Guidance Document

Achieving the SBTi standards for Near-term Science-based Targets and the Net Zero Targets in Cocoa

February 2024

Swiss Platform for Sustainable Cocoa

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Acknowledgements

This publication was prepared by Dominique Gangneux from 2030 Regen Advisory in collaboration with Sustainable Food System Expert Manuel Holzer, Head of Sustainability at Chocolat Stella Bernrain and Monitoring and Climate Manager Fabienne Bauer from the SWISSCO Coordination Office, all of whom contributed to this guidance document.

Abbreviations

AFOLU	Agriculture, Forestry and Other Land Use
CO_2e	CO_2-equivalents
FLAG	Forest, Land and Agriculture
GHG	Greenhouse Gas
iCVCM	The Integrity Council for the Voluntary Carbon Market
SBTi	Science-Based-Target Initiative
SBTn	The Science-based Target for Nature
SMEs	Small and Medium Enterprises
TCFD	Taskforce on Climate-related Financial Disclosures
TNFD	Taskforce on Nature-related Financial Disclosures
VCM	Voluntary Carbon Market

Important Note: across the report we will interchangeably use the language of greenhouse gases emissions (GHGs), GHG emissions, and carbon emissions with equal meaning. This is quite common in the marketplace. CO_2 is the most common GHG but "carbon emissions" is shorthand for "GHGs" or "equivalent carbon dioxide (CO_2e) emissions".

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1 Introduction

The climate challenge has become pivotal in the discussion around fostering sustainability in the cocoa value chain. Both the increasingly urgent need to adapt to climate change in the main cocoa-growing countries and reduce climate emissions within companies supply chains are receiving more and more attention in the Swiss Platform for Sustainable Cocoa (SWISSCO) and within our partner initiatives. Therefore, the efforts to support the transition towards more climate-friendly, more regenerative production models have become a key driver to improve the overall sustainability of the value chain.

The SWISSCO Roadmap 2030 reflects this increasing importance through various specific targets in the impact area of "deforestation-free and climate-friendly cocoa supply chain" aligned with the United Nations Sustainable Development Goals (SDG) 13 and 15. Alongside measurable targets linked to climate-smart agriculture and agroforestry practices, as well as our collaborative engagement at the landscape level, the following specific target was set connected to the commitment of supply chain partners:

„Swiss cocoa supply chain partners are on the pathway towards net zero emissions with focus on the supply chain in line with the Paris Agreement by adhering to SBTi or by undertaking equivalent efforts in line with the Paris Agreement goals."

This target presents a major challenge for our members across various aspects, encompassing financial considerations, the necessary expertise, and the manifold implementation hurdles. Consequently, we aim to assist our partners wherever possible, employing diverse approaches such as communities of practices, facilitating access to funding, and providing technical assistance.

This publication offers insight into the Science Based Target Initiative (SBTi) and its key standards for both near-term and net-zero commitments, serving as a vital reference point for companies in steering their ambitions and strategies in the climate arena. A good basic understanding of this topic is crucial for navigating the complexities of the net-zero journey, facilitating better comprehension and interaction with the growing number of peers, partners, and clients.

This guidance document is part of SWISSCO's overall approach to support members to tackle the challenges in the areas of climate and forest protection.

Specifically, we conceive our "SBTi" target as a collective effort to continuously improving by:

1. Strengthening peer learning and active knowledge management among members.

2. Enabling supply chain partnerships by making carbon reductions and removals a joint effort of farmers, traders, processors, manufacturers, retailers, and consumers.

3. Addressing the financing challenge by identifying the investment needs and opportunities to transition into regenerative production models.

We hope that this paper will help to close some of your knowledge gaps and, in doing so, to empower you in the technical discussion around net-zero strategies.

This guidance document should inspire you to tackle this intricate yet crucial subject at the earliest opportunity. Delaying action would be an unwise approach. Keeping this in mind, we hope you find this publication valuable and welcome your feedback.

Christian Robin, Executive Director, SWISSCO

2 Science Based Targets initiative Standards for the Near-Term Science-based Targets and the Net Zero Targets

2.1. Introduction to the Science Based Target initiative (SBTi)

The Science Based Target initiative (SBTi) is an organisation that aims to empower companies worldwide to meet the requirements of climate science within the global economy: to cut emissions by half by 2030 and achieve Net Zero before 2050.

Established in 2014, SBTi is a partnership between the not-for-profit charity CDP (formerly Carbon Disclosure Project), the United Nations Global Compact, World Resources Institute (WRI), the World Wide Fund for Nature (WWF), and the We Mean Business Coalition.

The SBTi's objective is to encourage ambitious corporate climate action by enabling global businesses and financial institutions to set science-based greenhouse gas (GHG) emissions reduction targets.

Targets are deemed „Science-based" if they align with the latest climate science recommendations, in line with the goals of the Paris Agreement, aiming to limit global warming to 1.5°C above pre-industrial levels.

The Science Based Target initiative's core activities are:

1. Developing criteria and offering tools and guidance to enable businesses and financial institutions to establish GHG emissions reduction targets aligned with scientific recommendations to limit global heating to below 1.5°C.

2. Gathering a team of experts to independently assess and validate targets for organisations.

3. Defining and advocating best practices in science-based target setting across sectors, offering technical aid and expert resources to companies and financial institutions.

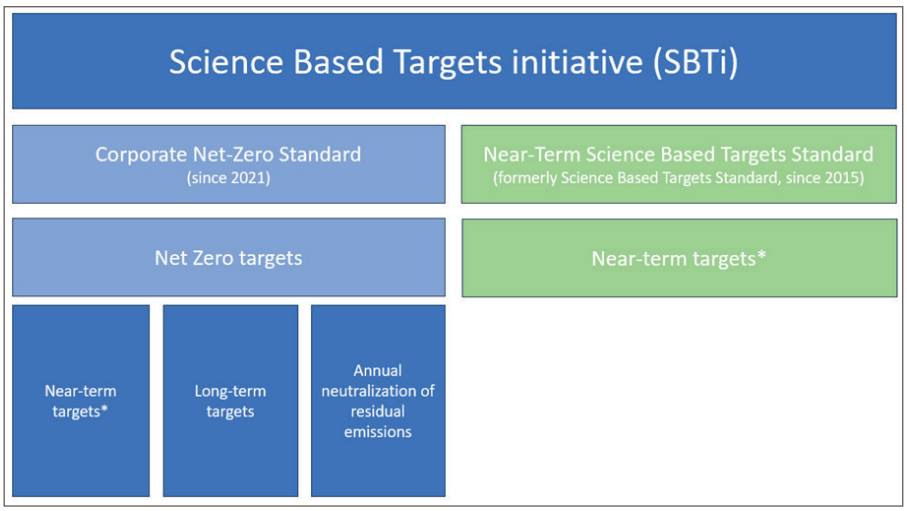
4. Enhancing accountability and credibility of corporate climate action through its upcoming monitoring, reporting, and verification framework.

The SBTi has issued two standards, which will be explored in greater detail in this chapter:

1. The first standard, developed in 2015 as the Science Based Targets (SBTs) standard and later evolved into the Near-Term Science Based Target Standard, focuses on guiding companies in setting a 5–10-year decarbonisation target in alignment with climate science.

2. The second standard, introduced in 2021, is the Corporate Net-Zero standard. It mandates the establishment of both short-term (5-10 years) and long-term (up to 2050 at the latest) targets. Furthermore, once a company achieves the required minimum levels of decarbonisation (72% for land use emissions and 91% for other emission sources), it must offset its remaining annual emissions. This can be accomplished by purchasing high-quality removal carbon credits. This action leads the company to achieve Net Zero performance status.

Figure 1: The SBTi Standards and their corresponding targets



***Near-term targets from the Corporate Net Zero Standard are equivalent to the near-term targets from the Near-Term Science Based Targets Standard**

In 2021, the SBTi experienced a phase of exponential growth and heightened corporate ambition, witnessing a doubling in the number of new companies that set and committed to setting targets, and a tripling in the rate of validating new targets:

- By the end of 2022, the total cumulative count of companies with science-based targets validated by the SBTi since its inception had reached 2,079, with an additional 2,151 companies committed to setting targets. This accounted for 34% of the global economy by market capitalisation.

- As of early February 2024, over 7,500 companies worldwide, representing more than 35% of the global economy, have committed to the SBTi standards.

- Among the companies with validated targets in 2022, 58% were small or medium-sized enterprises (SMEs). In 2022, 22% of these SMEs established Net Zero targets.

- As of early October 2023, there were over 6,000 companies across various sectors globally committed to complying with the SBTi standards.

2.2 Typical carbon footprint of a chocolate product

The organisation Greenhouse Gas Protocol (GHG) provides requirements and guidance for companies and other organisations which are preparing a corporate-level GHG emissions inventory. **The standard covers the accounting and reporting of seven greenhouse gases covered by the Kyoto Protocol** – carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PCFs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3).

To help delineate direct and indirect GHG emission sources, improve transparency, and provide utility for different types of organisations and different types of climate policies and business goals, three "Scopes" (Scope 1, Scope 2, and Scope 3) are defined for GHG accounting and reporting purposes. When measuring the company's emissions, these Scopes indicate which emitting activities can be limited to the company's own actions (Scope 1 and 2) and which activities are extended to actions in the company's value chain (Scope 3). See figure 2 below.

