



# 3keel

## FLAG accounting, reporting & target-setting

BRC Webinar February 2<sup>nd</sup> 2023

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# Agenda

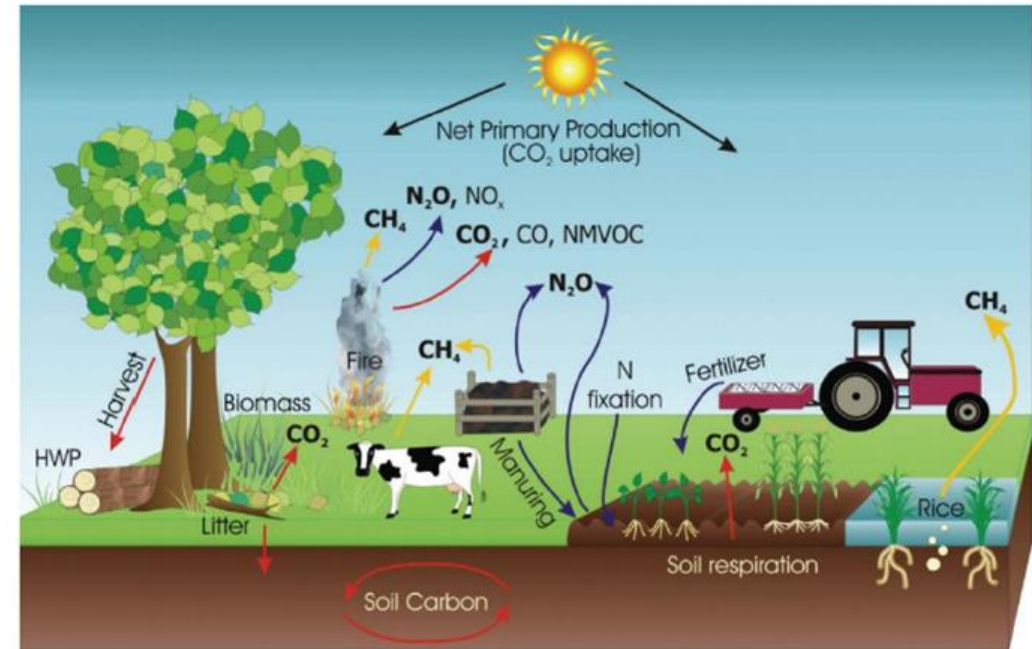
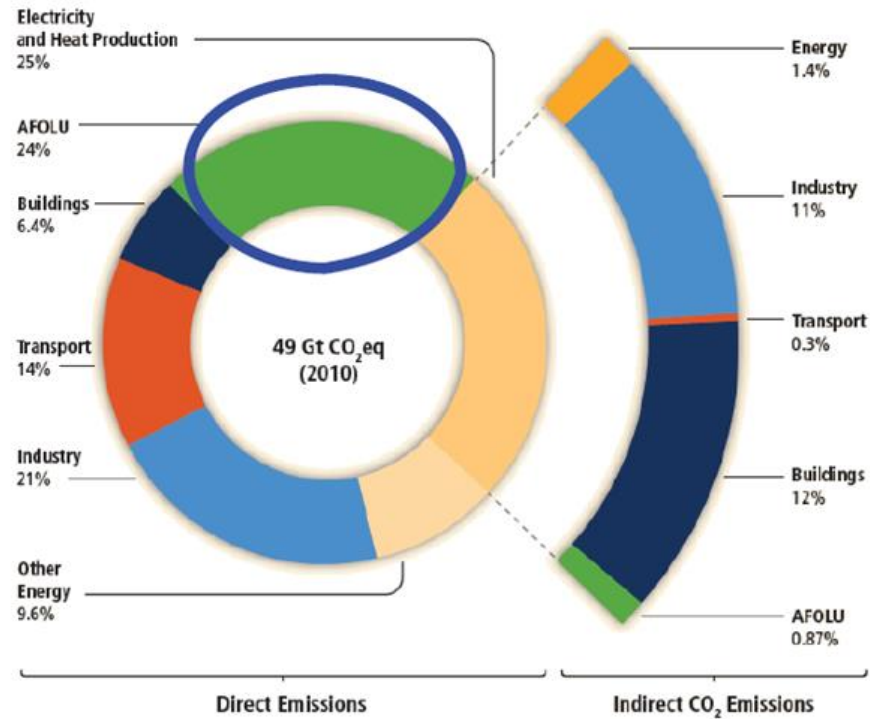
- Introduction
- Overview of key standards & guidance
- GHG Protocol LSRG accounting & reporting – intro & method considerations
- SBTi FLAG target setting – key points
- Summary
- Q&A
- Feedback poll

# Introduction

# “Land” sectors are key to climate goals

Agriculture, Forestry, and Other Land Use (AFOLU) emissions represent ~24% of global annual GHG emissions

This sector includes not only **significant emissions**, but also **significant removals**.



