

Factsheet

Land-based emissions

How to set FLAG science-based targets



ecoact

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“Climate change is causing extreme weather events to become more frequent. These regularly result in serious damage to the land and threaten our agricultural and forestry systems. Companies with land-intensive activities are therefore more at risk from the impacts of climate change.

The Science Based Targets initiative (SBTi) FLAG guidance is an important breakthrough for climate action and hugely significant for companies wanting to tackle their land-based emissions. FLAG SBTs link climate and nature agendas, helping to keep 1.5°C within reach, tackle food crisis risks and support the transformation to a global net-zero future.”



Zander Dale
Senior Consultant, EcoAct

Introduction

The land sector is the largest emitting sector after energy, accounting for 22% of greenhouse gas (GHG) emissions globally¹ and is also one of the industries most at risk from the impacts of climate change.

Unlike other sectors though, it also has the potential to help mitigate climate change. It could contribute up to 37% of the emissions reductions and removals needed through 2030, and 20% through 2050².

As the need for climate action becomes increasingly urgent, it is critical that these emissions be addressed. In recent years, some companies with land-intensive operations have publicly reported their GHG emissions and have committed to, or set, targets through the Science Based Targets initiative (SBTi). However, few were taking emissions or removals from land use into account in their targets or statements. This was mainly due to the lack of clear guidance or solid methodologies for companies in relation to the management of these types of emissions. Guidance was urgently needed

to address these emissions and keep the goal of the Paris Agreement within reach.

In response to this growing demand, the SBTi released its '[Forest Land and Agriculture \(FLAG\) Guidance](#)' in September 2022. This guidance is the world's first standard method for companies in land-intensive sectors to set science-based targets (SBTs) that include both land-based emission reductions and removals. This common framework for action enables these companies to align with the highest level of climate ambition (1.5°C) by significantly reducing GHG emissions and increasing GHG removals from land.

Alongside the FLAG Guidance, the GHG Protocol also released the first draft of the [Land Sector and Removals Guidance](#). This document explains how

companies should account for and report GHG emissions and removals from land management, land-use change, biogenic products, carbon dioxide removal technologies, and related activities in GHG inventories, building on the [Corporate Standard](#) and [Corporate Value Chain \(Scope 3\) Standard](#).

FLAG SBTs are a significant step for corporate climate action but they are not just relevant for land-intensive companies. Any company that has FLAG emissions representing more than 20% of its total Scope 1+2+3 emissions, will also be required to set one.

We created this factsheet to help explain what FLAG emissions are, which companies need to set FLAG SBTs, key timelines and how EcoAct can guide you through this process.

¹-13 GtCO₂e per year, with about half from agriculture and half from land use, land-use change and forestry (LULUCF) (IPCC, 2022)

² Griscom et al., 2017

— **What are FLAG emissions and why do we need to tackle them?**



What are FLAG emissions and why do we need to tackle them?

FLAG emissions are emissions from land-intensive activities emitted by biogenic and anthropogenic processes. Forest, Land and Agriculture (FLAG) sectors generate roughly 22% of annual GHG emissions globally, with around half coming from agricultural production, and half stemming from other land use activities, deforestation and forestry. Failing tackling these emissions puts the goal of the Paris Agreement at risk.

FLAG emissions are derived from processes such as: land-use change, enteric methane emissions from ruminant animals, manure management,

