



Update on GHG Protocol Land Sector and Removals Guidance and ISO Standards

Annette Cowie

National Inventory Report 2022

The Australian Government Submission to the
Nations Framework Convention on Climate Change
Australian National Greenhouse Accounts
April 2024

VOLUME 1

ipcc

INTERGOVERNMENTAL PANEL ON climate change

2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories

Volume 1

General Guidance and Reporting

Edited by Calvo Buendia, E., Tanabe, K., Krnjic, A.,
Baasansuren, J., Fukuda, M., Ngarize S.,
Osako, A., Pyrozhenko, Y., Shermana, P. and Federici, S.



Task Force on National Greenhouse Gas Inventories



Country level:

National GHG inventory reporting

- Annual emissions and removals
- within territorial boundary
- IPCC guidelines
- Tier 1 – global or regional data and emissions factors
- Tier 2 – same methods with local activity data and emissions factors
- Tier 3 – complex, using models or detailed measurement

Product level GHG quantification



- Life cycle carbon footprint (emissions and removals, cradle to grave)
- ISO 14040 Life cycle assessment — Principles and framework
- ISO 14044 Life cycle assessment — Requirements and guidelines
- ISO 14067 - Carbon footprint of products — Requirements and guidelines for quantification
- GHG Protocol Product Life Cycle Accounting and Reporting Standard





A Corporate Accounting and



Corporate Value Chain (Scope 3) Accounting and Reporting Standard

Supplement to the GHG Protocol Corporate
Accounting and Reporting Standard



GREENHOUSE GAS PROTOCOL



Land Sector and Removals Guidance Part 1: Accounting and Reporting Requirements and Guidance

Supplement to the GHG Protocol Corporate Standard
and Scope 3 Standard

ST FOR PILOT TESTING AND REVIEW
(SEPTEMBER 2022)



Company level GHG quantification:

- Annual emissions and removals under financial or operational control of reporting company
- Plus life cycle emissions from products sold that year
- GHG Protocol standards for corporate GHG accounting and reporting
- ISO standard 14064-1

Covers:

- Direct emissions - scope 1
- Indirect emissions
 - scope 2 (energy)
 - scope 3 (other supply chain emissions)

ISO 14064-1:2018

Greenhouse gases

Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals




International Sustainability Standards Board

June 2023

IFRS S2

IFRS® Sustainability Disclosure Standard



Climate-related Disclosures



Corporate Sustainability Reporting Directive (CSRD)



FEDERAL REGISTER

The Daily Journal of the United States Government



Rule

The Enhancement and Standardization of Climate-Related Disclosures for Investors

A Rule by the Securities and Exchange Commission on 03/28/2024



Australian Sustainability Reporting Standard

Climate-related Disclosures

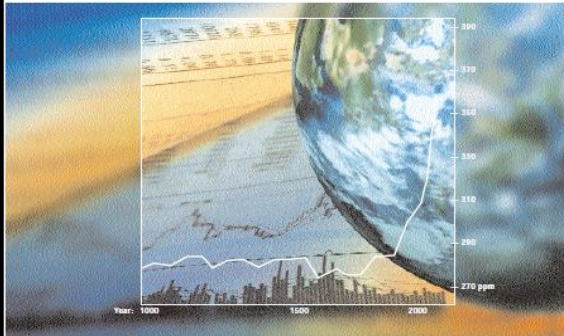
AASB S2
September 2024



Corporate standards



The Greenhouse Gas Protocol



A Corporate Accounting and Reporting Standard
REVISED EDITION



GHG Protocol Scope 2 Guidance

An amendment to the GHG Protocol
Corporate Standard



Corporate Value Chain (Scope 3) Accounting and Reporting Standard

Supplement to the GHG Protocol Corporate
Accounting and Reporting Standard



Land Sector and Removals Guidance Part 1: Accounting and Reporting Requirements and Guidance

Supplement to the GHG Protocol Corporate Standard
and Scope 3 Standard

**DRAFT FOR PILOT TESTING AND REVIEW
(SEPTEMBER 2022)**



All under revision

Land Sector and Removals Guidance

What does the Guidance cover?