# Why do we need sector-specific methods?

## More consistency on complex GHG accounting & reporting

- Agricultural emissions are complex (cow burps, soils, manures, etc.)
- Land use change and carbon removals accounting is contentious
- Need for more transparency and consistency on reporting

## Sector-specific emissions & removals targets

- Agriculture will **decarbonise more slowly** than 'Energy and Industry' sources (some emissions are 'hard to abate')
- Agriculture can **contribute carbon removals** – not just emissions reductions
- Staying within 1.5C is contingent on society **halting land use change emissions**

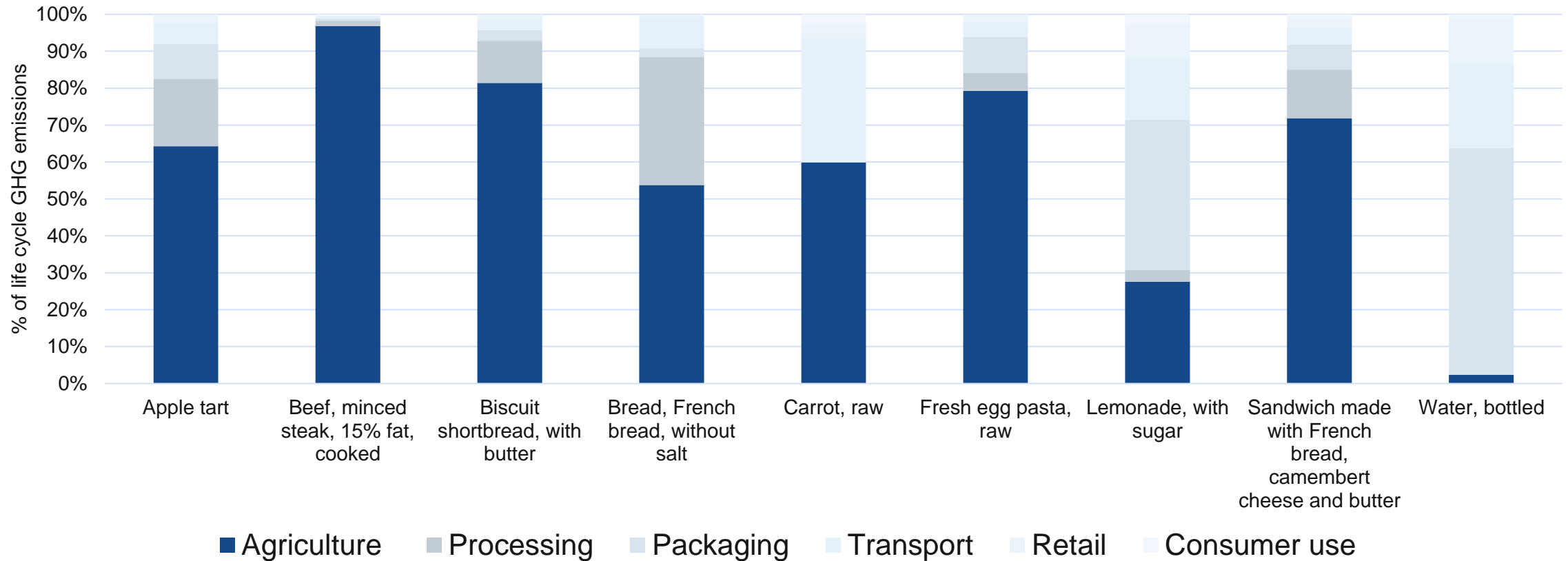
# Relevant to land intensive retail sub-sectors

- **Food retailing is most land intensive**
- Other sub-sectors may be land-intensive - depends on your product mix. E.g., do you purchase a lot of food, timber, leather products?
- You need to calculate the share of your Scope 3 that occurs on farms & forestry

Retail sub-sector	Likely FLAG relevance	Relevant commodities
Food & drink, Food to go	High	Agricultural crops, Livestock products
Home & DIY	Medium	Timber
Fashion & footwear	Medium	Leather, Cotton, Cellulose
Mixed retail	Medium	Various
Sport & outdoor	Medium / Low	Rubber, Cotton
Stationary & Craft	Medium / Low	Paper, Cardboard
Health & Beauty	Medium / Low	Paper, Card, 'Natural' ingredients
Jewellery	Low	
Electronics	Low	
Media	Low	
Charity	Low	