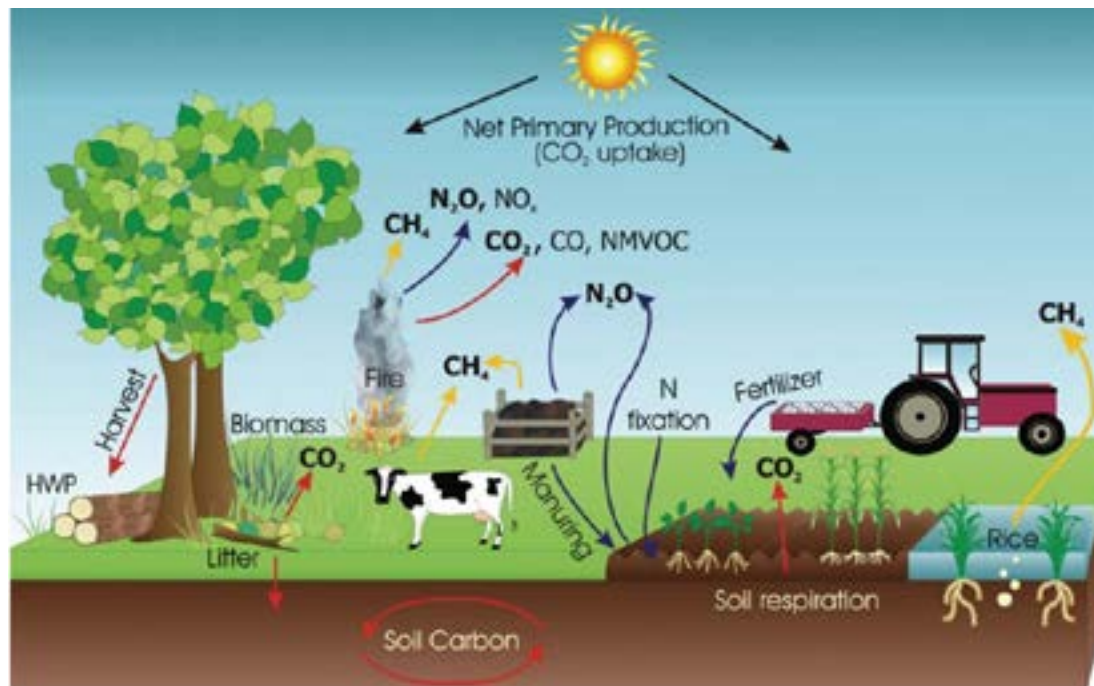
fertiliser use, crop residue, flooded soils etc. Previously, the majority of these emissions were not accounted for. The main reason for this was the lack of clear guidance or sound methodologies for companies to account for and manage land-related emissions.

It is recognised that GHG emissions from the FLAG sector need to be significantly reduced by 2050, however agricultural production is expected to increase by about 50% by then to meet increased food demand³. This only increases the need to urgently address emissions reduction in this sector.

Emissions can be reduced by:

- Stopping deforestation and land conversion
- Reducing peat burning and forest degradation
- Reducing agricultural emissions
- Regenerative farming techniques
- Diet shifts

Beyond reducing emissions associated with farming activities, FLAG Guidance also encourages companies to adopt sustainable agricultural practices that promote biodiversity conservation and protect natural resources.



Key sources of FLAG emissions:

Carbon dioxide (CO₂)

Deforestation (and other land-use change)
Forest and grassland fires

Methane (CH₄)

Enteric fermentation (cows)
Rice production

Nitrous oxide (N₂O)

Fertilisers

Methane (CH₄) & Nitrous oxide (N₂O)

Manure management

Source: IPCC 2006

Removals

Carbon removals are allowed to be included and reported within an organisation's FLAG inventory, and are classified as an 'increase in net land carbon stock'. Removals calculations need to follow the GHG Protocol Removals requirements and are seen as a key way for organisations to reduce their FLAG emissions. Examples of practices to remove carbon from the atmosphere include forest restoration on working lands, improved forest management, agroforestry, and enhancing soil organic carbon.

Companies need to account for carbon removals in their near-term SBTs. With the removals and reduction opportunities combined, this sector could provide up to 30% of the global climate mitigation needed by 2050.

Forests and soils store carbon, so these sinks (GHG removal) also need to be accounted for. GHG removal can be achieved through:

- Forest restoration on working lands
- Improving forest management practices
- Agroforestry
- Enhancing soil organic carbon on pasture or farmland

Note: Removals should not be a substitute for deep emissions reductions, and can only be utilised by businesses with a FLAG SBT. Removals are not allowed to be used to achieve non-FLAG, energy or industrial emissions targets.



— **What are FLAG science-based targets (SBTs)?**



What are FLAG science-based targets (SBTs)?

In response to growing demand, the GHG Protocol developed the Land Sector and Removals Guidance, which standardises the calculation of land sector emissions and removals. The SBTi's Forest, Land and Agriculture (FLAG) Guidance has been developed in conjunction, which means that companies can now translate their land-use practices into ambitious, science-based climate action.

