

The Land Sector and Removals Standard: Supporting or Jeopardizing Greenhouse Gas Mitigation?

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GHGP's *Land Sector and Removals Standard*

- Long-awaited standard and guidance released in January
- DLUC = reported in-inventory, “land carbon leakage” (i.e., ILUC) reported out-of-inventory
 - *Unless also reporting aggregated or net land/land management emissions, in which case all land emissions*
- Directly affects use of all feedstocks produced on cropland:

Sector	Relevant chapters	Example companies
Agriculture and other land-based sectors	1–20	<ul style="list-style-type: none">• Companies that own or control significant areas of land (e.g., agricultural producers or land developers)• Companies that purchase, consume, process, or sell significant amounts of food, fiber, feed, bioenergy, or other agricultural products (e.g., food and beverage companies, consumer goods companies, bioenergy producers and consumers, biomaterial producers and consumers, retailers, or food service companies)• Companies that supply significant amounts of products to agricultural producers• Companies that manage significant areas of land to increase carbon stored in biomass or soil

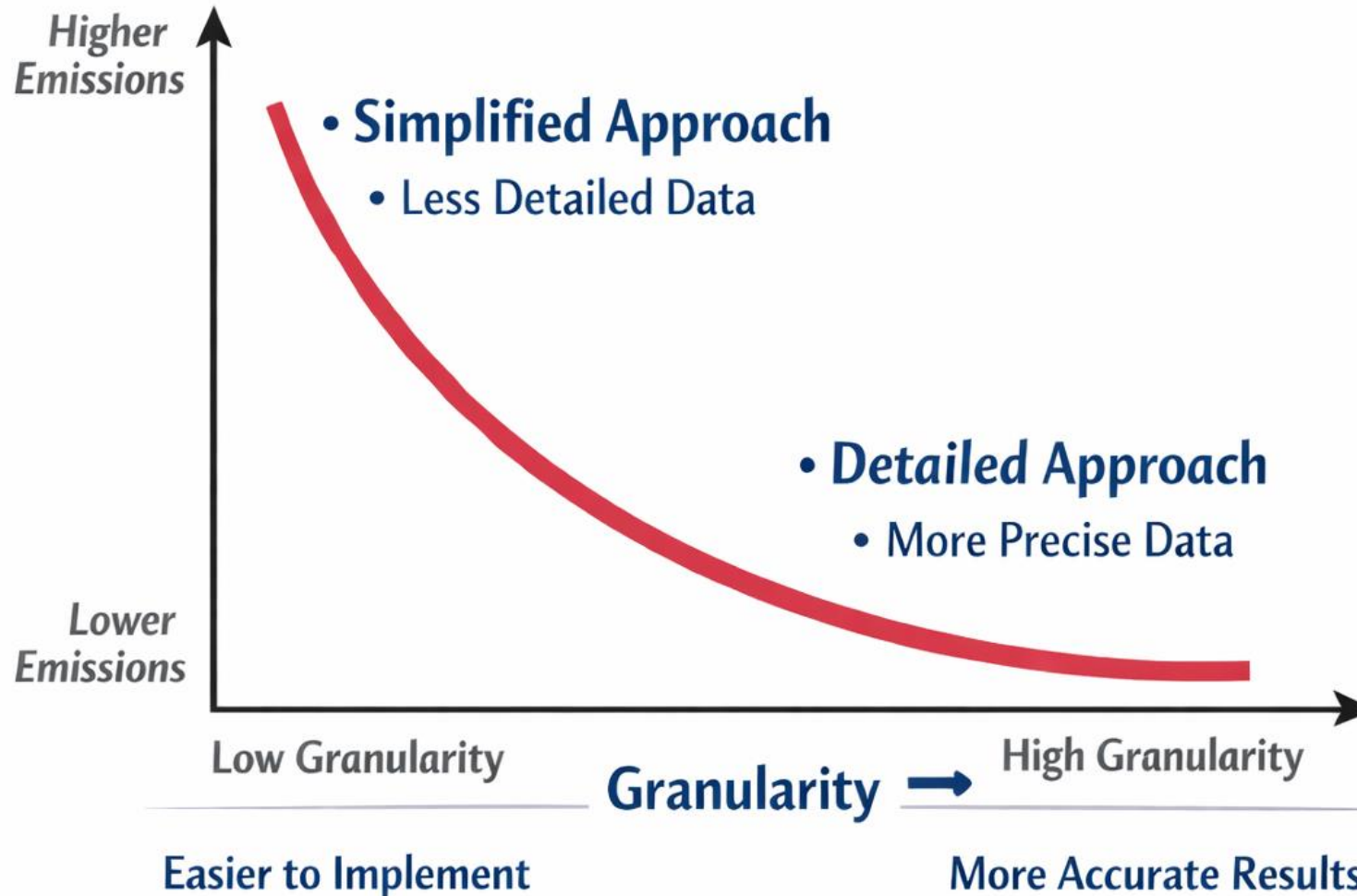
DLUC and measurement granularity