- Land management, land use change emissions
- CO₂ removals and storage
- Biogenic products and technological removals across the value chain (scope 1, scope 2, scope 3)

Why is it relevant?

- Provides the framework to account for and report corporate-level GHG emissions from the **agriculture, forestry and other land use sector**, which comprises of **25% of global GHG emissions**
- Provides accounting approach for carbon dioxide **removals**
- Guidance on **target setting and tracking progress**
- Expected to be used by **key initiatives** that follow GHG Protocol such as CDP, SBTi, etc.

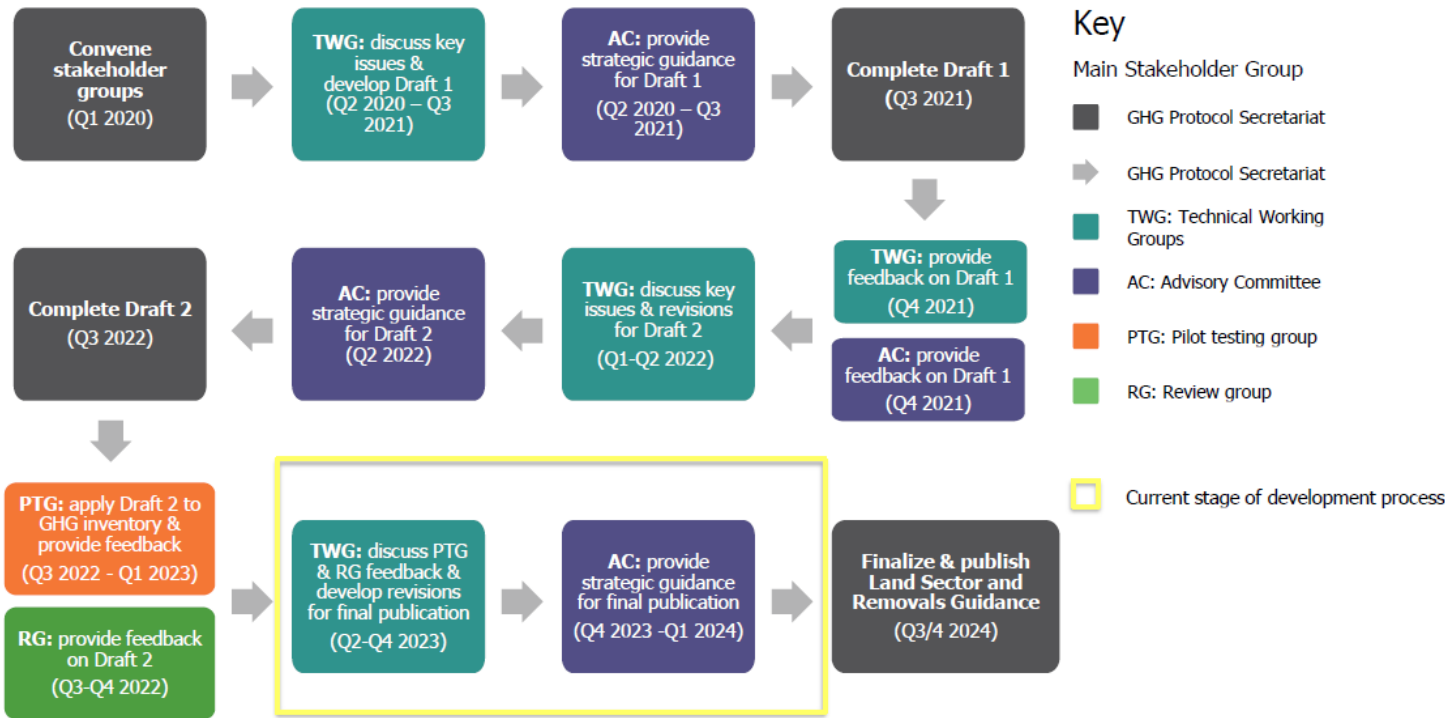
How is it developed and who is involved?