Key features:



Near-term FLAG science-based targets

Set 5-10-year emission reduction targets in line with the Paris Agreement.



Removals in near-term FLAG science-based targets

Account for GHG removals, incorporating improved forest management practices, and enhancing soil carbon sequestration on working lands.



Long-term FLAG science-based targets

Reduce at least 72% of FLAG emissions by no later than 2050. The [SBTi Net-Zero Standard](#) should be used to set long-term FLAG science-based targets.



Zero deforestation commitments must be set for no later than 2025

In line with the [Accountability Framework initiative \(AFi\)](#).



Set science-based targets for fossil emissions

Businesses with land-based emissions are required to set FLAG science-based targets and science-based targets, since all companies produce fossil emissions.



Science Based Target initiative (SBTi)

Not-for-profit organization which independently verifies targets allowing companies to make viable claims about their climate ambitions

Science-Based Targets (SBTs)

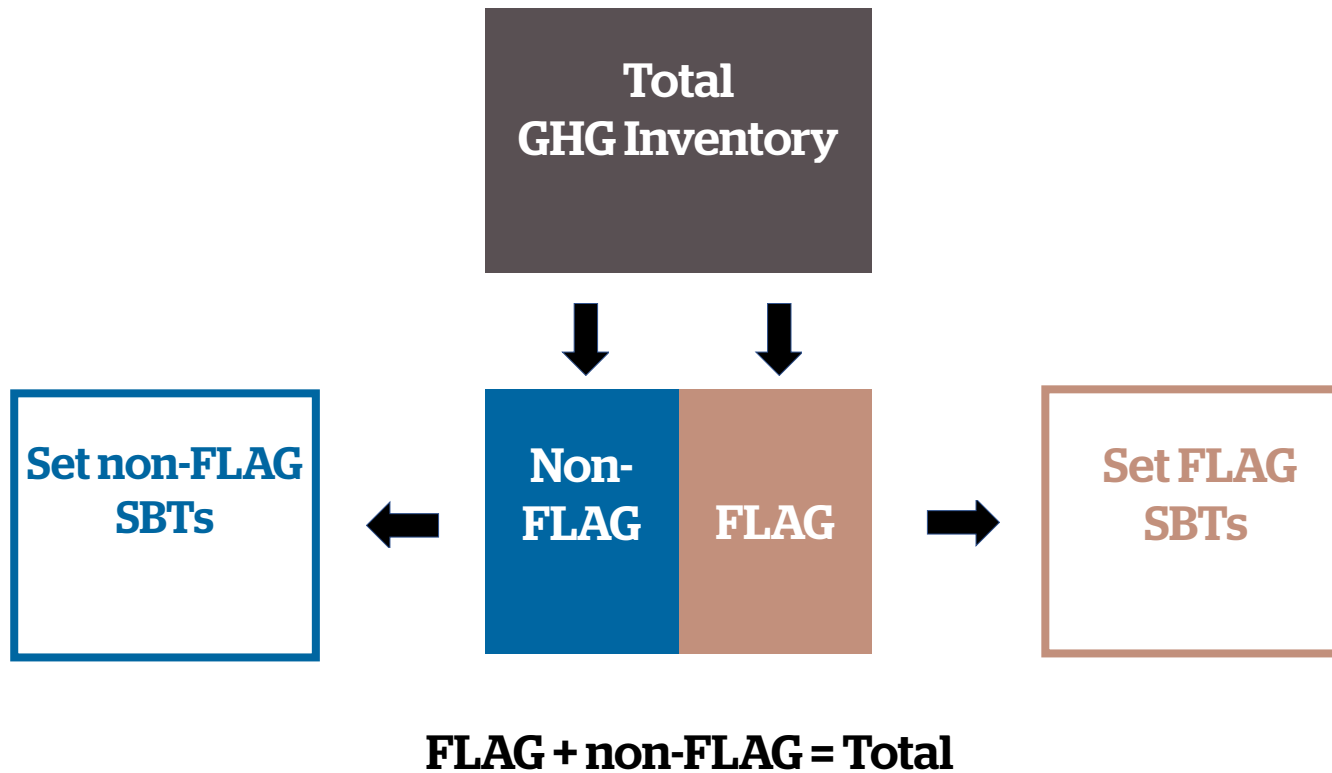
Decarbonation targets elaborated by the SBTi and aligned with the latest scientific consensus of the level of decarbonisation required to keep global temperature increase below 1.5°C.

