

Agrifood Transition Plan Assessment Framework

Purpose of this framework

Climate Bonds Initiative (Climate Bonds) has developed this guidance to help stakeholders in the financial sector understand transition finance instruments and assess the transition strategies of agrifood companies.

The guidance draws on:

- Climate Bonds Agrifood Transition Principles (2022) and analysis of the current state of transition finance in the agrifood sector.^{1,2}
- The 2024 Climate Bonds Criteria on Agriculture Production (Crop and Livestock) and Agrifood Deforestation- and Conversion-Free Sourcing.^{3,4}
- Climate Bonds sector-neutral work on assessing corporate transition planning and bond issuance to support the transition.^{5,6}
- Intergovernmental Panel on Climate Change (IPCC), Taskforce on Nature Related Financial Disclosures (TNFD), and International Capital Market Association (ICMA) research and frameworks.

The guidance presents:

1. An overview of the requisites of an agrifood company's transition plan, ranging from a company at the beginning of its transition journey (committed phase) to one at a more advanced stage (advanced phase) covering producers, manufacturers, and retailers.
2. Examples of disclosure frameworks with the relevant transition plan information
3. Projects that are eligible for transition financing and that include measures which protect or restore nature.

The primary goal is to assess the transition plan with respect to climate mitigation, however, climate adaptation and broader environmental goals are covered.

Key points:

1. Investment in the agrifood sector climate transition can deliver on multiple objectives of climate mitigation, adaptation and resilience (A&R), environmental protection, and food security.
2. These objectives can only be achieved if the transition planning and investments incorporate climate, nature, and social considerations in a holistic way, without focusing narrowly on mitigation.
3. Meeting environmental and social goals in the agrifood system requires deep shifts in both production and consumption patterns. Measures to reduce food loss and waste, and alter diets are critical alongside action to eliminate deforestation from supply chains.
4. Transition planning for producers concerns a shift from an extractive production model to practices that maintain and regenerate ecosystems, and eliminate deforestation.
5. Transition planning for companies downstream requires support for the value chain upstream to transition in addition to considering the overall sustainability of the product offering to the market. This could include increasing the range and quality of plant-based products, minimising packaging whilst tackling food loss and waste, and ensuring fair prices for producers.
6. Collaboration is necessary to facilitate the transition of producers, improve overall efficiency of the sector, and eliminate deforestation. Supply chain engagement is therefore crucial as scope 3 is the primary source of emissions for this sector.
7. Climate Bonds has developed sector-specific Criteria to support this assessment framework, and guidance for deforestation-free supply chains and crop and livestock production. which are already available. Certification criteria and guidance for alternative protein production and decarbonising the food value chain will be finalised in 2025.

Introduction

The transition of agricultural production on a 1.5-degree aligned and resilient pathway plays a crucial role in achieving the goals of the Paris Agreement, given that agriculture production alone accounts for around 21% of greenhouse gas (GHG) emissions; primarily from livestock, deforestation, and fertiliser use. The sector as a whole, encompassing the value chain through to consumption, generates about 35% of all GHG emissions.⁷

Beyond delivering its own transition, agriculture is also essential to achieving the wider global transition to net zero by rapidly becoming carbon negative (absorbing more carbon than it emits) to absorb the residual emissions from other sectors. Fortunately, many existing, scalable agricultural practices already exist to reduce GHG emissions and sequester carbon as well as support adaptation of the sector to projected climate impacts whilst maintaining production levels. These practices require finance and support from lenders and investors, as well as the policy community, to be delivered at scale without placing excessive financial burdens on producers.

Companies across the agrifood value chain, from producer to retailer, are starting to design and cost their transition to net zero through the development of transition plans. Transition plans set out the corporate strategy and performance targets for sustainable change, and detail how the company will finance and deliver the business transformation to climate-resilient pathways that are aligned with the goals of the Paris Agreement.

Increasingly, investors are seeking to use corporate transition plans as the basis to channel transition finance into 1.5-degree aligned and aligning companies. Unlike green finance, which typically focuses on projects that are already sustainable, transition finance acknowledges that some sectors require a phased approach to decarbonisation. It facilitates investments in technologies, processes, and strategies that contribute to reducing GHG emissions over time while ensuring economic stability during the transition period. Transition finance is seen as essential for achieving a just and inclusive transition to a more sustainable future.

Transition plans are an integral part of the assessment of companies by financial institutions and they are becoming mandatory in certain jurisdictions (including Europe) for major companies. Therefore they are recommended by most international financial associations including the International Capital Market Association (ICMA) and International Sustainability Standards Board (ISSB) as a prerequisite for transition financing.

ICMA highlights that transition plans provide the following:

- 1) Strategic context to evaluate the consistency of climate transition-themed sustainable debt with issuer level transition and sustainability commitments, which also helps to reduce greenwashing risks,
- 2) Enhanced sustainability-linked debt target setting and key performance indicator (KPI) selection with standardised sustainability reporting metrics, disclosures, and materiality guidance while potentially providing context for the evaluation of failed targets and circumstances beyond a company's control.

This paper will identify the elements of agrifood company transition plans that investors should look for, indicate what good looks like, and signpost to the relevant section of disclosure frameworks where the information can be found. It is intended to support stakeholders in identifying credible investment opportunities in the agrifood sector.