- **Global, multi-stakeholder development process**, including 100+ Advisory Committee & Technical Working Group members, 1000+ stakeholders signed up for the review process and 140+ pilot testing companies

Protracted development of GHGP Land Sector and Removals Standard/Guidance



Guidance development process



- Commenced 2020
- Draft for Review and Pilot Testing September 2022
- Initial plan: publication in 2023
- Timeline extended: Q3/Q4 2024
- Extended again: Q1 2025
- Extended again: Q4 2025
- **Publication:**
- **30 January 2026 – LSR Standard**
- Q2 2026 LSR Guidance

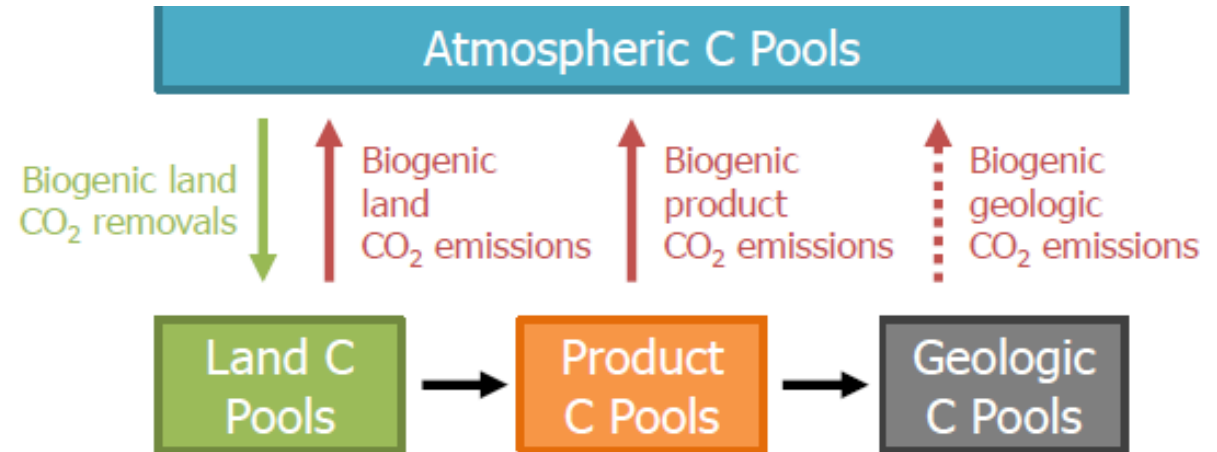
Key issues in LSRS/G for land sector

- Land sector carbon: Stock change + gross fluxes

Approach to biogenic carbon accounting – carbon stock change or gross CO₂ fluxes

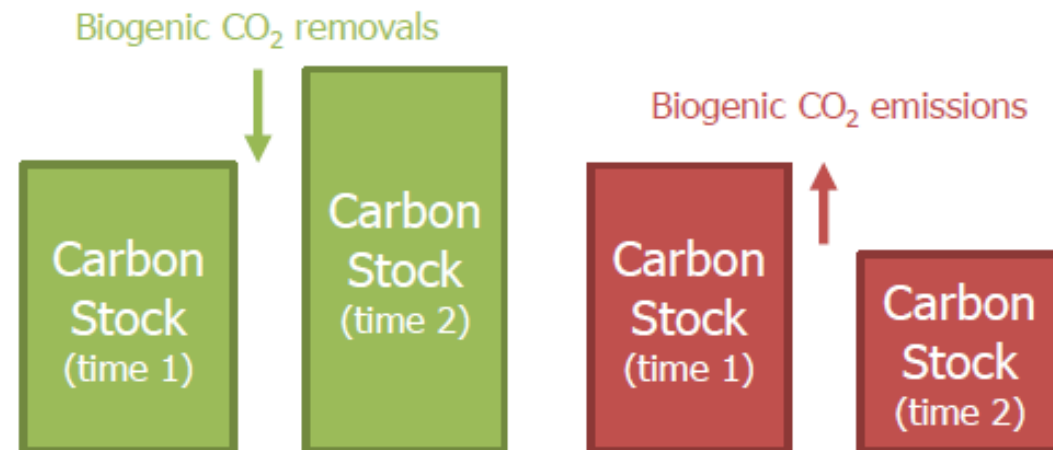
Flow-based

based on gross CO₂ flows



Storage-based

based on net carbon stock changes



Key issues in LSRS/G for land sector

- Land sector carbon: Stock change + gross fluxes
- Restrictions on removals
 - Ongoing monitoring, traceability requirements
- Forest carbon approach – 2 options proposed:
 - “activity-based accounting” (no-harvest counterfactual)
 - “managed land proxy” (absolute emissions/removals, consistent with national inventory)

Issues with activity-based accounting

27 November 2023

The GHG Protocol Secretariat
World Resources Institute and
World Business Council for Sustainable Development

RE: Concerns over GHG reporting for production forests in the Land Sector and Removals Guidance

Dear GHG Protocol Secretariat,