Forest, Land and Agriculture (FLAG) SBTs

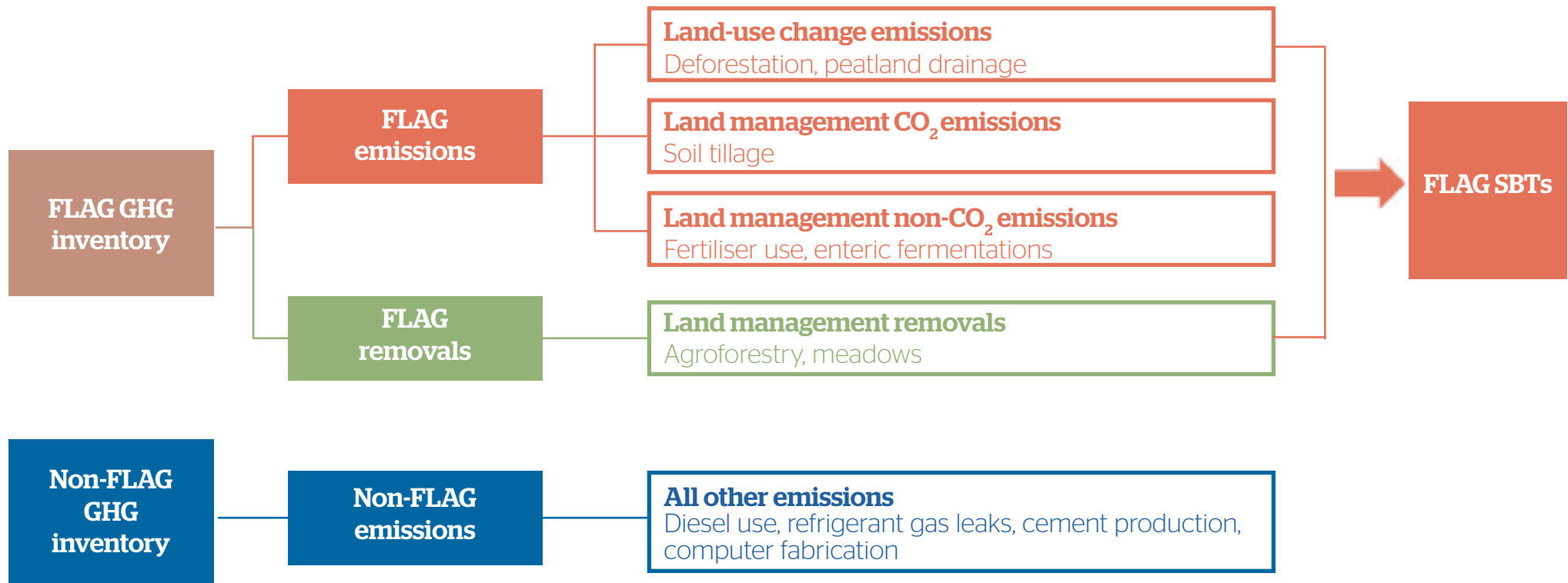
Decarbonisation targets for the land sector (co-operatives, agri-food industries, textile and fashion industries, paper producers, etc.).

FLAG and non-FLAG SBTs

Companies are required to set FLAG SBTs when land-intensive activities contribute 20% or more to their overall emissions. To set FLAG SBTs, a company must separate its total GHG inventory into two inventories:



FLAG SBTs must be entirely separate and additional to a company's other SBTs that covers non-FLAG emissions. The FLAG GHG inventory includes both emissions and removals while the non-FLAG inventory only includes emissions. Non-FLAG emissions in a company's inventory must be covered by SBTs that use other approved SBT procedures.