# Agriculture share of food product GHGs

Many food products have >50% of emissions from agriculture



# Acronyms and terms used in this space

Term	Source	Definition
<b>FLAG sector</b>	SBTi	Emissions and removals target-setting methods for the “Forestry, Land and Agriculture” sector.
<b>AFOLU emissions</b>	IPCC	Emissions from “Agriculture, Forestry and Other Land Use” – these focus on non-CO2 gases e.g. methane, nitrous oxide
<b>Land sector</b>	GHG Protocol	Term used in Land Sector and Removals guidance to cover similar sources to IPCC



# Finally: Setting some expectations ...

- The key standards and guidance docs are **in pilot phases – will take time to stabilise**
- We have 15+ years experience of working on these topics and we're trying to understand the implications!  
New requirements **increase GHG data and accounting complexity**
- We expect alignment to new **accounting rules will be a journey over coming months/years**: emissions factor sources and tools will *hopefully* align; more data sources will become available
- In short term we have to do our best, **be transparent on degree of alignment and focus on addressing key areas of accounting/reporting risk**
- We are not going through every requirement of GHG Protocol and SBTi FLAG today – instead we are focusing on those elements which we see as **most material or noteworthy**

# Overview of key documents

# Key standards and guidance documents

## Corporate GHG accounting and reporting

>> *Basic boundary setting, emissions sources to include, what to disclose, some calculation guidance*



GHG Protocol Scope 3 & Land Sector Guidance



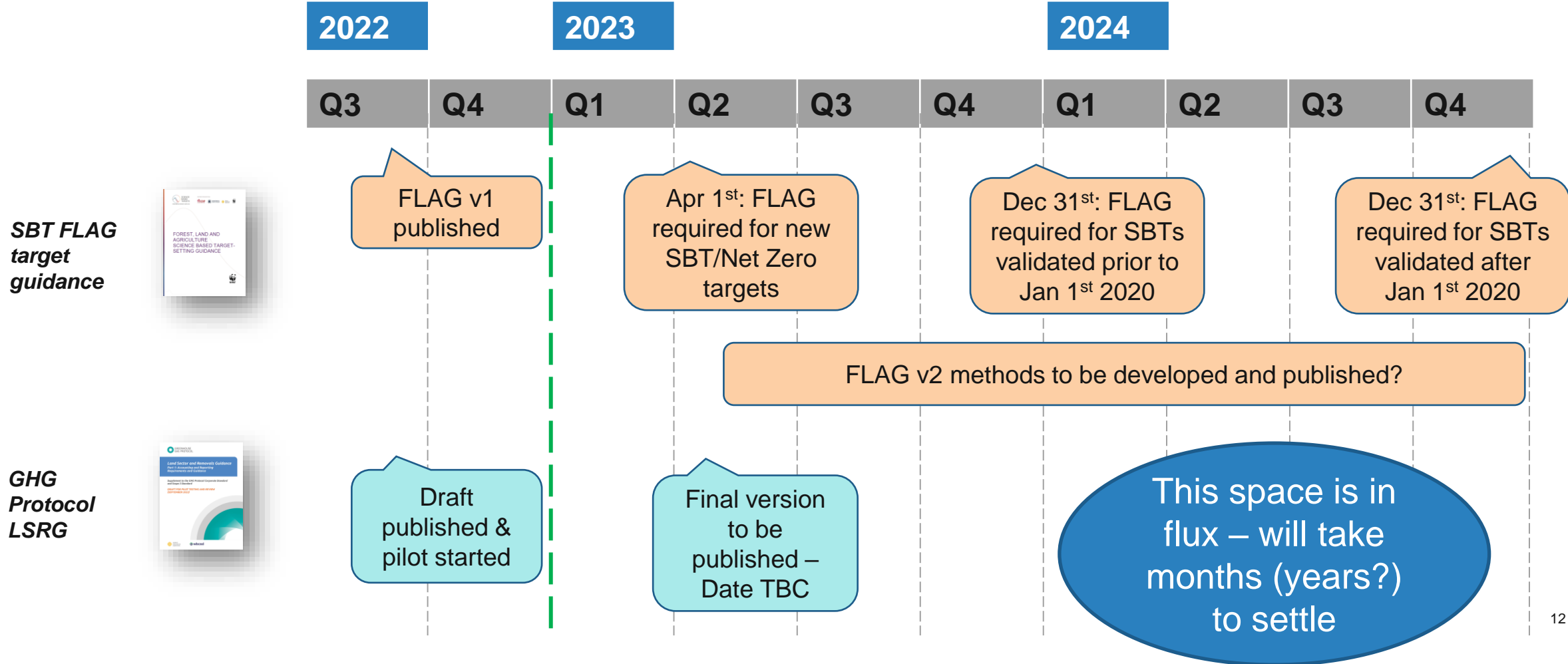
## Corporate GHG target-setting

>> *Defines scale of emissions reductions and removals needed to be aligned to Paris goals*



