Accountability Framework initiative

TAKING A CLOSER LOOK:

The role of deforestation- and conversion- free supply chains in reducing GHG emissions

Accountability Framework initiative (AFi)

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About the study

The AFi and its partner AdAstra analysed the role of corporate action to address supply chain deforestation and conversion in achieving forest, land, and agriculture (FLAG) emissions reductions.

Using publicly available data, including data on land use change emissions from the Orbae platform, we modelled what FLAG emissions might look like for an average company sourcing:

- Soy from Brazil
- Palm oil from Malaysia
- Cocoa from Ghana

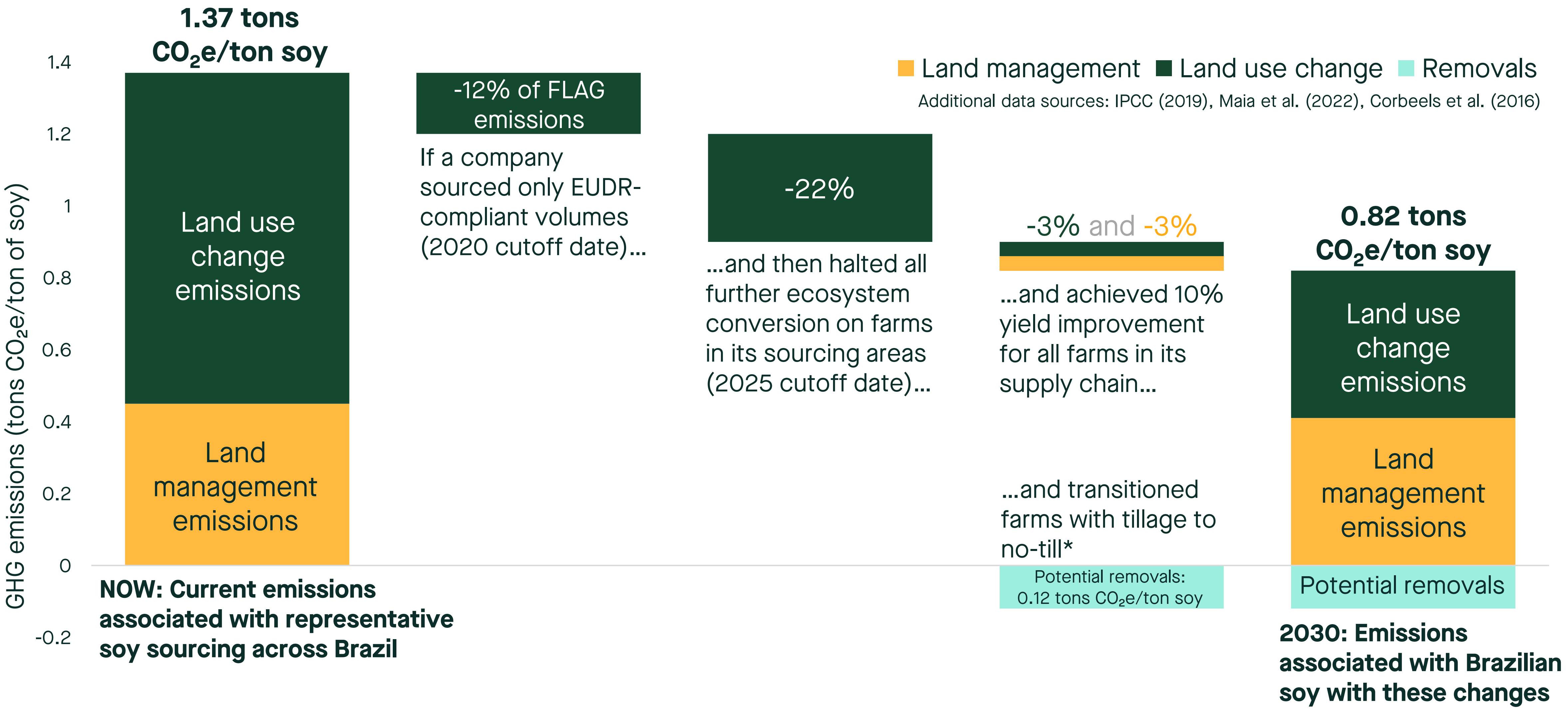
We tested the effects of sourcing decisions or interventions that companies might make to reduce land use change in their supply chains. These included sourcing certified commodity volumes or commodities from EUDR-compliant farms, as well as engaging with supply chain actors to halt future deforestation and conversion.