Note - FLAG mitigation cannot be used to meet non-FLAG targets

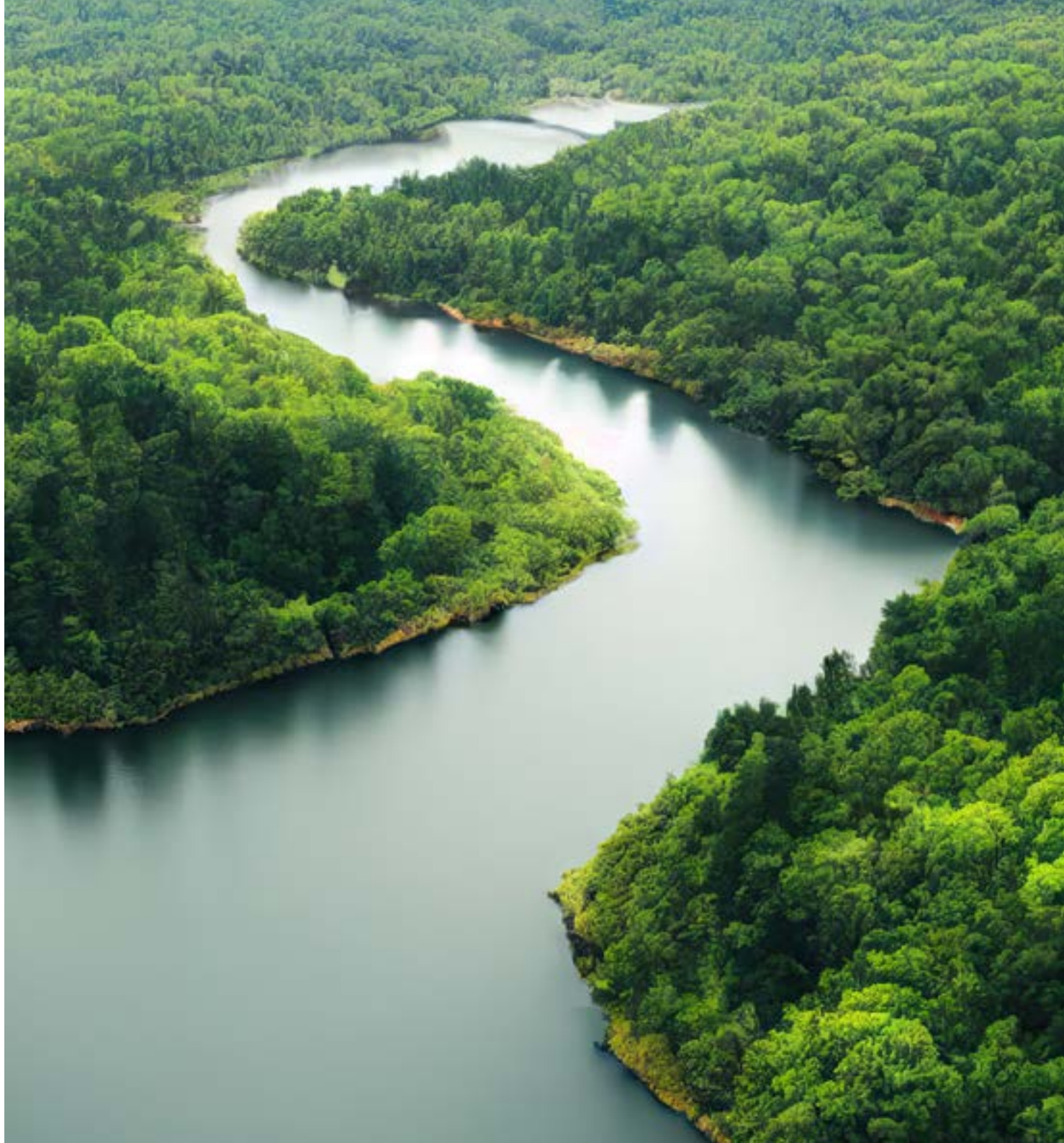
Zero deforestation commitments

Deforestation accounts for 10% of annual carbon emissions. It also makes up 80% of the mitigation potential from land-use change. Subsequently, companies will not be able to get their FLAG SBTs approved without stopping all land conversion.