SBTi FLAG Guidance & Net Zero Standard

# Key SBT and GHGP dates, as of Jan 2023



Please note: Dates are subject to change as they assumed GHGP LSRG published in April 2023 and that is looking unlikely as pilot extended to end of February 2023

# Notable aspects of FLAG accounting & target-setting



**Account for and report land use change, land management and removals separately** following specific calculation methodologies outlined in LSRG, where relevant\*



**Carbon removals are optional.** If included, they need to be properly evidenced and monitored. Based on annual changes in carbon stock in carbon pools\*



**FLAG from non-FLAG targets are separate:** FLAG roughly covers “Cradle-to-farm gate, excluding processing”. FLAG abatement can't count against non-FLAG emissions.



Retailers advised to use **sector** methods for now – although it may be possible to set commodity specific targets in the future (e.g. emissions per tonne of milk)



**Set deforestation targets:** “[Company X] commits to no deforestation across its primary deforestation-linked commodities, with a target date of [no later than December 2025].”

LSRG  
Accounting  
& Reporting

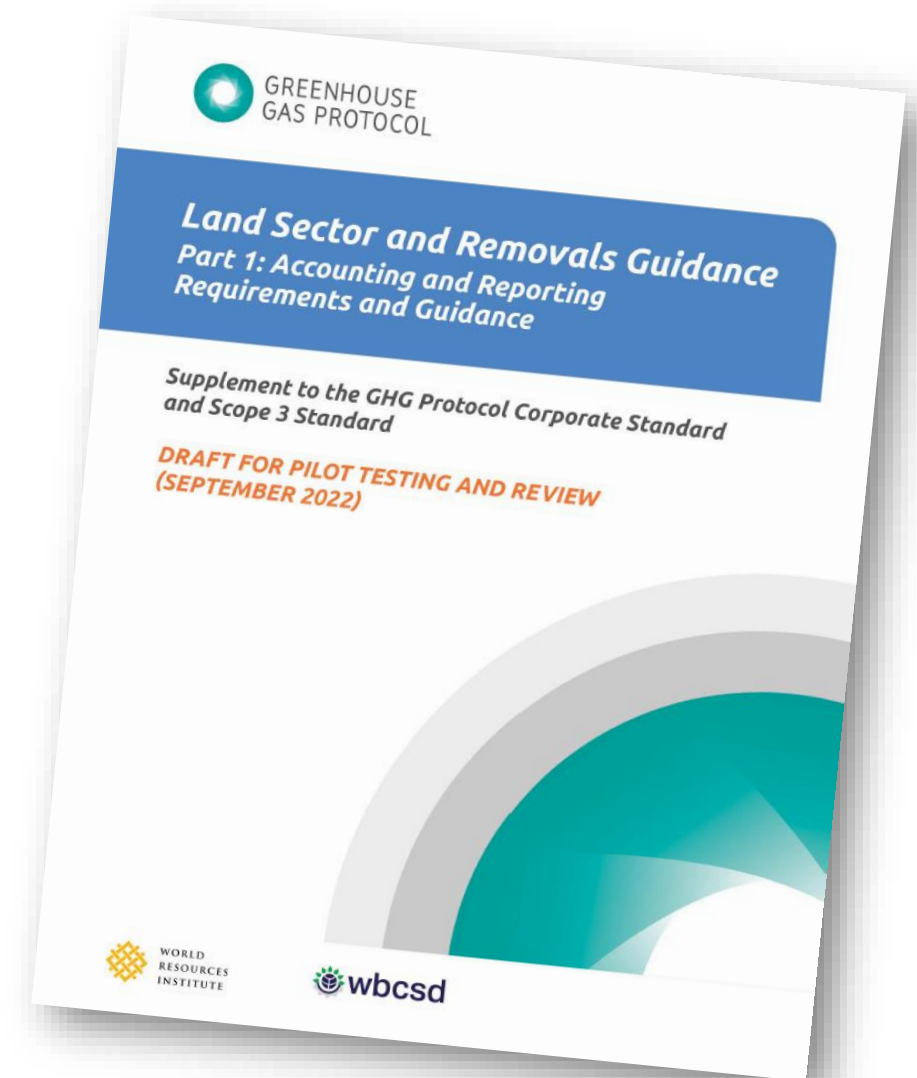
SBTi FLAG  
target  
setting

# GHG Protocol LSRG

## Introduction

# Land Sector & Removals Guidance

- Builds upon GHG Protocol Corporate Standards
- Targeted at those who sell food, fiber, feed, forest products, bioenergy, or other biogenic products
- *“Companies reporting a corporate GHG inventory in conformance with the Greenhouse Gas Protocol shall follow the Land Sector and Removals Guidance if the company has land sector activities in its operations or value chain or if the company is reporting removals”*
- Most relevant if you:
  - Have a significant farm/forest footprint in value chain
  - Source deforestation risk commodities e.g., soy, timber
  - Want to include carbon removals in your GHGs inventory