To complete the picture, we also looked at the impact of improving on-farm practices to increase yields or sequester carbon.

For each of these possible actions, we modelled the relative contribution to overall FLAG emissions reduction trajectories.

FLAG emissions from soy production in Brazil

Grassland and savannah conversion dominate the picture



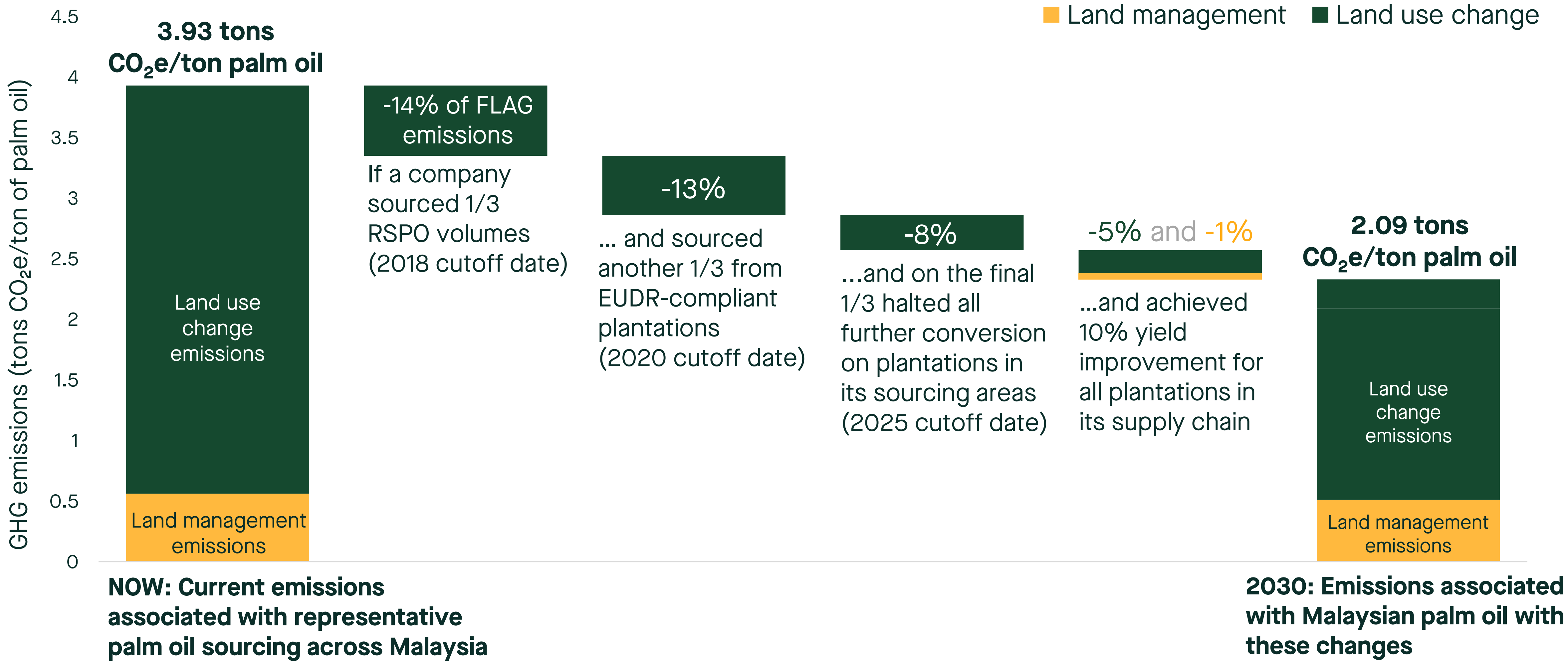
*Assumes 60% of Brazilian soy is already no-till