The typical carbon footprint of the cocoa and chocolate sector throughout its value chain is depicted in the figure below. It's essential to note the limited availability of public information, resulting in wide variations in results due to differing methodologies, supply chain variances, data uncertainties, analysis scopes, and underlying assumptions and parameters.

This variability is evident in the figures below, where the total carbon footprint ranges from 1.8 to 14.9 kg CO_2e/kg. Nonetheless, these figures offer valuable insights into the primary GHG emission hotspots across the cocoa and chocolate sector value chain.

Typically, the primary activities with the most significant influence across Scopes 1 (direct emissions linked to the company's „owned Assets"), 2 (indirect emissions tied to the company's „energy purchased"), and 3 (all other indirect emissions in the company's value chain, termed „3rd party") for a standard chocolate brand involve various activities (see figure 5 on p. 9).

Scope 1 and 2 carbon impacts are typically primarily influenced by electricity, fuel, and heat consumption, and potentially refrigerants depending on the location of manufacturing sites. Scope 3 accounts for the largest portion of the carbon footprint, typically constituting at least

Figure 2: Scope of Activities. Source: Adapted from the GHG Protocol

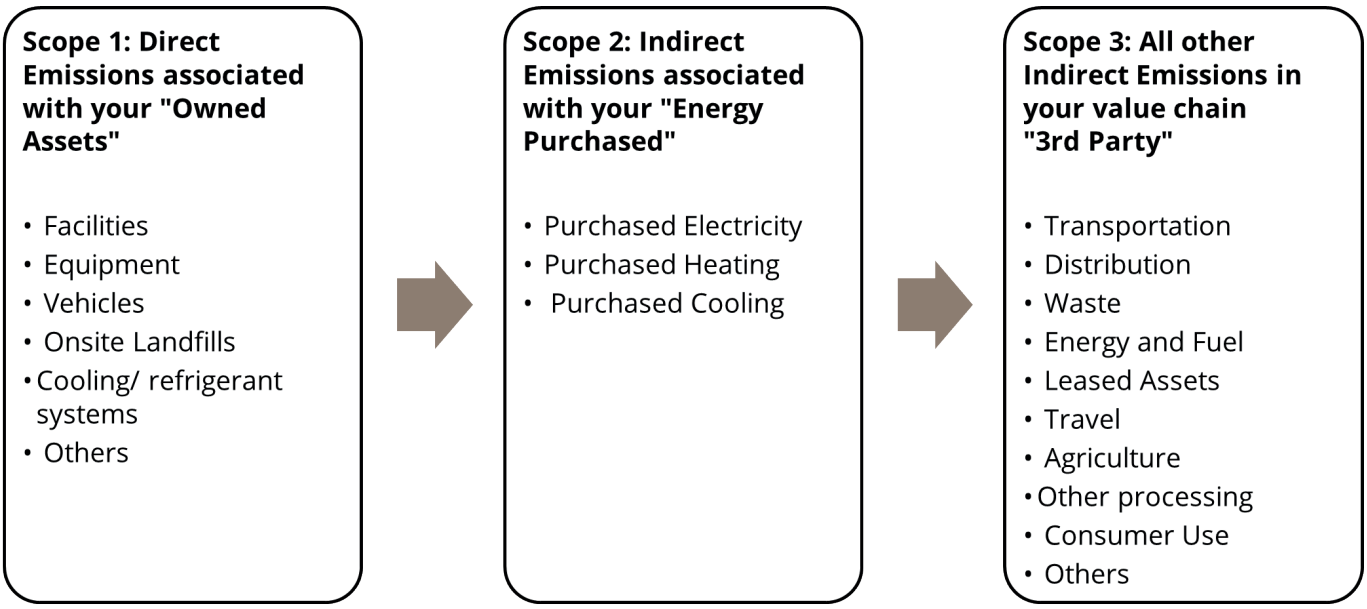
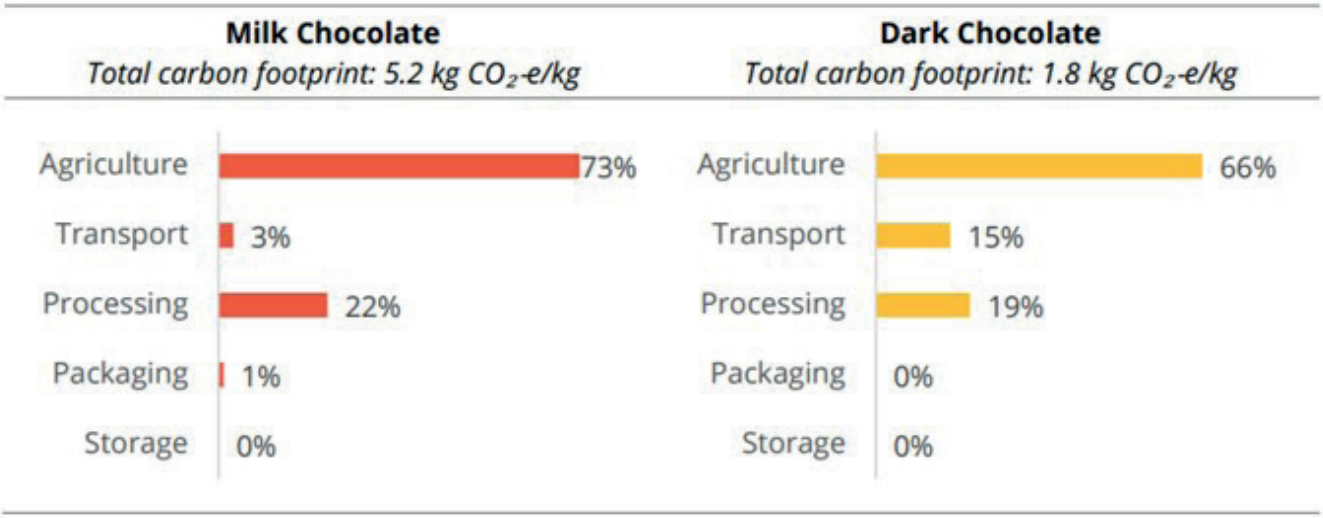


Figure 3: Example of a chocolate product carbon footprint. Source: Carbon Cloud n.d.



90% of the total footprint. The overwhelming majority of Scope 3 (usually 60-80%) is linked to the „raw materials," particularly the key ingredients in chocolate such as cocoa, dairy, oils, and sugar (i.e. farming, processing, and logistics).

Among these ingredients, cocoa and dairy typically have the most substantial greenhouse gas impact. Cocoa generally holds a slightly higher impact than dairy due to deforestation. When assessing the carbon footprint of cocoa-based ingredients, the primary impact is often linked to cocoa farming activities.

The main contributors to the Scope 3 greenhouse gas impact in cocoa farming can be attributed to:

- Land use change or deforestation to establish new cocoa farms (20 years being the timeline considered in life-cycle analysis or carbon footprinting methodologies).

- The handling of the cocoa pod husks. When left to decompose in a pit on the farm, they emit substantial methane. However, using the husks as mulch or compost can enhance Soil Organic Matter, leading to carbon storage in the soil.

- The production and use of synthetic fertilisers, which involves high energy consumption.

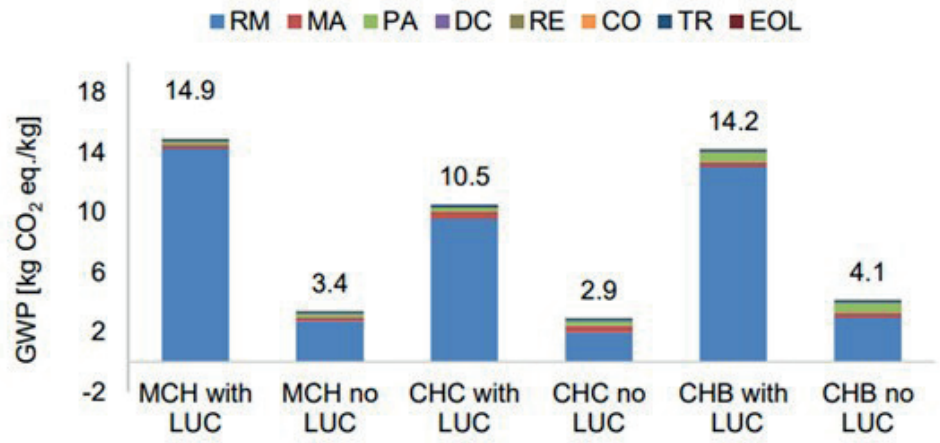
It's essential to note that cocoa yield plays a pivotal role in calculating the carbon footprint of the production of cocoa beans. All greenhouse gas emissions depend on the yield. Therefore, enhancing productivity through sustainable agricultural practices will significantly aid in addressing the carbon footprint of cocoa farms.

What measures or strategies can aid companies in accounting for greenhouse gas emissions within this field?

The „GHG Protocol Land Sector and Removals Guidance", scheduled for release in mid-2024, will offer supplementary guidelines to the Corporate and Corporate Value Chain Standards. It will delineate the methods for companies to account for greenhouse gas emissions and removals stemming from activities such as land management, land use change, CO_2 removals, and storage.