# What emissions and removals are covered?



## Non-land

- Energy use by machinery and buildings
- Purchased input production e.g. fertilizer production
- Upstream and downstream transport of goods, etc etc
- Follows GHGP Scope 1, 2 & 3 standards



## Land management

- Enteric methane
- Manure management methane
- Nitrous oxide from application of nitrogen to soils
- Carbon dioxide from cultivation of organic (peat) soils



## Land use change

- Conversion of forestland to cropland or grassland
- Conversion of grassland to cropland



## Carbon removals

- Soil carbon, biochar
- Above ground biomass e.g. agroforestry, tree crops, woodland
- Forest management
- Agroforestry
- Carbon in products e.g. timber



# GHG Protocol LSRG

## Implications for methods & data

# Data & methods will depend on traceability

## Traceability to farms

- Farm GHG accounting tools e.g. Cool Farm Tool, Agrecalc, Farm Carbon Toolkit, etc

## No traceability – use secondary data

- Crop production emissions factors or LCA databases/studies e.g. Ecoinvent, Agribalyse, etc.

Key challenge: understanding scope and methods of tools/data and how it aligns with LSRG requirements

# Existing data/tools not fully aligned

The GHGP has developed a spreadsheet where they assess coverage of accounting categories and metrics. Below is a snapshot of tools/sources that are used by 3Keel ...

General Information				Accounting Category				Accounting Metrics											
Organization / Author	Resource Name	Type of Resource	Country / Region	Land Use Change Emissions	Land Tracking Category	Land Management Net CO <sub>2</sub> Removals / Land Management Net CO <sub>2</sub> Emissions	Land Management Non-CO <sub>2</sub> Emissions	Direct land use change emissions (dLUC)	Statistical land use change emissions (sLUC)	Indirect land use change emissions (iLUC)	Land occupation (LO)	Biomass carbon stocks	Soil carbon stocks	Biomass carbon stock changes	Soil carbon stock changes	Enteric fermentation CH <sub>4</sub> emissions	Manure management CH <sub>4</sub> and N <sub>2</sub> O emissions	Managed soils N <sub>2</sub> O emissions	On-site energy use GHG emissions
Blank Consultants	Direct Land Use Change Assessment Tool	Tool	Global	Yes	No	Maybe	No	Maybe	Yes	No	No	Yes	Yes	Yes	Yes	No	No	No	No
CIRAD	Agri-Balyse v.2 and 3	LCA Database	France	Yes	Yes	Maybe	Yes	Maybe	Maybe	No	Yes	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Yes
Cool Farm Alliance	Cool Farm Tool	Tool	Global	Maybe	No	Yes	Yes	Maybe	No	No	Maybe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ecoinvent	Ecoinvent	LCA Database	Global	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Farm Carbon Toolkit	Farm Carbon Calculator	Tool	United Kingdom	Yes	No	Maybe	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SAC Consulting	agrecalc	Tool	Scotland	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe
SEI	Trase	Tool	Tropics	Yes	Maybe	Maybe	No	Maybe	Yes	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe
wrap	Emissions Factor Database for Scope 3 Measurement and Reporting	Data	United Kingdom	Yes	Maybe	Maybe	Maybe	Yes	No	No	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe	Maybe

NB: Don't take this file as final word – it's a good indicator. You should do your own benchmarking in detail (or request tools/data providers publish this)

# Non-land and land emissions

## Key message

- In addition to agricultural and forestry 'land' emissions, inventories need to include energy and industry emissions related to production
- E.g., fertilizer production, energy use on farm, other purchased goods, etc
- E.g., enteric methane, peat soils, nitrous oxides from fertilisers, manure management

## Likely data sources

- Primary data:
  - Farm GHG tools e.g. Cool Farm Tool, Agrecalc, Farm Carbon Toolkit, etc
- Secondary data:
  - LCA / emissions factor databases and studies of farm systems

## Risks / watch-outs

- Tool or emissions factor sources excludes major source emissions (e.g., fertilizer production or nitrous oxide from application to soils)
- Secondary data include post farm gate emissions
- Secondary data sources include removals in reported figures

The guidance doesn't set requirements on which precise calculation methods must be used ("Companies **shall** account for and report *Land management non-CO2 emissions*")

# Land use change (LUC) emissions

## Key message

- Include LUC emissions for all agricultural supply chains
- Any LUC within 20-year period prior to reporting year
- Using either direct LUC (dLUC) or statistical LUC (sLUC)
- Also disclose a 'land tracking metric' e.g., hectares occupied
- Reality is companies will focus on the 'deforestation risk' commodities e.g. soy, etc

