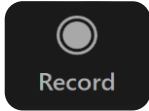


Land Sector and Removals Guidance

July 16, 2026



This meeting is recorded.



The webinar recording and slides will be shared afterward and posted to the website.



Today we'll be answering some of the questions you submitted during registration. You are welcome to submit additional questions via the Q&A box, and we'll do our best to address these in our upcoming communications.

Speakers



Matt Ramlow

Land Sector and
Removals Lead



Oliver James

Land Sector and
Removals Associate

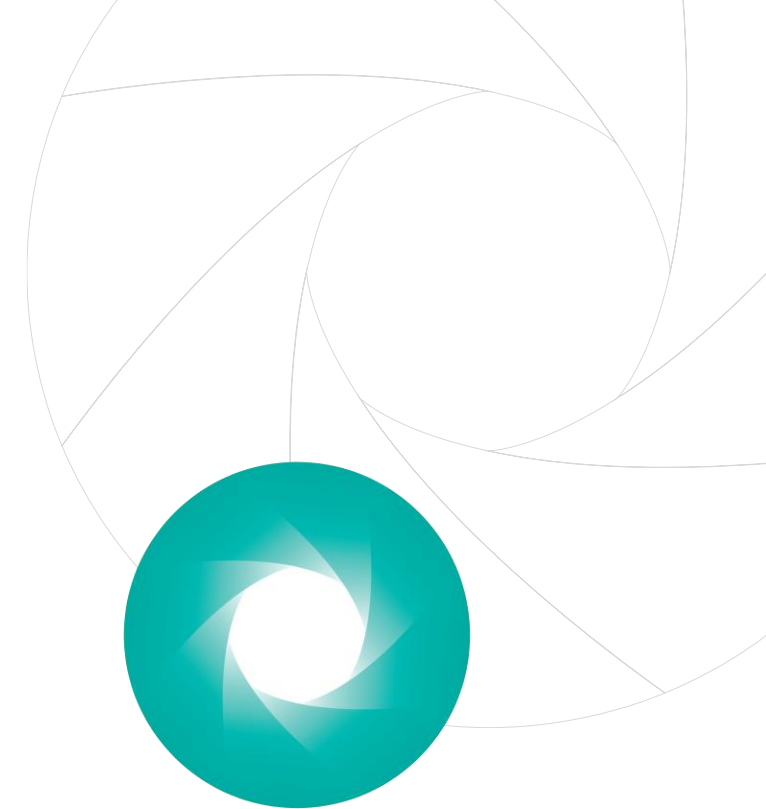


Alejandra Bosch

Land Sector and
Removals Associate

Agenda

1. Introductory remarks
2. Overview of the LSR Guidance
3. Support for implementation
4. Q&A



GREENHOUSE
GAS PROTOCOL

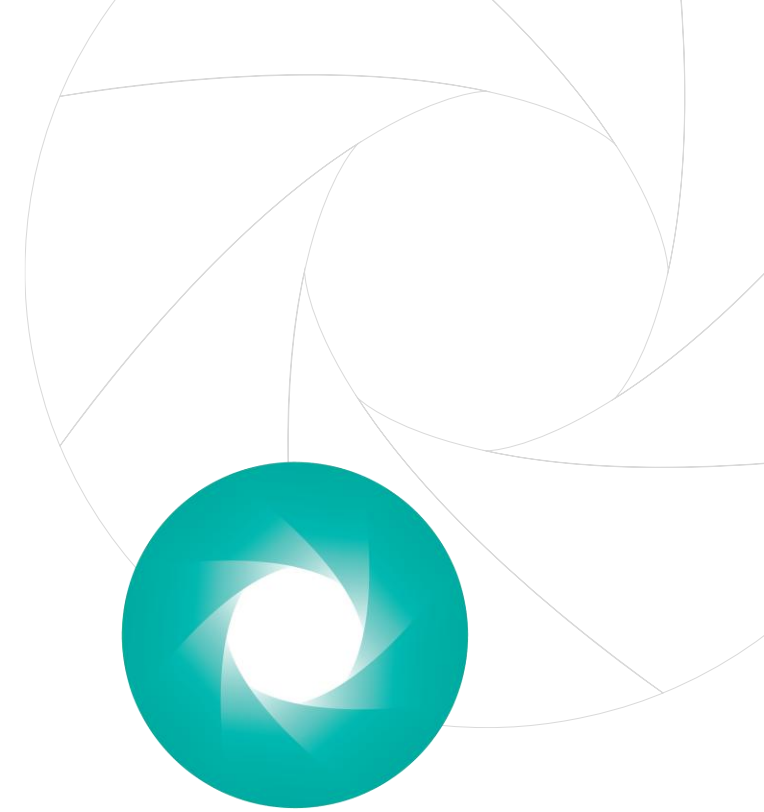
Overview of the LSR Guidance

Alejandra Bosch

Land Sector and Removals Associate

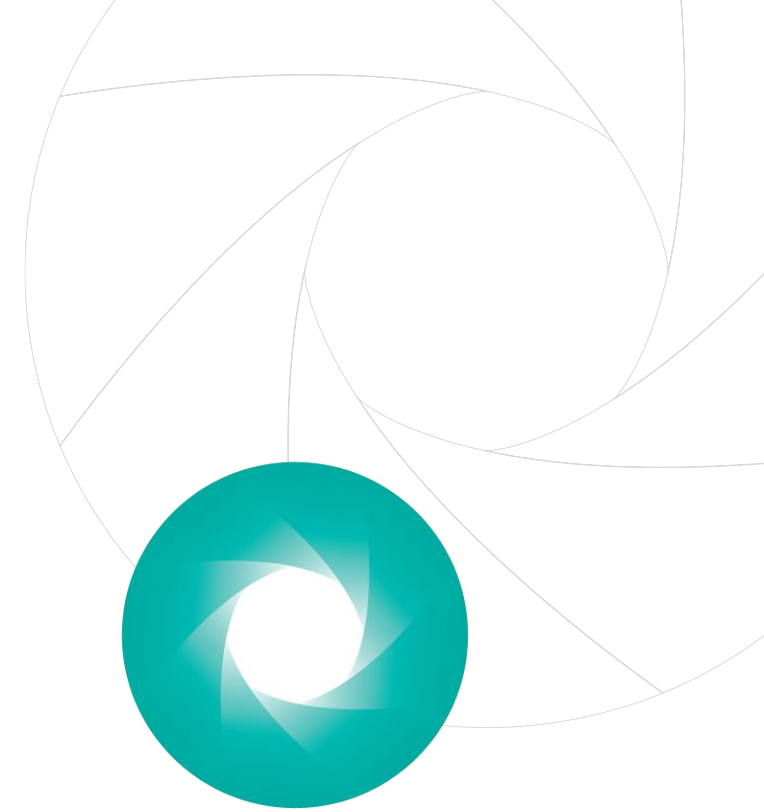
Oliver James

Land Sector and Removals Associate



GREENHOUSE
GAS PROTOCOL

Structure, applicability, and effective date



GREENHOUSE
GAS PROTOCOL

Structure of the LSR Standard and Guidance

- Standard and Guidance organized into the same 20-chapter structure

Parts			Chapters	
Part 1. Define business goals and inventory design			Chapter 1. Introduction	
			Chapter 2. Business goals	
			Chapter 3. GHG accounting and reporting principles	
			Chapter 4. Setting the inventory boundary	
			Chapter 5. Spatial boundaries and traceability	
			Chapter 6. Data and methods	
Part 2. Compile the GHG inventory	Part 2.1. Requirements for land sector companies	Land use change–related metrics	Chapter 7. Land use change emissions	
			Chapter 8. Land use and leakage	
		Agricultural land management emissions	Chapter 9. Land management net biogenic CO ₂ emissions	
			Chapter 10. Land management production emissions	
		Biogenic and TCDR-based product emissions	Chapter 11. Biogenic product and TCDR-based product emissions	
	Part 2.2. Requirements for companies choosing to report CO ₂ removals		Chapter 12. CO ₂ removal accounting	
			Chapter 13. Land management CO ₂ removals	
			Chapter 14. CO ₂ removals and CO ₂ capture with geologic storage	
	Part 2.3. Requirements for companies choosing to report product carbon storage		Chapter 15. Product carbon storage	
	Part 3. Act based on the GHG inventory			Chapter 16. Evaluating the impact of actions
				Chapter 17. Setting targets and tracking progress
Chapter 18. Accounting for credited emission reductions and removals				
Part 4. Obtain assurance and report the GHG inventory			Chapter 19. Assurance	
			Chapter 20. Reporting	

Applicability

Required for all applicable companies

Required for land sector companies

Optional; contains requirements if companies choose to report the relevant category