As scientists with deep experience in greenhouse gas accounting for the land sector, we write to express our concern over the recently-proposed option for quantification of emissions and removals from forest land, for the GHG Protocol Land Sector and Removals Guidance.

- Counterfactual is inappropriate for quantifying a GHG inventory
 - Should present absolute emissions, removals
- Counterfactual hard to determine objectively
 - Open to gaming
 - Not measurable or verifiable
- Inconsistent with national inventory reporting to the UNFCCC
- Not strategy-neutral – inconsistent treatment of different land uses
 - Disincentive to improved forest management across the whole forest estate
 - Disincentive for production forestry, bio-based products
- Narrow system boundary does not reflect the climate effects of production forestry
- Restricts mitigation

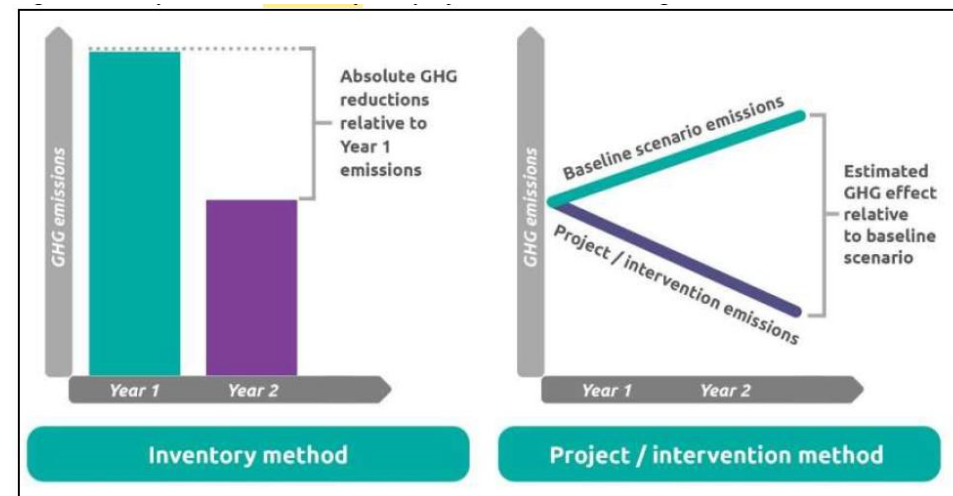
Key issues in LSRS/G for land sector

- Land sector carbon: Stock change + gross fluxes
- Restrictions on removals
 - Ongoing monitoring, traceability requirements
- Forest carbon approach – “activity-based accounting” vs “managed land proxy”
- Leakage – proposed options:
 - indirect land use change iLUC
 - carbon opportunity cost (COC)
 - project-level accounting – against counterfactual

Leakage assessment

Metric	Definition	Unit of Measure
Indirect land use change (iLUC) emissions	A carbon stock loss due to land conversion on lands not owned or controlled by the company, or in its supply chain, induced by change in demand for products produced or sourced by the company.	CO ₂ e
Carbon opportunity costs (COC)	Total historical carbon loss from plants and soils on lands productively used (this quantity also represents the amount of carbon that could be stored if land in production were allowed to return to native vegetation).	CO ₂ e