## Likely data source

- Primary from farms (dLUC):
  - Land use areas, conversion dates, crop production data and carbon stock data
- Secondary:
  - Commodity supplier LUC data aligned to GHGP LSRG
  - Commodity sourcing location and quantity data – combined with average LUC data for crops – preferably at sub-national levels

## Risks / watch-outs

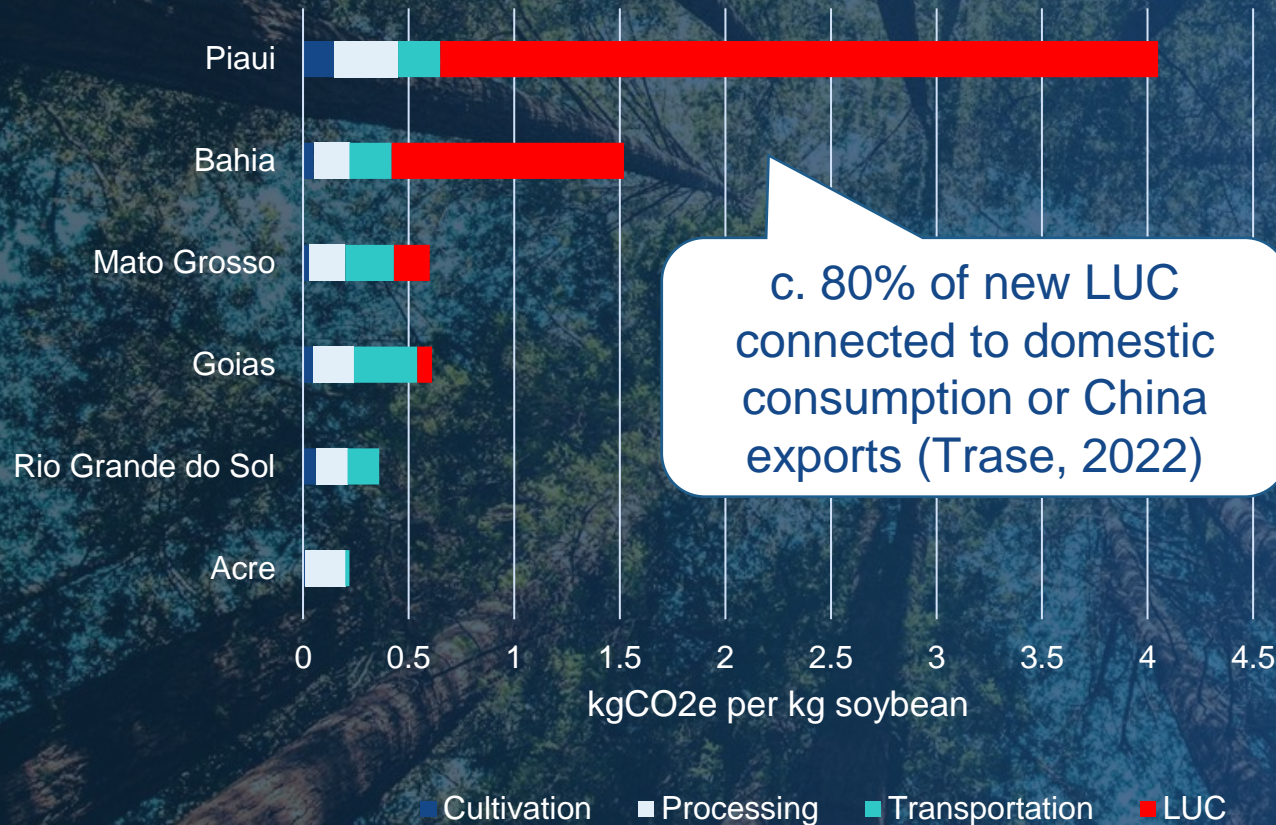
- Using secondary sources with inconsistent or unsuitable LUC calculation methods
- Assuming zero deforestation 'certified' crop is zero LUC emissions when the scope of certification system does not enable this claim.
- Excluding LUC estimates where you have high risk commodities in your supply chains (i.e., soy, beef, palm oil).

# LUC emissions accounting vs. ‘No deforestation’

Its important to note that the worlds of no deforestation commitments and carbon accounting aren't fully aligned in how they think about deforestation claims and related emissions ‘reductions’.