This guidance document holds significant importance for agrifood companies as it is expected to profoundly impact their carbon accounting and reporting systems. We strongly advise members of the Swiss Platform for Sustainable Cocoa (SWISSCO) to commence acquainting themselves with the current draft version.

Figure 4: Global Warming Potential carbon footprint of three chocolate products with and without land use change Source: Konstantas et al. (2018), "Environmental impacts of chocolate production and consumption in the UK"



(GWP: Global Warming Potential. LUC: Land Use Change. MCH: Moulded Chocolate. CHC: Chocolate Countlines, CHB: Chocolate in Bag, RM: Raw Materials, MA: Manufacturing (of chocolates), PA: Packaging, DC: Distribution Centres and Retailers, RE: Recycling, CO: Co-products, TR: Transport, EOL: End of Life)

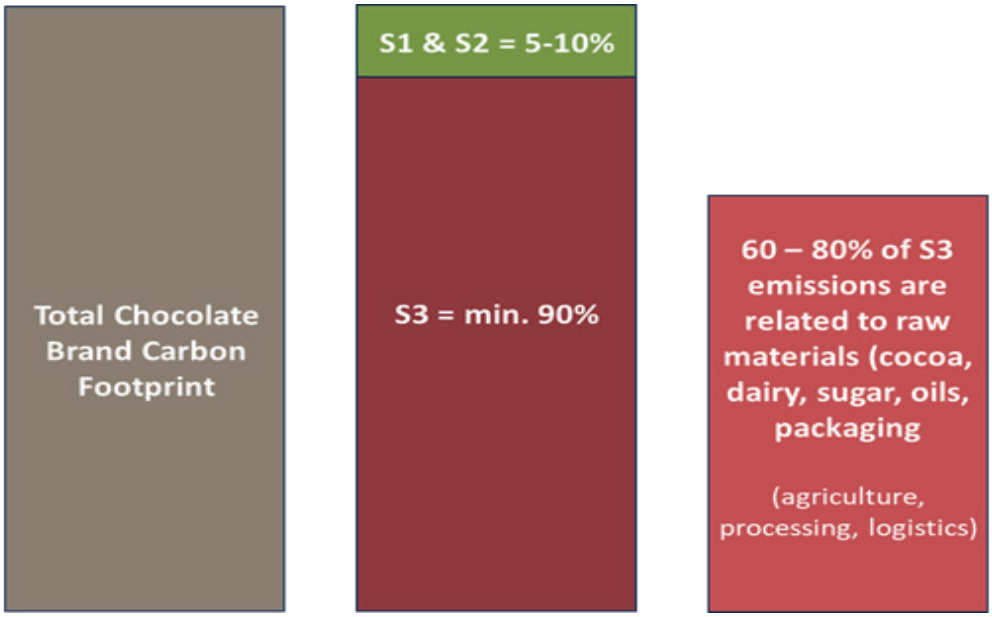
The most important aspects of the „GHG Protocol Land Sector and Removals Guidance" include:

- Carbon removals reporting. These removals should be reported as absolute values (i.e. no negative sign) and separately from the carbon emissions. These carbon removals can be used to deliver Forest, Land and Agriculture (FLAG) Science-Based Target, i.e. by being accounted to reduce (or increase) the overall carbon footprint emissions.

- Primary data: the current draft requires traceability to the farm. It is also piloting an alternative option i.e. the "Sourcing region with safeguards". Safeguards are associated with the quality of data accounting and reporting and the need to consider topics like avoiding double counting, conservative assumptions, only reporting performance from the attributed managed farmlands, carbon removal reversal accounting, etc.

- Carbon removal traceability, ongoing monitoring and reporting, data accuracy and uncertainty, long-term storage, permanence and reversal accounting: companies shall account for and report removals only if the reporting company has traceability throughout the full CO_2 removals' pathway, including to the sink (where CO_2 is transferred from the atmosphere to non-atmospheric pools), to the carbon pools where the carbon is stored, and to any intermediate processes if relevant. Among others, topics related to ongoing monitoring and reporting, data accuracy and uncertainty, long-term carbon storage, permanence, and reversal accounting will need to be managed appropriately to comply with the guidelines.

Figure 5: Scope 1, 2 and 3 (S1, S2, S3) orders of magnitude of a typical chocolate brand carbon footprint. Source: Dominique Gangneux, 2023.



2.3 The Near-Term Science-based Target

The Near-Term Science-Based Target is the first standard issued by the SBTi back in 2015. The initial Science-Based Target Standard, which only required to set a near-term target of 5-10 years, preceded the more long-term decarbonisation target Net-Zero Standard in 2021.

This standard still exists for companies to use and comply with, and indeed only requires companies to set near-term targets for their Scope 1, 2 and 3 carbon emissions, but it has now naturally been "nested" into the higher ambition of setting a long-term target which forms part of the Corporate Net-Zero Standard.

It is recommended that companies commit to the long-term target within the Net-Zero Standard as this is what the climate science is expecting, and what forms also part of SWISSCO's Roadmap 2030 targets. This also aligns with a companies' strategy and operational perspective as becoming a low carbon business requires long-term planning and investments.

In summary, the key requirements of the Near-Term Science-Based Target Standard are the following:

- Companies should submit targets only at the parent or group level, not the subsidiary level. Parent companies must include the emissions of all subsidiaries in their target submission.
- The targets must cover company-wide Scope 1 and Scope 2 emissions, as defined by the GHG Protocol Corporate Standard. If a company's relevant Scope 3 emissions represent 40% or more of the total emissions (Scope 1, 2 and 3), they must be included in near-term targets.
- The targets must cover all relevant GHGs as required by the GHG Protocol Corporate Standard. Companies may exclude up to 5% of Scope 1 and 2 emissions combined in the boundary of the inventory and target. Companies may exclude a maximum of 5% of emissions from their total Scope 3 inventory.

- Scope 1 and 2 near-term targets must be aligned to the 1.5°C decarbonisation pathway. This means they need to be consistent with the level of decarbonisation required to keep global temperature increase to 1.5°C compared to pre-industrial temperatures. Scope 3 near-term targets can be aligned to either the 1.5°C or well-below 2°C decarbonisation pathways. The SBTi has developed several target calculation methods to calculate near-term and long-term targets based on a mitigation pathway and company inputs. Companies have various options to consider across the Scope 1, 2 and 3 targets. These include: absolute reduction, sector specific reduction, economic reduction and physical reduction (more details can be found in the Near-Term Science Based Targets Standard).

- Near-term targets must cover a minimum of 5 years and a maximum of 10 years from the date the target is submitted to the SBTi for validation. The choice of base year must be no earlier than 2015.

- Avoided emissions do not count toward near-term science-based emission reduction targets and fall under a separate accounting system from corporate inventories.The use of carbon credits must not be counted as emissions reductions towards the progress of companies' near-term targets.

- The respective company should annually disclose its company-wide GHG emissions inventory and track progress against published targets. Targets ought to be reassessed to accommodate substantial business changes that might compromise the relevance and consistency of the existing target, which could arise from mergers and acquisitions, data quality reviews, and other pertinent factors.

2.4 The FLAG Science Based Targets guidelines in summary

In September 2022, the SBTi issued the so-called Forest, Land and Agriculture (FLAG) Science Based Target setting guidance, which will need to be complied with by cocoa and chocolate companies committing to the SBTi near-term and net-zero targets.

In short, the FLAG Science Based Targets are:

- Science Based Targets that are applicable to a company's greenhouse gas (GHG) emissions from Agriculture, Forestry, and Other Land Use (AFOLU) encompass GHG emissions linked with land use change. These include biomass and soil carbon losses from activities such as deforestation, conversion of coastal wetlands, conversion/draining and burning of peatlands, conversion of savannas and natural grasslands, emissions arising from land management practices (e.g. nitrous oxide and methane from enteric fermentation, biomass burning, nutrient management, fertilizer use, and manure management), and biogenic removals (e.g. forest restoration, silvopasture, improved forest management, agroforestry, and soil carbon sequestration).

- FLAG targets are separate from other fossil/industrial or non-FLAG targets and are therefore additional Science-Based Targets for companies with significant GHG emissions from AFOLU.

- The SBTi provides two approaches to FLAG target setting to enable companies to calculate GHG reduction targets in line with the Paris Agreement. Firstly, the FLAG sector pathway for companies with diversified FLAG emissions. Secondly, the FLAG commodity pathways, which include 11 pathways for specific commodities: beef, chicken, dairy, leather, maize, palm oil, pork, rice, soy, wheat, as well as timber and wood fiber.

In summary the key requirements of the SBTi FLAG Guidance are the following:

- Companies required to set FLAG targets: The SBTi requires companies that meet either of the following two conditions to set a FLAG specific target additionally to their target(s) for other emissions: Firstly, Companies from the following SBTi-designated sectors are required to set a FLAG target: Forest and paper products (forestry, timber, pulp and paper); food production (agricultural production, animal source); food and beverage processing; food and staples retailing; and tobacco. Secondly, companies in any other sector with FLAG-related emissions that total more than 20% of overall emissions across scopes. This 20% threshold should be accounted for as gross emissions, not net (gross minus carbon removals).