Optional; contains requirements if applicable to business goals

Figure 1.1, LSR Guidance

Consistent internal chapter structure

<i>Standard</i> chapter section	<i>Guidance</i> chapter section	Purpose of section
X.1 Overview		Provides a brief overview of the subject and content of the chapter
X.2 Requirements		Sets forth the relevant requirements, including accounting and reporting requirements
X.3 Recommendations and options		Sets forth the relevant recommendations and options
	X.4 Guidance on the requirements and recommendations	Provides guidance on interpreting and implementing the requirements and recommendations in the <i>Standard</i>
	X.5 Calculation guidance	Provides calculation guidance (e.g., equations, tables, etc.) on quantifying the relevant accounting (sub)category in alignment with the requirements and recommendations in the <i>Standard</i>

Table 1.3, LSR Guidance

Applicability of the LSR Standard and Guidance

REQUIREMENT 1:

Applicability of the Land Sector and Removals Standard and Guidance

Companies⁵ reporting a corporate- or organization-level GHG inventory in conformance with the Greenhouse Gas Protocol **shall** follow the *Land Sector and Removals Standard and Guidance* if the company has significant⁶ land sector activities in its operations or value chain and/or if the company chooses to account for and report CO₂ removals or CO₂ capture with geologic storage in the current year or has done so in previous years.

Companies with land sector activities in their operations or value chain that do not follow and report in conformance with the *Land Sector and Removals Standard and Guidance* **shall** disclose and justify why those activities are not significant.

Effective date and transition period

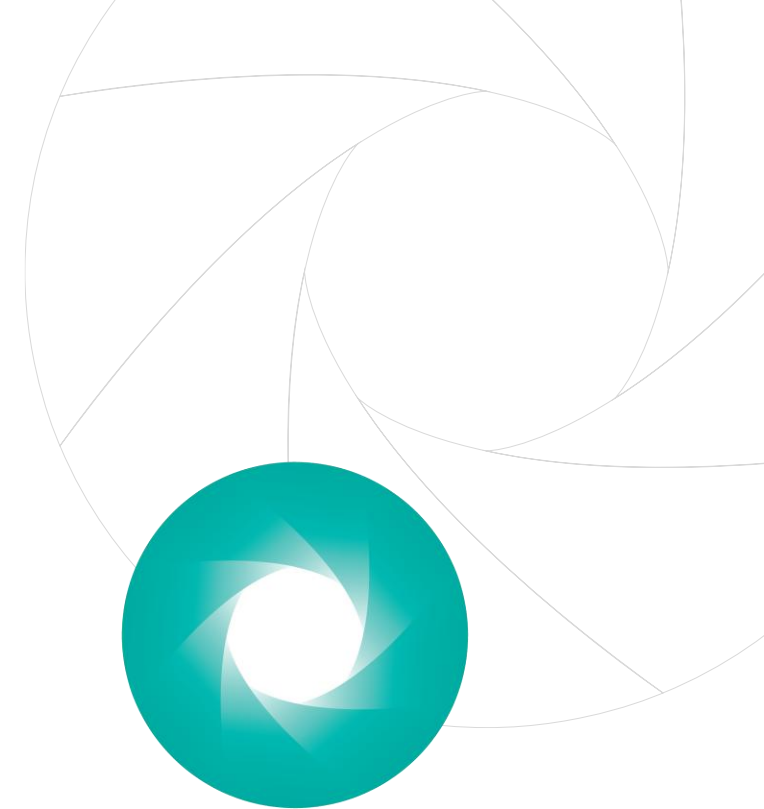
Land Sector and Removals Guidance	
Version	LSR Guidance Version 1.0 (including requirements from LSR Standard Version 1.1)
Date of approval	01 October 2025
Publication date	30 June 2026
Effective date	01 January 2027
Date by which the standard will be reviewed	2030

- For companies that the LSR Standard applies to, GHG reports in 2028 that provide 2027 emissions data need to comply with LSR Standard requirements to be in conformance.
- Where companies are required to recalculate their base year GHG inventory for years prior to 2027 following their base year recalculation policy, they should apply the LSR Standard requirements for the base year or period.
- Programs that build on GHG Protocol standards determine relevant effective dates specific to their program.

Additional information can be found in the LSR FAQ at:

<https://ghgprotocol.org/blog/frequently-asked-questions-land-sector-and-removals-lsr-standard>

How can the LSR Guidance be used to support accounting and reporting?