Transition Plan Assessment

Key elements of a transition plan

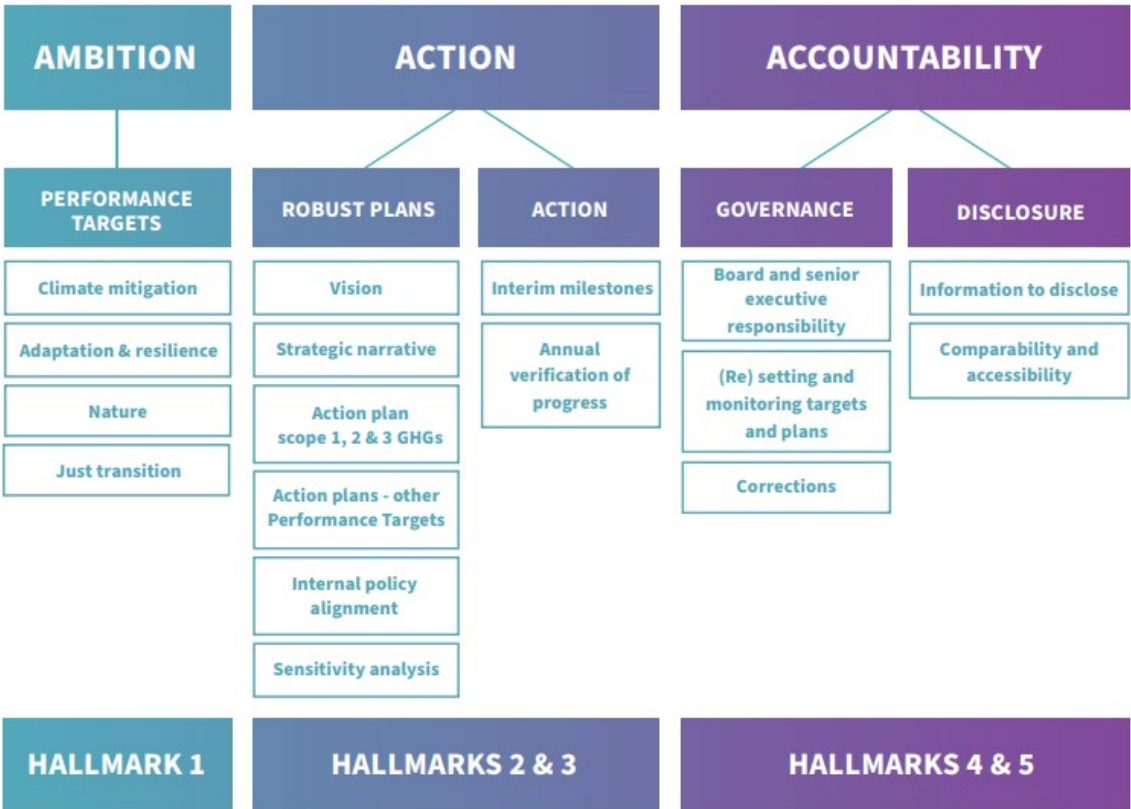
Transition plans have key elements that are requisites for setting ambition levels and delivering change. The Climate Bonds triple A transition plan framework and linked hallmarks of transition plans are aligned with the widely adopted disclosure guidance from the Taskforce on Climate Related Financial Disclosure (TCFD) and act as guiding principles for identifying a credible climate transition plan. This framework can be used by a wide variety of companies and investors who are seeking to set credible, science-based, and measurable targets under a transition strategy.

The five hallmarks of a credible climate transition plan are:

1. Paris-aligned targets
2. Robust plans
3. Implementation action
4. Internal monitoring
5. External reporting

These hallmarks underpin Climate Bonds triple A transition plan framework that is separated into ambition, action and accountability, unifying the basic structure of a market-ready transition plan aligned with guidelines from ICMA, TCFD, Transition Plan Taskforce (TPT) and others.

Figure 2: Triple A transition plan framework and five hallmarks (Climate Bonds Initiative, 2021)



Climate Bonds has developed a methodology to classify corporate transitions based on the maturity, ambition, and credibility of the transition plan.⁸ This acknowledges that each company is at a different stage in its journey towards net zero and groups companies according to the maturity of their transition to facilitate engagement and financing.

Defining what a credible transition plan looks like is challenging as each step taken by a company is transitory by nature and companies progress in a complex and quickly evolving ecosystem. Performance benchmarks and strategies are inherently time limited. At the same time, there is value in defining a baseline expectation of transition.

This framework provides guidance for two stages of transition.

Firstly, the minimum early steps a (committed) company should take to position itself credibly as a company starting its transition are laid out. These initial steps do not include all key elements of a transition plan but are sufficient to start a discussion with investors about the planned transition journey.

Secondly, the expectations of companies with more advanced transition plans and strategies are defined. These companies can be considered to be aligned with or well on the way to reaching a 1.5 degree, resilient decarbonisation pathway.

In line with current market practice and the Climate Bonds Standard and Certification Scheme, green use of proceeds (UoP) debt instruments supporting the transition can be mobilised without a transition plan. Sustainability-linked debt, or bonds announced as supporting the transition of the company, however, should be supported by a transition plan whose boundary should match the boundary of the issuing entity. The Climate Bonds Standard can certify sustainability-linked financing as well as asset and UoP.⁹

How to use this framework

The following three sections covering ambition, action, and accountability each have a table outlining the elements that should be present in transition plans. These are separated into elements for more early stage 'committed' transition companies as well as more mature stage 'advanced' transition companies. Each table provides guidance on where the required transition plan information can be found in the major disclosure frameworks.

For committed companies, all elements listed must be present in the transition plan for it to be considered credible.

For advanced companies, all elements listed under the committed phase are required in addition to those listed under the advanced phase. These advanced phase elements are required unless flagged by a 'supporting information' tag indicating the element is not considered mandatory for credibility.

Assessing transition plans in the agrifood sector

Ambition: performance targets

There are two main elements to setting targets. The first is the selection of a science-based sectoral decarbonisation pathway, which shows how that sector will align with the collective goal of keeping global warming below 2 degrees and ideally 1.5 degrees, per the Paris Agreement. What it means to be Paris aligned will vary from sector to sector but is an absolute, forward-looking pathway that is technologically feasible and ensures the sector aligns with overall net-zero emissions economy goals.

The second element is the set of company-specific metrics and targets selected by the company to describe how and when the company will catch up with/ follow/ outperform the pathway.

GHG emissions reduction and other performance targets

In the agrifood sector performance targets should extend beyond a narrow focus on carbon reduction. Methane (CH₄) and nitrous oxide (NO_x) are particularly relevant for any livestock or rice company, while deforestation will be material for most companies, in addition to biodiversity and water use.¹⁰

The company should be setting targets to reduce impacts and risks, and to seize the opportunities arising from shifting to sustainable practices. Most targets that reduce impact on the environment introduce new opportunities. New product lines, energy efficiency measures, water efficiency measures, waste, fertiliser and pesticide management measures can bring added economic value to companies and increase their resilience. Traceability measures and collaboration along the value chain strengthen the resilience of companies, and can bring economy of scale as well as new business opportunities.

It is unrealistic to expect companies to set up measurable targets for all relevant aspects from the beginning. Establishing internal policies and governance to engage and trace the value chain, and innovation and collaboration with peers might be better indicators of effective transitioning in the early stages. In more advanced stages, the company should demonstrate tangible commitment and measurable progress with specific, tracked performance targets.

Also, it is important to note that while identifying environmental objectives from a materiality angle is widespread, this might not facilitate the shift towards sustainability at system or sector level. For the most important issues identified at system level, for instance deforestation and dietary shifts, collective action is needed.

The tables below list the key indicators required of a transition plan and the difference between a company that is in the early stage of development to a mature one that has all the elements of a transition plan and is closer to being 1.5-degree aligned or already aligned.