Figure 7.1 Land use change emissions calculation approaches based on value chain traceability

Scope 3 spatial boundary	Statistical land use change (sLUC)	Direct land use change (dLUC)	
		"Jurisdictional" direct land use change (dLUC)	"LMU-level" direct land use change
Companies account for LUC emissions using the “LMU-level” direct land use change (dLUC) calculation approach on lands they own or control, or those LMUs to which they have complete traceability in their value chain (Figure and Table 7.1). Companies account for land use change emissions using the “jurisdictional” dLUC calculation approach or the statistical land use change (sLUC) calculation approach when specific sourcing lands are unknown (Figure and Table 7.1). Companies can use sLUC emission factors provided by third-party databases, but must verify that the sLUC emission factor applies the product expansion allocation method and satisfies other requirements set forth in Requirement 10.			
Land management unit (LMU)			
Harvested area			
<div><div></div> Calculation approach is applicable</div> <div><div></div> Calculation approach not applicable</div>			

Trade-Off Between Granularity and Direct Land-Use Change Emissions

Greenhouse Gas Protocol's Land Sector and Removals Standard



Differential treatment by (D)LUC timing

REQUIREMENT 10:

Land use change emissions accounting

Companies **shall** account for land use change emissions according to the following requirements:

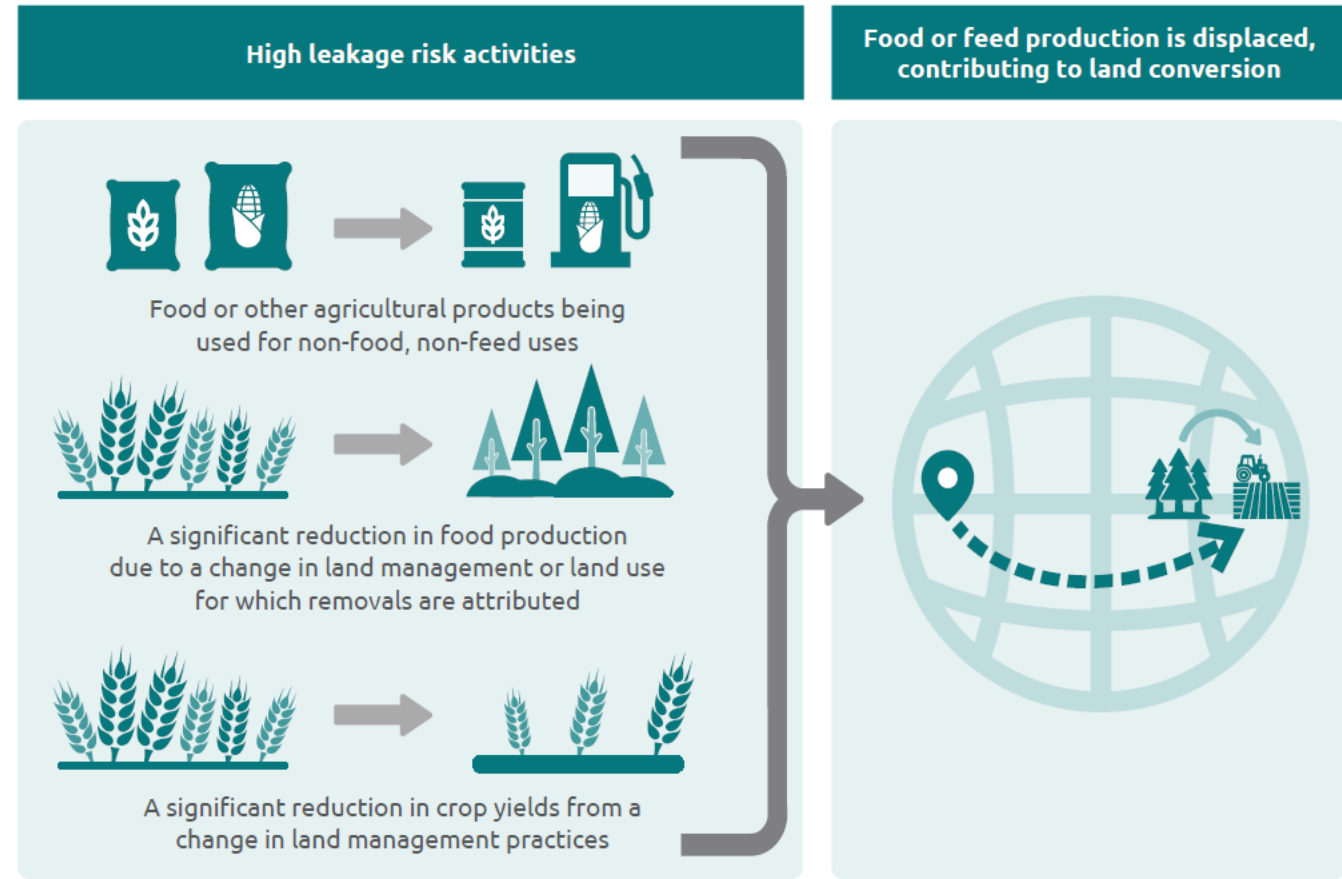
- **GHG emissions:** Companies **shall** account for CO₂, CH₄, and N₂O emissions caused by LUC.
- **Carbon pools:** Companies **shall** account for LUC CO₂ emissions based on the total land carbon stock decrease across all land carbon pools (i.e., aboveground and belowground biomass, dead organic matter, and soil carbon pools).
 - When LUC results in net removals or removals following an initial conversion that resulted in emissions, companies **shall** first account for the gross LUC emissions of the initial land use change, and then **may** separately account for the land management net CO₂ removals of the subsequent land use following the removals accounting requirements set forth in Chapters 12 and 13.
- **Time period:** Companies **shall** account for LUC emissions that occurred within the LUC assessment period.
 - For annual crops or other land-based products or services with a cultivation cycle or rotation period less than or equal to 20 years, the assessment period is 20 years. The LUC assessment period is prior to and includes the reporting year (e.g., 2001–20 assessment period for 2020 reporting year).

