution.

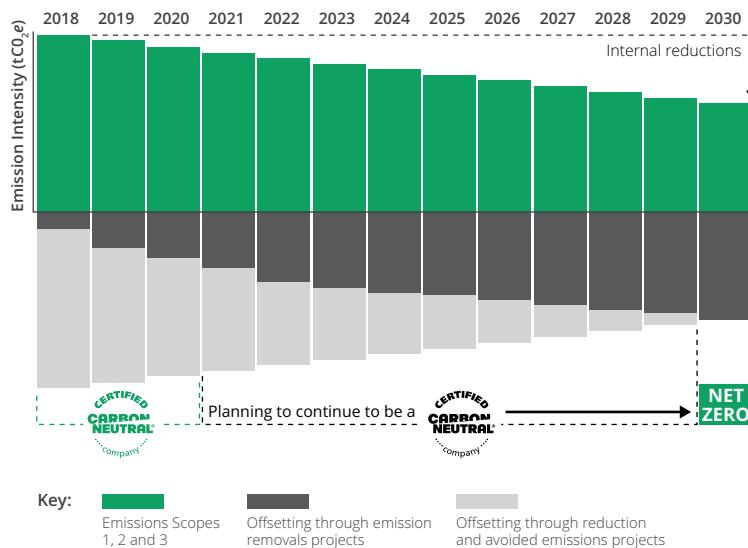
3. Increasing climate action on value chain emissions

When an organization reaches net zero, it must cover all material sources of GHG emissions within its value chain. Through CarbonNeutral® product and service certifications, organizations are moving towards taking responsibility for all sources of emissions. For example, through CarbonNeutral® product certification, an organization may expand its carbon neutrality from operations towards a broader scope as part of its target to be net zero by 2030 (see **Figure 9**).

Further information can be found at:
Science Based Targets Initiative (SBTi),
2023, *SBTi Corporate Net-Zero Standard*,
<https://sciencebasedtargets.org/resources/files/Net-Zero-Standard.pdf>

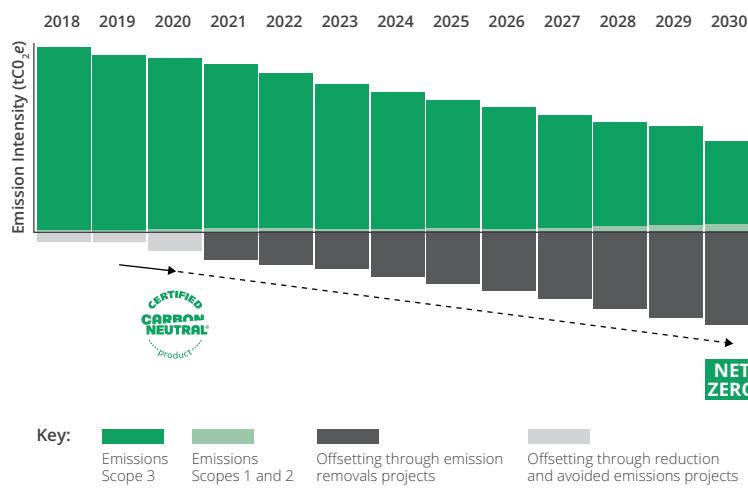
Science Based Targets Initiative (SBTi),
2021, *Beyond Value Chain Mitigation FAQ*,
<https://sciencebasedtargets.org/resources/files/Beyond-Value-Chain-Mitigation-FAQ.pdf>

Figure 8: How CarbonNeutral® Certifications Support Net Zero Ambitions: Increasing Removals



This chart is a visual representation of a steady transition to net-zero climate impact, and does not present actual or forecasted emissions data

Figure 9: How CarbonNeutral® Certifications Support Net Zero Ambitions: Using CarbonNeutral® Product Certification to Start Taking Climate Action on Entire Value Chain Emissions



This chart is a visual representation of a steady transition to net-zero climate impact, and does not present actual or forecasted emissions data

¹ BCG, 2023, *The First Three Years of BCG's Net Zero Journey*, [https://www.bcg.com/publications/2023/the-first-three-years-of-bcgs-netzero-journey](https://www.bcg.com/publications/2023/the-first-three-years-of-bcgs-net-zero-journey).

Step 4: Reduce Technical Specifications

PART 1: Internal abatement

4.1 Internal abatement requirements

This section lays out the requirements for the achievement of internal abatement, in support of CarbonNeutral® certification.

Certified organizations should demonstrate that their company-wide and subject-specific GHG inventories are decreasing over time. Abatement can be demonstrated using absolute or intensity metrics.

Annually, certified organizations must meet one of the following requirements. Option 1 should be prioritized, and Option 2 used only where the organization has failed to meet the requirements of Option 1.

Option 1

All three of the following:

- Have demonstrated an emissions reduction vs. the baseline year
- Have demonstrated an emissions reduction vs. the prior year
- Consider itself on track to achieve its near-term science-aligned target

Option 2

To be used only where one or more of the requirements from Option 1 have not been met.

Both of the following:

- Publicly explain whether and how it considers itself on track to achieve its near-term science-aligned target
- Publicly disclose planned and ongoing corrective actions the organization is taking to ensure that emissions reductions will be achieved in subsequent years

Achievement of the above requirements, or an explanation of why the requirements have not been met and how this will be addressed, must be reported in a client's CarbonNeutral® Certification Target and Reduce Form (see **Technical Specification 3.1**).

The CarbonNeutral Protocol acknowledges that annual reductions are not always linear and may not be consistently achieved, as there are several influencing factors which may lead to a temporary increase in emissions, such as large capital expenditure projects or unexpected supply chain disruptions. However, it is critical that organizations remain on track to meet their near-term reduction targets and the certifier reserves the right to withdraw certification from organizations which are unable to achieve annual reductions over longer timeframes.

PART 2: External compensation

4.2 External compensation requirements

This section lays out the requirements for the mitigation activities which are required outside of the organizational value chain. Specifically, the requirements of the use of carbon credits to reach the carbon neutral position of the subject.

The organization must compensate and/or neutralize the required emissions sources measured as a minimum, but are highly encouraged to go beyond the required emissions sources and include additional emissions categories. Organizations should consider the expectations of their stakeholders when deciding which additional emissions sources and categories should be compensated.

4.2.1 Approved environmental instrument standards

Purpose

This section specifies the criteria for use of environmental instruments in CarbonNeutral certifications and which instruments meet the criteria.

4.2.1.1 Carbon credits

Criteria

All carbon credits used towards the achievement of CarbonNeutral® certification must meet the following criteria:

Additional: An emission reduction project is said to be additional when it can be demonstrated that in the absence of the availability of carbon finance the project activity would not have occurred (the "baseline" scenario); and, such baseline scenario would have resulted in higher GHG emissions.

Each eligible carbon accounting standard under The CarbonNeutral Protocol provides tools for how additionality at a project level is tested and demonstrated. For further discussion of this topic, see **Guidance 4.5**.

Legally attributable: Carbon credits must have a clear record of ownership from project owner and thereafter.

Measurable: Emissions reductions are quantified relative to a transparent and robust baseline scenario using recognized, peer-reviewed, published methods and project-specific data; or, using recognized performance standard procedures.

Permanent: Emissions reductions are permanent. Where reductions are generated by projects that carry risk of reversal, adequate safeguards must be in place to ensure that the risk of reversal is minimized and that, if any reversal occurs, a mechanism is in place that guarantees the reductions will be replaced.

Unique: Emissions reductions are held and retired on a registry to ensure that no more than one carbon credit can be associated with a single emission reduction.

Independently verified: Emissions reductions are verified by an expert third party qualified to verify carbon credits to ensure the criteria above have been met.

Further considerations

Emission reduction projects have impacts in addition to GHG emission reductions. While many projects have positive co-benefits, some may have negative impacts. Carbon credit standards accepted by The CarbonNeutral Protocol have requirements that material negative impacts should not arise from emission reduction projects.

Approved carbon credit standards and project types

Carbon credits verified under the standards set forth in **Table 10** are considered appropriate for use in corporate carbon neutrality programs as they have been determined to be additional, legally attributable, measurable, permanent, unique and independently verified, and therefore are qualified for use as external environmental instruments to reduce a subject's GHG emissions. This list of standards is reviewed annually and updated from time to time to reflect developments in best practice and the performance of carbon credit standards.

In general, any mitigation project recognized under the standards is accepted under the Protocol, and carbon credits are treated equally across standards, vintage and project types. There are exceptions to this general approach, as set out below which identifies projects types that are not accepted under the Protocol and the reasons for the exclusions.

Exceptions

If the carbon credits from these standards are not in accordance with all of the criteria covering carbon credits - legally attributable, measurable, permanent, unique and independently verified—they must not be used for offsetting. As a consequence, Forward Mitigation Units from CAR, ex-ante forestry credits under the Gold Standard, Pending Issuance Units (PIUs) under the UK Woodland and Peatland code and t-CERs and I-CERs under the CDM are not acceptable.