Some elements included in the advanced phase provide supporting information for the analysis of transition credibility rather than being core indicators so they are not crucial. They will be flagged by a 'supporting' label.

Paris-aligned performance targets: transition plan elements	Location in disclosure frameworks
Committed (early) phase	
1. The company publicly sets a commitment to achieve net zero in line with a science-based, 1.5-degree sectoral pathway with no or limited overshoot. Climate Bonds Sector Criteria provide reference pathways. ¹¹	CDP 5.1.to 5.3 ESRS E1-1
2. For the 3 scopes of emissions, the company has set a baseline with justification of how the baseline was determined. Any change of baseline should be justified and its impact on targets and emissions transparently communicated. Proxies might be needed initially to measure scope 3.	CDP 7.53, 7.54 ESRS E1

<p>3. If relevant, the company has set a baseline measurement of carbon stocks and GHG removals to monitor annual changes in carbon sequestration and carbon stock levels. Climate Bonds Crop and Livestock Criteria provide guidance on carbon accounting.¹²</p>	
<p>4. The company has set scope 1, 2, and 3 performance targets for the short term. The targets are set on gross GHG emission (absolute and intensity-based when relevant).</p> <p>For producers, carbon removals should be accounted for at the entity (farm) level and be subject to a separate target; GHG emission targets should not include removal.</p> <p>For companies downstream, carbon offset should be used for residual emissions only and reported separately.</p>	<p>CDP 7.53, 7.54 ISSB S2 and SASB</p>
<p>5. The short-term targets align with credible science-based benchmarks.¹³</p> <p>The Climate Bonds pathway for entities in agricultural production includes a 1.5-degree aligned, GHG emission intensity per each agricultural commodity (i.e., kg CO₂eq per kilogram of product) until 2050. This provides an annual reference point for GHG emissions intensity for each major agriculture commodity that can be scaled up to entity level.</p> <p>For companies downstream, Climate Bonds will release a value chain criterion with guidance on setting benchmark pathways in 2025.</p>	<p>CDP 7.53, 7.54 ISSB S2 and SASB</p>
<p>6. The targets were set or reviewed no more than two years ago. This is to ensure the company is effectively transitioning.</p>	
<p>Advanced phase – as above, plus:</p>	
<p>1. The company has set scope 1, 2, and 3 GHG emission reduction targets for the short, medium, and long term that align with credible science-based benchmarks as per Climate Bonds Sector Criteria.</p> <p>In line with SBTi, companies should account for their land-based emissions from direct and indirect supply chain activities. This includes land-use change emissions, land management emissions, and carbon removals and storage (carbon sequestration).</p>	<p>CDP 7.53, 7.54 ESRS E1-6 ISSB S2 SASB</p>
<p>2. Short-, medium-, and long-term targets established by companies should have been set less than 5 years ago.</p>	
<p>3. The company has carbon sequestration or carbon stock targets. Please refer to Climate Bonds Crop and Livestock Criteria for indicative performance.¹⁴</p>	
<p>4. The company has set CH₄ or N₂O reduction targets. These targets are mandatory for companies with exposure to dairy, meat, or rice production.</p>	<p>CDP 7.542 ESRS E1-6</p>
<p>5. Downstream companies: Targets linked to engagement with value chain, for instance:</p> <ul style="list-style-type: none"> a) % of suppliers with SBTi validated targets (see for instance SBTi Supplier Engagement Guidance 5.4), b) % and number of suppliers with public time-bound action plans. <p>Targets related to activities that help suppliers or producers toward GHG emission reduction or sustainable practices (see illustration in the Accounting Framework Initiative (AFI) or ACT Initiative retail methodology).</p>	<p>CDP 5.11.5, 8.7.2 CDP 8.7 GRI 13 ESRS E4</p>

<p>All companies: sustainable procurement targets on the following:</p> <ul style="list-style-type: none"> a) Deforestation- and conversion-free (DCF) products. The cut-off dates should align with sector cut-off dates where possible. Accounting Framework Initiative (AFI) recommends that no-deforestation commitments be made no later than 2025. Climate Bonds Standard and Certification Scheme requires companies to be DCF by 2020 at the latest for Certification. b) Production practices to enhance or restore biodiversity and soil; reduce pesticide and fertiliser use, air pollution, and emissions while increasing resilience. 	
<p>6. If relevant, other targets that have an influence on emissions linked to product use, for instance targets on increasing plant-based product lines.</p>	
<p>7. Subject to double materiality analysis, the company has set other targets, for instance food waste reduction, water use, use of refrigerants, electricity or fuel use, and renewables deployment.¹⁵ Other targets can be used to monitor material sources of environmental impact or as part of collective action (for instance reducing plastic use, even if it is not material at company level). Not all targets listed are relevant for all companies, nor are all possible targets listed. Companies are expected to identify and justify the metrics that best capture their impact and ongoing actions as they mature in their transitioning. The main objective is to ensure companies tend toward an integrated environmental strategy that takes account of all environmental objectives, and their interaction with communities and the value chain.</p>	<p>ESRS E1-5 SASB</p>

Action

Delivery against the company-specific performance targets must be supported by a transition strategy and associated action plan. These detail how the company will get from the current situation to where it needs to be to deliver on the selected performance targets.

This should describe in a step-by-step, qualitative way the strategic objectives, orientations, and policies with particular emphasis on how the short-, medium-, and long-term milestones reflected in the selected performance targets will be reached. The plan should aim to break the timeline down into 3-5 year intervals, recognising that less detail will be possible towards 2050.

More specifically, the action plan should detail:

1. The current position. Each company will be at a different place in the journey towards a low-carbon economy and the plan (and associated performance targets) should reflect where the company is today. A clear understanding of the current sources of emissions, and the opportunities and risks of the low-carbon transition should be detailed. This sets the scene for the nature of the changes that are needed.
2. In broad terms, the nature of the changes that will be made to deliver against the selected performance targets and the specific actions to be taken to deliver the changes, including how they will be financed.
3. An assessment of delivery risks and a description of the measures being taken to mitigate them should be provided.
4. Supply chain engagement and deforestation-free commitments as these are materially relevant for the sector and should be a core focus for companies.

While internal policies can be set by companies from an early stage, their effective implementation takes time. When initiating their transition, companies rarely provide a sufficiently detailed roadmap of actions or finance plan to give investors full visibility on their climate strategy. For this reason, most of the key indicators listed in this section are expected from more advanced companies. In addition, impacts lie within the value chain for most companies downstream so those levers require more time to take effect.