- Set near-term FLAG targets: 5–10-year emission reduction targets in line with the 1.5°C pathway for Scope 1 and Scope 2 FLAG emissions, and with either the 1.5°C or well-below 2°C pathways for the Scope 3 FLAG emissions (the pathway will be the same as the chosen ambition of the company's energy/industry target Scope 3 ambition).

- When setting a Net Zero target, also set a long-term FLAG target: Companies in the forest, land and agriculture sectors will reduce at least 72% of emissions by no later than 2050. They should use the SBTi Net-Zero Standard to set long-term FLAG targets.

- Target boundaries and emissions coverage: For the emissions related to forest, land and agriculture, the FLAG target must cover at least 95% of Scope 1 and 2 emissions, and at least 67% of Scope 3 emissions.

- Zero deforestation targets must be set for no later than 2025 (in line with the Accountability Framework initiative).

Accounting of removals in FLAG targets:

CO_2 removals can be accounted to deliver the FLAG targets (only CO_2 removals and no other GHG removals). CO_2 removals include actions like improving forest management practices and enhancing soil carbon sequestration on working lands. GHG emissions and CO_2 removals must be reported separately, and the overarching FLAG target may net emissions and removals because in an inventory accounting approach, changes may be accounted for as emissions or removals depending on the starting point.

Removals may only be included in FLAG targets when the appropriate requirements are met, following the GHG Protocol Land Sector and Removals Guidance (in final draft version, to be finalised in 2024). Removals may not be used to meet any other energy/industry targets under the SBTi. Companies should follow data quality guidelines provided by the GHG Protocol Land Sector and Removals Guidance.

2.5 The Corporate Net-Zero Standard in summary

The SBTi's Corporate Net-Zero Standard was launched in October 2021. It provides a common, robust, and science-based understanding of Net Zero. It gives business leaders clarity and confidence that their near and long-term targets are aligned with climate science. It includes the guidance, criteria, and recommendations for companies to set Net Zero targets, which are science-based and consistent with limiting global temperature rise to 1.5°C.

Simply put, achieving Net Zero at the societal level entails preventing any overall increase in greenhouse gas emissions in the atmosphere, thereby avoiding contributions to climate change.

In a global Net Zero society there is no net increase in greenhouse gas emissions. In practice, this involves significantly reducing actual emissions (to less than 10% of current levels) and investing in carbon removal projects to effectively offset those remaining emissions.

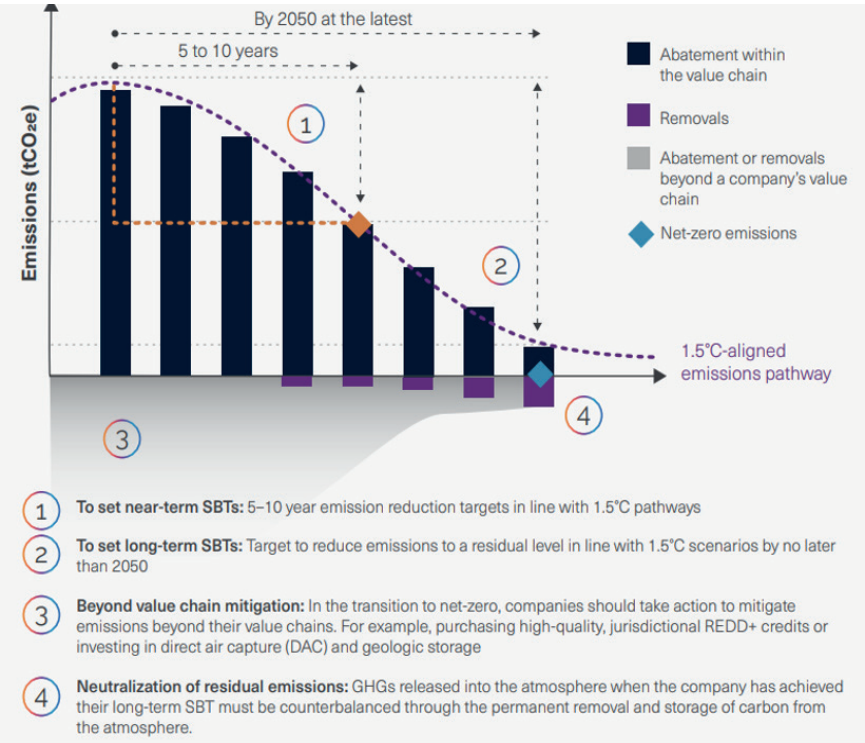
The SBTi Corporate Net-Zero Standard outlines corporate Net Zero as:

- Reducing Scope 1, 2, and 3 emissions to zero or a residual level which is consistent with reaching global Net Zero emissions.
- At a sector level reaching Net Zero means to reduce GHG emissions by a minimum of 72% for the FLAG sector and by a minimum of 91% for all the other sectors.
- Permanently neutralising any residual emissions at the Net Zero target year and any GHG emissions released into the atmosphere thereafter.

To summarise, the principal requisites of the Corporate Net-Zero Standard are as follows:

- Companies ought to submit targets only at the parent- or group level, not the subsidiary level. Parent companies must include the emissions of all subsidiaries in their target submission.
- The targets must cover all relevant GHGs as required by the GHG Protocol Corporate Standard. Companies may exclude up to 5% of Scope 1 and Scope 2 emissions combined in the boundary of the inventory and target. Companies may exclude a maximum of 5% of emissions from their total Scope 3 inventory.
- Companies are required to set both near-term and long-term targets for Scope 1, 2, and 3 emissions in alignment with the 1.5°C decarbonisation pathway. This means making rapid emissions cuts now, halving emissions by 2030, and a minimum deep decarbonisation of 72-91% by 2050 latest depending on the sectors. Note: For a chocolate company, depending on its activities and amount of agriculture/land use based GHG emissions, it would require a decarbonisation of about 80-90% compared to its baseline by 2050 latest.
- The targets must cover company-wide Scope 1 and Scope 2 emissions, as defined by the GHG Protocol Corporate Standard. If a company's relevant Scope 3 emissions are 40% or more of total Scope 1, 2 and 3 emissions, they must be included in near- targets.
- The boundary of near- and long-term targets for Scope 1 and 2 is 95% of the total Scope 1 and 2 emissions. For the Scope 3 targets, the boundary is 67% for the near-term target and 90% for the long-term targets.
- The SBTi has developed several target calculation methods to calculate near-term and long-term targets based on a mitigation pathway and company inputs. Companies have a number of options to consider across the Scope 1, 2 and 3 targets. These options include absolute reduction, sector specific, economic and physical reduction.

Figure 6: Key elements of the SBTi Net Zero Standard. Source: SBTi Net Zero Standard, 2021



- A company is only considered to have reached Net Zero when it has achieved its long-term target. Most companies are required to have long-term targets with emission reductions of at least 90% by 2050 (72% for FLAG emissions). Once Net Zero is reached, a company must use carbon removals to neutralise any limited emissions that cannot yet be eliminated. Companies should disclose information such as planned milestones and near-term investments that demonstrate the integrity of commitments to neutralise unabated emissions at Net Zero.

- Going beyond the value chain: The SBTi recommends companies to make investments outside their targets to help mitigate climate change elsewhere. However, these investments should be in addition to deep emission cuts, not instead of them. Companies should follow the mitigation hierarchy, committing to reduce their value chain emissions before investing in mitigating them outside their value chains. This is currently a "voluntary" activity. That said, a specific guideline is currently being developed by the SBTi which may define specific requirements to comply with.

- Avoided emissions do not count toward near-term emission reduction targets and fall under a separate accounting system from corporate inventories. The use of carbon credits must not be counted as emission reductions toward the progress of companies' near-term science-based targets.

- The company is required to annually disclose its company-wide GHG emissions inventory and track progress against established targets. Targets must be re-evaluated to accommodate significant business changes that might jeopardise the relevance and consistency of the current target, such as those resulting from mergers and acquisitions, data quality reviews, and other relevant factors.

3 Focus on the SBTi Near-Term Science Based Targets Standard and Corporate Net-Zero Standard requirements for Small and Medium Sized Enterprises

It is recognised by the SBTi that, compared to larger companies, Small and Medium Sized Enterprises (SMEs) have less resources and influence in their value chains to drive change.

The SBTi has therefore tailored its Near-Term Science Based Targets Standard and the Corporate Net-Zero Standard to match this reality. SMEs are fundamental to deliver the Net Zero performance across the cocoa and chocolate sector. They need to play their respective parts and be both incentivised and rewarded for helping make it happen.

In this section and in section 4, specific information is provided to help SMEs better understand the requirements of the SBTi standards and what actions to take.

How is an SME defined? The criteria in the infobox on the right give an overview. The SBTi exclusively considers these criteria to classify an entity as an SME, and only entities that fall within this definition can use the tailored requirements for SMEs. Country-level definitions, emissions intensity, market capitalisation, or any other considerations are not used by the SBTi to classify this type of entity. The standard commitment and/or target validation routes are not available to companies that fall under Swiss SME definition.