Table 10: Approved Carbon Credit Standards

Approved standard	Type of carbon credits generated
American Carbon Registry	Emission Reduction Tonnes (ERTs)
Australian Emissions Reduction Fund (ERF) ¹	Australian Carbon Credit Unit (ACCU)
British Colombia	B.C. Offset Units
Climate Action Reserve	Climate Reserve Tonnes (CRTs)
Global Carbon Council	Approved Carbon Credits (ACCs)
Gold Standard for the Global Goals ²	Gold Standard Voluntary Emission Reduction (VER) credits
Japanese Credit Scheme ³	J-Credits
Kyoto Protocol's Clean Development Mechanism (CDM)	Certified Emission Reductions (CERs)
Plan Vivo	Plan Vivo Certificates (PVCs)
Puro Standard	CO ₂ Removal Certificate (CORC)
UK Peatland Code ³	Peatland Carbon Units (PCUs)
UK Woodland Carbon Code ³	Woodland Carbon Units (WCUs)
Verified Carbon Standard (VCS)	Verified Carbon Units (VCUs)

¹ This was previously known as Australian Carbon Farming Initiative.

² Only credits issued for reductions up to 31st December 2020 can be used. See **Guidance 4.8** for more information in Corresponding Adjustments.

³ These are domestic standards and are only acceptable for domestic footprints.

Removal carbon credits

The Protocol treats mitigation projects that avoid and reduce emissions and those that remove GHGs from the atmosphere as equal. The logic underpinning this approach is the 'over-flowing bath-tub' analogy. With the taps on, a balance is achieved either by turning down the taps (avoid or reduce emissions) or by draining an equal amount down the plug (removing emissions from the atmosphere and capturing them in carbon sinks). Both approaches have a critical role to play in mitigating climate change. However, as we get closer and closer to the safe limit of GHG concentrations in the atmosphere, clients should consider an increasing role for removal projects.

Excluded project types

Due to historic concerns on quality, the following project types must not be used towards the achievement of CarbonNeutral® certification, although they are recognized under some carbon credit standards in **Table 10**:

- Conventional (i.e. dammed/non run-of-river) hydro-electric power projects with an installed capacity greater than 20MW, unless a qualified independent third party assures compliance with the World Commission on Dams (WCD) sustainability criteria or equivalent assessment introduced by the underlying carbon standard
- HFC-23 destruction projects and N₂O destruction projects where N₂O is the by-product of the industrial processes to produce adipic acid or nitric acid

4.2.1.2 Approved Energy Attribute Certificate (EAC) standards

Under the provisions of the GHG Protocol Scope 2 Guidance, entities may purchase and retire EACs to support a zero-emission grid factor for Scope 2 emissions. For non-owned renewable energy consumption, EACs are the most credible evidence of energy compensation, and claims without EACs in geographies where they are available are questionable/potentially problematic.¹ However, as the GHG Protocol is a respected third-party carbon accounting standard, its Scope 2 guidance is accepted under The CarbonNeutral Protocol.

Table 11 lists the EAC standards that are acceptable for a Scope 2 or Scope 1 claim within a CarbonNeutral program that follows the market-based GHG accounting approach defined by the GHG Protocol Scope 2 Guidance. It is not an exhaustive list, rather it details those EACs in most common use within CarbonNeutral programs.

EAC programs generally prescribe applicable validity periods. In cases where validity periods are not prescribed, EACs issued within one year of the period covered by the CarbonNeutral® certification must be used.

Third-party certification and labelling of EACs

In some markets, a third party may also certify EACs based on an established standard that specifies a set of criteria which can be applied to determine which certificates can receive the label. The criteria used to define a subset of eligible EACs are typically based on technology or the commissioning date of the renewable energy facility.

Aligning procurement decisions with these criteria demonstrates impact that goes beyond the lowest-cost EAC solution. Examples of voluntary certification programs commonly used within CarbonNeutral programs include Green-e Energy in North America and EKOenergy, which is a global EAC label.

4.3 Recognized non-carbon accounting standards

The non-carbon accounting standards listed in **Table 12** are those designed to complement carbon credit standards to provide measurable and independently verified assessment of the positive environmental, social, and economic benefits of carbon reduction projects (also known as "co-benefits"). These standards should be used to evaluate and communicate the co-benefits of emission reduction projects.

¹ For a critical review of accounting approaches for renewable energy, refer to: Brander, Gillenwater, and Ascui, 2018, *Creative accounting: A critical perspective on the market-based method for reporting purchased electricity (scope 2) emissions*, <https://www.sciencedirect.com/science/article/pii/S0301421517306213?via%3Dihub>.

Table 11: Approved Energy Attribute Certificate (EAC) Standards

Geographically covering		Approved standard/Governing body	Type of EAC generated
Region	Countries		
North America only	USA and Canada	North American State and Regional level certificate tracking systems	Renewable Energy Certificates (RECs)
Europe only	28 countries in Europe	European Energy Certificate System (EECS)	Guarantee of Origin (GO)
	United Kingdom	Green Gas Certificate Standard (GGCS)	Renewable Gas Guarantee of Origin (RGGO)**
	United Kingdom	Ofgem (Office of Gas and Electricity Markets)	Renewable Energy Guarantee of Origin (REGO)
Asia only	Japan	Green Power Certification, administered by the Green Energy Certification Centre, Japan	Green Electricity Certificates (GECs)
		Ministry of Economy, Trade and Industry	J-Credits
		Japan Electric Power Exchange (JEPX)	Non-fossil Certificates - with tracking attributes (NFCs)
	Taiwan	National Renewable Energy Certification Center	T-REC
	China	National Energy Administration (NEA)	GEC (Green Electricity Certificates)
	South Korea	Korea Energy Agency	Korean national EAC system
Oceania only	Australia	The Renewable Energy Act 2000 – Federal Law Australia	Large-scale generation certificates (LGCs) and Small-scale Technology Certificates (STCs)
	New Zealand	BraveTrace	NZecs
Africa only	South Africa	zaRECs (Pty) Ltd.	zaRECs
Multiple regions	12 countries across Asia & Latin America	APX	Tradable Instruments for Global Renewables (TIGRs)
	India, Japan, South Korea	Climate Impact Partners	PowerPlus™
	51 countries across Asia, Latin America, Middle East & Africa*	International REC (I-REC) Standard	I-RECs

For guidance on EACs and Scope 3 emissions see Guidance 2.4.2 Treatment of Energy Attribute Certificates (EAC) in Scope 3 emissions.

*I-REC Standard, accessed February 2024. **All EACs listed cover Scope 2 except Renewable Gas Guarantees of Origin (RGGO) which cover Scope 1.

Table 12: Recognized Non-carbon Standards

Recognized non-carbon accounting standards	
Climate, Community and Biodiversity Alliance (CCBA)	Forest Stewardship Council Ecosystem Services
The SOCIALCARBON® Standard	W+ Standard by Women Organizing for Change in Agriculture and Natural Resource Management (WOCAN)
Forest Stewardship Council certification	
SD VISta	

Step 4: Reduce Guidance

This section provides more detailed advice and clarification on selected topics relating to internal reductions and the use of environmental instruments.

4.4 Evaluating internal GHG reduction projects

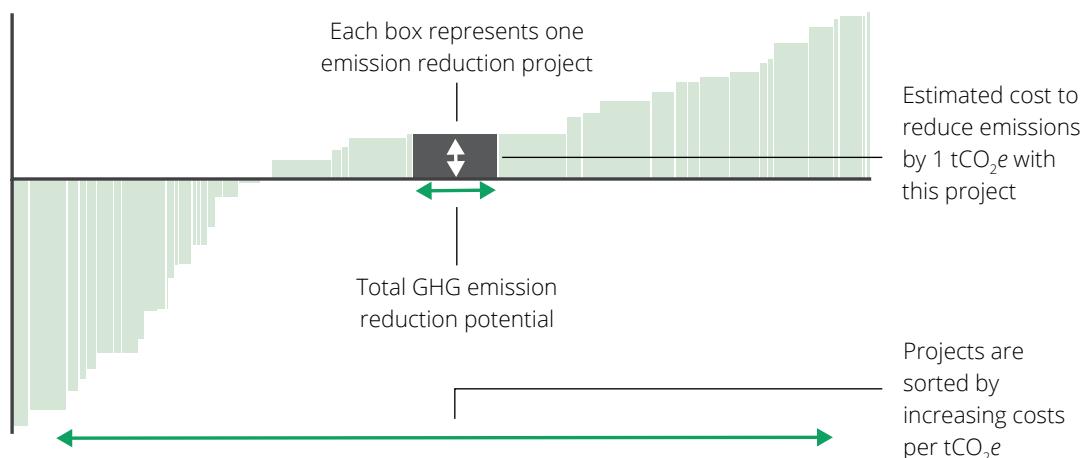
CarbonNeutral® certification is an action that represents immediate positive impact on GHG emissions. Clearly over time the goal of each organization should be to reduce GHG emissions to zero in accordance with its reduction targets, through the reduction in the use of non-renewable supply, increase in energy efficiency, switching to renewable energy, and through technological innovation.

The organization should develop a GHG reduction plan to deliver internal emissions reductions, taking into consideration the main sources of GHGs from the subject and the likely cost effectiveness of alternative emission reduction projects. With time, technological innovation has the ability to make low carbon projects viable. Understanding this project landscape and how much an organization can invest in low carbon transformation without impacting competitive performance are important inputs to an effective carbon reduction plan.