GREENHOUSE
GAS PROTOCOL



WORLD
RESOURCES
INSTITUTE



Accounting categories – Land sector

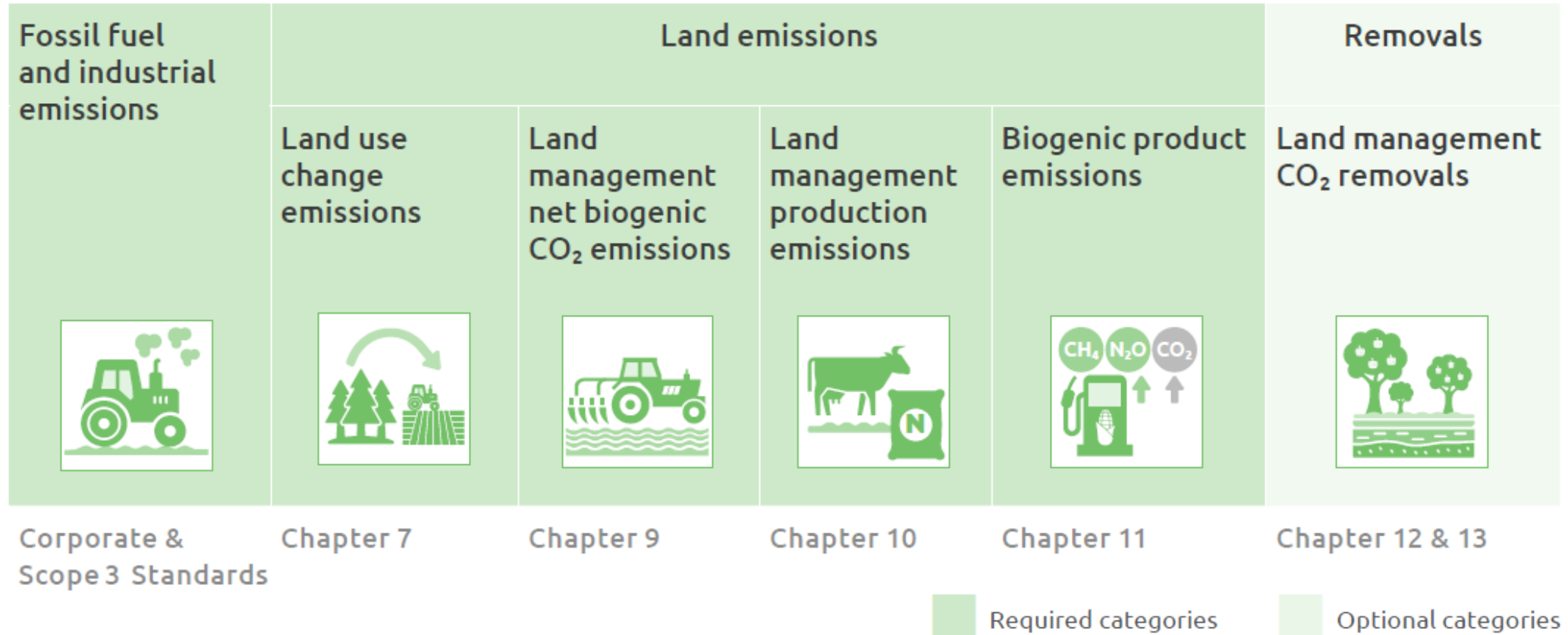


Figure 2, Executive Summary

Accounting categories – Technological CO₂ removal (TCDR) value chains

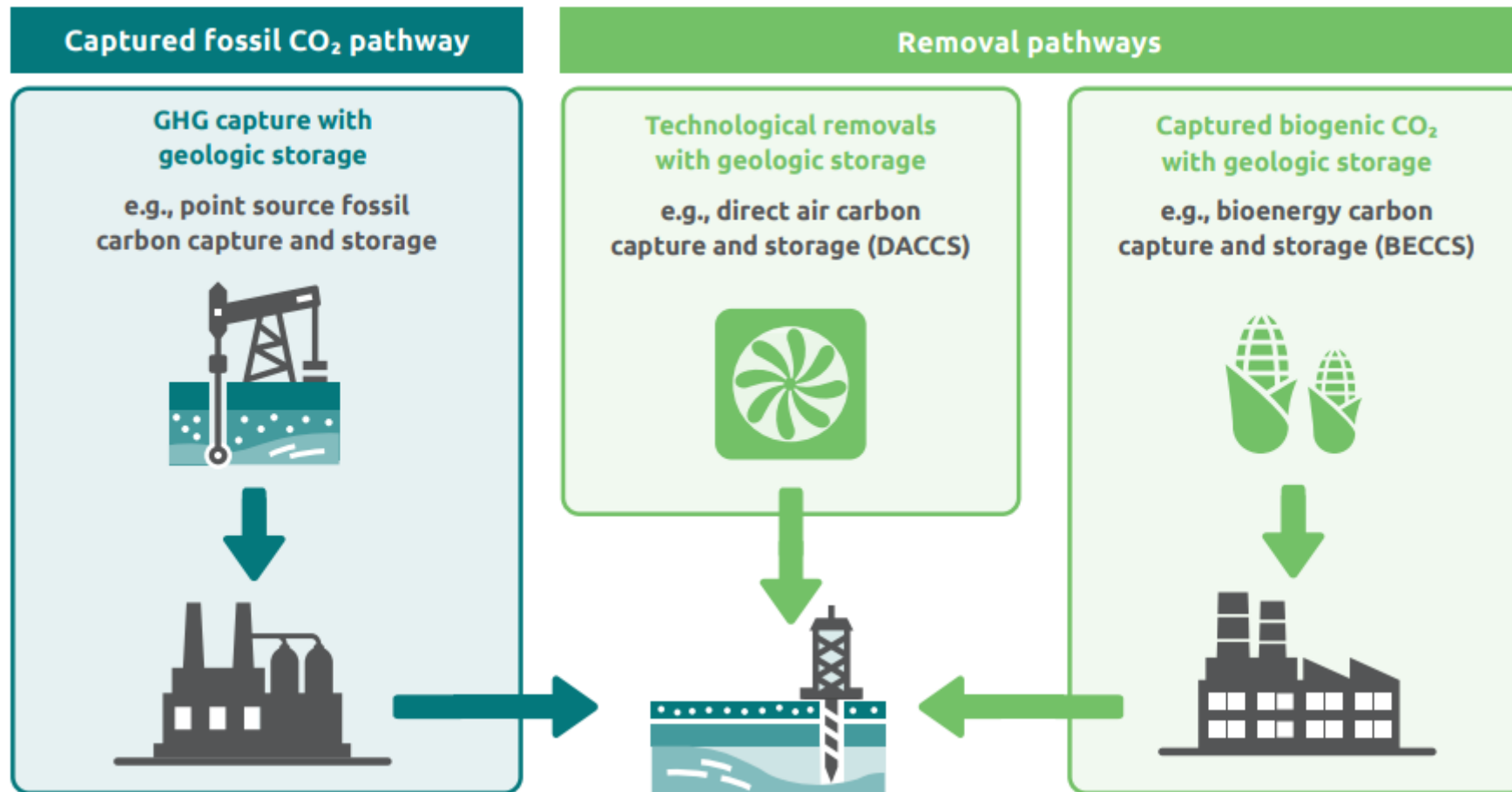


Figure 14.1, LSR Guidance

Calculating scope 3 life cycle GHG emission and removals factors

- Companies multiply activity data by an emission, removals, or other factor
- Companies need appropriate data to enable disaggregated reporting by accounting category
- The Guidance helps companies choose the relevant data, factors, and methods to comply