3rd alternative: Project-based accounting,
Also called Intervention accounting:
 compares actual emissions with counterfactual baseline



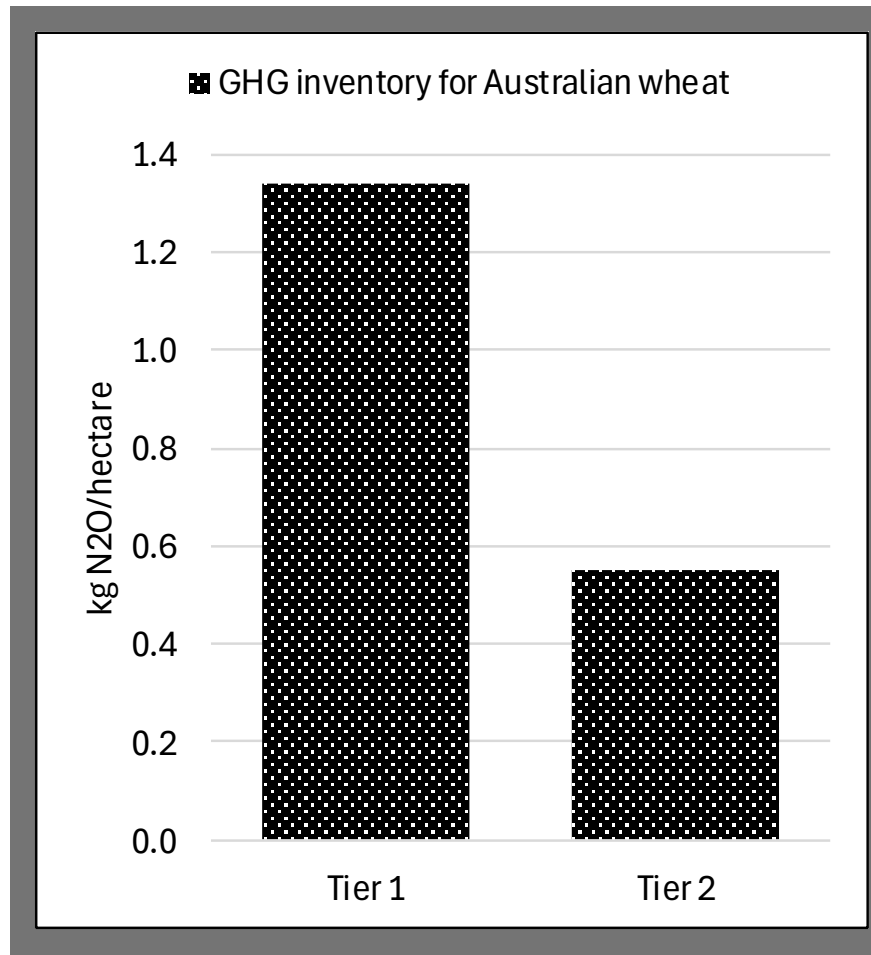
Source: Draft LSRG (2022), Chapter 11.

Concerns over leakage assessment

- Consequential logic
- indirect land use change (iLUC) : highly uncertain, difficult to attribute
- carbon opportunity cost (COC): natural forest doesn't reflect realistic counterfactual – land more likely used for alternative income-generating activity; “natural” C stock is uncertain
- project-level accounting: inappropriate for attributional inventory