An excellent framework to assist organizations in evaluating a range of internal GHG reduction projects is marginal abatement cost analysis, an economic concept that measures the cost of reducing one more unit of GHG emissions. Marginal abatement costs are presented on a marginal abatement cost curve or MAC curve, a graphical representation of the cost and scale of GHG reduction projects. While there are many more aspects to consider beyond scale and cost, they are useful tools to guide corporate decision making among a variety of GHG reduction projects.

Figure 10 illustrates a MAC curve. Each rectangle on the MAC curve represents a different project to reduce GHG emissions. The width of each box represents the emission reduction potential a project can deliver compared to business-as-usual, and the height of each box represents the average cost of reducing one tonne of GHGs through that project.

Figure 10: Illustrative MAC Curve



4.5 Elaboration on additionality and baselines

It is essential for any carbon neutral program to be robust and to offset all remaining emissions of the defined subject to zero. This requires that any carbon credits used must have credibly demonstrated additionality during their development process.

The carbon accounting standards which are eligible under The CarbonNeutral Protocol require each project to undergo tests for additionality, which is then checked by an independent third-party auditor during the validation process.

Without well-defined baseline scenarios and additionality tests, any claims of net emissions reductions would lack environmental integrity (i.e. they would not be reductions in the first place). Any statement by an organization based upon these claimed "reductions" could be misleading or false.

Therefore, it is important that the additionality of a project is robustly tested and audited. The carbon accounting standards referenced in this guidance define best practice in assessing and determining the additionality of emission reduction projects.

When testing for additionality on a proposed project, the first step is to determine the baseline scenario – i.e. the hypothetical description of what would have most likely occurred in the absence of any intervention to mitigate the impact of GHG emissions. The baseline for a project activity is the projected GHG emissions that are calculated to occur in the absence of the proposed project activity. Once a suitable baseline has been determined it must be validated. Validation requires a third-party audit by a qualified auditor to ensure the baseline meets the requirements of the given carbon accounting standard and methodology.

When the project activity is in progress, GHG emissions from within the project area can be monitored and verified. Any reduction of emissions as compared to the baseline of the project are therefore additional and can be verified and issued as carbon credits (CERs, VCs, GS VERs, CRTs, ERTs) in accordance with the rules of the applicable carbon accounting standard.

For a more detailed, technical discussion of the methods for calculating additionality or how best to define additionality, see the following resources:

cdm.unfccc.int/Reference/Guidclarif/glos_CDM.pdf

The UNFCCC Clean Development Mechanism Glossary

https://verra.org/wp-content/uploads/2018/03/VCS-Guidance-Standardized-Methods-v3.3_0.pdf

See section 4.6 of the Verra guidance document: "*Guidance for Standardized Methods*" (8 October 2013, v3.3) for methods for determining additionality within a CarbonNeutral Protocol eligible carbon accounting standard

ghginstitute.org

Search "additionality" for articles on the challenges of defining and measuring additionality

<https://www.offsetguide.org/high-quality-offsets/additionality/high-quality-offsets-additionality-how-carbon-offset-programs-address-additionality/>

Further information on methodologies for determining additionality

4.6 The use of carbon credits generated by projects which avoid, reduce and remove GHGs

The CarbonNeutral Protocol accepts the use of carbon credits from any type of mitigation project validated under the accepted carbon standards detailed in **Table 10** (noting specific restrictions as set out there). There are three general types of mitigation projects:

Avoidance: Includes projects which eliminate emissions – examples include renewable energy projects which avoid emissions from the fossil sources they replace; and, REDD+ projects which address emissions from deforestation.

Reduction: Includes projects which reduce emissions – examples include energy efficiency projects such as low-carbon cookstoves which use less fuel through improved combustion; and, manufacturing process improvements which reduce the use of non-renewable energy.

Removal: Includes projects which remove GHGs from the atmosphere – examples include afforestation; agricultural practices that sequester carbon in soils, bio-energy with carbon capture and storage, enhanced weathering, and direct air capture when combined with long-term storage.

The math of carbon neutrality treats interventions that avoid and reduce emissions as equal to those that remove GHGs from the atmosphere. Using the analogy of a bath with the taps on, a balance is achieved either by turning down the taps (avoid or reduce emissions) or by draining an equal amount down the plug (removing emissions from the atmosphere and capturing them in carbon sinks). However, as we get closer and closer to the safe limit of GHG concentrations in the atmosphere, there will be a shift in emphasis from emission reductions and avoidance to removals to ensure we have all mitigation approaches working in concert to achieve a stable climate.

In guidance published in 2019 and 2020, the SBTi signaled the rising importance of removal projects in the mix of mitigation approaches aligned with net zero, while also acknowledging the “critical role” of projects that avoid or reduce emissions. In October 2021, the SBTi released its Corporate Net-Zero Standard¹ under which unabated emissions must be “counterbalanced through the permanent removal and storage of carbon from the atmosphere”. In September 2020, Oxford University published its “The Oxford Principles for Net Zero Aligned Carbon Offsetting”,² which strengthened the case for a transition to offsetting based increasingly upon removals.

In the near-term, SBTi recommends supporting reduction and avoidance projects, a position they stressed in a September 2022 update, stating “investments in reducing and avoiding emissions are critical right now” in order to help the global economy align with 1.5°C and net-zero.³

Given the recognized need for all credible mitigation approaches to address the increasing need for urgency and scale, and the rising importance of increasing capacity for removals, clients should consider a portfolio approach to selecting a mix of project types which over time has an increasing proportion of removals.

4.7 Insetting

Insetting is a specific application of offsetting when emission reduction projects are sited within an organization’s supply chain and sphere of influence. The focus on location-specific mitigation actions enables the organization to gain multiple benefits, often delivering against both commercial and sustainability objectives. Carbon credits generated from insetting projects may be used for CarbonNeutral® certifications only when they are generated in accordance with the Approved Carbon Credit Standards recognized in The CarbonNeutral Protocol (**Technical Specification 4.2.1**), and are retired in publicly accessible registries.

4.8 Corresponding Adjustments (CAs)

Article 6(2) of the Paris Agreement sets out the requirement for nation states to apply corresponding adjustments (CAs) to carbon credits that are used for trading between nation states. This is to ensure that an emission reduction is not counted as a mitigation by two different countries towards their Paris pledges. Specifically, it applies double-entry book-keeping when a country funds a mitigation project in another country with the expectation of being able to count the verified emission reductions arising from that financial contribution as its own when reporting its progress against its Nationally Determined Contribution (NDC) to the UNFCCC.

Some progress was made at COP27 in November 2022 with respect to collaborative efforts under the Paris Agreement’s Article 6 to deliver GHG reductions at scale through market and non-market-based mechanisms. In the continuing absence of a global carbon market to assist nations in their effort to fund and

deliver GHG reductions, COP27 recognized the importance of the Voluntary Carbon Market which serves non-state actors taking voluntary action. It does so under the provisions of Article 6.4 which now distinguish between mitigation outcomes delivered by nations that help a specific country meet its NDC; and those which are funded by non-state actors to assist a country to meet or exceed its NDC and to support their own climate claims.

These are respectively termed ‘Authorized Emission Reductions’ (AERs) and ‘Mitigation Contribution Emission Reductions’ (MCERs). AERs are subject to double-entry book-keeping accounting so that emission reductions are not claimed twice. That is ensured through Corresponding Adjustments made to relevant country NDCs. MCERs are not subject to Corresponding Adjustments because non-state actors do not fall directly under the accounting framework of the Paris Agreement and so no double counting occurs. This is always the case provided the non-state actor does not use the MCERs to comply with its national emission reduction regulations.

Carbon offset credits with a vintage of 2020 or earlier are not subject to the debate around CAs, as those emission reductions occurred before the start of the Paris Agreement period. To date, a very small number of vintage 2021 credits have been issued, and numbers will remain small until the second half of 2022. Most buyers will therefore be unaffected by the CA issue in the medium term.

As these policy developments take shape, there is a debate about whether claims of neutrality can be made using MCERs; or, whether AERs must be used if double claiming by the host country and the funding entity is to be avoided. For the present, this debate is moot because the modalities of applying Corresponding Adjustments are yet to be agreed and uniformly implemented.

Only a handful of countries currently have an accounting mechanism for issuing CAs, and it is likely to be 2-3 years before most ‘Paris-ready’ national accounting systems are operational. It is therefore unlikely that any significant volume of carbon credits backed by CAs will be issued before 2023-24.

In the longer term, one possible outcome of a revised framework for voluntary action best practice is the differentiation between emission reductions without a CA that help the host country achieve its Paris Agreement pledge, and those with a CA which reduce emissions over and above the national pledge. Both have equal importance and merit in tackling climate change and companies may choose to act in either, or both, causes.

How to communicate these actions forms part of the ongoing process to determine future best practice, and future editions of the Protocol will provide updated guidance as this emerges.

¹ The Science Based Targets Initiative, 2021, SBTi Corporate Net-Zero Standard, <https://sciencebasedtargets.org/resources/files/Net-Zero-Standard.pdf>.