Topic	GHG accounting	Credible “DCF”
Types of land use change included	All changes in carbon stock should be included – all land types & pools	All forms of deforestation and conversion
Cut-off period / year: before when do you ignore LUC?	Any LUC that occurred in 20 years before reporting must be included	Different cut-off years appear in standards and definitions – many are post-2003, 2020 is the latest
Types of certification that are usable / credible	Only “identity preserved” and “segregated” allowed in GHGP LSRG	Same – increasing need to use identify preserved or segregated. Credits and mass balance is legacy

# Country average LUC data can hide huge variation



c. 80% of new LUC connected to domestic consumption or China exports (Trase, 2022)

## Reality of situation

- LUC can be significant
- You can use country average crop LUC data with LSRG
- But we think this may overstate or understate base year LUC estimates
- **Solution: sub-national crop sourcing data (via Due Diligence regs) combined with sub-national crop deforestation data**

# Carbon removals

## Key message

- Carbon removals are optional
- If included, there are specific requirements on monitoring carbon removals from land management e.g., soil carbon

## Likely data source

- Primary:
  - Soil sampling for carbon stocks
  - Forestry areas, tree ages and species
- Secondary:
  - Not possible

## Risks / watch-outs

- Using secondary assumptions only for claiming carbon removals (e.g. a generic industry emissions factor)
- Not reporting CO2 'reversals' if you lose the ability to demonstrate carbon is still stored in soils, trees, etc.



# Carbon removals – Monitoring framework

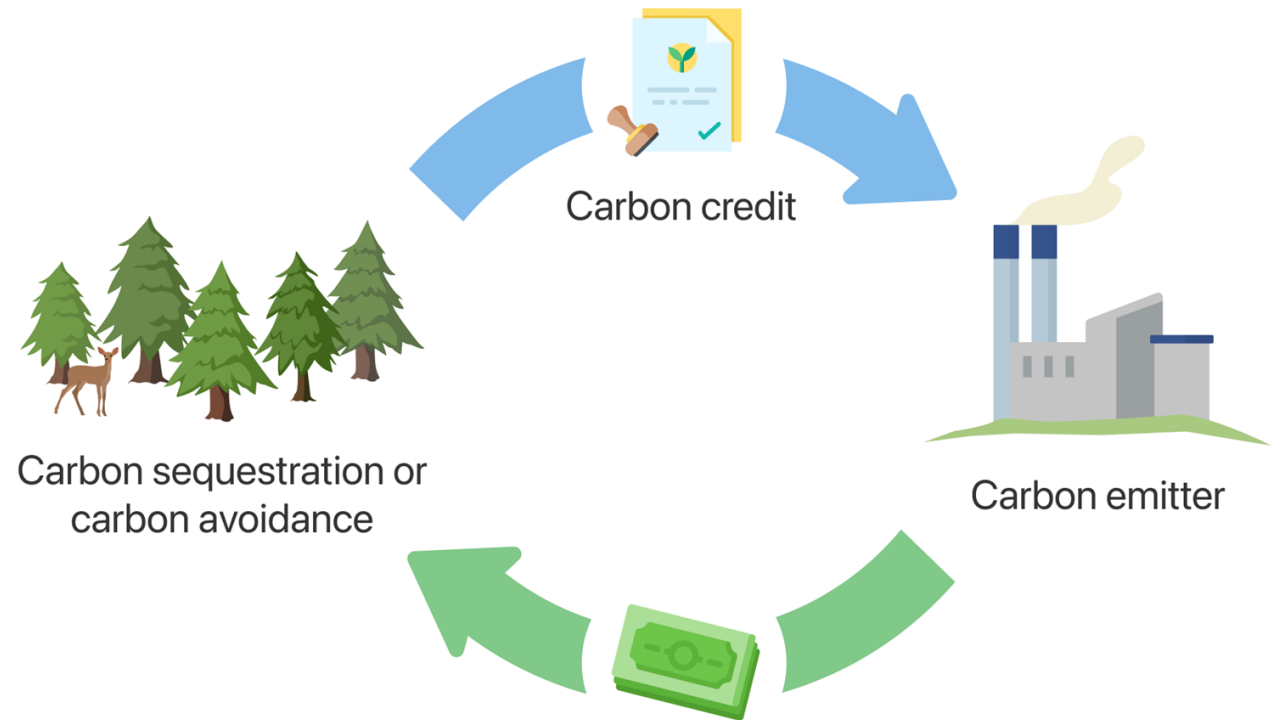
Companies may account for and report scope 1 or scope 3 CO2 removals only if the following requirements are met. **NB there are subject to on-going pilot and so could change.**

Requirement category	In practice ...
Ongoing storage monitoring	There is a process in place for continuing to see a removal is persisting (e.g. a tree crop is still standing, soil carbon is still in soil)
Traceability	The reporting company can trace back to processes (e.g. cover cropping, tree planting) and pools (e.g. soils, trees).
Primary data	The removal can be verified by observation or experiment (“empirical” evidence). Needs to be in value chain (i.e., not an offset)
Uncertainty	Uncertainty calculations are included in removals quantification methods
Reversals accounting	Emissions are reported if removals are reversed or monitoring ends

# Finally: emissions reduction & removals / insetting

- LSRG recommends reductions quantified using Scope 3 inventory method rather than formal “inset” crediting
- Where credits are sold by farmers outside of the value chain, downstream businesses need to report inventory with/without adjustments for credits

This would require tracking of all credits sold within value chain: complex!