Soy production in Brazil: What we learned

- Currently, emissions from conversion of grasslands, savannahs, and pastures make up half of an average company's soy emissions, with deforestation adding another 17%.
- Therefore, sourcing decisions and interventions to reduce or eliminate deforestation are important, but a focus on forests alone will not get companies the emissions reduction they need—clearance of other ecosystems must be addressed as well.
- For example, sourcing only from EUDR-compliant farms (ie, those with no deforestation since 2020) would reduce soy emissions intensity by 7% by 2030 and 11% by 2050, compared with business-as-usual.
- However, halting all ecosystem conversion with a cutoff date of 2025 would reduce soy emissions intensity by 28% by 2030 and 65% by 2050.
- In addition:
  - Achieving a 10% yield improvement would decrease soy emissions by roughly 9% by 2050.
  - Moving a farm from tillage to no-till cultivation can achieve carbon removals through soil carbon sequestration; though those benefit phase out over time.

FLAG emissions from palm oil in Malaysia

Earlier cutoff dates mean earlier phase-out of emissions

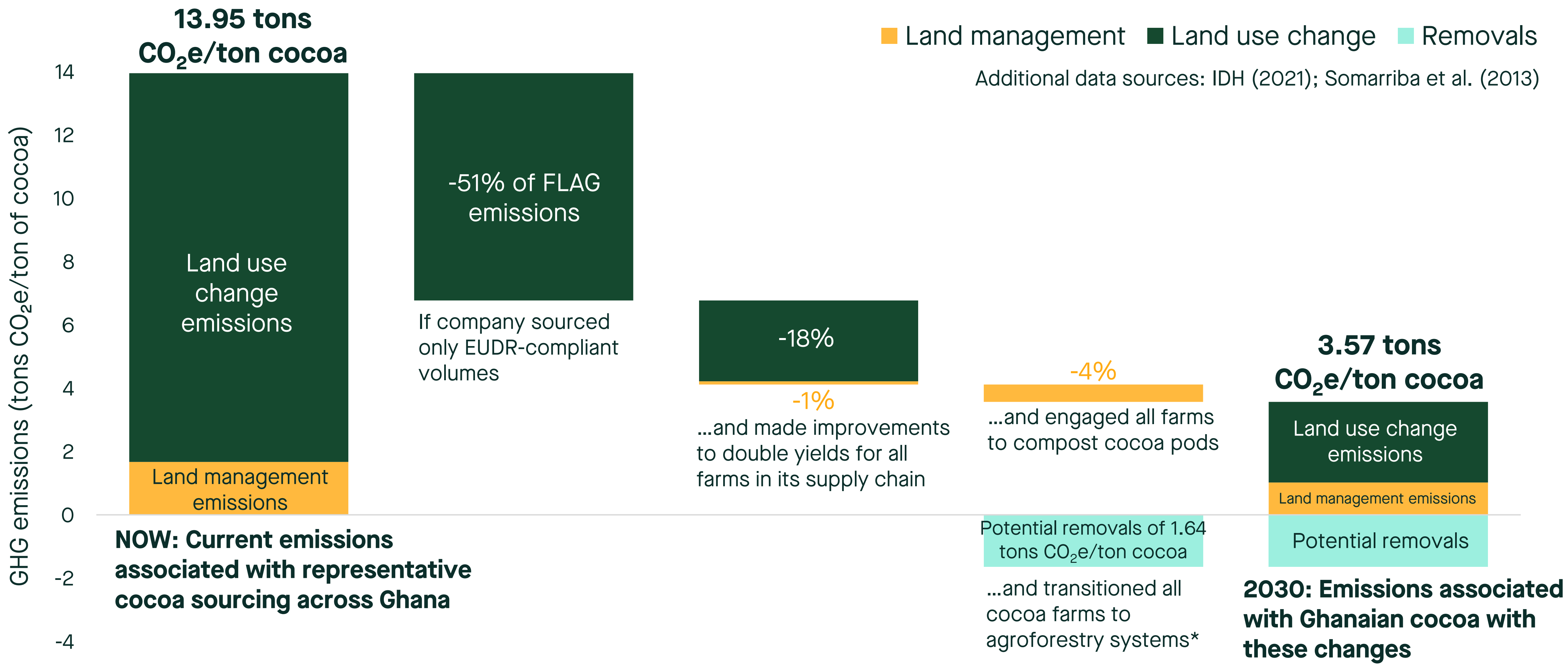


Palm oil production in Malaysia: What we learned

- Peat conversion and draining make up half of FLAG emissions from palm oil; deforestation is another third.
- There are many approaches available to companies looking to reduce deforestation and peat conversion in their supply chains. They include sourcing palm oil certified by RSPO, sourcing palm oil originating on EUDR-compliant plantations, and working directly with landowners and other stakeholders to prevent future deforestation.
- These approaches to sourcing deforestation-free palm oil include different timelines (eg, a 2018 cutoff date for RSPO, a 2020 cutoff date for EUDR, and setting a 2025 cutoff date for eliminating land use change going forward). Because land use change emissions in a company's supply chain decrease over time, companies can reduce supply chain emissions more quickly by using earlier cutoff dates.
- For example:
  - Adopting a cutoff of 2025 across all sourcing of palm oil from Malaysia reduces a company's emissions 29% by 2030 and 59% by 2050.
  - Ensuring that all palm sourced from Malaysia is deforestation-free with an RSPO-aligned 2018 cutoff date would phase out emissions more quickly, reducing a company's supply chain emissions by 48% by 2030.

FLAG emissions from cocoa production in Ghana

Deforestation drives most emissions, but improved practices can have an impact