² University of Oxford, 2020, The Oxford Principles for Net Zero Aligned Carbon Offsetting, <https://www.smithschool.ox.ac.uk/publications/reports/Oxford-Offsetting-Principles-2020.pdf>.

³ [https://sciencebasedtargets.org/blog/netzero-urgent-beyond-value-chain-mitigation-is-essential](https://sciencebasedtargets.org/blog/net-zero-urgent-beyond-value-chain-mitigation-is-essential).

Step 5: Inform Technical Specification

5.1 Required disclosures

This section lays out the requirements for how organizations communicate their CarbonNeutral® certification and the supporting public disclosures which must be made.

Increasingly, stakeholders expect and require greater transparency when climate-related claims are made. It is critical to maintaining organizational trust and reputation. Climate-related claims are increasingly regulated by local laws as well, such as those in the European Union and California. Visit our [climate claims regulation tracker](#) page to find out more about applicable regulation in certain geographies.

Where an organization communicates its CarbonNeutral® certification to stakeholders it must publicly disclose information that is relevant to the communication. **Table 13** provides the mandatory disclosures which may be made in support of CarbonNeutral® certification. It should be noted that local laws and regulations may require additional disclosures beyond those required here.

During the first year of certification, an organization may not have all the required information available to make a complete disclosure, especially at the commencement of the certification period. For example, it may be in the process of estimating its organizational carbon footprint and setting a reduction target. In these cases, the organization must disclose why the information is not yet available, its progress against that requirement, and update the disclosure as soon as reasonably practical.

The above disclosures represent the minimum information that must be disclosed in support of CarbonNeutral® certification. Organizations are highly encouraged to disclose further information above and beyond minimum requirements, which it considers relevant to enhancing the transparency, understandability or robustness of the claim for its audience.

5.2 Use of the CarbonNeutral® Certification logo

Since the Protocol was first published in 2002, Climate Impact Partners has worked with clients of all sizes and across all sectors to advise and support them on best practice for communications of carbon neutrality. In addition to ensuring accuracy of claims, we encourage clients to ensure compliance with any regulations regarding marketing claims, and to make full use of The CarbonNeutral® Certification Logo Guidelines and support we provide to leverage and amplify their climate action in communications to stakeholders.

Upon award of a CarbonNeutral® certification, clients are licensed and encouraged to make use of the appropriate CarbonNeutral® logo in their communications. Examples of CarbonNeutral® logos can be seen in **Figure 4**.

The logo is designed to enable companies with a CarbonNeutral® certification to make a clear, transparent statement about their achievement. The accuracy and transparency of claims is important to protect and enhance the reputation of the certified business. Displaying the CarbonNeutral® certification logo clearly demonstrates that a business has set and met a target for carbon neutrality.

Logos are available for each certification type and in various languages upon request. Certification types are detailed in **Table 3**. Each certification logo can be translated to meet local language communication requirements. However, CarbonNeutral® cannot be translated and is only trademark protected in this format and language.

The CarbonNeutral® Certification Logo Guidelines, which are sent to a client upon successful certification, govern the application of certification logos, providing clarity on how and where logos can be used as well as the statements that a certified company can make.

Key requirements

- To ensure no ambiguity about which organization has achieved CarbonNeutral® certification, the certification logo can only be used by the licensee in their own communications and not those of their customers
- The logo must match the certification achieved
- Products or packaging may only carry a logo from CarbonNeutral® product-class certifications. Certification types in the product-class are detailed in **Table 3**
- As part of our quality assurance program and to ensure consistent and accurate use of CarbonNeutral® certification by all clients, all usage of the CarbonNeutral® certification logo needs to be approved by Climate Impact Partners
- The certification logo must not be edited or copied. If the certification logo is edited or changed in any way it will be invalid
- If a certification logo is not used in accordance with these guidelines, Climate Impact Partners has the right to withdraw the logo license and request the removal of the CarbonNeutral® logo

5.3 Regulations around environmental claims

Entities must be aware that there are regulations governing marketing claims relating to environmental actions and third-party certifications in countries, regions and different jurisdictions (for example, the EU Empowering Consumers for the Green Transition Directive and the EU Green Claims Directive; the U.S. Federal Trade Commission's Green Guides; the UK's Advertising Standards Agency; and DEFRA's Green Claims Guidance) and it is the responsibility of entities to ensure that their claims and disclosures – including those relating to CarbonNeutral® certification – are compliant with those regulations.

Table 13: Public Disclosure Requirements in Support of CarbonNeutral® Certification

Step	Reporting requirement	Further information
Define	<ul style="list-style-type: none"> – Description of the subject and boundaries of the claim – The period of time for which the certification is valid 	For certifications which do not have a defined period, such as a CarbonNeutral® event, the organization <u>must</u> disclose the year in which the certification was achieved.
Measure	<ul style="list-style-type: none"> – The latest estimated or calculated total GHG footprint of the subject – The data period of the GHG footprint disclosed – The organization's GHG emissions inventory in accordance with The GHG Protocol Corporate Accounting and Reporting Standard and the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard 	<p>Where an estimate is disclosed, the organization <u>must</u> state that the footprint is an estimate, and update the disclosure when the actual footprint is available.</p> <p>The organizational GHG emissions inventory <u>must</u> be updated at least annually.</p>
Target	<ul style="list-style-type: none"> – Detail of near-term science-aligned reduction targets set by the organization – Whether or not the organization has set a long-term science aligned target 	The organization should evaluate the level of detail provided for qualitative disclosures, such as strategies in place to achieve targets, to ensure that sufficient information is provided.
Reduce (Internal abatement)	<ul style="list-style-type: none"> – Comparative figures of GHG emissions to the prior period and baseline period – Confirmation of whether the organization considers itself on-track to achieve its science-aligned target 	Where a reduction between current and prior period has not been achieved and/or an organization does not consider itself on track to achieve its science-aligned target, the organization <u>must</u> publicly explain why, and how this will be addressed.
Reduce (External compensation)	<p>The following information about carbon instruments applied in support of the certification:</p> <ul style="list-style-type: none"> – Total number of carbon instruments applied to the certification – Project name – Project host country – Project registry ID – Vintage – Standard name – Retirement date – Methodology – Project type – Whether the instrument is associated with a corresponding adjustment 	Where instruments have not yet been retired, this <u>must</u> be disclosed, and updated when retirement is made.

Step 5: Inform Guidance

5.4 Communicating CarbonNeutral® certification

Guidance to organizations about how to give consistent, clear and accurate communications about CarbonNeutral® programs and how to maximize business value are provided to clients upon successful completion of a CarbonNeutral® certification. Guidance comprises The CarbonNeutral® Certification Guidelines and Guidance.

To avoid making claims that may constitute false or misleading statements under local law, organizations using The CarbonNeutral Protocol are encouraged to seek legal counsel familiar with environmental and climate-related claims to determine whether their use of The CarbonNeutral Protocol and related certification, as well as related claims, complies with laws and regulations in the countries in which they operate and in which claims are made.

5.5 Communicating 100% renewable electricity

This guidance aims to clarify how CarbonNeutral® certification relates to claims of 100% renewable electricity.

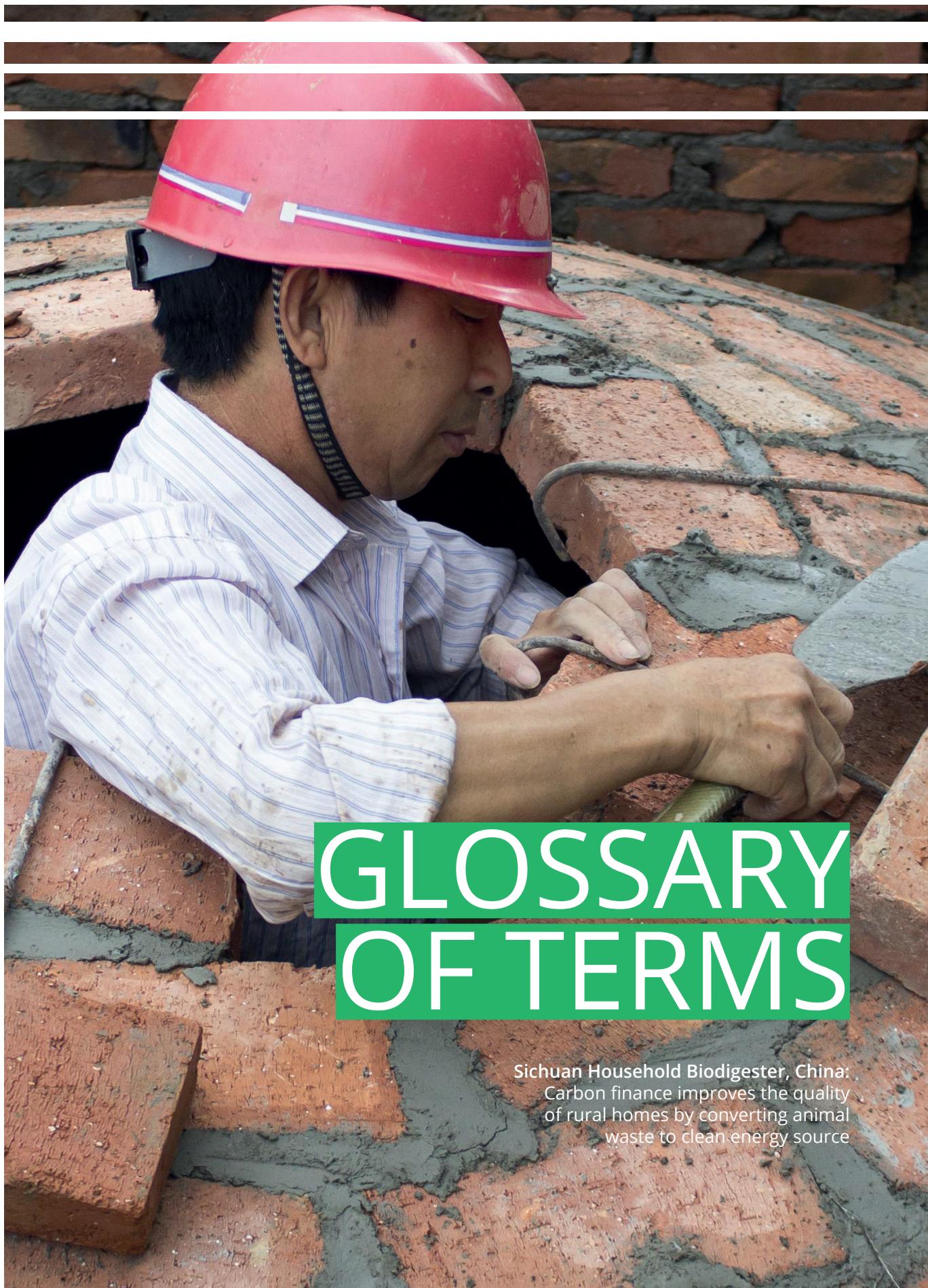
Claims of 100% renewable electricity are not within the scope of The CarbonNeutral Protocol and CarbonNeutral® certifications.