SMEs can submit targets through an exclusive streamlined target validation route. This allows SMEs to bypass the initial stage of committing to set a target and the standard validation process. SMEs can immediately set targets (near-term, near-term maintenance and long-term options available) by choosing from one of the predefined target options available in the SME target setting form.

What is Considered as an SME?

An SME is defined as a non-subsidiary, independent company when two or more of the following criteria are met:

- Employ <250 employees (i.e. full-time employees or headcount)
- Turnover of <€50 million
- Total assets of <€25 million
- Are not in a mandatory FLAG sector

As of 1st January 2024, SMEs must also adhere to all the following criteria points to be able to set targets through the validation route, especially designed for SMEs:

- Have <10,000 tCO_2e across Scope 1 and location-based Scope 2
- Do not own or control maritime transport vessels
- Do not own or control non-renewable power generation assets
- Are not classified in the Financial Institutions (FIs) and Oil & Gas (O&G) Sectors
- Are not a subsidiary of a parent company whose combined businesses fall into the standard validation route

SMEs have the same target-setting options than larger companies, but unlike larger companies the near-term option does not require SMEs to set targets for their Scope 3 emissions. However, SMEs must commit to measure and reduce voluntarily their Scope 3 emissions as much as feasible (i.e. no bidding Scope 3 decarbonisation target). That said, SMEs will need to have a Scope 3 emissions target when committing to the Net-Zero Standard and defining its long-term targets, but only start acting on it in 5-10 years from the time of submission.

Regarding the application of the FLAG guidelines for SMEs in the food and beverage/land use sectors: the FLAG guidelines explicitly indicate that SMEs are not obligated to establish FLAG SBT targets. That said, when SMEs commit to a Net Zero target, the requirement is to reduce absolute emissions across Scopes 1, 2 and 3 at least 90% by 2050, which is more than the FLAG requirement for the land use related GHG emissions (i.e. at least 72% reduction by 2050). The authors were not able to resolve this topic with the SBTi at the time of crafting this guidance document.

The three target options for SMEs:

1. Near-term targets: absolute Scope 1 and 2 GHG emissions reduction targets that should be achieved by 2030, from a predefined base year.

2. Near-term maintenance targets: enable companies that have achieved zero Scope 1 and/or 2 emissions to sustain their efforts and continuously improve. Additionally, they can select the maintenance approach that aligns with their specific emissions profile.

3. Net Zero targets are eligible to set a Net Zero target, SMEs must first set near-term targets aligned to a 1.5°C pathway.

Net Zero targets include:

- Long-term targets, which are absolute Scope 1, 2 and 3 GHG emissions reduction targets that should be achieved by 2050, from a predefined base year. Both near-term and long-term targets need to be aligned to a 1.5°C pathway i.e. reduce absolute emissions across Scopes 1, 2 and 3 at least 90% by 2050.

- A commitment to neutralise any unabated emissions when the long-term target is achieved.

- Similar than for larger companies, the SBTi also encourages SMEs to go beyond decarbonizing their value chain and make investments outside their targets that help mitigate climate change elsewhere.

For near- as well as long-term target options, SMEs need to:

- Complete a recent, comprehensive GHG inventory following the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard and Scope 2 Guidance.

- For near-term targets, SMEs are required to describe the activities generating Scope 1 and 2 emissions and provide their emissions in their chosen base year calculated in tCO_2e. After approval, SMEs are required to publicly report their company-wide Scope 1 and 2 GHG emissions inventory and progress against published targets on an annual basis.

- For long-term targets, SMEs are also required to describe and provide Scope 3 emissions in their chosen base year calculated in tCO_2e.

- SMEs should publicly disclose their emissions inventory and progress against their targets. Recommendations include annual reports, sustainability reports, CDP, and/or the company's website.

SME target validation process with the SBTi

Task 1: SME target setting form.

The company's general information has to be provided in order to confirm an entity is eligible for the target validation service. A target should be chosen and all criteria-related questions answered. This action also includes the submission of the SMEs Emissions Profile with the relevant information (activities and emissions) in accordance with the Greenhouse Gas Protocol. The Contractual and Payment information has to be completed, which contains the Terms and Conditions.

Task 2: SBTi due diligence and target approval

A thorough review is performed by the SBTi to ensure all information is complete and accurate. Incomplete information or inconsistencies will cause a delay in the overall process. After passing the due diligence, an email will be sent to confirm the target approval.

Task 3: Invoicing and fee payment (smaller fees than for large organisations)

Once the Terms and Conditions are signed, the SBTi team sends the payment details to the SME. The SME then sends the SBTi proof of payment to: smes@sciencebasedtargets.org

Task 4: Payment verification and target confirmation

SBTi verifies the payment receipt. A final confirmation is then sent to the SME, confirming the approval and registration of the target. The email contains a communications pack and relevant details regarding the target publication.

Task 5: Communication pack and target publication

The targets are published on the SBTi website as well as on the We Mean Business website.

Translating the strategic importance and complexity of climate and carbon management (and other environmental issues) into concrete management of this agenda, will likely imply for SMEs to develop both internal expertise and leverage external support providers and solutions. For example, carbon accounting and reporting software, SMEs climate advisory platforms, purchasing certified sustainable and low carbon ingredients etc. Valuable resources aiding SMEs in measuring, decarbonising, and reporting emissions are available within the key resources listed under point 7 in this document.

Empty cocoa pods near the Swiss-Ghanaian start-up KOA in Achiase, Ghana. A good example of climate action is the upcycling of cocoa pods into biochar. Photo credit: SWISSCO

4 Five Steps to Develop and Implement SBTi Net Zero Commitments for Companies

Developing SBTi Net Zero targets

Five steps can be considered for a company to successfully develop and deliver its near-term and Net Zero targets. These steps equally apply to SMEs even though some of these activities may be streamlined to fit their available expertise and resources.

These steps include:

Step 1: Assessment
Step 2: Development
Step 3: Commitment
Step 4: Implementation
Step 5: Monitoring, progress communication, improvement and transformation

Step 1: Assessment

First, the following tasks need to be addressed: defining climate impact and dependencies; assessing the Scope 1, 2, and 3 carbon footprint; understanding climate risks and opportunities; confirming climate priorities; and defining a business case for taking climate action at pace and scale.

Starting a Net Zero transformation presents an opportunity to respond to increasing climate risks, regulatory and consumers demands, and attract and retain the growing climate-conscious workforce. The first step is to really understand why becoming Net Zero matters to the organisation, what climate change means to the company's business, how much the leadership team understands about Net Zero, and what the potential opportunities and the risks are to the business.

With this in mind, the best place to start a Net Zero journey is to undertake a comprehensive assessment of the company's climate impact and dependencies as well as of its green house gas (GHG) Scope 1, 2 and 3 carbon footprint in accordance to the GHG Protocol. This will become the baseline for setting the near-term and Net Zero targets. There are a range of free tools and guides available on the internet that can help businesses assess their carbon footprint. When undertaking a carbon footprint, it is most probably needed to use secondary GHG emission factors databases which are derived from Life Cycle Analysis.

For the cocoa and chocolate and in general the food sector, it is strongly advised to at least leverage the World Food database and the Eco-Invent database. Undertaking such assessment will also provide a clear understanding of the company's carbon footprint hotspots along the value chain, triggering initial ideas for the decarbonisation action plans on how best to act on both quick wins and more transformational initiatives.

While completing the carbon footprint assessment, it is recommended to gain a fuller and more strategic understanding of the company's climate agenda and its key climate priorities. This will enable the company to develop a Net Zero business case, strategy and action plan that has a higher chance of being successfully delivered. Among others, the following activities can be undertaken:

- To understand the climate risks and opportunities the TCFD framework (Task Force on Climate-related Financial Disclosures) can be consulted to get an understanding of physical and transition risks across the climate mitigation and adaptation spectrum.
- To engage with key stakeholders to confirm their expectations (such as investors, customers, regulators, and employees).
- To review the competitors and business partners activities and performance.

- To assess the level of alignment and potential tensions with the existing business purpose, strategy and business model.

- To understand the inter-connectedness between the climate and the broader sustainability/water/biodiversity as well as social agenda.

Step 2: Development

The second step includes: Crafting a Net Zero/ Climate Transition strategy and action plan; identifying short and long-term decarbonisation interventions; exploring a long-term neutralisation strategy and identifying the required resources.

It is recommended to define a credible transition plan on how to reach the long-term goal. Once the goal is defined, immediate action should be taken in order not to lose sight of it.

A Net Zero transition plan provides a clear set of practical steps to turn a Net Zero ambition into concrete action across a range of areas. It helps organisations set out interim targets and track progress against these. A credible transition plan is also important to hold organisations to account on progress and will help investors, financial institutions and other stakeholders understand and monitor progress in the given companies. Not only is it a useful tool for organisations to achieve their Net Zero ambitions, but the mandatory publication of transition plans is becoming an increasingly regulated area (soft and hard regulatory mechanisms) as the push for organisations to deliver on Net Zero targets intensifies. Examples include:

- The UK Climate Transition Plan Taskforce launched on the 9th of Oct 2023

- The CDP Technical Note on Climate Transition Plan

- The Moody's framework to assess companies' Net Zero Transition Plans

Developing a robust Net Zero roadmap:

- For the carbon hotspots which were assessed in the company's own operation (Scope 1 and 2), and then in the supply chain and product use (Scope 3), companies should identify suitable activities that can significantly avoid, reduce, and remove carbon emissions. For each of these activities it is useful to define the associated carbon reduction and removal potentials, implementation costs and savings, how easy/challenging it would be to implement them, and their short-term quick wins/long-term transformation nature.