In parallel with initiating their traceability and engagement strategy within the value chain, some companies invest early-on in scope 1 and 2 decarbonisation levers such as renewable electricity and energy efficiency, and a certain number of sustainable production practices (for producers). For companies downstream, these rarely

have a material impact on their emissions yet they should be perceived as a positive indicator by investors to signal that companies are investigating opportunities linked to climate transition.

A transition plan analysis for the agrifood sector must examine the activities, products, and services of the company and its impacts, risks, opportunities linked to climate change but also of those linked to water use, waste, pollution, and biodiversity. All are interrelated and material so they should be factored in holistically as the company matures in its transition planning.

Current company position: transition plan elements	Location in disclosure frameworks
Committed (early) phase	
1. The company provides an overview of its activities, products, and services with disclosure of its main countries of operation.	CDP 1.3, 1.6, 1.7 ESRS 2 on Strategy
2. The company provides details on the commodities that it produces and/or sources. This is essential to identify the main direct and indirect source of company emissions and should be sought by investors early on, irrespective of the company’s position in the value chain.	CDP 1.22
3. Producers: the company discloses its total spatial footprint.	CDP 8.3-4 TNFD
Advanced phase – as above plus:	
<ol style="list-style-type: none"> 1. Materiality analysis: identifies how sustainability issues might create financial risks for the company (financial materiality), and how the company affects people and the environment (impact materiality). 2. Scenario analysis: testing the robustness and resilience of the transition strategy with respect to climate change and nature loss.¹⁶ 3. [Supporting] The company discloses the <i>process</i> to perform the materiality analysis. The assessment should cover its direct operation and progressively include its value chain.¹⁷ The strategic objectives and priorities will be guided by the result of this assessment. 	CDP 1.11, 2, 3, 9 GRI 303 ESRS 1 on double materiality and ESRS 2 on Strategy ISSB S2 and SASB TFND
<ol style="list-style-type: none"> 4. Location information allowing investors to better understand and quantify the impact, risk, and opportunity linked to the climate transition. <p>For instance: type, age, and localisation of its facilities to assess physical risks, number of vehicles in commercial fleet, commodities that it produces/sources and where, and an assessment of dependency in regions of water stress etc.</p>	CDP 1.8, 1.22, 9 SASB
<ol style="list-style-type: none"> 5. The company follows TNFD recommendations. It discloses its material impacts on nature, and any nature-related dependencies, followed by its risks and opportunities that stem from direct operations and upstream and downstream value chains. This implies that the company is locating its dependencies with nature throughout its value chain. <p>From the previous analysis, the company can disclose a list of operational sites that are owned, leased, or managed, in or adjacent to protected areas and areas of high biodiversity value.</p>	CDP 11.4 GRI 304 ESRS E4-1 TNFD Leap

Internal policies and conditions

Transition plan elements	Location in Disclosure frameworks
<p>Illustration of relevant policies:</p> <ul style="list-style-type: none"> • Policy to eliminate deforestation and the conversion of all natural ecosystems from their operations, supply chains, and financial investments. (AFI Core Principles 1). • Policy on sustainable land use and management. • Policy on sustainable procurement of goods. • Policy on sustainable use of water. • Policy on reducing food loss and food waste in supply chain and operations. • Policy on international human rights, including indigenous peoples, local communities, workers, and others who may be affected by company activities. (AFI Core Principles 2) see also the inclusive policies of Food and Agriculture Organization (FAO).¹⁸ • Policy on the traceability of purchases. • Safeguards to address potential adverse impacts on the natural environment. <p>Downstream (in addition):</p> <ul style="list-style-type: none"> • Policy on the sustainable procurement of transportation and storage services. • Policy on reducing and reusing packaging. • Policy on sustainability of product offering. 	<p>CDP 4.6, 8.7</p> <p>ESRS 4.2</p> <p>ESRS on policies</p> <p>SASB</p>

Action plans

Action plan: transition plan elements	Location in Disclosure frameworks
Advanced phase	
<p>1. The delivery strategy sets out in detail the decarbonisation levers envisaged to enable the corporate to achieve its short-term GHG emissions, deploy climate and nature-based solutions, and contribute to its adaptation and resilience to climate change. The decarbonisation potential of each lever is disclosed. Where possible, the levers for change for medium- and long-term targets are also laid out.</p> <p>Please refer to Appendix 1 and 2 for potential levers and monitoring metrics for producers and companies further down the value chain.</p> <p>Annual trackable actions to deliver the decarbonisation levers over the short term are identified. These should be linked to interim targets listed in the section on targets.</p>	<p>CDP 7.30, 7.52 to 7.56</p> <p>CDP 7.67, 7.69 and 7.74</p> <p>ESRS E1-4 (levers), E1-5</p> <p>SASB</p>
<p>2. The company discloses its actions related to waste, circular economy, water use, pollution, and biodiversity degradation. Annex 1 lists several measures that are beneficial for climate mitigation as well as nature enhancement, water management, waste and food loss reduction, and pollution.</p>	<p>CDP 11</p> <p>GRI 306</p> <p>GRI 303</p> <p>ESRS E2 to E5.</p>

3. The company has identified impacts on key environmental and social factors arising from the decarbonisation levers and associated actions, and has disclosed steps taken to mitigate these.	ESRS E1 to E5
4. [Supporting] The key risks and uncertainties relating to delivery of the decarbonisation levers are (re) assessed and disclosed annually (also referred to as sensitivity analysis in a transition plan).	CDP 7.55 ESRS E1-1

Action plan on scope 3 reduction through engagement with peers and value chain

For companies with material scope 3 emissions coming from purchased products:

Value chain: transition plan elements	Location in Disclosure frameworks
<p>Related to suppliers:</p> <ol style="list-style-type: none"> 1. The company incorporates criteria into its supplier sourcing strategy, setting specific environmental expectations for its suppliers. Examples include: <ol style="list-style-type: none"> a. SBTi-approved GHG targets, b. evidence of no deforestation or land conversion, c. sustainable production. 2. The company expands procurement of products produced locally. 3. The company approaches engagement with its value chain in an inclusive manner. Examples include: <ol style="list-style-type: none"> a. recognising barriers to stakeholder engagement e.g., language, cultural differences, and power imbalances; b. how the human rights of stakeholders are respected and integrated into the engagement process e.g., rights to privacy; c. providing accessible information and opportunities for two-way communication; d. supporting actors in the value chain and producers to shift to sustainable practices (technical and financial support, plastic use reduction, etc.). 	<p>CDP 5.11, 7.68, 7.70, 7.73, SASB GRI 13, 204</p>
<p>Related to peers:</p> <ol style="list-style-type: none"> 4. The company has an engagement strategy with its peers and actively participates in sectoral initiatives that aim to, for instance: <ol style="list-style-type: none"> a. facilitate traceability and data collection, b. incentivise and provide training to change supplier and customer behaviour, c. collaborate to develop climate solutions, reduce deforestation (landscape or jurisdictional initiatives), food waste, plastic waste and to manage water as a shared resource.¹⁹ 	<p>CDP 4.10, 4.11, 5.12, 5.13, 8.15, 8.16 GRI 2, 13, 303 ESRS E5-2</p>
<ol style="list-style-type: none"> 5. The company is mapping its value chain. 	<p>CDP 1.24 GRI 13</p>