However, as set out in **Technical Specification 4.2.1.2** entities can purchase and retire EACs to zero-rate their market-based Scope 2 emissions under the provisions of GHG Protocol Scope 2 Guidance. This approach to linking energy consumed to renewable sources may support claims of 100% renewable electricity. Clients seeking to make such claims are encouraged to consult RE100 and RECS International guidance.

We anticipate that definitions of 100% renewable electricity will be refined with time and application, and this guidance will be updated in subsequent revisions to the Protocol.

Further information can be found at:

- RE100, 2020, *2020 Target Year Communications – Making Transparent Claims*, <https://www.there100.org/sites/re100/files/2021-02/RE100%20Making%20Credible%20Claims.pdf>
- RECS International, 2020, *Maximising the reliability and impact of buying renewables: guidance for market participants*, <https://recs.org/app/uploads/2020/09/guidance-for-market-participants.pdf>



GLOSSARY OF TERMS

Sichuan Household Biogester, China:
Carbon finance improves the quality
of rural homes by converting animal
waste to clean energy source

The term ‘carbon neutral’ and the related concepts associated with voluntary climate action have been in common usage for over 20 years. However, they may still mean different things to different audiences.

This Glossary sets out the definitions of key terms and concepts as they apply to The CarbonNeutral Protocol to support the award of the CarbonNeutral® certifications and the use of the associated CarbonNeutral® certification logo. Over time, we seek to reference definitions that are brought into common usage by respected independent third-party standards and by recognized scientific, academic and civil society organizations and coalitions.

A

Abatement: See [Internal emission reductions](#).

Additional (also additionality):

A criterion applied to greenhouse gas (GHG) emission reduction projects, stipulating that project-based GHG reductions should only be quantified if the project activity “would not have happened anyway”. I.e., the project activity (or the same technologies or practices it employs) would not have been implemented and that, with the project, emissions would be lower than without the project (See [The GHG Protocol for Project Accounting](#)). An Emission Reduction Project is said to be additional when it can be demonstrated that in the absence of the availability of carbon finance, the project activity would not have occurred (the “baseline” scenario) and; that such a baseline scenario would have resulted in higher greenhouse gas (GHG) emissions. Each eligible carbon accounting standard under The CarbonNeutral Protocol provides

tools for how additionality at a project level is tested and demonstrated. For further discussion of this topic, see [Technical Specifications 4.2](#).

AIC: Aircraft (or aviation) induced clouds which have a potential climate warming affect. See [Guidance 2.5](#) for further discussion of this topic.

Article 6(2): The section of the Paris Agreement that sets out the rules and accounting framework for the international transfer of mitigation outcomes between countries. It provides the basis for the use of carbon markets to play an important role in international efforts to deliver the Paris Agreement objectives.

Article 6(4): The section of the Paris Agreement that establishes a new, centralized UN body to manage the process of certifying and issuing carbon credits from emission reduction projects. The new body will be the successor to the Clean Development Mechanism (CDM) that was set up by the UN as part of the Kyoto Protocol, which expired in December 2020.

Assessment: The process of quantifying the GHG emissions for a given subject, using robust and transparent methods that can be replicated.

Attestation: A written declaration for the purpose of demonstrating compliance with the Protocol.

Available (referring to data): Applied to primary data, “available” means readily collectable, at reasonable cost from within a given subject. Applied to estimated emissions, “available” means readily found in reputable, published sources such as those issued by government departments, academic institutions, specialist research bodies and the secretariats of leading GHG standards and protocols.

Aviation Impact Factor (AIF): A term used in The CarbonNeutral Protocol for the multiplier applied to the GHG emissions from aviation in order to take account of the wider impacts of aviation on climate. This includes, but is not limited to, short or long-term impacts, from: GHGs alone and others with global warming influence (for example, soot particles and aviation induced clouds) and; direct and indirect impacts (for example, the interaction of NOx with methane gases and ozone at high altitudes). See [Guidance 2.6](#) for further discussion of this topic.

Avoided emissions: The impact, measured in tCO₂e, of specific mitigation actions or projects that avoid GHG emissions to the atmosphere calculated against a reference baseline (See [Mitigation](#) and [Mitigation outcomes](#) and [Guidance 4.6](#)).



Mississippi Valley Reforestation, USA: The project works with local landowners to reforest one million acres of the Lower Mississippi Alluvial Valley, an area which was once covered by nearly 10 million hectares of dense forest

B

Baseline (also Baseline scenario – as applied to mitigation projects):

A hypothetical description of what would have most likely occurred in the absence of any intervention to mitigate the impact of GHG emissions. The baseline for a project activity is the projected GHG emissions that are expected to occur in the absence of the intervention. Baselines are established to determine Additionality, and to calculate emission reductions associated with emission reduction projects. For further discussion of this topic, see **Technical Specifications 4.2**.

Baseline (also Baseline scenario – as applied to GHG accounting and reporting):

A reference level of GHG emissions that have occurred, or which are expected to occur, prior to the introduction of any interventions that reduce emissions, to predict or determine the abatement achieved by the interventions.

Baseline procedures:

Methods used to estimate baseline emissions. The GHG Protocol for Project Accounting presents two optional procedures: the project-specific procedure and the performance standard procedure (See: [The GHG Protocol for Project Accounting](#)).

Boundary:

The physical or spatial extent of the subject – the entity, product or activity – i.e., the sites involved (including mobile sites such as vehicles). By way of example, the boundary might encompass the office and vehicles of an entity, or the sites used for the manufacture, storage, and transportation of a product. See **Technical Specification 1.1** for further information of this topic with respect to CarbonNeutral® certifications.

C

Carbon:

Shorthand term for all greenhouse gases recognized under the United Nations Framework Convention on Climate Change (e.g. the carbon emissions associated with a Subject cover all recognized GHG emissions from the Subject).

Carbon credit:

A transactable, intangible environmental instrument representing a unit of carbon dioxide-equivalent (CO₂e) – typically one metric tonne – created either by regulatory schemes promoted by governments (e.g., cap & trade schemes) or by projects which are validated to a recognized carbon standard. Carbon credits are typically used to compensate for or neutralize unabated emissions occurring elsewhere by retiring or cancelling them in a registry.

Carbon dioxide equivalent (CO₂e):

A unit of measurement that describes for a GHG the amount of CO₂ in tonnes that would have the same global warming potential, when measured over a 100-year timescale.

Carbon finance:

Finance delivered to emission reduction projects derived from the sale of carbon credits from the project.

Carbon footprint:

See **GHG inventory**.

Carbon markets:

Carbon markets are used for voluntary or compliance purposes. Voluntary carbon markets refer to the collective transactions of carbon credits used by non-state entities to achieve voluntary climate goals. Compliance carbon markets refer to the governmental or sectoral schemes to reduce greenhouse gas emissions which enable regulated entities to obtain and surrender emission permits (allowances) or eligible carbon credits to meet compliance targets.

Carbon neutral:

A current state which is achieved when the GHG emissions associated with an entity, product or activity are reduced and all remaining emissions are offset for a defined duration.

Carbon neutrality:

Carbon neutral and carbon neutrality are used interchangeably.