- It is quite normal for companies initially not to identify all decarbonisation actions that would deliver the near- and long-term targets. Many are already known and should cover at least 60-70% of the decarbonisation required; however, new ones—usually associated with harder-to-abate activities and materials—will need to be further identified and will emerge over the next 10 years as all sectors across the economy embark on their Net Zero transformation journey.

- Based on the company's ambition, strategy, targets and resources, the carbon avoidance, reduction, and removal interventions identified above should be prioritised and the Net Zero roadmap and associated financing plan developed.

- Companies should develop a high-level delivery framework including accountabilities and responsibilities across management levels and functions, an alignment of incentives for senior management/employees/ suppliers, an implementation programme with appropriate resources to deliver it, and an approach to monitoring, reporting and verification.

- This delivery framework should be shared across the management team, expertise shall be built, and full technical and financial buy-in gained.

- Finally, the company will prepare to launch, communicate, build stakeholders buy-in (e.g. employees, key customers and suppliers, financing and insurance partners) and start the implementation process.

A more holistic framework and a set of building blocks which could be integrated in the Net Zero Strategy and Action Plan can be found on Building Blocks for Net Zero Transformation. Mars' Net Zero roadmap and Nestle's Net Zero roadmap and 2022 update report give a good insight into how different companies implement their Net Zero strategy.

Decarbonisation actions at farm level

Firstly, the aim is to avoid future deforestation across all raw materials supply chains, including packaging, and to minimise the impact of land use change when developing new supply areas. Secondly, there is a need for the widespread implementation of sustainable agricultural practices across the farms from which these materials are sourced.

These practices include:

- Better application, reduced use or use of low carbon inorganic fertilizers and ultimately switching to low carbon bio-based fertilizers/mulching/composting.

- The management of the farm residues, especially the cocoa pod husks. Rather than leaving them to rot in a pit on the farm which generates significant methane emissions, best practice is to apply these (and other farm residues) as mulch or vermicompost on the soil.

- Agroforestry and hedgerows or field windbreak fences (whilst also ensuring that the cocoa trees varieties are shade tolerant as it may otherwise create cocoa yield challenges).

- Cover cropping with for example legumes, such as groundnuts, beans and cowpea.

- Application of biochar at the nursery and farm levels.

- Evolving the Integrated Pest Management system to being based on "chemicals" to being based on bio-controls, a healthy soil, and an ecosystem rich in biodiversity.

- Potentially the application of limestone or dolomite to the soil, or enhanced weathering of silicate minerals – but it's fair to say these practices are still very new and not much tested in the cocoa sector.

- Potentially the integration of livestock within cocoa farms to help manage insect population and unwanted biomass growth, potentially help control pest and disease, and assist soil fertilization.

- When establishing a new farm or planting new cocoa trees, select appropriate cocoa seedling varieties (productivity potential, pest and disease resistant, drought resistant, etc.), prepare appropriately the soil and farm system (no burning, shade intercropping planted a year before the cocoa trees, etc.).

- Improving the cocoa and agroforest trees seedling nurseries carbon performance e.g. more efficient use of fertilizer/switch to bio-based low carbon fertilizer, switch energy use to renewable energy for the water irrigation system, others.

- In an integrated way, improving sustainably the farm system's productivity (cocoa and other products) and making it more resilient to climate change (e.g. better pruning practices, improvement of pollination rates etc.).

There are numerous other sustainable agricultural practices crucial for the success of the farming system, such as water management, pest and disease control, and biodiversity enhancement.

For a more detailed overview of such practices, refer to our guidance document „Climate-smart Agriculture and Agroforestry in Cocoa." While the mentioned actions have been chosen for their decarbonisation potential, they cannot be implemented in isolation to establish an effective farming system – refer below to the comment on mitigating the risk of becoming trapped in silo thinking when it comes to GHG emissions.

Enhancing the quality of data, particularly concerning cocoa deforestation and Land Use Change impact, holds the potential to recalibrate the cocoa carbon footprint baseline, potentially reducing or increasing it based on the sourcing location. While some „decarbonisation" may result from this action, it primarily represents a „process/accounting" decarbonisation activity.

A crucial point to note during the design and implementation stages is the avoidance of the above mentioned silo thinking risk. Solutions aiming at decarbonisation need integration into a review of agricultural practices within the farming system. Otherwise, there's a risk that implementing a specific practice in isolation might unintentionally lead to adverse effects on product quality, yield, soil health, water resources, biodiversity, and ultimately, the farmer's livelihood. It's paramount to integrate low-GHG emitting, or climate-smart, farming practices within a comprehensive sustainable agriculture framework.

As previously mentioned, SMEs will initially focus on addressing their company's GHG emissions (Scope 1 and 2) for the first 5-10 years, followed by addressing their Scope 3 carbon impact. Key climate actions for Scope 1 and 2 encompass:

- Enhancing energy and material efficiency while reducing various forms of waste.
- Transitioning to renewable energy sources through either a new supplier tariff or on-site generation for heat, electricity, and cooling.
- Tackling the GHG impact of cooling systems, such as reducing usage volumes, adopting refrigerants with lower GHG impacts, minimising leakage risks, ensuring proper maintenance, and implementing complete end-of-life recovery procedures.
- Shifting business vehicles to electric models.
- Reinvesting all accrued cost savings into fresh climate actions extending beyond Scope 1 and 2 to address the Scope 3 GHGs impact. This involves initiatives like engaging with and raising awareness among suppliers/farmer cooperatives, investing in climate-smart cocoa farming pilots, mitigating the GHG impact of other ingredients and packaging, addressing logistics impact (improving efficiency and transitioning to low-carbon logistics), reducing business-related travel, and selectively procuring from suppliers and service providers engaged in climate action, among other strategies.

Step 3: Commitment

During step 3, it's crucial to secure buy-in and support from senior management (the board and executive team), as well as potentially from other key stakeholders such as investors, employees, and even suppliers or customers. Additionally, the company should formally communicate its intent to establish near-term and/or Net Zero targets to the SBTi and potentially release public communications (as it will be displayed on the SBTi website). Following the set 2-year timeframe, the company will attain official SBTi validation.

Comprehensive information is available on the SBTi's „Set a Target" webpage, including the online registration link, the standard Commitment Letter, the submission form for near-term and Net Zero targets, the SBTi Terms and Conditions, and the associated costs for validation services.

Step 4: Implementation

The implementation of the newly devised Net Zero strategy and its sustained delivery across quick wins and transformational initiatives constitute the next step. The Net Zero action plan comprises three essential components:

decarbonisation, neutralisation, and Beyond Value Chain Investment. Simultaneously, the company might initiate engagement with stakeholders, communicating its commitment, strategy, roadmap with key milestones, and the associated investment plan spanning the next five years to achieve Net Zero. Collaboration development across the cocoa and chocolate sector value chain's ecosystem, inclusive of governments, becomes pivotal. Advocacy for systemic change throughout the sector and within cocoa-producing and consuming countries is crucial for reaching the Net Zero target.

Notably, pivotal decarbonisation actions could encompass:

- Establishing appropriate climate management governance and embedding climate action into the business' DNA and incentives framework. Addressing climate change should be a priority at the highest levels of corporate leadership, including Board and CEO responsibility and oversight.

- Reviewing and evolving the business vision, mission, strategy, business model, and products to align with and facilitate the achievement of Net Zero targets and commitments.

- Mobilising and training colleagues to execute the Net Zero strategy and enhancing their expertise and empowerment. Consider creating climate champions for priority areas and fostering friendly competition between teams and sites.

- Implementing programmes and associated actions to avoid and reduce carbon emissions. These initiatives, known as "quick wins," should aim to save costs or incur minimal expenses while facilitating the deeper, long-term transformation required (e.g. redesigning products using lower-GHG emitting materials and transitioning facilities to renewable power).

- Supporting the implementation with adequate resources, KPIs, measurement tools, and software. Integrating climate considerations into financial and operational practices and decisions across functions, such as capital and operational expenditure, acquisitions, procurement, research, and new product development.

- Assigning clear accountabilities and responsibilities throughout the organisation for GHG reductions, particularly in each relevant function connected to the Net Zero roadmap.

- Proactively engaging with suppliers to raise awareness and secure their buy-in. Updating procurement policies and sourcing strategies to favour low GHG suppliers and products. Encouraging Tier 1 and 2 suppliers to commit to the SBTi Net-Zero Standard through investments in co-funding GHG footprint and hotspot analysis, pilots, and scaling up climate-smart/regenerative agriculture programs for farmers.

- Revising product design options and exploring new ways to make existing products emit fewer GHGs. Integrating Net Zero performance expectations into future product design, material sourcing, and manufacturing processes.

- Collaborating with the sector ecosystem to address more costly levers and advocating for policy support.