*Assumes 50% of cocoa is already in agroforestry

Cocoa production in Ghana: What we learned

- Nearly all (88%) of cocoa's emissions footprint comes from deforestation. Therefore, sourcing deforestation-free cocoa (such as cocoa certified by the Rainforest Alliance or cocoa from EUDR-compliant farms), and engaging with farmers and other stakeholders to halt further deforestation, is essential for meeting emissions reduction targets.
- There is also significant potential for land management improvements in cocoa to reduce emissions. This includes:
  - Potential for significant yield increases, which reduces emissions intensity. In many contexts, doubling current yields is achievable.
  - Emissions reductions that can be realised by composting cocoa pods using techniques that decrease emissions from their decomposition.
- Finally, transitioning farms to agroforestry systems with mature shade trees has the potential to sequester large amounts of carbon within cocoa farms. However, the overall impact of agroforestry is significantly less than avoidance of deforestation, and carbon removals associated with tree planting phases out once trees reach maturity.

Reducing deforestation in supply chains does not always reduce deforestation on the ground

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- Company-level emissions reductions do not automatically lead to emissions reductions across sourcing regions.
- While companies can lower their emissions footprints by switching their purchases to lower emissions volumes, these decisions may not lead to change on the ground.
- Interventions that clearly decrease deforestation and conversion going forward, and therefore reduce carbon emissions across sourcing regions, include providing incentives for landowners to avoid new land clearance, such as via capacity building, premiums, subsidies, or through threat of market exclusion.
- Investments in reducing on-farm emissions, such as from cocoa pod decomposition, and support for increased carbon sequestration on farms also contribute to broader climate impacts in sourcing areas as well as in supply chains.

Want to learn more?

For more information about the relationship between deforestation- and conversion-free supply chains and greenhouse gas emissions reduction, visit the AFi website. Further analyses and technical documentation associated with these findings will be available soon.

All land use change emissions data are available on AdAstra's Orbae platform.

For detailed enquiries, contact AFi Lead Scientist Leah Samberg via lsamberg@ra.org.