Carbon offsetting:

The act of purchasing a carbon credit and retiring or cancelling the unit to compensate for one tonne of GHG emissions released to the atmosphere elsewhere. When the subject is said to be offset, the unabated emissions associated with the subject are equal to the amount of carbon credits retired or cancelled.

Carbon removals:

See **Removals**.

Carbon (or climate, or net) positive:

A term indicating that an entity is taking action beyond carbon neutrality by removing GHGs from the atmosphere or reducing emissions to the atmosphere such that the aggregated reductions and removals exceed the unabated emissions from the subject.

CarbonNeutral®:

The registered trademark of Climate Impact Partners licensed for use by entities which have achieved CarbonNeutral® certification.

CarbonNeutral® certification:

The process by which a client receives recognition that it has met the provisions of The CarbonNeutral Protocol for a specific subject. CarbonNeutral® certifications are awarded by Climate Impact Partners as the CarbonNeutral® certifier.

CarbonNeutral® certifier:

The organization providing CarbonNeutral® certification in accordance with the requirements of The CarbonNeutral Protocol. Climate Impact Partners awards the CarbonNeutral® certification logo to clients that are in compliance with the requirements of the Protocol and under contractual provisions established between Climate Impact Partners and the client.

CarbonNeutral® certification logo:

A logo incorporating the CarbonNeutral® trademark that is licensed to a client upon the successful completion of a CarbonNeutral® certification. See **Technical Specification 5.2** for further information.

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CarbonNeutral® certification logo guidelines:

Climate Impact Partners' requirements and guidelines governing the application of CarbonNeutral® certification logos. See **Technical Specification 5.2** for further information.

Certification period: See **Duration**.

Client: The entity, organization, individual or group of individuals entering into a contract with a CarbonNeutral® certifier for the purposes of a CarbonNeutral® certification.

Climate finance: A source of funding to mitigate or adapt to climate impacts. Includes terms such as: carbon finance, green finance, green bonds.

Compensation (in relation to offsetting):

A term used to specify the retirement of carbon credits from mitigation projects that avoid or reduce the emission of GHGs (see Avoided emissions and Reduced emissions) when redressing the impact of unabated emissions.

Corresponding Adjustment: An accounting adjustment made at country level to ensure that an emission reduction is not double counted by two countries towards their commitments under the Paris Agreement. Making a corresponding adjustment means that when a country transfers a mitigation outcome (ITMO) internationally to be counted toward another country's mitigation pledge, this ITMO must be 'un-counted' in the greenhouse gas inventory of the country that hosts the mitigation project that provides the emission reduction.

Cradle-to-customer: A particular boundary for product subjects. The cradle-to-customer boundary includes the extraction and processing of raw materials (including any packaging materials), manufacture, storage, and distribution to first customer. See **Guidance 1.4** for further information.

Cradle-to-grave: A particular boundary for CarbonNeutral® product subjects. The cradle-to-grave boundary includes extraction and processing of raw materials (including any packaging materials), manufacture, storage, distribution to first customer, further distribution and storage, retail, use and end-of-life disposal.

D

De minimis threshold: A source or quantity of emissions that an organization may exclude from its inventory. The GHG Protocol Corporate Standard recommends against the use of a de minimis threshold, on the grounds that it conflicts with the principle of completeness. The Corporate Standard advises instead to estimate emissions for small sources, record how each estimate was calculated, and transparently record and justify estimates that may be of lower quality and/or higher uncertainty. Despite this recommendation, a number of companies and GHG programs have still found it useful to define a de minimis threshold. In such instances, the entity must justify the selection to the Assessment Partner or Provider who must confirm that the threshold is in line with the conservative estimation, best practice, transparency and continuous improvement principle of the Protocol.

Department for Environment, Food and Rural Affairs (DEFRA): Ministry of the United Kingdom Government, which has provided GHG measurement guidance that is referenced and applied internationally.

Delivery (referring to carbon credits): Refers to the receipt of legal title and ownership of verified and issued carbon credits by the provider of such reductions. Delivery can occur on a third-party external registry, or through written agreement.

Duration: The period of time during which a CarbonNeutral® certification is valid. For entities this is commonly a specified twelve-month period; for products, a specified twelve-month period during which the product is produced for sale; and, for activities, the period during which the utility of the activity is delivered—including preparation and post-event activities.

E

Embodied carbon: The sum of the GHG emissions associated, directly or indirectly, with a material. For example, the embodied carbon in building materials when calculating the carbon footprint of a building.

Emission factor: An emission factor is a coefficient which enables the conversion of activity data into GHG emissions expressed as tonnes of CO₂ equivalent (e.g., MWh consumed into tCO₂e emitted). CarbonNeutral® certifications require emission factors published by reputable and independent sources that are up-to-date and which are most relevant to the subject's location and activities.

Emissions sinks: See **Removals**.

Emissions sources: The specific GHG-emitting activities or processes within the boundary of a Subject.

EN 15804: Refers to the European standard on "Sustainability of construction works – Environmental Product Declarations – core rules for the product category of construction products." It provides core product category rules for type III Environmental Product Declarations (EPDs) for any construction product and construction service.

Energy Attribute Certificates (EACs):

Transactable, energy tracking instruments representing proof that a unit (e.g. 1 megawatt-hour (MWh)) of energy was generated from an eligible renewable energy source and delivered through a shared power distribution system to serve power consumers. EACs provide a mechanism for power consumers to

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associate their purchased power with renewable energy delivered to the distribution system. Examples include Guarantees of Origin (GOs), Renewable Energy Certificates (RECs), International Renewable Energy Certificate (I-RECs) and Tradable Instruments for Global Renewables (TIGRs), which are recognized in The Greenhouse Gas Protocol Scope 2 Guidance as eligible instruments for documenting and tracking electricity consumed from renewable sources.

Environmental instruments: The broad category of transactable instruments that includes carbon credits, energy attribute certificates, and all other instruments designed to track the environmental attributes of project-based activities.

Environmental Product Declaration (EPD): An independently verified document that reports environmental data of products based on life cycle assessment and other relevant information in accordance with the international standard ISO 14025. See **Technical Specification 2.2** for further discussion on this topic.

EPD Type III declaration: A specific type of Environmental Product Declaration (EPD) to enable comparisons between products fulfilling the same function, as defined by Product Category Rules (PCR).

Estimated emissions: An emissions value for a particular emissions source which has been calculated based upon a reasonable estimate, extrapolation, model or benchmark, rather than based upon primary data collected. For example, water consumption of a site based upon floor area. This also includes emission sources which have been calculated based on collected data which needs to be converted using estimates before application of conversion factors. For example, emissions arising from business travel where data collected consisted of spend on airplane flights, which required conversion to flight distance using an assumption of flight cost per mile travelled.

Ex ante: As applied to carbon credits are emission reductions which are planned but which have not been verified under an accepted standard and listed in the related registry, which means they cannot be retired to compensate for unabated emissions.

Ex post: As applied to carbon credits when emission reductions have been verified under an accepted standard and listed in the related registry, which means they can be retired to compensate for unabated emissions.

G

Geographically relevant: Pertaining to the specific location of the emissions-generating activity in question. In order of preference, emission factors and estimated emissions should be applied first from local, sub-national datasets; then from national datasets; and then from regional datasets. In the absence of available data from these datasets, available global factors and data may be applied.

Greenhouse gas (GHG): Gases identified in Protocols and Agreements established under the United Nations Framework Convention on Climate Change which when emitted to the atmosphere cause global warming and which are targeted for reduction. Recognised GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, sulphur-hexafluoride (SF_6), and nitrogen trifluoride (NF_3).

Green gas (or biogas): A generic term for emission reductions from calorific gas produced by the breakdown but which have not been verified under an accepted standard and listed in the related digestion or fermentation. Feed stocks include biodegradable materials such as manure, sewage, municipal water, green waste, and plant material. Biogas is primarily methane and carbon dioxide and may have small amounts of hydrogen sulphide, siloxanes and moisture which make it corrosive. Before biogas is introduced to a gas distribution grid it is dried and the hydrogen sulphide and carbon dioxide is removed, and the upgraded gas is known as biomethane.

GHG inventory: An accounting of the amount of GHGs discharged into the atmosphere from sources and removed from the atmosphere by sinks within a specified boundary. Also commonly referred to as Carbon footprint.

GHG Protocol Corporate Standard: The World Business Council for Sustainable Development (WBCSD) and World Resources Institute's (WRI) Corporate Accounting and Reporting Standard (Corporate Standard). The GHG Protocol Corporate Standard is the most commonly used organizational GHG accounting methodology. It defines emissions reporting under three key scopes, ensuring comprehensive reporting.



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GHG Protocol Product Standard:

The WBCSD and WRI's Product Life Cycle Accounting and Reporting Standard (Product Standard). This document allows an entity to measure the GHG associated with the full life cycle of products including raw materials, manufacturing, transportation, storage, use and disposal.

GHG Protocol Scope 2 and 3 Guidance:

Guidance published by the World Resources Institute as a complement to the GHG Protocol's Corporate Standard, providing updated requirements and best practices on Scope 2 and Scope 3 accounting and reporting. Scope 2 guidance introduces the concepts of 'location-based' and 'market-based' accounting for Scope 2 emissions from purchased energy.