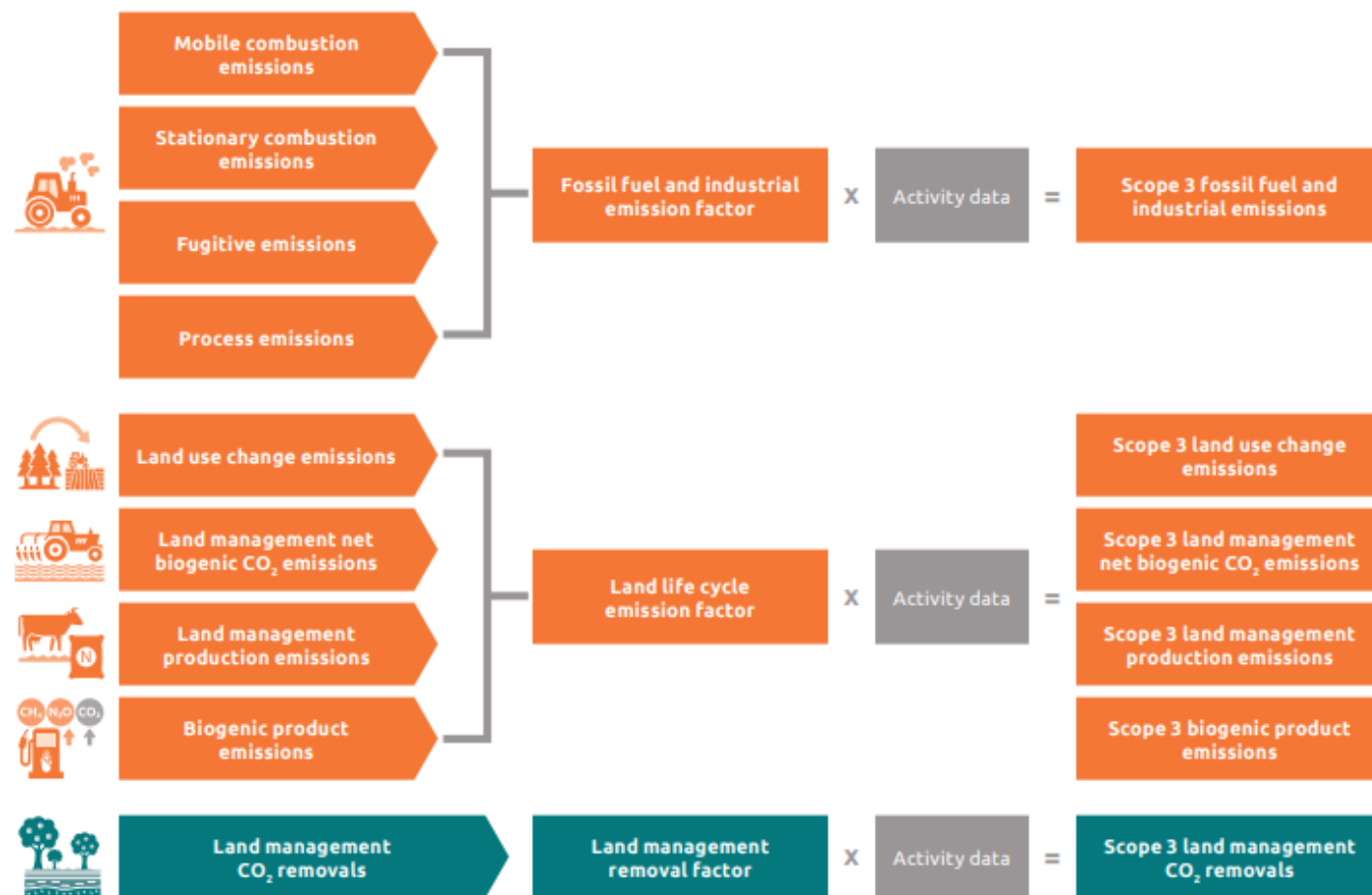


Figure 6.3, LSR Guidance

Selecting and improving data and methods to compile the inventory

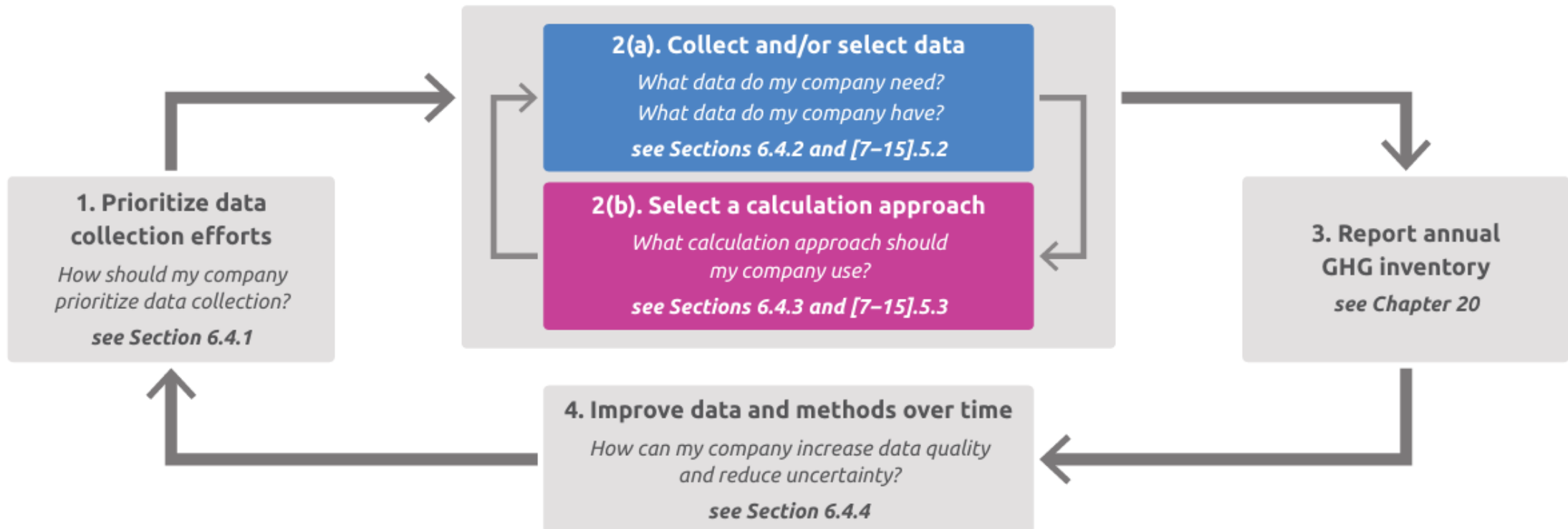


Figure 6.2, LSR Guidance

Level of traceability and data specificity corresponding to scope 3 spatial boundaries

Spatial boundary	Level of traceability	Data specificity	Accounting accuracy	Does it satisfy removals accounting requirements?
Global	No knowledge of region of origin or use (i.e., no traceability)	Global average secondary data	Least precise ↓ Most precise	Not eligible for removals accounting
Jurisdictional	To a national (i.e., country) or subnational jurisdiction, or political region of origin or use	Average secondary data representative of attributable productive lands in the jurisdiction		
Sourcing region	To the first aggregation point(s) or processing facility (or facilities) of origin or point of distribution for use	Data on attributable productive lands in the sourcing region(s)		Eligible if sourcing region safeguards and other removals requirements are met
Land management unit (LMU)	To the LMUs of origin or use	Primary data for the specific LMU(s)		Eligible if removals requirements are met
Harvested area	To the fields or forest stands of origin or use	Primary data for the specific harvested area(s)		Eligible if removals requirements are met

