Certified sustainable palm oil – what are the benefits?

Is it a way forward for greening agri-food value chains in emerging economies?

*Jannick Schmidt** & Michele De Rosa.* *e-mail: jannick.schmidt@lca-net.com, *2.-0 LCA consultants, Aalborg Denmark.*

Certified palm oil matters – but how much?

21% of global palm oil production is certified by Round Table on Sustainable Palm Oil (RSPO). The certification aims at significantly improving the sustainability of palm oil. But what are the quantifiable benefits of sustainable palm oil? ... throughout the product life cycle?

- How much are GHG emissions reduced?
- How much more nature is conserved - and what is the biodiversity benefit?
- What are the reductions in other impacts, e.g. particulates, eutrophication etc.?

Ongoing crowd-funded project – will answer this!

Scope of the project

The study includes a detailed comparative LCA of RSPO certified palm oil and non-certified palm oil in Indonesia and Malaysia. The LCA addresses key issues, such as methane from POME treatment, CO_2 from peat drainage, N_2O from fertilizer application, and it quantifies biodiversity benefits from nature conservation, - as well as how the certification criteria reduce the impacts.

Methods

Our analysis relies on data reported by certified producers, statistical data and detailed consulting with palm oil producers. The LCA is grounded in our extensive work with the palm oil industry, academia and RSPO during the last 12 years. The detailed life cycle inventory in Schmidt (2015) serves as a starting point for describing the industry average for non-certified palm oil.

Expected outcome and partial results

- A complete cradle-to-gate LCA study, including oil palm cultivation, palm oil mill and refinery as well as other relevant upstream processes.
- An ISO 14040/44 compliant LCA, subject to critical review.
- A detailed LCA model, covering a wide set of environmental impact categories, including GHG emissions and biodiversity impacts and offsetting hereof from nature conservation.
- Results according to both consequential and attributional life cycle inventory (LCI) modelling
- Detailed inventories addressing both direct and indirect land use changes.
- An analysis of how individual technical interventions can lower the impact, see examples in Figure 2.

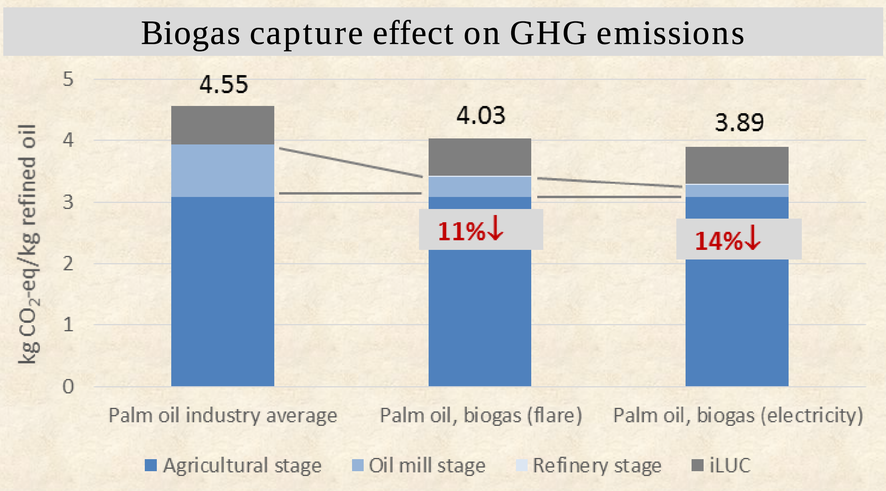
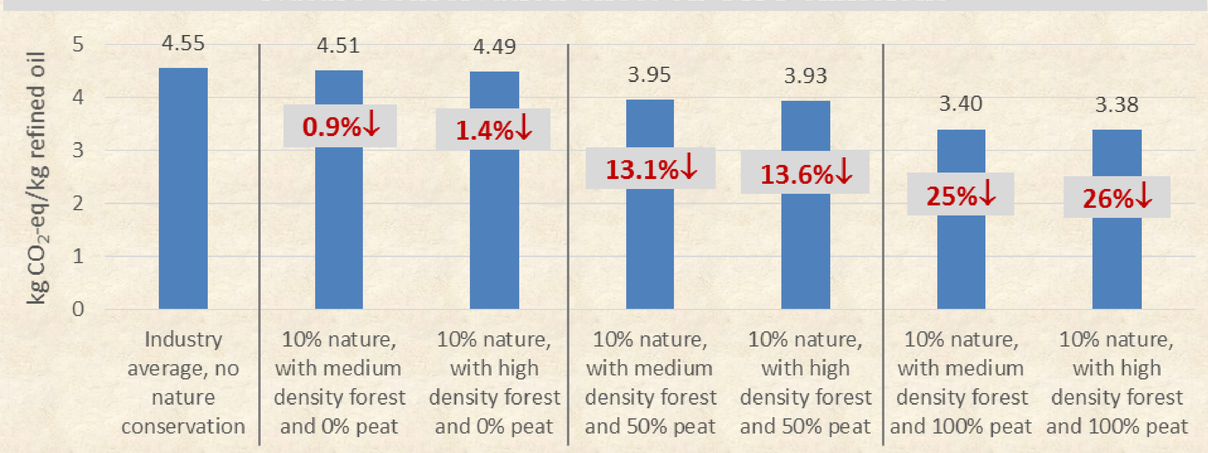


Figure 2: Improvement option analysis showing the effect on GHG emissions from biogas capture and nature conservation. The data are from a previous study on palm oil (Schmidt 2016). The current project will include several of this kind of analysis.