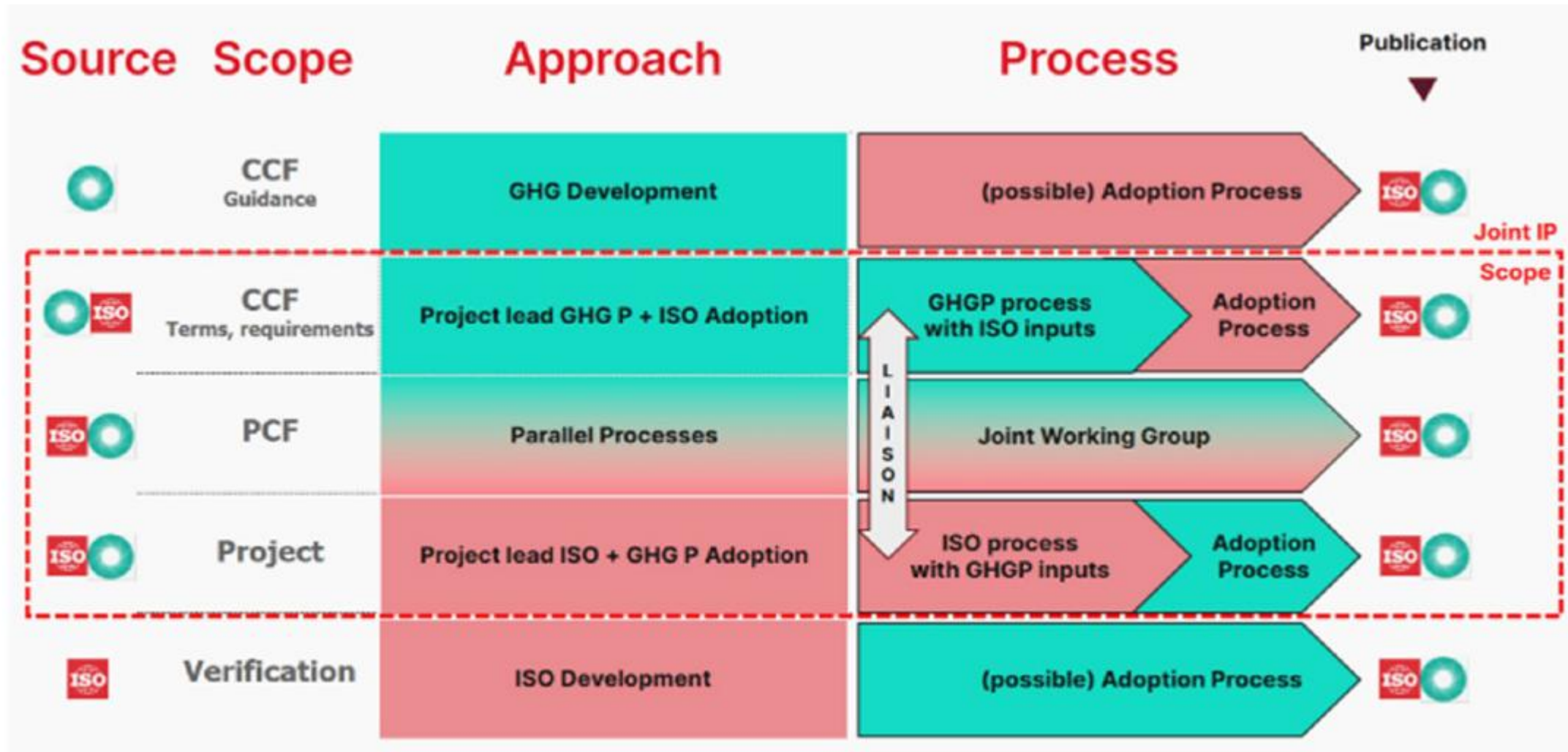
Key issues in LSRS/G for primary industries

- Land sector carbon: Stock change + gross fluxes
- Restrictions on removals
 - Ongoing monitoring, traceability requirements
- Forest carbon approach – “activity-based accounting” vs “managed land proxy”
- Leakage – proposed options:
 - indirect land use change iLUC
 - carbon opportunity cost (COC)
 - project-level accounting – against counterfactual
- Separate land vs non-land targets for emissions reduction and removals
 - Shifts demand for land-based removals to technological removals - DACCS
- Risk that national context not recognised (eg Tier 1 vs Tier 2 emissions factors)



The effect of the use of Australian emissions factors (Tier 2) on N₂O emissions from wheat cultivation (Sevenster et al. 2022)