Table 5.4, LSR Guidance

Determining the scope 1 and scope 3 spatial boundaries

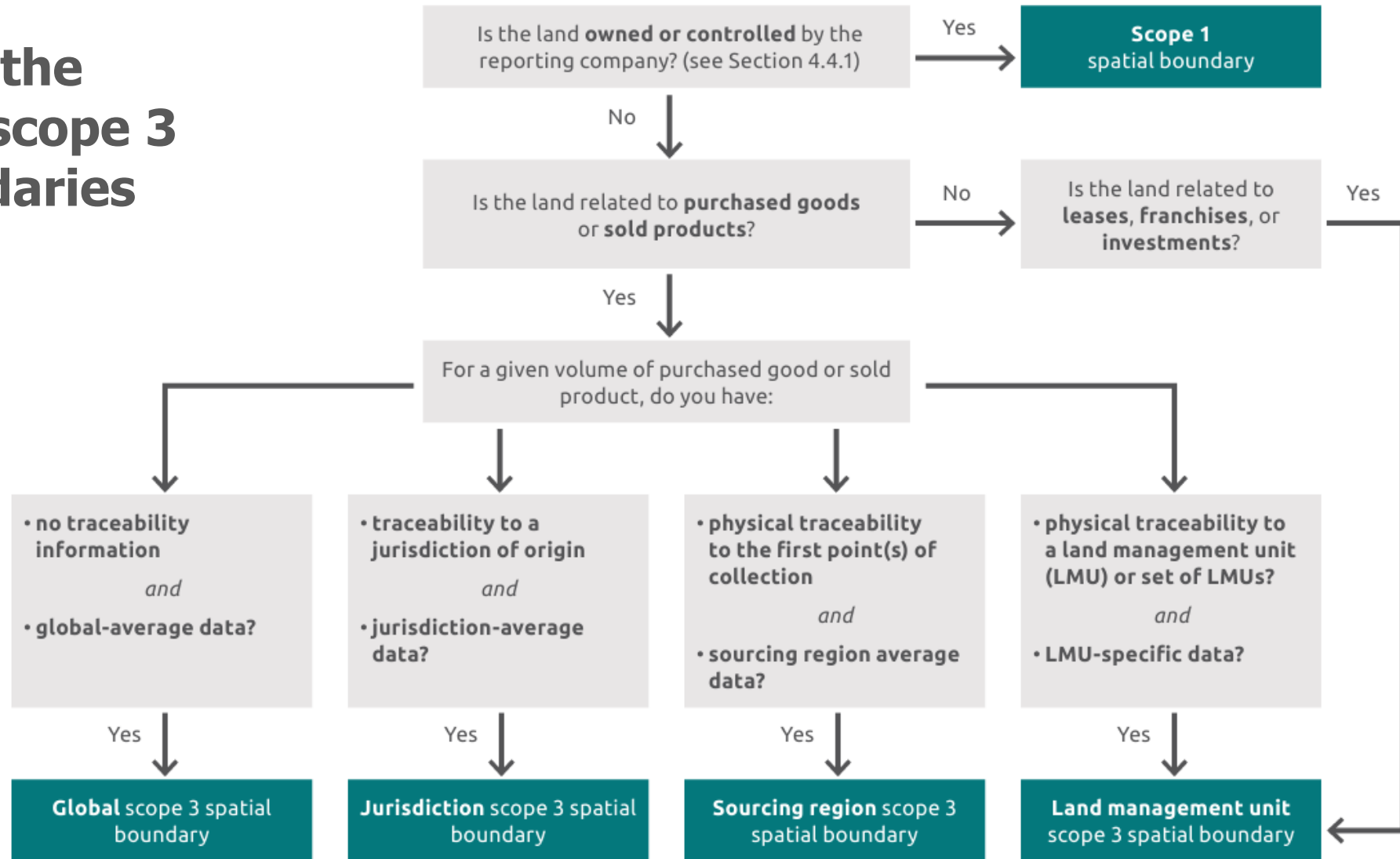


Figure 5.2, LSR Guidance

Calculation guidance provided in Sections [X].5 for each accounting category

- Accounting categories in the Standard entail different data and methods considerations
- Sections [X].5.1 and [X].5.2 in each accounting chapter 7-15 provide decision-support and an overview of the data needed to complete the accounting for each relevant category
- Section [X].5.3 provides the equations to calculate that category

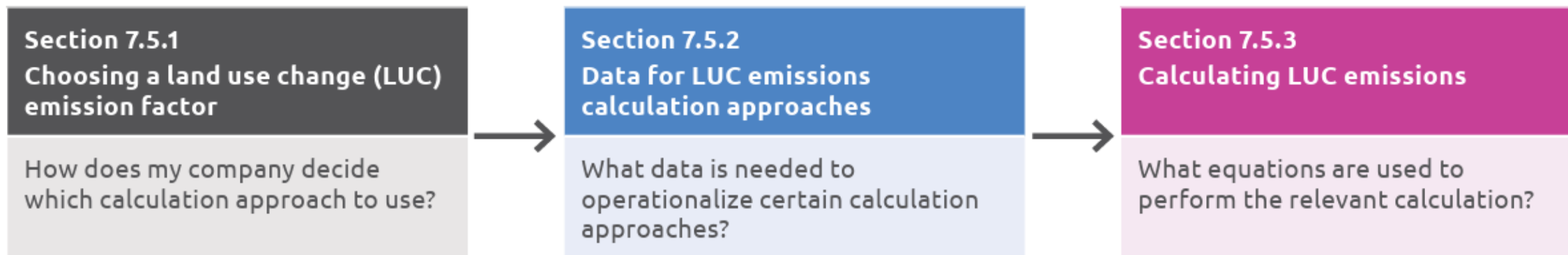
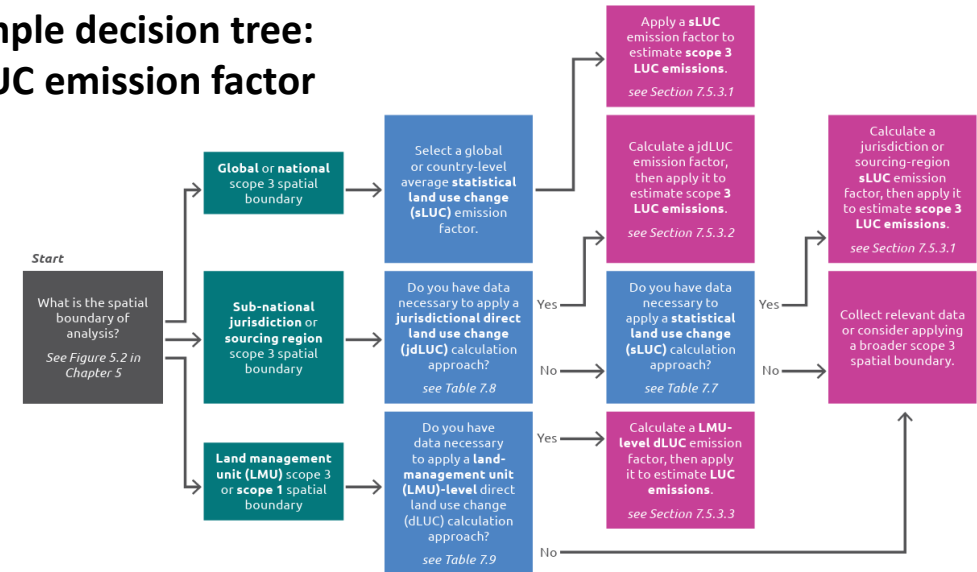