# SBTi FLAG target-setting

## Methods and watch-outs

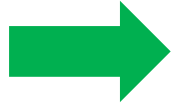
# Scope of GHGs: LSRG vs SBTi FLAG

GHG Protocol accounting category	Examples of emissions sources	Inclusion / exclusion requirements	Treatment in SBTi target-setting methods
<b>Emissions (non-land)</b>	<ul style="list-style-type: none"> <li>• Farm energy use</li> <li>• Fertilizer production</li> </ul>	Required	Grey area!
<b>Emissions (land)</b>	<ul style="list-style-type: none"> <li>• Land use change</li> <li>• Enteric methane</li> <li>• Peat soils degradation</li> </ul>	Required	FLAG
<b>Removals</b>	<ul style="list-style-type: none"> <li>• Soil and tree crop carbon sequestration</li> <li>• CO2 removed and stored timber or bioplastics</li> </ul>	Optional	FLAG

# SBT FLAG target options: Commodity vs. sector

Companies can use a combination of two methods for setting FLAG targets depending on their position in supply chain and nature of commodities produced/sourced.

1. FLAG sector pathway



2. FLAG commodity pathway



Non-FLAG (for reference)



Near-Term target pathway name	Pathway type	Units	Absolute % reduction* (%/yr 2020-2030)
FLAG Sector Approach	Absolute	tCO <sub>2</sub> e	3.03
FLAG Commodity–Beef	Intensity	tCO <sub>2</sub> e/t fresh wt	2.40
FLAG Commodity–Chicken*	Intensity	tCO <sub>2</sub> e/t fresh wt	3.90
FLAG Commodity–Dairy	Intensity	tCO <sub>2</sub> e/t fresh wt FPCM	3.10
FLAG Commodity–Leather	Intensity	tCO <sub>2</sub> e/t fresh wt	2.50
FLAG Commodity–Maize*	Intensity	tCO <sub>2</sub> e/t fresh wt	3.50
FLAG Commodity–Palm Oil*	Intensity	tCO <sub>2</sub> e/t fresh wt	3.10
FLAG Commodity–Pork*	Intensity	tCO <sub>2</sub> e/t fresh wt	3.30
FLAG Commodity–Rice*	Intensity	tCO <sub>2</sub> e/t fresh wt	2.90
FLAG Commodity–Soy*	Intensity	tCO <sub>2</sub> e/t fresh wt	3.80
FLAG Commodity–Wheat*	Intensity	tCO <sub>2</sub> e/t fresh wt	3.60
Mixed Sector Pathway (non-FLAG)	Absolute	tCO <sub>2</sub> e	4.20**

It is recommended that “demand-side” businesses use sector pathway (retailers!)

\* Actual commodity targets should be calculated in SBTi FLAG tool and will depend on business base year intensity & production volumes

\*\* Energy / industry is expected to decarbonise faster as some ag emissions are “hard to abate”

Source: SBTi FLAG target setting guidance, Table 9

# Deforestation target under SBTi FLAG

## Required

Publicly commit to no deforestation covering own operations & value chain.

*“[Company X] commits to no deforestation across its primary deforestation-linked commodities, with a target date of [no later than December 31, 2025].”*

## Recommended (but needed, to be credible)

- Align with the Accountability Framework initiative (AFi) guidance
- 2020 (or earlier) cut-off date
- No conversion and no peat burning commitments



# Key points

# Summary of key considerations when calculating FLAG emissions & targets

- **Split your Scope 3 inventory** (probably just in “Purchased Goods”) into FLAG and Industry/Energy emissions. Using farm carbon tool data or secondary emissions factors
- Ensure **methods, emissions factors or tools cover key sources of land management and non-land GHGs** (e.g., methane, soil N<sub>2</sub>O, fertilizer production, diesel use, etc.)
- Check relevance of **land use change** to agricultural products being footprinted and decide on appropriate calculation approach (likely to be calculated separately to land management)
- Exclude **carbon removals** unless it is informed by primary/measured data and monitoring is in place. Don't use secondary emissions factors with carbon removals ‘embedded’ in data
- Select correct SBTi FLAG **pathway** method if setting targets – for then moment retailers are advised to use the ‘Sector pathway’ implemented in the SBTi’s FLAG Excel tool



# Q&A