Global Warming Potential (GWP):

An index of the potency of a GHG, referenced to carbon dioxide (which therefore has a GWP of 1) over a given time horizon. As an illustration of this, over a 100-year horizon, methane has a GWP of 34 (Ref: IPCC Fifth Assessment Report (AR5), 2013, p714).

Guarantee of Origin (GO): An Energy Attribute Certificate (EAC) defined in Article 15 of the European Directive 2009/28/EC issued per MWh of energy generated from eligible renewable sources.

I

ICROA: The International Carbon Reduction and Offsetting Accreditation is a non-profit organization within the International Emissions Trading Association (IETA). Its primary aim is to deliver quality assurance in carbon management and offsetting through adherence to its Code of Best Practice.

Independent qualified third party (referring to GHG assessment providers):

An individual or organization expert and experienced in GHG accounting that has no conflict of interest or financial gain in the outcome of the assessment used in CarbonNeutral® certifications.

Insetting: A specific application of offsetting when mitigation projects located within an entity's value chain and sphere of influence generate mitigation outcomes under recognized carbon standards which are used by the corporate to compensate for its unabated emissions. The focus on location-specific mitigation actions enables the corporate to gain multiple benefits, often delivering against both commercial and sustainability objectives.

Internal emission reduction: A reduction or abatement of GHG emissions made within the boundary of a subject (through for example, undertaking energy efficiency projects, on-site renewable energy, or fuel substitution) which is accounted for in the subject's GHG inventory.

International Renewable Energy Certificate (I-REC):

An Energy Attribute Certificate (EAC) defined by the International REC Standard issued per MWh of energy generated from eligible renewable sources.

Internationally Transferred Mitigation Outcome (ITMO):

A unit representing one metric tonne of CO₂e reduced or removed from the atmosphere for international emissions trading between signatory countries of the Paris Agreement. The process for producing ITMOs and their uses are defined in Article 6(2) and Article 6(4) of the Paris Agreement.

ISO 14025: International Organisation for Standardisation's specification for "Environmental labels and declarations – type III environmental declarations – principles and procedures." It establishes the principles and specifies the procedures for developing type III environmental declaration programs and type III environmental declarations. It specifically establishes the use of the ISO 14040 series of standards in the development of type III environmental declaration programs and type III environmental declarations.

ISO14040: International Organisation for Standardisation's specification for "Environmental management – life cycle assessment – principles and framework." It describes the principles and framework for life cycle assessments (LCA).

ISO 14064-1: International Organization for Standardisation's specification for quantification and reporting of GHG emissions and removals at the organization level. Its approach is similar to the GHG Protocol Corporate Standard.



Glossary of Terms

ISO 14064-2: International Organisation for Standardisation's specification guidance at the project level for the quantification, monitoring and reporting of activities intended to cause GHG emission reductions or removal enhancements.

ISO 14065: International Organisation for Standardisation's requirements for the accreditation of entities that validate or verify resulting GHG emission assertions or claims.

ISO 14067: International Organisation for Standardisation's specification for the quantification and reporting of the GHG inventory of a product. It specifies principles, requirements and guidelines for the quantification and communication of the carbon footprint of a product, based on international standards on LCA (ISO 14040 and ISO 14044) for quantification, and on environmental labels and declarations (including ISO 14025) for communication.

ISO 14068: International Organisation for Standardisation's specification for the requirements and principles to be met when seeking to pursue, demonstrate or potentially exceed greenhouse gas, carbon or climate neutrality through the quantification, management, avoidance, reduction, substitution, compensation and sequestration of GHG emissions.

ISO 21930: International Organisation for Standardisation's specification for "Sustainability in building construction – environmental declaration of building products." It provides a framework and the basic requirements for product category rules as defined in ISO 14025 for type III environmental declarations of building products. Where this international standard contains more specific requirements, it complements ISO 14025 for the EPD of building products.

Issuance: The delivery of a specified quantity of carbon credits into a specified account on a registry. Issuance allows the title to carbon credits to be transferred and retired in that registry.

L

Licensee: Entity awarded the right to use the CarbonNeutral® certification logo.

Life Cycle Assessment (LCA): The systematic analysis using internationally accepted standards (e.g. ISO 14040) of the potential environmental impacts of products or services across their supply-chain and during their life-cycle (typically, from cradle to grave).

Location-based: An accounting concept introduced in the GHG Protocol Scope 2 Guidance. It is a method to quantify the Scope 2 GHG emissions of an entity based on the average energy generation emission factor for defined geographic locations, including local, subnational, or national boundaries.

M

Market-based: An accounting concept introduced in the GHG Protocol Scope 2 Guidance. It is a method to quantify the Scope 2 GHG emissions of an entity based on GHG emissions emitted by the generators from which the entity contractually purchases electricity bundled with Energy Attribute Certificates (EACs), or EACs on their own.

Materiality: A materiality threshold is used to determine whether the aggregated error in, or omission from, an inventory constitutes a material discrepancy – that is, whether the error or omission results in a reported quantity of emissions that is sufficiently different from the true quantity of emissions (as determined by the verifier) that it will influence decisions made by the inventory's users.

The GHG Protocol Corporate Standard recommends 5% as a rule of thumb for a materiality threshold; however, it notes that a verifier should assess whether an error or omission of a smaller size may still be misleading given the purpose and context of the report.

Errors or omissions must be corrected before the verification is complete unless they fall under the de minimis threshold. The concept of materiality therefore involves a professional judgment in the context of the information presented. While materiality thresholds should be applied according to the judgment of the verifier, we recommend alignment with the GHG Protocol by benchmarking materiality at 5% of the total inventory for the part of the organization being verified.

Mitigation: Actions that reduce emissions of GHGs to the atmosphere; that reduce the global warming potential of other constituents in the atmosphere; or, which remove or stabilize heat trapping GHGs or other constituents from the atmosphere.

Mitigation outcomes: Impact of mitigation activities, measured in CO₂e, including those that avoid and reduce greenhouse gas emissions to the atmosphere and those that remove greenhouse gases from the atmosphere. Transactable mitigation outcomes (see Carbon credit) are generated by mitigation projects established under recognized third-party standards. Retirement of carbon credits (see Carbon offsetting) enables entities to compensate or neutralize unabated emissions.

N

Net zero: The Paris Agreement introduced the concept of net zero at a global level as: "a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases."

For net zero at an organizational level, we refer to the UNFCCC's Race to Zero initiative, which defines net zero as: "An actor reduces its emissions following science-based pathways, with any remaining GHGs attributable to that actor being fully neutralized by like-for-like removals (e.g., permanent removals for fossil carbon emissions) exclusively claimed by that actor, either within the value chain or through purchase of valid offset credits."

Glossary of Terms

The SBTi's Corporate Net-Zero Standard, launched in October 2021, defines corporate net-zero as: "Reducing Scope 1, 2, and 3 emissions to zero or to a residual level that is consistent with reaching net-zero emissions at the global or sector level in eligible 1.5°C-aligned pathways; and neutralizing any residual emissions at the net-zero target year and any GHG emissions released into the atmosphere thereafter." Its Standard includes the guidance, criteria and recommendations to deliver emissions reductions for a net zero targets consistent with limiting global temperature rise to 1.5°C. However, it does not include guidance or criteria about neutralising residual emissions.

For more on net zero at an organizational level refer to **Guidance 3.4**.

Neutralization: A term used by the Science Based Targets Initiative to specify the retirement of carbon credits from mitigation projects that remove GHGs from the atmosphere (see Removals) when redressing the impact of unabated emissions once entities reach their science-based target.

O

Offsetting / offset: The act of compensating for unabated GHG emissions by retiring (cancelling) carbon credits.

P

Paris Agreement: A legally binding international treaty on climate change under the UN Framework Convention on Climate Change (UNFCCC). It was negotiated and agreed by 196 countries at the UN Conference of the Parties (COP) meeting in Paris in December 2015 and came into force on 1st January 2021. The goal of the Paris Agreement is to limit global warming to well below 2°C, and preferably to 1.5°C, compared to pre-industrial levels.

