# Topical discussion session 2

## Opportunities from land use change assessments frameworks to unlock supply chain interventions

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### 1. BACKGROUND AND MOTIVATION

Land use change (LUC), or land conversion, is responsible for 10% of global greenhouse gas (GHG) emissions, and 80% of biodiversity loss. The vast majority of land conversion worldwide is driven by agricultural expansion over natural ecosystems: forests, savannas, prairies and wetlands. Despite being a central contributor to the corporate carbon footprint of most food companies, LUC is likely the most poorly quantified life cycle stage in the LCA of agricultural and food products.

Statistical LUC (sLUC) approaches derived from country-level statistics can be assessed using tools like the LUC Impact tool by Blonk Sustainability, which relies on FAOSTAT data. The strength of sLUC based on country-level data is its global scalability across commodities, but it faces certain challenges in terms of precision, which hinders actionable insights to address land conversion in food supply chains.

Recently, novel LUC assessment approaches based on high-resolution geospatial data have emerged, shedding light on the spatial and temporal variability of LUC events and related impacts. Orbae (orbae.eco) by AdAstra Sustainability and BRLUC (brluc.cnpma.embrapa.br) by Embrapa are the most prominent examples of such approaches, revealing direct LUC (dLUC) in any farm, sourcing region or jurisdiction (jdLUC) in their purview. Built out of publicly available, peer-reviewed information, they unlock new opportunities to intervene in the most complex and opaque food supply chains.

As with any innovation, these novel approaches reveal new frontiers that require collective efforts from the scientific community to reach the best accuracy and reliability, while allowing for scalability and accessibility.

## 2. FORMAT OF THE SESSION AND SCHEDULE

The session is organised as follows:

- Presentation of recent updates in GHG protocol LUC accounting requirements, sLUC approaches based on FAOSTAT (LUC Impact) and geospatial dLUC (Orbae and BRLUC) (45 min)
- Panel discussion (45 min)

## 3. MAIN DISCUSSION POINTS

The session will be the opportunity for participants to learn and address the following discussion points:

- dLUC, jdLUC, sLUC: what do they mean in the context of the GHG Protocol and SBTi FLAG guidances? Which should LCA practitioners use and when?
- LUC beyond deforestation: challenges and research opportunities.
- iLUC: where does indirect LUC help decision-making?
- Unlocking supply chain interventions in the absence of full traceability: supply shed and landscape approaches.

## 4. DETAILED RUN OF SHOW INCLUDING TIMETABLE AND INVITED PANELLISTS CONFIRMED

## 5. TIMETABLE

| Time (min) | Topic | Description | Speaker* |
|---|---|---|---|
| 5 | Introduction | Welcome, agenda and introduction of speakers | LdW/JR |
| 5 | Standards | Recent updates in GHG protocol LUC accounting requirements | LdW |
| 10 | sLUC | LUC calculation based on national-level statistics (FAOSTAT), as implemented in *LUC Impact.* | IS |
| 10 | dLUC | Direct LUC approach based on geospatial data for Brazil, as implemented in *BRLUC.* | RM |
| 10 | dLUC | Global approach for direct LUC, using geospatial data, as implemented in *Orbae.* | JR |
| 5 | Transition | Transition to panel discussion: inviting all panelists to the front. | LdW |
| 20 | Expert panel | Panelists will be asked questions which are prepared by the moderator to deepen understanding of the LUC approaches, and how they complement each other. The audience will be able to ask questions. | JR, RM, IS, LdW |
| 20 | Audience panel | The moderator will ask the audience several "show of hands" questions on which, and how, they use LUC approaches in their work. Based on responses, some attendees (especially those representing industry) will be asked more detailed questions. | LdW, A |
| 5 | Closure | Wrapping-up the session with key take-aways. | LdW, JR |

*LdW = Lisanne de Weert, JR = Jürgen Reinhard, RM = Renan Milagres Novaes, IS = Iana Salim, A = audience.

PANELLISTS CONFIRMED

- Jürgen Reinhard, co-founder of AdAstra Sustainability and LCA practitioner at the forefront of LUC modelling, has confirmed his commitment to chair the session. He will also be part of the panel.
- Renan Milagres Novaes (Embrapa) is confirmed as co-chair and panelist.
- Iana Salim (Mérieux NutriSciences | Blonk) is a confirmed co-chair and panelist.

## 6. EXPECTED OUTCOMES/TAKE HOME MESSAGES

Participants will discover the potential of sLUC and geospatial dLUC approaches for use in LCA, in corporate accounting and impact monitoring towards achieving science-based targets. They will familiarise themselves with key concepts and methods and contribute to identifying scientific and technological questions worth further research. They will discover how LUC assessment approaches can be combined to unlock supply chain interventions aiming to stop land conversion and foster the restoration of natural ecosystems.

## 7. MODERATOR(S)

Lisanne de Weert (AdAstra) will be moderating the session.

## 8. ACKNOWLEDGEMENTS

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