- Developing an internal carbon price and integrating it into the Capital expenditures (CAPEX) respectively Operational Expenditure (OPEX) process. Identifying new "green/sustainability" financing solutions (such as green/sustainability loans and bonds, internal carbon funds, public Net Zero innovation grants, green/Net Zero insurance, among others).

- Identifying new ways to generate new values with key stakeholders. For customers and consumers, this involves strategies to heighten awareness, foster loyalty, attract new customers, and potentially develop premium products. In engaging with employees, the goal is to enhance job satisfaction, improve retention rates, and draw in new talent. Building relationships with financing and insurance providers aims to secure more favorable business terms and access new climate transition-related products. Simultaneously, with investors, the objective is to retain existing supporters, cultivate loyalty, and attract new investors keen on high sustainability and climate performance.

- Continuously enhancing the quality of the carbon footprint across Scope 1, 2, and 3. Defining specific KPIs to monitor performance by function, divisions, or product and driving performance improvement.

Key neutralisation actions to consider for implementation:

- Aligning the strategy and action plan with the company's neutralisation objectives to strengthen the team's expertise in this field and cultivate a robust pipeline of high-quality carbon removal projects or a portfolio of carbon removal credits.

- Creating a portfolio of the company's internal long-term removal projects, establishing or participating in a carbon removal fund, and arranging long-term purchasing contracts for specific projects with carbon project developers and traders.

- Incorporating essential elements into the neutralisation strategy not explicitly mandated by the Net-Zero Standard. Firstly, there are concerns regarding the types and quality of removal carbon credits or similar instruments that deserve attention (further details below concerning the evolving standards in the Voluntary Carbon Market). Currently, the sole emphasis on a quality characteristic relates to the „permanence" of a removal carbon credit, stating that „companies should permanently remove carbon from the atmosphere to counterbalance the impact of any unabated emissions." However, it's vital to consider other quality attributes of removal carbon credits, such as „Additionality" and „No Leakage." Secondly, although not presently a requirement or guideline topic, considerations about the vintage of removal carbon credits suggest that high-quality removal credits shouldn't likely exceed 5 years in age for use in achieving neutralisation performance within a given year.

- As part of this exploration, the company will need to engage with organisations involved in the Voluntary Carbon Market (VCM) to identify potential short/mid/long terms actions to undertake. This includes engaging with carbon credit project developers, verifiers, traders, as well as credit rating agencies. These organisations have developed the know-how to finance, develop and manage carbon removal projects over the past 30 years.

- It's crucial to acknowledge the ongoing upgrades within the VCM, its carbon credit programs, and the corporate assertions linked to carbon credit purchases. There are pivotal initiatives to be informed about. Firstly, the Integrity Council for the Voluntary Carbon Market (iCVCM) has recently introduced its Core Carbon Principles (CCPs) as the new global standard for high-quality carbon credits and related programs. Established carbon credit programs like Verra VCS, Gold Standard, and Plan Vivo are presently aligning their standards with these updates.

- Secondly, the Voluntary Carbon Market Initiative (VCMi) has recently unveiled its Claims Code of Practice aimed at enhancing trust and confidence in corporate engagement with VCMs and the claims associated with

carbon credit purchases. This code provides companies with updated guidelines for the credible utilisation of high-quality carbon credits and the climate claims tied to them.

- As part of these developments, the EU will issue a new legislation in 2024 aiming at banning greenwashing practices and associated communication or marketing claims such as the claim "carbon neutral". The implications of these developments should be considered for the development of the current and future climate management and Net Zero neutralisation practices.

- In relation to the SBTi Net-Zero Standard "voluntary" requirements of investing beyond the value chain ("Beyond Value Chain Investment"), the SBTi will shortly release the guideline on this topic. It is therefore recommendable to await its publication prior to considering what actions companies could take to meet the SBTi requirements.

Step 5: Monitoring, progress communication, improvement and transformation

Crucial aspects of this phase involve evaluating, learning, sharing successes and challenges, along with proposed solutions towards achieving Net Zero. The aim of monitoring and evaluation is to enhance and expedite the transition to Net Zero in a fair and inclusive manner.
Moreover, the Net Zero agenda offers a significant opportunity to foster trust and encourage engagement with key stakeholders, including customers, investors, colleagues, suppliers, consumers, and communities.

The SBTi standards mandate companies to annually disclose their company-wide GHG emissions inventory and advancements towards established targets. Companies are expected to publicly report information regarding their progress against validated targets, including the separate reporting of emissions and removals in the annual GHG inventory. While there are no specific stipulations on where the inventory and progress against published targets should be disclosed, it should be publicly available. The SBTi suggests disclosure via standardised, comparable data platforms such as CDP's climate change annual questionnaire. Additionally, annual reports, sustainability reports, and the company's website are considered acceptable platforms for this disclosure.

5 Key Topics, Challenges and Opportunities for the Cocoa and Chocolate sector

Four strategic topics are important to deliver a Climate Net Zero performance by 2050.

Topic 1: Cross-company collaboration across the cocoa and chocolate value chain to deliver the Net Zero Transition

A sector's collaboration ability to deliver its Net Zero and other sustainability challenges is increasingly becoming the determining success factor. Therefore, the Climate and Nature Net Zero agenda needs to be integrated at the core of the sectors' current initiatives or in potential new collaborative undertakings.

Potential areas for exploration:

- Identifying how best to integrate the Climate and Nature Net Zero agenda across the multiple cocoa and chocolate initiatives (e.g. the Cocoa & Forests Initiative, sustainable farming certification schemes).

- Establishing a sector-specific Net Zero implementation-sharing and learning working group or hub. Within this framework, management teams can mutually learn, develop knowledge, enhance skills and capacity, engage in dialogue about crucial value chain challenges, and identify new solutions, among other objectives.

- Topics covered might encompass Net Zero target development issues, such as raising awareness across different levels, defining the business case, conducting GHGs hotspot and risk analysis, identifying decarbonisation actions, and assessing associated implementation costs.

- Additionally, discussions may extend to Net Zero target implementation matters, including engagement strategies with suppliers, commodity markets, and farmers to build their capacity, garner buy-in, and facilitate performance improvement. Other strategic topics might involve engaging with the entire sector ecosystem, cocoa-producing governments, and their associated cocoa sector organizations to create a policy framework conducive to achieving the Climate and Nature Transition.

- Another critical aspect would involve collaboratively crafting a global cocoa and chocolate sector Net Zero roadmap. This roadmap aims to pinpoint and address systemic issues, ensuring the interconnectedness of the climate and wider sustainability agenda. It ought to serve as a high-level guide for all value chain companies, a clear public statement for the sector, and a tool for proactive and progressive engagement with a diverse array of partners and stakeholders. These stakeholders encompass key cocoa-producing and consuming countries, financial and insurance institutions, consumer associations, NGOs, agronomic, and other research and training institutions, among others.

Topic 2: Development of cocoa sector specific GHG accounting and reporting guidelines and identification of sector approaches to optimise the effort and costs associated to overall GHG data management.

It is critical for the sector to develop sector specific GHG accounting and reporting guidelines, which would both address the sector specificities and be fully aligned with global (i.e. GHG Protocol/SBTi) and wider Food and Drinks sectors standards and guidelines.

The absence of such guidelines or methodologies is currently creating an unreasonable burden on companies across the value chains, generating mistrust in reported data, increasing management and transaction costs, and blocking meaningful action on reducing the sector climate impacts.

Potential areas for exploration:

- Reviewing the status of current initiatives aiming to develop sector GHG guidelines or methodologies (e.g. methodology led by the World Cocoa Foundation) and assisting its development. This could also include further working with the GHG Protocol on the finalisation of its Land Use sector and removal guidelines, etc.

- Exploring how to address the technical, operational and cost challenges with Scope 3 data collection and reporting, the use of new technologies such as remote sensing or geospatial data and agreeing on sector's protocols and standards. New collective primary data collection mechanisms and the generation of supply-shed emission factors could be developed to share data management costs, the development of on-the-ground expertise, etc.

- Exploring the rapidly emerging product carbon/eco-labelling schemes (voluntary/legal) and identifying sector solutions to efficiently deliver these with the appropriate data quality and integrity.

- Improving the quality and integrity of the publicly communicated carbon footprints and emission factors for cocoa beans and its derivatives across key producing countries and creating a source of truth for stakeholders. Currently, there is a wide range of data generated by academics and other organisations, using different accounting rules and scopes, which creates confusion among stakeholders on the sector's performance and negatively affecting its reputation.

Topic 3: Evolving the cocoa sector's „Good Agriculture Practices" by integrating the latest sustainable farming practices, and enabling the development of thriving low GHGs and resilient cocoa farming systems.

To achieve resilient and low greenhouse gas (GHG) cocoa farming systems, there's a need to reassess and adapt the presently employed agronomic practices. Several updated agronomic practices have been developed, as highlighted in the SWISSCO's agroforestry guidelines. Nonetheless, these practices require further research and refinement. Agronomic and other research institutes can be engaged to contribute to establishing robust standards and guidelines for sustainable agriculture practices.

As an indicator of the rapid evolution of the Food and Drinks sector towards this direction, the SAI Platform has recently initiated its Regenerative Together Program, aspiring to establish a global framework for regenerative agriculture. Similarly, the Biodiversity and Nature agenda is swiftly advancing, with analogous tools emerging, akin to climate frameworks such as the Taskforce on Nature-related Financial Disclosures (TNFD) and the Science-Based Target for Nature (SBTn).