Action plan to prevent deforestation and land use conversion and restore degraded lands

Climate Bonds Agrifood Deforestation- and Conversion-Free (DCF) Criteria and AFI principles serve as a guide for companies with material exposure to deforestation risk in setting, implementing, and monitoring effective commitments on deforestation, ecosystem conversion, and human rights in ethical supply chains.

DCF: transition plan elements	Location in disclosure frameworks
Advanced phase	
<p>1. For all companies purchasing commodities with a high risk of deforestation or land conversion:²⁰</p> <p>A traceability system is a set of methods and tools that allows companies to ascertain whether the production and processing units of commodity origins are free from deforestation and conversion. Companies should provide details on their traceability system and determine the origins of sourced volumes.</p>	CDP 8.8
<p>2. Publicly report performance and progress against commitments. Examples of metrics that may be disclosed include:</p> <ul style="list-style-type: none"> a. deforestation and conversion footprint associated to each commodity production, b. proportion of commodity volumes assessed as not DCF with total mass, c. action taken towards increasing volumes of DCF production/sourcing, d. reporting the proportion (volume) of deforestation-free/deforestation- and conversion-free commodities being utilised in direct and upstream operations and certification. 	CDP 8.7 - 13 GRI 13
<p>3. There is an engagement process to identify and rectify instances of non-compliance with suppliers in instances when they do not uphold compliant production and sourcing practices that respect the company’s deforestation commitments.</p>	CDP 8.14
<p>4. Description of the assessment and planning process to safeguard new infrastructure developments and land management operations e.g., the effect on local communities, food security etc. Please refer to AFI.</p>	
<p>5. Implementing restoration and compensation activities to address past deforestation and conversion or/and to enhance biodiversity. This includes remediation of adverse human and environmental impacts.</p> <p>Monitoring metrics include the total rehabilitated/restored/conserved area. Please refer also to TNFD core global disclosure metrics</p>	CDP 4.5, 8.17 CDP 11 GRI 304

Finance plan

The transition has financing implications in respect of the volume, timing, and risk-return profile of finance needed to implement the changes. A financing plan is a tangible indicator of credibility in intent and ability to carry out the actions highlighted in the transition strategy and provides assurance to existing financial backers that the company will remain profitable during the transition.

Advanced phase	
<p>1. A description of the financial implications of the planned changes to the company’s business strategy, resource allocation, and products and services arising from its transition plan, including relevant financial plans and investment where possible.</p> <p>The financial metrics (capital and operational expenditures) that will be used to assess progress in the delivery of the action plan.</p>	<p>CDP 5.4, 5.9</p> <p>ESRS E1-1 and ESRS E1-3</p>
<p>[Supporting] Anticipated financial impact of material physical and transition risks, and potential opportunities.</p> <p>Advanced companies might also estimate their risks linked to nature degradation.</p>	<p>CDP 1.23, 3.1, 3.5</p> <p>GRI 201</p> <p>ESRS E1-9</p> <p>ISSB S2</p>
<p>[Supporting] Internal carbon or water pricing and other methods use to drive investment in emission reduction activities.</p>	<p>CDP 5.5, 5.10 7.5</p> <p>ESRS E1-8</p>
<p>[Supporting] Metrics might have significant estimation uncertainty, the nature and sources of which the company notes along with the factors affecting the uncertainties.</p>	<p>ESRS 2</p>

Accountability

The company should implement a governance structure that allows for the full integration of the environmental strategy within its daily operations. The transition plan should identify the most relevant metrics that monitor impact and progress.

Some metrics are essential (i.e., GHG emissions) and capture the main corporate targets, while others are interim targets that track short-term or specific progress. It is unrealistic to expect companies to disclose on all metrics at the same time or in a granular way early-on. The focus of the assessment should be to ensure the most material sources of impact and those that are notoriously impactful at system level (typically deforestation, water use, and plastics) are identified and mitigated.

Disclosure of core metrics should be annual.

Performance target disclosure

Disclosure: transition plan elements	Location in Disclosure frameworks
Committed phase	
<p>1. Utilises an internationally recognised accounting standard to measure GHG emissions (for instance GHG Protocol).²¹ The company describes its approach in measuring scope 1 and 2 emissions. Please refer to Climate Bonds Sector Criteria for additional considerations on GHG accounting.²²</p>	<p>CDP 7.2 and 7.3 and 7.18</p>
<p>2. Details and explains the boundary chosen for the GHG emission calculation, and discloses any change in boundaries with resulting impacts.</p>	<p>CDP 1.4, 1., 6.1, 7.1, 7.4</p> <p>ESRS 2</p>

<p>3. Absolute gross emission of scopes 1, 2 and 3. Scope 3 might be an approximate figure, using sectoral proxies and not covering all sections of the business at first. The company is transparent on its ongoing effort to cover all material sources of scope 3 and its use of proxy.</p> <p>The company shall disclose information to enable users to understand the most significant uncertainties affecting the metrics.</p> <p>The company should disclose gross emissions (no use of carbon inset or offset) and emission intensity.</p>	<p>CDP 7.1 to 7.9 CDP 7.18 GRI 305 ESRS E1-6 ISSB S2</p>
<p>4. Reported emissions methodology and amounts have been independently and externally verified. ICMA and Climate Bonds recommend at least limited assurance on emission reporting.</p>	<p>CDP 7.9 ESRS 2</p>
<p>Advanced phase – as above plus:</p>	
<p>1. Food loss and waste disclosed against recognised standard.²³</p>	<p>SASB GRI 13, 306</p>
<p>2. Emissions to air, water and soil by pollutant; separating them by sectors, geography, type of source, and location.</p> <p>3. Other biodiversity related metrics, such as biological alterations, as guided by TNFD.</p>	<p>CDP 9, 10 and 11 GRI 13, 303, 306 ESRS 2-4 TFND</p>
<p>4. Water usage and its exposure to water stress, which includes metrics such as total consumption, water intensity per commodity produced or sourced etc.</p> <p>More detailed metrics can be derived, depending on the type of business. Please refer to CDP, GRI, and TNFD for illustrations.</p> <p>[Supporting] Processes to address incidents of non-compliance related to water quality permits, standards, and regulations.</p>	<p>SASB</p>
<p>5. Energy-related metrics (energy consumption and mix).</p>	<p>CDP 7.29, 30, 34 ESRS 1-5 SASB</p>
<p>6. Breakdown of emissions by greenhouse gas type.</p> <p>[Supporting] Breakdown of emissions by country or operating segments, economic activity, subsidiary, and assets.</p> <p>[Supporting] Carbon lifecycle assessment of products.</p>	<p>CDP 7.15 – 23, 7.73 ESRS E1 AR 41 SASB</p>
<p>7. Total volume of a commodity with a breakdown of produced/sourced (purchased) and the corresponding GHG emissions, with the origins of the sourced commodities provided.²⁴</p> <p>The disclosure is essential to derive decarbonisation targets for companies with a substantial source of emissions linked to commodity production: most relevant commodities include livestock, maize, palm oil, rice, soy, wheat, timber and wood fibre. Climate Bonds Crop and Livestock Criteria cover 43 commodities.</p>	<p>CDP 1.22, 7.14 CDP 8.2, 8.5</p>