- Companies setting FLAG SBTs are required to publicly commit to zero deforestation covering all scopes of emissions (no conversion). Reducing emissions from deforestation is one of the highest priorities across FLAG decarbonisation pathways.
- The SBTi also recommends that companies set a zero-land conversion and peat burning target across their value chains, but this is not a requirement for target validation.
- The SBTi highly recommends that companies align deforestation commitments with the [Accountability Framework initiative \(AFI\) guidance](#).

Zero deforestation commitment language should take the following form:

“[Company X] commits to no deforestation across the value chain throughout the SBT target period, with a cut-off date of 2020.”



Who needs to set FLAG SBTs?

Main FLAG sectors

Must set FLAG SBTs

- Forest & paper products (forestry, timber, pulp and paper, rubber)
- Agricultural food production
- Animal source food production
- Food & beverage processing
- Food & staples retailing
- Tobacco

Other sectors

Any other company that have FLAG emissions representing more than 20% of its total Scope 1+2+3 emissions

Potential sectors concerned:

- Retailing
- Containers and packaging
- Hotels and restaurants
- Leisure, and tourism services
- Textile manufacturing, spinning, weaving & apparel
- Textile, apparel, footwear and luxury goods
- Consumer durables
- Household and personal products
- Tires
- Building products
- Home building
- Construction materials
- Construction and maintenance
- Infrastructure development
- Mining
- Roadbuilding
- Resource extraction

Sector focus: Why are FLAG emissions relevant to the apparel sector?

Land-intensive activities are likely to be relevant in the GHG inventories of companies from the apparel sector, especially in Scope 3, Category 1 (Purchased Goods & Services).

The focus is on emissions associated with the production of materials and natural fibers purchased by apparel companies, i.e., emissions from cattle, waste crop residue or fertiliser use.

The emissions calculation process is required to screen companies' emissions to determine

whether FLAG emissions meet the SBTi's threshold of 20% of a company's total emissions.

Generally, the higher a company is within a supply chain; the less FLAG emissions will impact their inventory. Yet, if a company's FLAG emissions fall below the 20% threshold, the SBTi still requires confirmation that these emissions have been calculated and can prove that a FLAG SBT is not relevant - as demonstrated on the updated SBT submission forms.

FLAG SBTs present an opportunity for companies to further understand and engage with their supply chain, increasing the visibility of their impacts and to develop a deeper level of understanding around the full carbon impacts associated with its products.



FLAG SBTs timeline

The deadline for submitting SBTi FLAG targets depends on your current SBT targets:

1. Companies with validated SBT that are required to submit a FLAG target, must do so within 6 months of the release of the final GHG Protocol Land Sector and Removals Guidance.
2. Companies setting their first SBT targets (including net-zero targets), or updating an existing target, must set FLAG targets upon (re)submission, using draft GHG Protocol Land Sector and Removals Guidance if before the release of the final version.

N.B. Companies that have completed the target submission form and booked their validation slot prior to April 30th 2023, are not affected by these rules.