Potential areas for exploration:

- Reviewing initiatives such as the above-mentioned Sustainable Agriculture Initiative Platform. The company could define a strategy and a pathway for the sector to develop and implement its new cocoa and chocolate sector sustainable agriculture practices. This action should involve all key stakeholders along the way to ensure their voices, perspectives and inputs are heard and considered appropriately. Involving stakeholders will help build their buy-in to implement at pace and scale once the strategy is launched.

- Reviewing agriculture standards such as organic, Fairtrade, Rainforest Alliance, and confirm their ability to assist in delivering a climate-smart cocoa farming system.

- Recognising the interconnectedness with the wider Landscape or Jurisdiction beyond the farming practices. The company could review current landscape stewardship initiatives/standards and definitions of best practices guidelines/standards for sustainable cocoa landscape management. Related to this topic, it would be useful to explore and define best practice guidelines for how the cocoa and chocolate sector should manage its new frontiers/supply-shed developments/cocoa landscapes.

- Exploring how to avoid falling into the trap of the "silo thinking" when it comes to GHG emissions (as presented on p. 21).

- To further explore the most effective methods of supporting, incentivising, and rewarding farmers and their communities as they engage in and drive the Net Zero and Nature transformation, several key areas need addressing. Firstly, there's a need to invest significantly in training farmers and communities in climate and nature smart farming and landscape management practices, thereby enhancing local farmers' advisory capacity and expertise. Secondly, collaborating with farmers, communities, as well as national and local governments is crucial to elevating tenure security and improving access to finance and climate adaptation insurance schemes. This collaboration aims to mitigate adoption barriers associated with the costs of transitioning.

- Thirdly, there's a necessity to develop and pilot the concept of a climate and nature smart cocoa premium. This initiative ensures a guaranteed „net of opportunity costs benefit" to the farmers, thus further enhancing their living income. Additionally, working alongside farmers, communities, and local governments is essential in encouraging farm production diversification and creating market linkages.

- Moreover, continuous investment in the overall education of cocoa communities, with a particular emphasis on women's education and empowerment, remains pivotal. Further efforts involve strengthening the stewardship of cocoa communities over their landscapes by organising stakeholders into Community-Based Natural Resources Management (CBNRM) committees, similar to the Community Resource Management Areas (CREMA) model in Ghana. Furthermore, exploring and piloting new cocoa farming and trading business models with cocoa farmers and associated communities is crucial. These models aim to expedite the achievement of the sector's sustainability objectives, encompassing Climate and Nature-related topics.Lastly, the development of climate adaptation programs with farmers, communities, as well as national and local authorities is necessary. Such programmes aim to optimise resilience to climate-induced changes and ensure a fair and inclusive transition, as needed.

Topic 4: Re-inventing how to finance the delivery of a significant sector transformation

The sector should rethink how to finance the delivery of a Climate and Nature Net Zero transformation over the next 10-30 years. Further it would need to think how to incentivize and reward the delivery of such practices and performance for all actors in the value chain, from the brand level with consumers to the farmers who have the least ability to evolve their practices.

To finance the delivery of the Paris Agreement, collaboration and joint investment should be fostered. Existing financing mechanisms such as customer product premiums, value chain programs joint investments, public and private partnerships should therefore be adapted and new ones such as climate and nature finance and insurances could be leveraged/created.

Potential areas for exploration:

- Finding out how to raise the awareness of key shareholders, the Board and the Executive team that delivering the Climate and

Nature Net Zero transition cannot be managed with „a sustainability function budget" but an "Enterprise Transformation and Business Continuity budget".

- Generating new cost efficiency through the Climate and Nature transformation to free up and re-purpose budget (e.g. marketing, philanthropy, business travel).

- Assessing anew the existing value chain mechanisms to create and share value among actors from farmers to consumers. Defining new ways to deliver new investment flows to invest in the delivery of the Climate and Nature Net Zero transformation.

- This includes first: joint investment programs across value chain actors to incentivise and reward farmers through, for example, a GHGs premium. This would lead to low GHGs cocoa beans production, which will benefit all value chain partners in delivering their near and long-term SBTs.

- Second: the application of current, or the development of a new sector wide "climate and nature friendly" chocolate label, creating a new product premium that would flow back fully and transparently into the delivery of the Climate and Nature transformation initiatives.

- Third: leveraging the power of public procurement to further build the market and reward associated to producing low GHGs/climate and nature friendly chocolate.

- Mapping, understanding and leveraging the range of current sustainability financing and insurance options offered by the marketplace for companies and farmers. Engaging with the financing and insurance institutions most interested in the cocoa and chocolate sector to address any identified gaps.

- Exploring how to re-invent public-private partnerships to deliver a Climate and Nature Net Zero transformation that will benefit both governments and their constituents as well as the cocoa and chocolate companies. Such public-private-partnerships involving governments should also include developing an enabling Policy framework to support the implementation of low GHGs/sustainable cocoa farming practices, the development of a tax incentive/penalty framework for companies and farmers, etc.

- Identifying and piloting other blended finance mechanisms including impact investment and philanthropy, and the emerging climate and nature finance mechanisms such as carbon and biodiversity credits, Landscape level Payment for Ecosystem Services, etc.

6 Glossary of key terms

Abatement: Measures that companies take to prevent, reduce, or eliminate sources of GHG emissions within their value chain. Examples include reducing energy use, switching to renewable energy, and reducing chemical fertilizer use. Beyond value chain mitigation (BVCM): Mitigation action or investments that fall outside a company's value chain, including activities that avoid or reduce GHG emissions, or remove and store GHGs from the atmosphere.

Carbon credit: A carbon credit is a tradable good representing one ton of carbon dioxide equivalent (tCO_2e) that has been reduced or removed from the atmosphere.

Carbon offsetting: Carbon offsetting is a mechanism used to compensate for corporate or individual carbon footprints through the purchase of carbon credits issued by accreditation standards to projects that remove GHG emissions from the atmosphere or avoid generating the emissions in the first place. Once purchased, the credit is then retired through an internationally recognised and publicly viewable registry.

CAPEX: Capital Expenditures.

Greenhouse gas (GHG): Gaseous constituent of the atmosphere - natural or anthropogenic - that absorbs and emits radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere and clouds. Greenhouse gases caused by human activities include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3).

GHG avoided emission: GHG emissions savings that occur outside the boundaries of the organisation, but are arising through the use of the organisation's products or services.

GHG baseline: Quantified GHG emissions and removals of an organisation at a specified time against which the assessment of progress to Net Zero can be performed.

GHG emissions reduction: Quantified decrease in GHG emissions specifically related to or arising from an activity between two points in time or relative to a baseline.

GHG mitigation: Human intervention to reduce GHG emissions or enhance sinks.

GHG removal: Withdrawal of a GHG from the atmosphere as a result of deliberate human activities. Types of removals include afforestation, building with biomass (plant-based material used in construction), direct air carbon capture and storage, habitat restoration, soil carbon capture, enhanced weathering (mixing soil with crushed rock), and bioenergy with carbon capture and storage.

GHG residual emission: GHG emissions that remain after taking all possible actions to implement emissions reductions.

Net zero: Net zero GHG condition in which human-caused residual GHG emissions are balanced by human-led removals over a specified period and within specified boundaries. For companies, setting corporate Net Zero targets aligned with meeting societal climate goals means: (a) reducing Scope 1, 2 and 3 emissions to zero or a residual level consistent with reaching Net Zero emissions at the global or sector level in eligible 1.5°C scenarios or sector pathways and (b) neutralising any residual emissions at the Net Zero target date – and any GHG emissions released into the atmosphere thereafter.
Science-based pathway: trajectory to achieve global Net Zero greenhouse gas emissions based on scientific evidence.

OPEX: Operational Expenditures.

7 Key Resources and References

Key resources:

The Science Based Target initiative

Setting an SBT/NZ target step by step

The near-term SBT standard

The FLAG guidelines

The ISO Net Zero guidelines

The GHG Protocol

The Corporate Value Chain Standard

The Land Sector and Removals Guidance

Selected reports related to setting and implementing Net Zero strategies and targets:

WEF Briefing Paper on "Aligning to Net Zero How CEOs can get on board with the transition"

The University of Cambridge Institute for Sustainability Leadership report on "Targeting Net Zero A strategic framework for business action"

The UK Climate Transition Plan Taskforce

Microsoft and PwC report on "The Building Blocks for Net Zero Transformation"

The Swiss Climate Action Initiative

The Supplier Leadership on Climate Transition initiative

The SME Climate Hub

WEF report on "Net Zero Challenge: the Supply Chain Opportunity"

In relation to the Voluntary Carbon Market and carbon credits:

WEF report on "Scaling Voluntary Carbon Markets: A Playbook for Corporate Action"

The Integrity Council for the Voluntary Carbon Market (iCVCM)

The Voluntary Carbon Market Initiative (VCMi):

Resources for SMEs:

Set a target as a Small or Medium Sized Enterprise (SME)

The SME Climate Hub

The Swiss Climate Action Initiative

The Supplier Leadership on Climate Transition