GHGP's ILUC (land carbon leakage) reporting

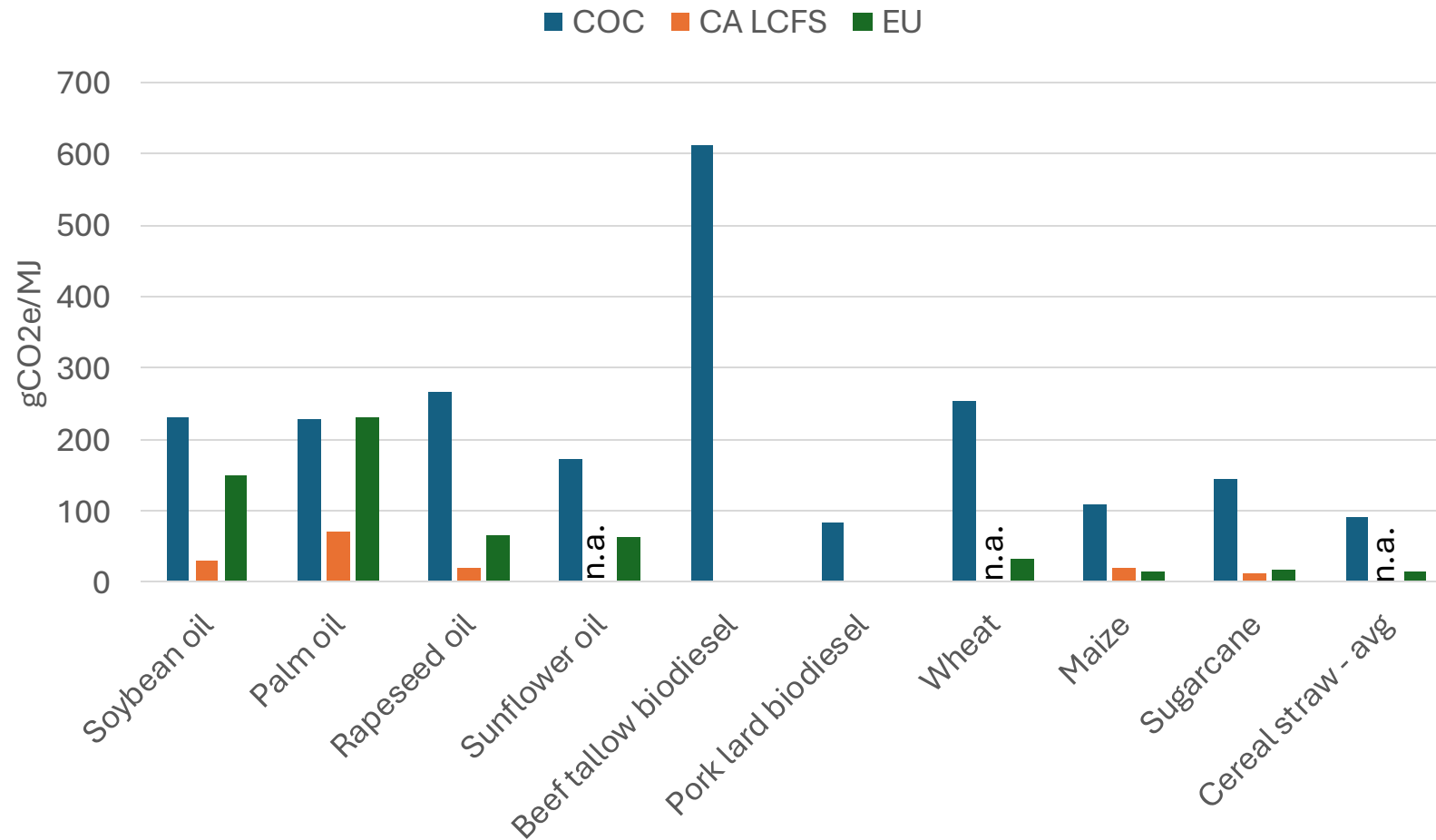
- **Activities with high risk for land carbon leakage:** Companies shall quantify land carbon leakage if any of the following activities occur in a company's operations or value chain in the reporting year:
 - Use of food or other agricultural products for non-food, non-feed use (e.g., crop-based biofuels or bio-based feedstocks).
 - Significant reduction in food production that occurs over the long-term, resulting from a change in land management or land use for which land management CO₂ removals are attributed (e.g., change in land use from cropland to forestland), except where such a change is made to improve the long-term sustainability of food production.
 - Significant reduction in crop yields per hectare that occurs over the long-term, resulting from a change in cropland management practices (e.g., practices that reduce chemical inputs but also significantly reduce crop yields), except where such a change is made to improve the long-term sustainability of food production.
- **Quantification approach:** Companies shall quantify land carbon leakage using the annualized, average carbon stock losses from the conversion of native ecosystems to agricultural land to replace the quantity and type of reduced or diverted food or feed production at average yields ("carbon opportunity cost").²

Introducing the “carbon opportunity cost”

- “Companies **shall** quantify land carbon leakage using the... ‘carbon opportunity cost.’”
- “The carbon opportunity cost estimates leakage by assuming 1:1 replacement of displaced food via conversion of native ecosystems to agriculture, and as such, is relevant information to report.”



Comparing COC values to government ILUC calculations



Sources: WRI (2026), CARB (2014), European Commission (2015)

Introducing Molecule Group's “Induced Land-Use Change Reconsidered” project

- Molecule Group is an international convening firm that works to develop consensus-based frameworks on topics that impact the sustainable molecules sector
- “ILUC Reconsidered” workstream is addressing treatment of direct and indirect land-use change under international framework
 - Working closely with IEA on Belem 4X Sustainable Fuels target
 - Comprised of representatives from across biofuels supply chain in Europe, North America, and South America
 - Continuing to recruit sponsors, so reach out if interested!



Conclusions

- The Greenhouse Gas Protocol's new Land Sector and Removals Standard explicitly incorporates both direct and indirect ("land carbon leakage") penalties into corporate accounting
- DLUC calculation defaults to low granularity, (presumably) higher emissions unless reporting company has detailed land data
- ILUC calculation requires reporting on "carbon opportunity cost" basis that is a clear regression from existing ILUC modeling
 - Uses old, low-granularity datasets for above- and below-ground carbon storage values
 - Assumes a 1:1 relationship between reduced food supply and increased land clearance

Questions?

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