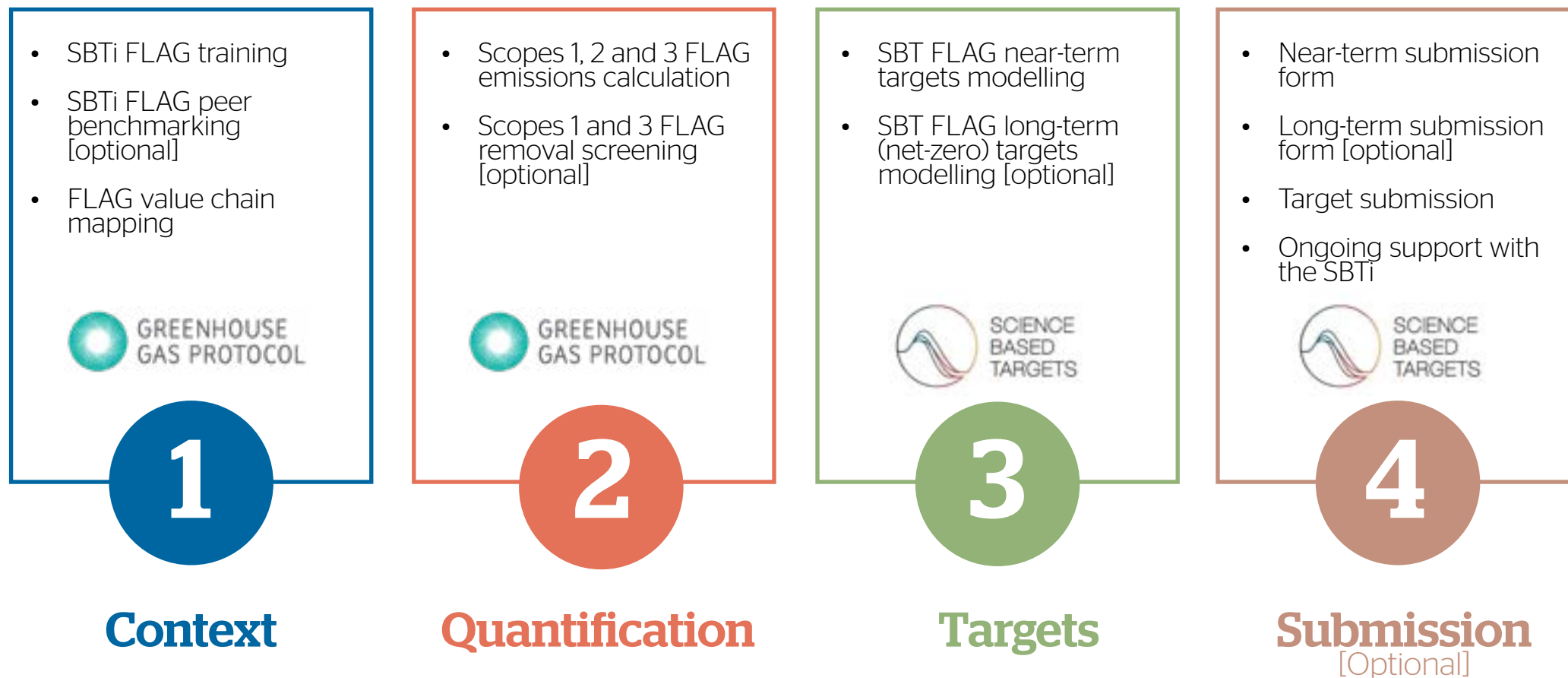


— EcoAct's approach to setting FLAG SBTs



EcoAct's approach to setting FLAG SBTs

EcoAct can support companies with land-emissions through every stage of your FLAG SBT journey:



Why EcoAct?

EcoAct has completed over 1,500 carbon footprints since 2005 and helped 70+ clients achieve SBTi validation across a variety of industries including retail, food & beverage, and tobacco. We are technical experts who are adept at collecting your data, calculating your emissions, and modelling an emissions reduction pathway.

Our goal is to develop a GHG inventory that is complete and actionable, which supports the identification of reduction levers and overall target development.



Proven track record

- 100% of submissions to the SBTi approved
- We have supported 78 clients to set/submit SBTs and are in development of a further 51