An upstream company with emissions from commodity production should have a GHG-emissions intensity pathway for each of its commodities with a trajectory aligned to the goal of limiting global warming to 1.5 degrees.	
8. The company discloses biogenic carbon if relevant and verification of: <ol style="list-style-type: none"> GHG removals and storage in metric tonnes of CO₂eq in its own operations or in its value chain. Carbon stock (please refer to Climate Bonds Sector Criteria).²⁵ Disclosure of the carbon credits or other payment for nature services outside the company's value chain. While those projects might contribute to facilitating the shift to sustainable practices, they should not act as an offset or delay the company's own effort to decrease its impact. 	CDP 7.13 ESRS E1-7
9. % of production units (hectares) and total area certified as being under sustainable practices.	

Governance

Transition plan elements	Location in Disclosure frameworks
<ol style="list-style-type: none"> The board is formally responsible for the development and implementation of the transition plan. More advanced: the board has oversight of a nature strategy (as per TNFD). 	CDP 4.1 and 4.2 GRI2 ISSB S2 ESRS 2
[Supporting] There is management level responsibility for environmental issues (climate change, water, biodiversity, and waste and pollution) and description of the roles.	CDP 4.3 and 4.4 GRI 2 ESRS 2 ISSB S2
[Supporting] The company explains its governance process to identify, assess, and manage environmental issues (climate change, water, biodiversity, and waste and pollution), dependencies, or impact on an ongoing basis.	CDP 2.2 GRI 2 ESRS 2 ISSB S2

Annex 1: Decarbonisation, sequestration, and adaptation measures for agriculture production units

This section lists the climate mitigation, adaptation, and enabling activities identified in the Climate Bonds Crop and Livestock Criteria. The reader is strongly encouraged to refer to the Sector Criteria to access the full list of eligibility conditions associated with each measure. These can be used to engage with companies and benchmark results.²⁶ The main objective of the appendix is to link these measures to key performance indicators that might be disclosed as part of the transition plan. As impact metrics should link mitigation measures to the environmental objective being mitigated, they should capture the reduction in the company's impact. Therefore, metrics such as 'GHG emission avoided' or 'fresh water savings' are not sufficient on their own. Impact reporting at each production site is required mainly to bring confidence of effective overall impact position.

Measures for greenhouse gas emission reduction:

Eligible measure	Impact measurement
<p><u>Livestock systems</u></p> <p>Transitioning farm income towards a reduced herd size.</p>	<p>Measurable reduction of CH₄ emissions relative to a baseline. The reduction should be expressed in absolute and relative terms.</p>
<p><u>Livestock systems</u></p> <p>Research and Development (R&D) of meat and dairy alternatives to substitute or downsize livestock production.</p>	<p>Investment plan for R&D in production unit(s) seeking alternatives for reducing livestock production.²⁷</p>
<p><u>Fertiliser use</u></p> <p>Substituting fossil fuel-based N fertiliser with organic or zero-emissions nitrogen fertiliser while increasing nitrogen use efficiency (NUE).</p> <p>Examples of eligible substitutions: Biological N-fixation as the source of nitrogen inputs (e.g., cover crops for green manuring, etc.); Green ammonia. Not eligible: manure fertiliser from intensive livestock operations and factory farms, following definitions from EU Industrial Emissions Directive. Please refer to Climate Bonds Criteria for more information.</p>	<p>Measurable reduction of N₂O emissions relative to its baseline. The reduction should be expressed in absolute and relative terms.</p> <p>Or conversion of the production unit to certified organic agriculture (International Federation of Organic Agriculture Movements, IFOAM)</p> <p>Metrics:</p> <p>% increase of production units (hectares) and total area of organic agriculture certified.</p>
<p><u>Fertiliser use</u></p> <p>On-farm organic fertiliser production and use, including composting/biochar from farm residues (including vermi-composting).</p> <p>Not eligible: manure fertiliser from intensive livestock operations and factory farms, following definitions from EU Industrial Emissions Directive. Please refer to Climate Bonds Criteria.</p>	<p>Climate Bonds Criteria list very detailed metrics to monitor this measure. A more overarching proxy is a measurable reduction in GHG emissions relative to a baseline. The reduction should be expressed in absolute and relative terms.</p>
<p><u>Flooded rice systems</u></p> <p>Improved rice production management.</p>	<p>Metrics: Number of days of flooding reduced (see Climate Bonds Sector Criteria for details)</p> <p>Measurable reduction of CH₄ emissions relative to a baseline. The reduction should be expressed in absolute and relative terms.</p>