Figure 7.5, LSR Guidance

Example: Land use change (LUC) emissions calculation guidance

- Section 7.5.1: provides a decision-support diagram to guide companies in choosing the appropriate LUC emission factor
- Section 7.5.2: provides an overview of the data needed to calculate the emission factor
- Section 7.5.3: provides the equations to calculate land use change emissions, whether using the sLUC or dLUC calculation approach

Example decision tree: Choosing a LUC emission factor



Example equation: Total product sLUC emissions

Equation 7.7 Total product sLUC emissions

$$sLUC_{k,a} = Q_{k,a} \times EF_{sLUC_{k,a}}$$

Description	Unit	Source
$sLUC_{k,a}$ Total statistical land use change (sLUC) emissions attributable to product k sourced by the reporting company from assessment area a , in the inventory reporting year	tonnes GHG	Calculated
$Q_{k,a}$ Quantity of product k sourced by the reporting company from assessment area a , in the inventory reporting year	tonnes or m ³ product	User input
$EF_{sLUC_{k,a}}$ Statistical land use change (sLUC) emissions factor for product k , in assessment area a , in the inventory reporting year	tonnes GHG (tonne product) ⁻¹	Equation 7.6
k Product produced in assessment area a		User input
a Assessment area (i.e., all lands in the global, jurisdiction, or sourcing region scope 3 spatial boundary)		User input

Additional resources to support implementation

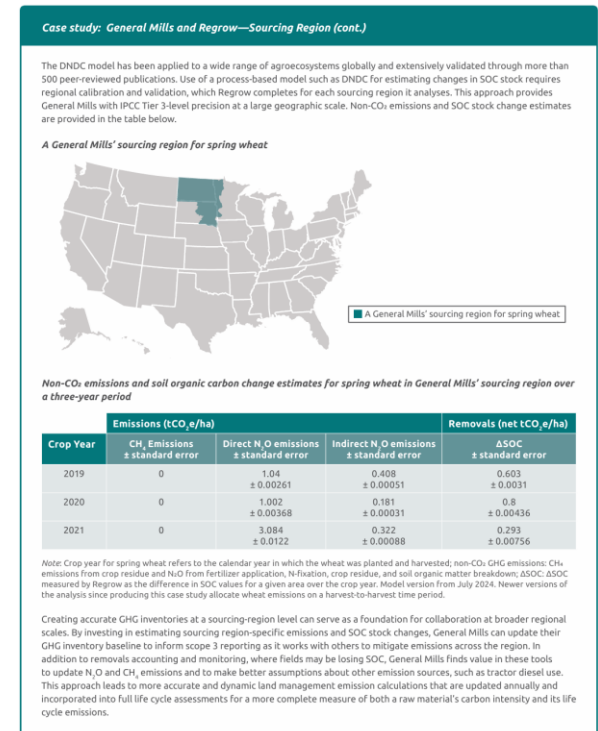
Provided in LSR Guidance chapters:

- Conceptual diagrams
- Examples
- Case studies

Resources available on our website:

- LSR Standard sample GHG inventory reporting template
- LSR Standard reporting requirements checklist

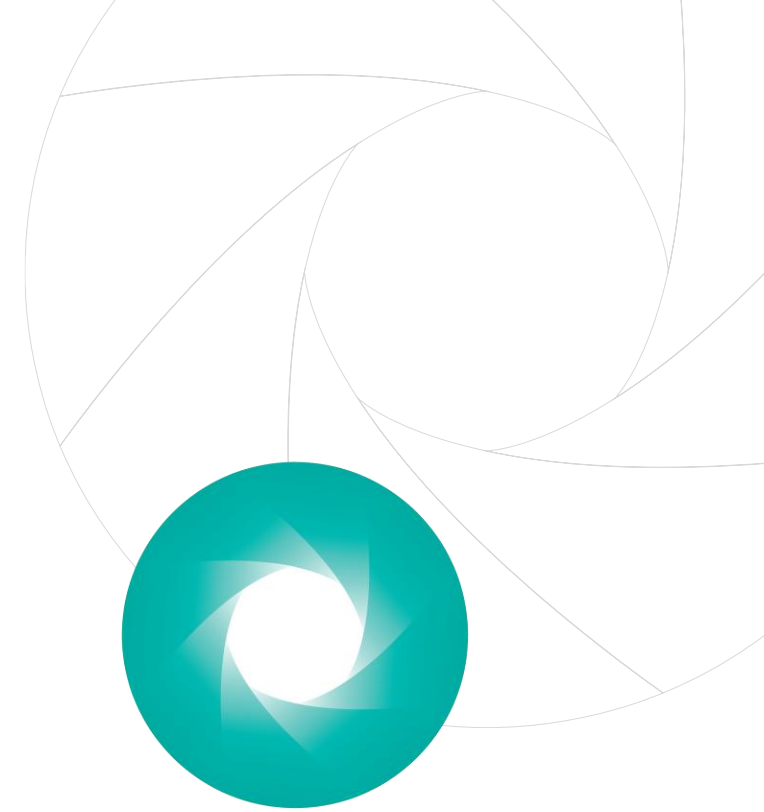
Example case study: Sourcing regions



Sample reporting template:

Scopes and categories	Fossil Fuel and Industrial Emissions	Land Emissions			
		Land Use Change (LUC) Emissions	Land Management (LM) Net Biogenic CO ₂ Emissions	Land Management Production Emissions	Biogenic Product Emissions ²
		Metric tons CO ₂ e	Metric tons CO ₂ e	Metric tons CO ₂ e	Metric tons CO ₂ e
Scope 1: Direct emissions from owned/controlled operations					
Scope 2: Indirect emissions from the use of purchased electricity, steam, heating, and cooling		NA			