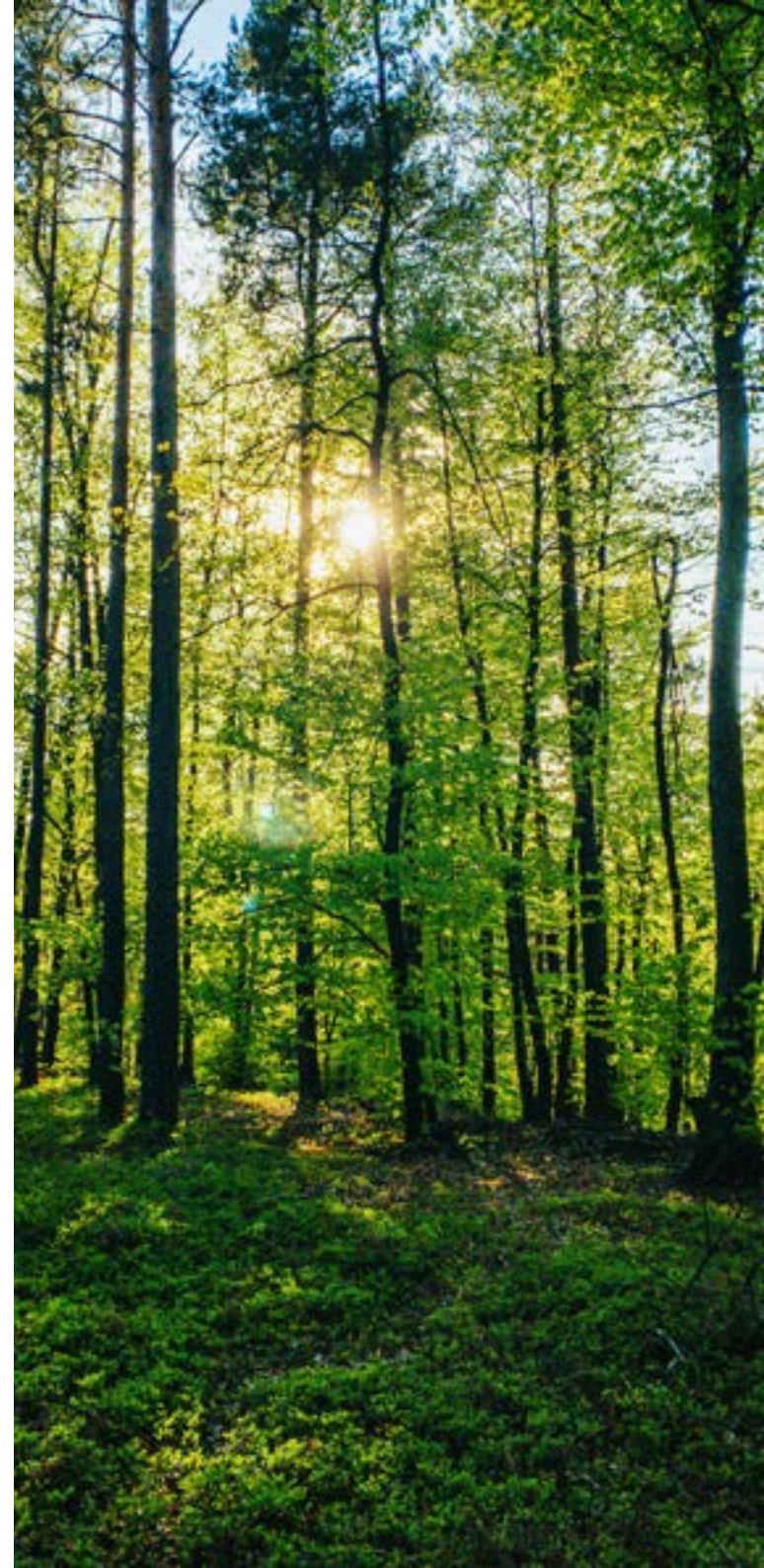
Industry expertise

- EcoAct is a Global Gold CDP accredited partner for science-based target setting
- Dedicated EcoAct research team closely following FLAG developments and provides updates upon release



Technical expertise

- We work across a wide range of sectors, including agriculture & food/beverage processing
- EcoAct's FLAG offerings can be tailored to any budget, project or data availability, with options for high level estimations, detailed calculations or a precise farm-level assessment of FLAG emissions and removals



Your climate experts. Your partner for positive change.

Together with our clients, we act to put climate and nature centre stage to drive sustainable corporate transformation within planetary boundaries.

EcoAct is an international sustainability consultancy and project developer with 18+ years of industry experience and 360+ climate experts globally. Founded in France in 2005, the company now spans three continents with offices in Paris, London, Barcelona, New York, Montreal, Munich, Milan and Kenya.

EcoAct's core purpose is to lead the way in developing sustainable business solutions that deliver true value for both climate and client. Data is the cornerstone of our consulting practice, supported by our dedicated Climate Data Analytics and Research & Innovation teams.

At EcoAct we are driven by a shared purpose to make a difference. To help businesses implement positive change in response to climate and environmental sustainability challenges, whilst also driving commercial performance.

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