<p><u>Storage to avoid food loss</u></p>	<p>% reduction of food loss and link with the total amount of food loss, expressed in absolute terms of the company.</p>
<p><u>Residue management</u></p> <p>Optimisation of farm residue use that avoids combustion and promotes circularity.</p>	<p>Estimation of residue (mass) repurposed to other usage.</p> <p>% increase in residue repurposed.</p> <p>This can be converted into an estimate of GHG emission saved.</p>
<p><u>Energy use</u></p> <p>Electrification of farm and equipment:</p> <ul style="list-style-type: none"> • Replacing diesel-powered tractors, trucks and farming equipment with electric or hybrid alternatives. • Renewable energy generated from the installation of on-site solar or wind turbines and through power purchase agreements. • Renewable energy from geothermal, sustainably sourced biomass, or sustainable hydro generation. • Electrification of food processing equipment and storage. • Electrification of pump and irrigation systems. 	<p>Potential Metrics:</p> <p>Total energy consumption from fossil sources.</p> <p>Total energy consumption and production from renewable sources.</p> <p>These metrics can also be converted into an estimate of GHG emission saved.</p> <p>When using the metric ‘GHG emission avoided’, it is important to explain how the measure contributes to the decarbonisation of the company, and not only to an expansion towards more carbon-neutral activity.</p>
<p><u>Efficiency</u></p> <p>Implementation of precision agriculture techniques e.g., GPS-guided tractors, drones.²⁸</p> <p>Optimisation of processes and better process control e.g.,:</p> <ul style="list-style-type: none"> • Change from batch to continuous processes. • Process controls requiring lower temperatures. • Scheduling the timing of processes. • Optimising equipment for energy efficiency (eco-setting). • Routine equipment maintenance. • Automation and robotics to optimise operations. 	<p>Precision agriculture can have an impact on the yield or the amount of inputs used.</p> <p>Impact metrics would include, for instance, efficiency in water or fertiliser rate.</p>

Note: Climate Bonds does not encourage the installation of anaerobic digesters on farms to capture methane from animal waste as these measures could risk lock-in.

Finally, bioenergy generated from different types of vegetal feedstock, including residues, energy crops, and lignocellulosic biomass such as straw, is permitted under the Climate Bonds Bioenergy Criteria. However, there is a trade-off between energy production and biodiversity gain through carbon sequestration.²⁹

Measures for greenhouse gas carbon sequestration:

Carbon sequestration by land generally cannot occur without carbon inputs to the land. The carbon input can take many forms (e.g., biomass residues, biochar, organic matter amendments) and it should be sourced sustainably and without undesirable leakages (e.g., subtracting carbon from one system to add it to another).

Hence, the Criteria set thresholds or conditions for any carbon sequestration measure, which the reader is referred to for further guidance.

The sequestration measures are:

Eligible measure	Impact measurement
Agricultural land restoration, for instance reforestation and/or restoration including: <ul style="list-style-type: none"> • peatland, • mangroves/wetlands, • overgrazed grasslands with depleted soil organic carbon. 	Total rehabilitated/restored/conserved area in absolute and relative terms and the following: <ol style="list-style-type: none"> 1) Geolocation of land plots and demonstration of historical land use pre-application. 2) Amount of carbon captured (carbon stock or carbon sequestered) in gross and relative terms per hectare and per year.
Implementation or maintenance of agroforestry. Please refer to Climate Bonds Criteria for details	Amount of carbon captured (carbon stock or carbon sequestered) in gross and relative terms per hectare and per year.
Application of biochar, produced with biomass residues sourced from deforestation- and conversion-free (DCF) agricultural land.	Amount of carbon captured (carbon stock or carbon sequestered) in gross and relative terms per hectare and per year. The Criteria specify additional conditions to ensure the measure has impact.
Improve soil carbon management in grasslands and pasturelands through vegetation, livestock, or fire management.	Amount of carbon captured (carbon stock or carbon sequestered) in gross and relative terms per hectare and per year.
Improve soil carbon management in croplands. <ul style="list-style-type: none"> • Crop management: e.g., improved crop varieties, crop rotation, use of cover crops, shifting to perennial cropping systems (including agroforestry), crop diversification. • Nutrient management: fertilisation with organic amendments/green manures. • Reduced tillage with residue retention. 	Amount of carbon captured (carbon stock or carbon sequestered) in gross and relative terms per hectare and per year. For nutrient management, the requirement is for increases in NUE and/or not additional net N ₂ O emissions.

Measures in climate adaptation:

Please refer to section 3.4 of the Crop and Livestock Criteria for a full description of the measures together with the eligibility Criteria.³⁰ The following table provides only a summary. Standardised metrics have not been

identified for most of the measures listed below. The document suggests those that are straightforward to implement or are connected to disclosure frameworks used in the transition plan assessment.

Eligible activities	Impact measurement
Agronomic management includes: <ul style="list-style-type: none"> • organic management, 	% of land and hectare under third-party certification (IFOAM) for organic management.

<ul style="list-style-type: none"> • adjustment of planting dates and crop switching, • shifting cropping location in response to climate, • flood-risk reduction measures. 	<p>Verified farm management plan.</p> <p>Verified restoration plan for flood risk measures.</p>
<p><u>Agriculture diversification includes:</u></p> <p>mixed systems (shift production unit to a combination of crops, livestock, fish and trees), landscape diversification (i.e., rotational grazing).</p>	<p>Verified management plan.</p>
<p>Infrastructure and technology (on-farm irrigation and water management).</p>	<p>Verified management plan including plans for improved water management and no maladaptation for irrigation practice.</p> <p><u>Potential metrics:</u> water intensity and percentage reduction.</p>
<p>Supporting activities within agriculture production units such as:</p> <ul style="list-style-type: none"> • training and capacity building on climate change responses, • economic/financial measures. 	<p>Metrics identified in the section of the transition plan that captures corporate engagement with supply chain.</p>
<p>Genetic improvements:</p> <p>Use of climate resilient cultivars and/or breeds and/or breeding of climate resilient traits.</p>	<p>Verified implementation plan.</p>

Supporting activities:

Climate Bonds Criteria identify supporting activities (and resulting products or services) aimed at enabling climate adaptation and resilience and/or climate mitigation.

<p>R&D for genetic improvements.</p> <p>Breeding of climate-resilient traits.</p>	<p>Verified implementation plan.</p>
<p>R&D on farming practices and innovation to reduce emissions or increase uptake of GHG in agricultural lands such as advances in nitrification inhibitors.</p>	<p>Verified implementation plan.</p>
<p>Land-use change monitoring or traceability systems.</p>	
<p>Climate services (improved weather forecasting and early-warning systems)</p>	
<p>Collective resource management.</p> <p>Community seed/feed/fodder banks.</p>	<p>Verified implementation plan.</p>

Annex 2: Decarbonisation measures for manufacturers and retailers

Climate Bonds will release new sectoral guidance for actors in the value chain with guidance for alternative protein producers in 2025.