Support for implementation

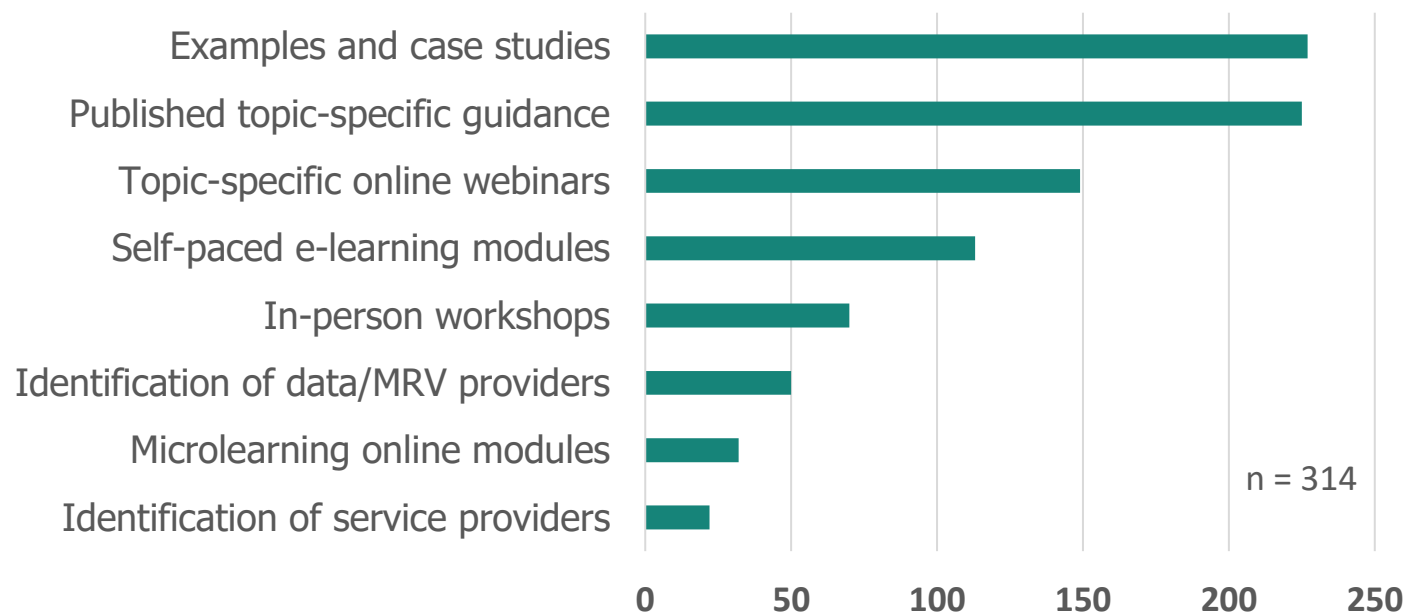


GREENHOUSE
GAS PROTOCOL

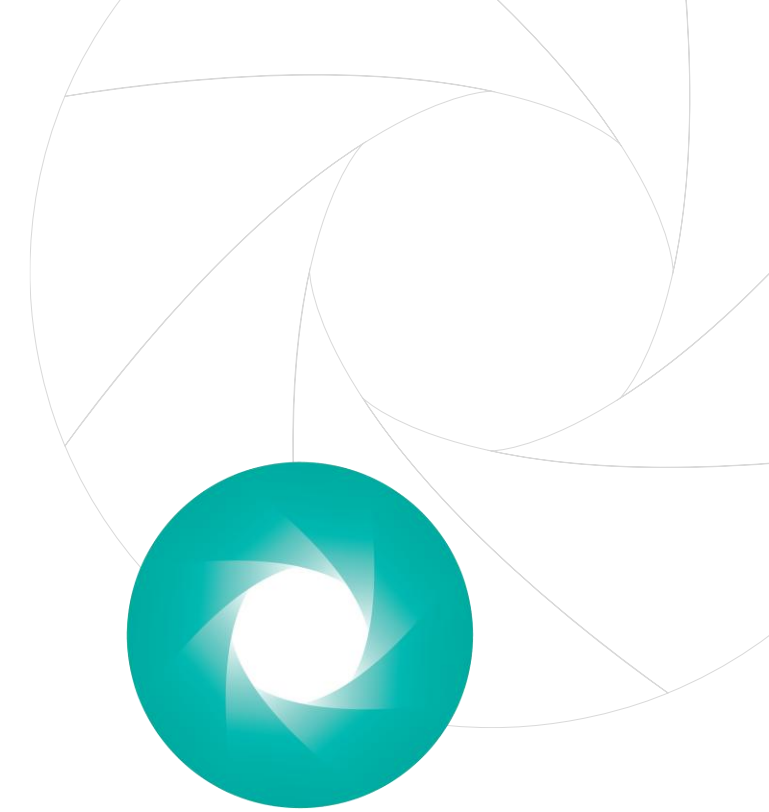
Support for implementation

- Plan to publish a summary of the LSR stakeholder needs survey results
- Will work with partner organizations to provide relevant guidance and webinars, responding to feedback from the stakeholder needs survey results
- Will update the [LSR FAQ blog](#) based on questions received on the LSR Guidance

What are your top three capacity-building formats to understand and operationalize the LSR Standard?



Responses to Additional Common Questions



GREENHOUSE
GAS PROTOCOL

What has changed between the 2022 draft Land Sector and Removals Guidance and the final Land Sector and Removals Standard and Guidance?

Where can I find documentation of those changes?

Changes from the 2022 Draft to the Land Sector and Removals Standard

TRACEABILITY	→	- Added the framing to include proximate and adjacent non-productive lands within scope 3 accounting. - Added mass balance with safeguards as way to demonstrate physical traceability to improve feasibility.	Req. 7 Req. 8
LAND USE CHANGE	→	- Standardized LUC discounting and sLUC approaches to improve comparability. - Added the jurisdictional dLUC calculation approach. - Clarified subcategory land use change requirements.	Req. 10 Req. 10 Req. 11
LAND USE AND LEAKAGE	→	- Revised land tracking metric optionality to require accounting for land occupation. - Limited requirement to account for negative impacts outside the value chain to impacts of displaced food production framed under land carbon leakage.	Req. 12 Req. 13
FOREST CARBON ACCOUNTING	→	The LSR Standard does not apply to forestry and does not include requirements to account for land management CO₂ emissions or removals on forest lands and non-productive lands.	N/A
REMOVALS	→	- Revised removals requirements on traceability, data quality and allocation to address issues raised by users. - Added options to support companies in demonstrating permanence.	Req. 20–23 Req. 20–23
PRODUCT CARBON STORAGE	→	- Separated product carbon storage from removals. - Distinguished between product and waste carbon storage.	Req. 24 Req. 26

How will consistency be maintained between version 1 of the LSR Standard and Guidance and other active GHG Protocol workstreams (e.g., Corporate Standard, Scope 3, Scope 2, and AMI)?

How can companies address traceability challenges to define their spatial boundary?

How will discussions and decisions on traceability in the Actions and Market Instruments (AMI) workstream impact the interim traceability requirements and guidance in the LSR Standard?

Why does version 1 of the LSR Standard and Guidance exclude forest carbon accounting?

In the interim, how should companies report forest-related emissions and removals?

Is the interim Requirement 7 on “proximate and adjacent non-productive lands” currently implementable? Are there any updates?

In the interim, how should companies report on scope 3 emissions and removals on proximate and adjacent non-productive lands?

My company sets an SBTi FLAG target. Are the LSR Standard and SBTi FLAG Guidance v1.2 interoperable?

What is the relationship between the LSR Standard and the new SBTi Corporate Net-Zero Standard v2.0?