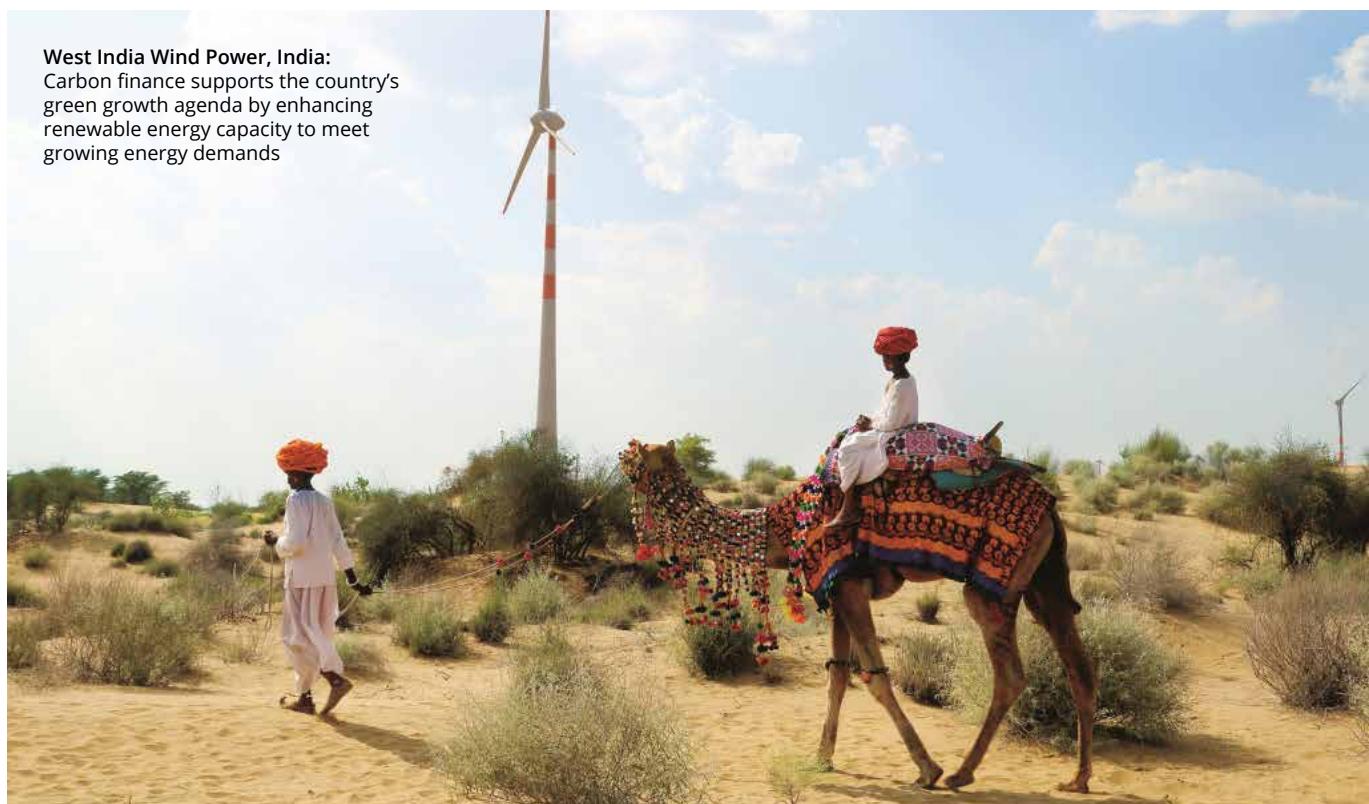
PAS 2050: British Standards Institution's (BSI) Publicly Available Specification for the assessment of the life cycle GHG emissions of goods and services. The general principles of PAS 2050 are similar to the GHG Protocol Product Standard, both of which are appropriate for use within The CarbonNeutral Protocol.

PAS 2060: British Standards Institution's (BSI) Publicly Available Specification for the demonstration of carbon neutrality. It specifies requirements to be met by any entity seeking to demonstrate carbon neutrality through the quantification, reduction, and offsetting of GHG emissions from a uniquely identified subject.

Product Category Rule (PCR):

Documents that define the rules and requirements for EPDs from a certain product category. They are vital for the concept of environmental declarations as they enable transparency and comparability between different EPDs based on the same PCR.

Primary data: Data collected or directly measured which can be converted to CO₂e emissions through the application of conversion factors, without the need to first apply estimates, extrapolations, models, or industry averages. For example, the quantity of electricity consumed on site, as recorded from an electricity meter, or from utility invoices.



Q

Quality assurance: Independent review conducted by an expert third party to check that the input data for GHG inventories or use of a CarbonNeutral® certification logo meets the requirements of a CarbonNeutral® certification and is in line with the approach and principles of The CarbonNeutral Protocol. See **Guidance 2.4** for further guidance on quality assurance and verification.

Quality assurance statement: A written statement by an expert third party with demonstrated experience declaring the results of a quality assurance exercise. A quality assurance statement as referred to here should not be confused with an assurance report, which is a report issued by an independent assurance provider or auditor under a standard such as International Standard on Assurance Engagements (ISAE) 3000 or 3402.

Quality control: A management process used by an entity to ensure its data management provides a true and fair representation of the GHG emissions associated with the subject of the certification.

R

Radiative Forcing Index (RFI): A factor used to quantify non-CO₂ warming effects of air travel. RFI is the ratio of total radiative forcing (RF) of all GHGs to RF from CO₂ emissions alone for aircraft emissions (IPCC, 1999). RFI does not account for the different residence times of different warming factors. See **Guidance 2.6** for further discussion of this topic.

RE100: A global collaborative initiative led by The Climate Group that brings together influential and multinational businesses that are committed to sourcing 100% renewable electricity (See **Guidance 5.5** for further information about communicating 100% renewable electricity).

Reduced emissions: The impact, measured in tCO₂e, of specific mitigation actions to avoid GHG emissions to the atmosphere calculated against a reference baseline (See **Mitigation** and **Mitigation outcomes** and **Guidance 4.6**).

Registry: A database of carbon credits and their transactions used to assign legal title through a unique identifier, and where credits are retired (cancelled) upon being sold to offset an equivalent amount of GHG emissions.

Removals: The impact, measured in tCO₂e, of specific mitigation actions that remove GHG emissions from the atmosphere (See **Mitigation** and **Mitigation outcomes** and **Guidance 4.6**).

Renewable Energy Certificate (REC): An Energy Attribute Certificate (EAC) defined in North American regulations issued per MWh generated from eligible renewable energy sources.

Renewable Energy Guarantees of Origin (REGO): An Energy Attribute Certificate (EAC) administered by the UK regulatory agency OFGEM, issued per MWh of energy generated from eligible renewable sources.

Renewable Gas Guarantees of Origin (RGGO): An Energy Attribute Certificate (EAC) administered by the Renewable Energy Association in the UK, issued per kWh of energy generated from eligible biogas sources.

Retire (Retirement): Refers to the permanent cancellation of carbon credits from future use in a third-party registry.

S

Science Based Targets initiative (SBTi): A collaborative initiative by CDP, World Resources Institute (WRI), the World Wide Fund for Nature (WWF) and the United Nations Global Compact (UNGC) that champions science-based internal abatement target setting and the adoption of net zero strategies to encourage and support companies in the transition to a low-carbon economy. See **Technical Specification 3.2** for further guidance.

Scopes: The three “classes” of emissions sources identified in the GHG Protocol Corporate Standard, relevant to assessing and reporting the GHG emissions of entities.



Glossary of Terms

Scope 1 emissions: Those GHG emissions directly attributable to the subject that occur from sources that are owned, leased or controlled by the entity seeking CarbonNeutral® certification, principally from the following types of activities: the combustion of fuels for the generation of electricity, heat, or steam, processing and/or manufacturing of materials or chemicals, transportation in company owned/controlled mobile combustion sources, and fugitive emissions from intentional or unintentional releases (e.g. equipment leaks and hydrofluorocarbon (HFC) emissions from refrigeration and air conditioning equipment).

Scope 2 emissions: Those emissions indirectly attributable to the subject from the generation of electricity, heat, steam or cooling that is acquired and consumed in owned, leased, or controlled equipment or operations.

Scope 3 emissions: All non-Scope 2 indirect emissions from upstream and downstream sources. The most common examples are emissions from: transport-related activities, transportation of purchased materials, goods, or fuels, employee business travel, employee commuting to and from work, transportation of sold products in third-party owned vehicles, and the transportation and disposal of waste and sold products at the end of their life.

Short Lived Climate Forcers (SLCF): Emissions with a short atmospheric residence time which have the potential to affect climate.

Subject: The entity, product or activity to which CarbonNeutral® certification is applied.

T

Taskforce for Scaling the Voluntary Carbon Market:

A private sector-led initiative established in 2020 working to scale an effective and efficient voluntary carbon market to help meet the goals of the Paris Agreement, renamed in 2021 to the Integrity Council for the Voluntary Carbon Market (ICVCM) to mark the implementation phase of the initiative.

Tradable Instrument for Global Renewables (TIGR):

A global Energy Attribute Certificate (EAC) administered by APX in the US issued per MWh generated from eligible renewable energy sources.

Verification: Independent evaluation conducted by an expert third party with demonstrated experience to the requirements of an independent verification standard (such as ISO 14064:3) to check that the quality of input data, a GHG assessment, or that the use of a CarbonNeutral® certification logo meets the requirements of a CarbonNeutral® certification and is in line with the approach and principles of The CarbonNeutral Protocol. See **Guidance 2.4** for further guidance on quality assurance and verification.

Verification statement: A written statement by an expert third party with demonstrated experience declaring the results of a verification exercise.

Z

Zero emissions: Applies to the state of a subject when GHG emissions are fully abated and there are zero GHG emissions to the atmosphere.

Unabated emissions: Remaining GHG emissions associated with a subject after internal emission reduction activities have been implemented.

V

Voluntary Carbon Market (VCM):

The market for tradable carbon credits that facilitates international cooperation between private actors in developing and developed countries. It enables non-state actors to drive climate benefits beyond their own operations and supply chains.

Voluntary Carbon Market Integrity Initiative (VCMI):

A multi-stakeholder platform established in 2021 to drive credible, net-zero aligned participation in voluntary carbon markets.



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