The list of measures that follows is a preliminary list and the Sector Criteria will look into additional eligibility criteria or thresholds:

- A) Product range: target to increase plant-based product range and reduce animal based products.
- B) Transport: electrification or switch to fuel cell and hydrogen vehicles for passenger and freight by road. Please refer to Climate Bonds Land Transport Criteria for additional criteria and eligibility thresholds. Biofuel based vehicles are not considered eligible for green financing under the Climate Bonds Taxonomy.³¹
- C) Energy source: generate renewable energy onsite and install energy storage facilities. Please refer to Climate Bonds Taxonomy.³²
- D) Energy efficiency measures:
 - Lighting upgrades.
 - Heating, ventilation, and refrigeration optimisation to improve efficiency and reduce energy consumption.
 - Waste-heat recovery systems.
 - Storage buildings, processing facilities, insulation improvement.
 - Smart energy-management systems.
 - Upgrade to energy-efficient machinery that consumes less fuel.
- E) Transportation Efficiency:
 - Fleet maintenance and optimisation of delivery routes.
 - Inclusion of seasonal or locally sourced produce in the portfolio.
- F) Refrigerant management:
 - Transition to low-GWP refrigerants; replacing traditional refrigerants with natural refrigerants.
 - Upgrade to more advanced, energy-efficient refrigeration systems with smart controls and real-time monitoring for leak detection to optimise energy use.
- G) Formulation:
 - Lifecycle assessment of manufactured products and shift towards low-carbon ingredients.
- H) Measures to prevent food waste should follow a hierarchy:
 - Optimise storage facilities to prevent food waste, % reduction of food waste (mass).
 - Increase efficiency in food and beverage processing and manufacturing by maximising the use of ingredients and optimising production efficiency.
 - Expenditure linked to redistribution of food surplus.
 - Divert surplus for other uses:
 - Animal feed.
 - Biomaterial.
 - Biofuels. Please refer to Climate Bonds Bioenergy Criteria for structuring instruments.²⁹
 - Nutrient-rich matter (co-digestion/ anaerobic digestion).
 - Composting and soil amendment, land application.
 - Bioenergy.
- I) Measures to reduce packaging and encourage a circular economy:
 - Engagement with communities to understand consumer preferences and raising awareness of topics including recycling, and reusing carrier bags and packaging.
 - Shift to more efficient packaging practices without compromising food storage and shelf life.

Supporting activities

- Employee training on energy conservation, for instance driver training programmes.
- Investing in data systems to measure, monitor, and share sustainability metrics and improve stakeholder access to these systems.

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- ¹ Climate Bonds Initiative: Transition in Action: Agrifood, 2024. [Transition in Action: Agri-Food | Climate Bonds Initiative](#)
- ² Climate Bonds Initiative: Agrifood transition principles, 2022. [Microsoft Word - Agri-food transition principles \(full v2.0 14-11-22\)](#)
- ³ [Climate Bonds Initiative: Agriculture Production Criteria \(Crop and Livestock\), 2024.](#)
- ⁴ [Climate Bonds Initiative: Agri-Food Deforestation and Conversion Free \(DCF\) Sourcing Criteria, 2024.](#)
- ⁵ [Climate Bonds Initiative: Navigating corporate transitions, 2024.](#)
- ⁶ Financing the corporate climate transition with bonds, 2023. [Financing the Corporate Climate Transition with Bonds | Climate Bonds Initiative](#)
- ⁷ IPCC: Summary for Policymakers, 2014. [ipcc_wg3_ar5_summary-for-policymakers.pdf](#)
- ⁸ Financing the corporate climate transition with bonds, 2023. [Financing the Corporate Climate Transition with Bonds | Climate Bonds Initiative](#)
- ⁹ Climate Bonds Standard: Version 4.2, 2024. [CBI Standard V4-2 02D.pdf](#)
- ¹⁰ Performance targets included in transition plans should be used for linked transition finance instruments, either for sustainability-linked debt or as impact metrics for Use of Proceeds debt. The priority should be to identify the metrics that best monitor the transition objectives at entity, asset or activity level during the duration of the financing.
- ¹¹ [Climate Bonds Initiative: Agriculture Production Criteria \(Crop and Livestock\), 2024.](#)
- ¹² [Climate Bonds Initiative: Agriculture Production Criteria \(Crop and Livestock\), 2024.](#)
- ¹³ [Climate Bonds Initiative: Navigating corporate transitions, 2024.](#) (for a definition of credible benchmarks)
- ¹⁴ [Climate Bonds Initiative: Agriculture Production Criteria \(Crop and Livestock\), 2024.](#)
- ¹⁵ Climate Bonds Initiative: Transition in Action: Agrifood, 2024. [Transition in Action: Agri-Food | Climate Bonds Initiative](#)
- ¹⁶ TNFD, Guidance on Scenario Analysis, 2024. [Guidance on scenario analysis – TNFD](#)
- ¹⁷ The Taskforce on Nature-related Financial Disclosures (TNFD) Leap Approach and the Sustainability Accounting standards Board (SASB) provide guidance based on the company's position in the value chain.
- ¹⁸ [Achieving SDG 2 without breaching the 1.5 °C threshold: A global roadmap, Part 1 \(fao.org\)](#)
- ¹⁹ [The Food Waste Atlas](#)
- ²⁰ [Climate Bonds Initiative: Agri-Food Deforestation and Conversion Free Sourcing, 2024.](#)
- ²¹ [Greenhouse Gas Protocol: Land Sector and Removals Guidance, Part 1, 2022](#)
- ²² [Climate Bonds Initiative: Agriculture Production Criteria \(Crop and Livestock\), 2024.](#)
- ²³ Food Loss and Waste Protocol, Accounting and Reporting Standard, 2016. [FLW Standard - Food Loss and Waste Protocol](#)
- ²⁴ CDP Technical Note: Reporting Commodity Volumes, 2024. https://cdn.cdp.net/cdp-production/cms/guidance_docs/pdfs/000/005/180/original/CDP-Reporting-commodity-volumes.pdf?1719567553
- ²⁵ [Climate Bonds Initiative: Agriculture Production Criteria \(Crop and Livestock\), 2024.](#)
- ²⁶ [Climate Bonds Initiative: Agriculture Production Criteria \(Crop and Livestock\), 2024.](#)
- ²⁷ [Climate Bonds Initiative: Alternative Protein Criteria, \(this Criteria element will be published in 2025\).](#)
- ²⁸ EU Taxonomy Report: Technical Annex, p362, 2020. [Technical annex to the TEG final report on the EU taxonomy](#)
- ²⁹ [Climate Bonds Initiative: Bioenergy Criteria, 2022.](#)
- ³⁰ [Climate Bonds Initiative: Agriculture Production Criteria \(Crop and Livestock\), 2024.](#)
- ³¹ [Climate Bonds Initiative: Land Transport, 2023.](#)
- ³² [Climate Bonds Initiative: Climate Bonds Taxonomy](#)