How does the LSR Standard and Guidance relate to the new GHG Protocol-ISO partnership?

My company reports a GHG inventory using the GHG Protocol Corporate Standard. My company has insignificant land sector activities in its operations and/or value chain.

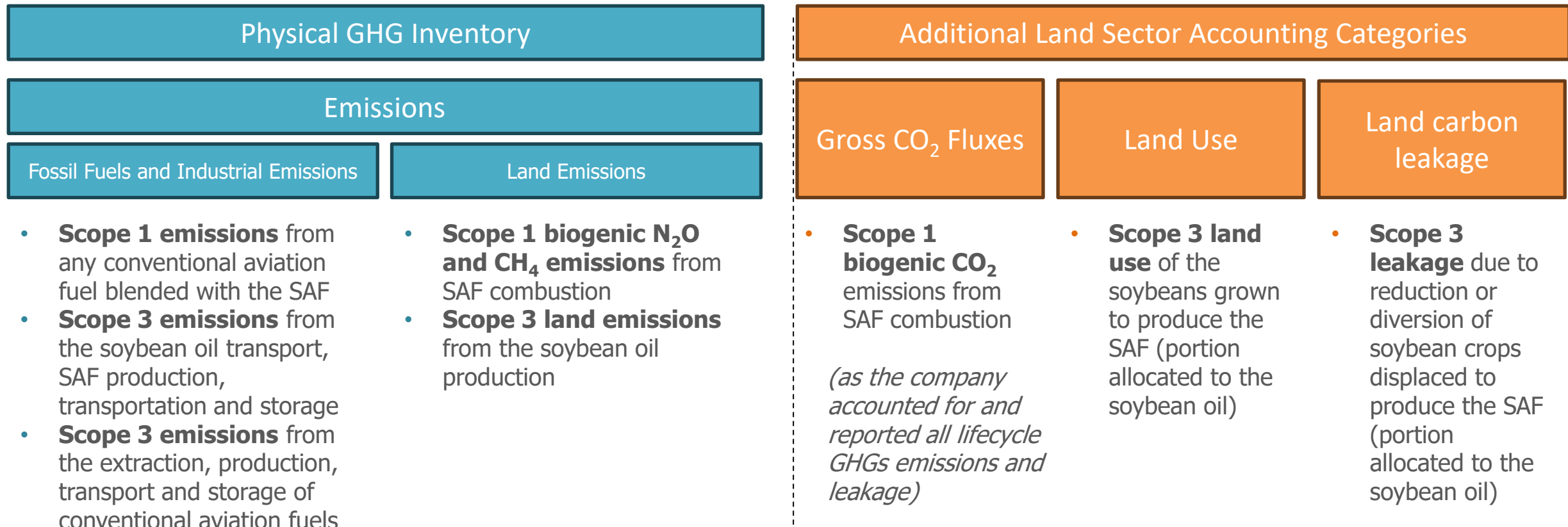
How should I report the associated land emissions?

Does the LSR Standard change how biogenic CO₂ emissions are reported compared to the Corporate Standard?

Where can I find additional guidance on how to account for and report biogenic CO₂ emissions?

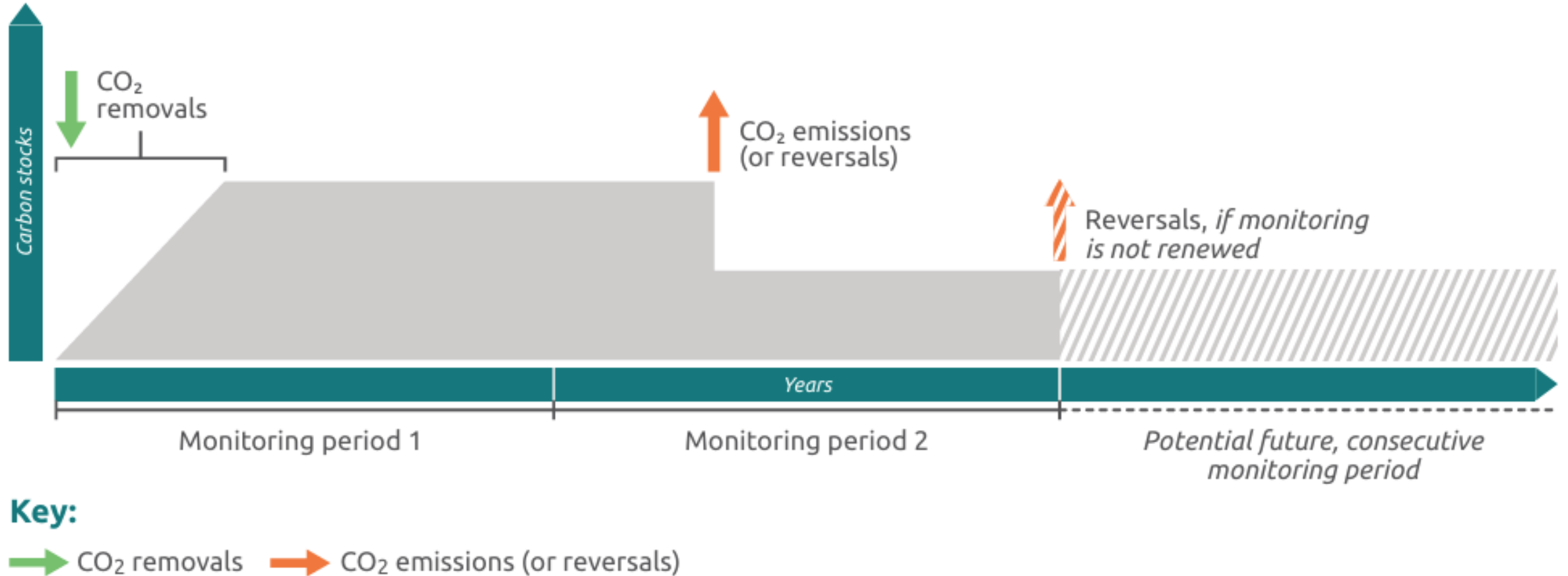
Example: Sustainable Aviation Fuel (SAF) from soybean oil

Consider an airline using sustainable aviation fuel produced from soybean oil with physical traceability. They would report the following emissions and other metrics as follows:



How do you recommend companies address the challenges to meet the removals requirements of the LSR Standard, particularly those related to permanence?

Representation of a storage monitoring framework



Does the ongoing storage monitoring requirement for removals mean that my company must resample every year?

When estimating removals using soil sampling, what level of sampling coverage is required?

Is sampling required on every field enrolled in a given program?

How should allocation be performed across a multi-year crop rotation?

Where can my company find data and tools that are aligned with the LSR Standard and Guidance?

Does the GHG Protocol evaluate or recommend databases or tools that are aligned with the LSR Standard?

Thank you!

You can download the Standard and Guidance and related materials from:

<https://ghgprotocol.org/land-sector-and-removals-standard>

<https://ghgprotocol.org/land-sector-and-removals-guidance>

Please subscribe to GHG Protocol's email list to receive updates:

ghgprotocol.org/subscribe