ISO-GHGP collaboration

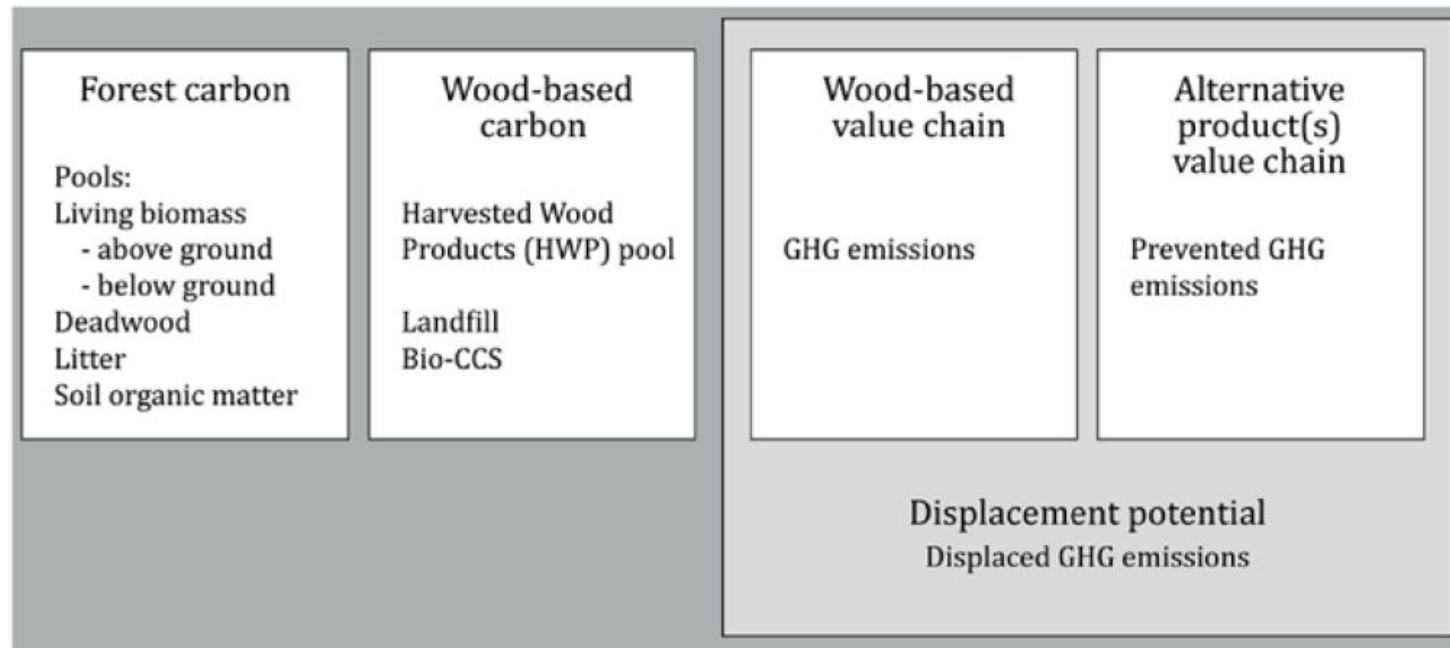


New ISO Forest and Wood Product standards

ISO 13391 series standards

“Wood and wood-based products — greenhouse gas dynamics”

- Part 1: Framework for value chain calculations
- Part 2: Forest carbon balance
- Part 3: Displacement of greenhouse gas emissions (substitution benefits)



Research and communication needed:

- Implications of activity-based accounting
- Carbon opportunity cost
- Climate effects of temporary carbon storage
- Risk of reversal of land-based removals
 - Managing impermanence – buffer, insurance
- Quantifying net GHG emissions for bioenergy: impact on carbon budget, net zero targets
- Separate targets for land and non-land emissions reduction and removals
- Substitution benefits
- **Engage in current initiatives**
 - GHGP and ISO joint processes – next 2 years, work on joint standards
 - ISO wood products standards – current work on guidance standards
 - UNFCCC Article 6.4 processes – watch closely over next 12 months
 - UNEP Biogenic carbon project – phase 2 just starting!

For more information:

Annette Cowie

annette.cowie@dpird.nsw.gov.au