Join the crowdfunded project!

Become a partner of this crowd-funded project. Anyone can subscribe. The price of subscription is a onetime amount at 3,000 €. The funds from new subscriptions are used to expand the scope of the project. Read more: https://lca-net.com/clubs/palm-oil/

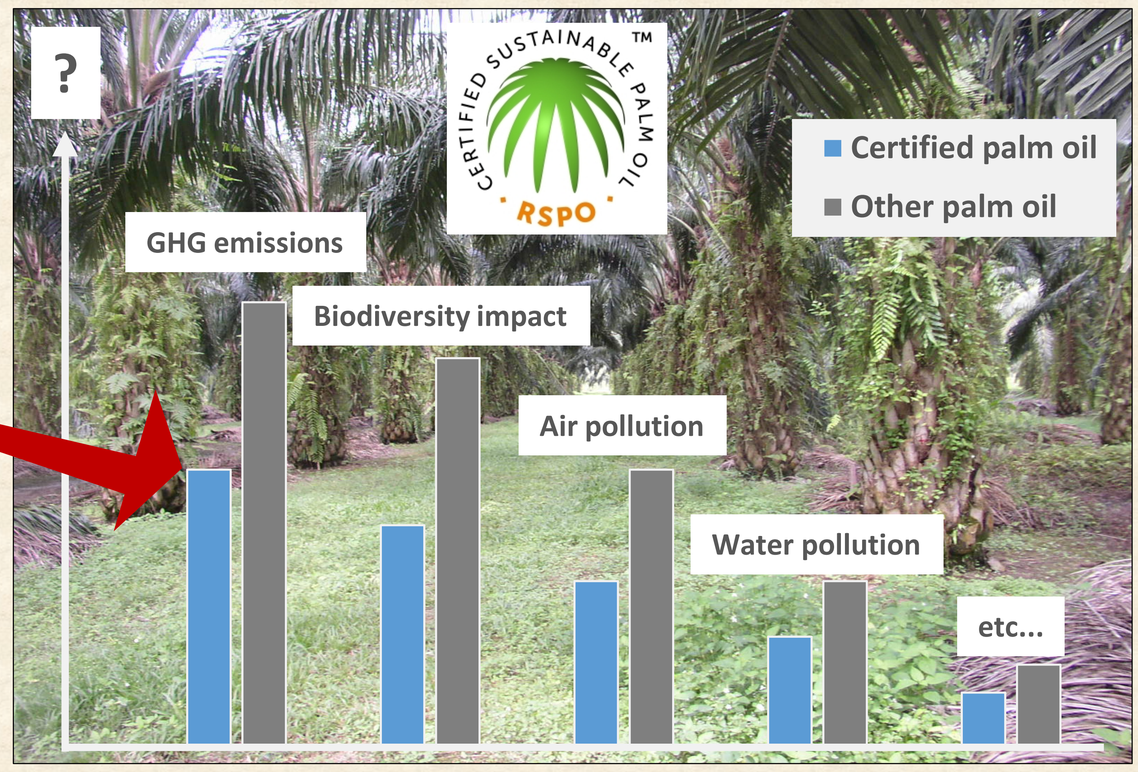


Figure 1: Illustration of the kind of results that will be produced in this project.

Target group

- **Certified producers:** to show, with a quantitative approach, the sustainability advantage of certified over non-certified palm oil.
- **Consumer goods companies:** to support claims on the environmental benefits of sustainable procurement activities.
- **Governments, policy makers and NGOs:** to obtain a science-based environmental footprinting of products containing certified palm oil.

Current members

- ERASM[1]
- DuPont
- Unilever
- RSPO is actively involved to get access to accurate and up to date data, but not a sponsoring member.

The DuPont Oval Logo is a trademark of DuPont or its affiliates.

Deliverables and timeline

- A study report.
- An article submitted to a scientific journal.
- Life cycle inventory data of RSPO certified palm oil and non-certified in a format for import into LCA software.
- The project delivery is expected in March 2018.

References

- Schmidt J (2015a). Life cycle assessment of five vegetable oils. Journal of Cleaner Production 87:130-138.
- Schmidt J (2015b). Nature conservation in life cycle assessment – new method and case study with the palm oil industry. Extended abstract for presentation at the SETAC2015, Barcelona 3-7 May 2015 http://lca-net.com/p/1818
- Schmidt J (2015c). Life cycle assessment of palm oil at United Plantations Berhad 2014. Results for 2004-2013 summary report. United Plantations Berhad, Teluk Intan, Malaysia. http://lca-net.com/p/1953
- Schmidt J, Weidema B P, Brandão M (2015). A framework for modelling indirect land use changes in life cycle assessment. Journal of Cleaner Production 99:230-238.
- Schmidt J (2016). Life cycle assessment of palm oil – investigating nature conservation and other GHG mitigation options. Paper presented at the International Conference on Oil Palm and the Environment, 16-18 March 2016, Bali.

LCM 2017
3 - 6 September 2017
Luxembourg, Luxembourg

2.0 LCA consultants
- for high quality decision support

[1] ERASM is a research partnership of the Detergents and Surfactants Industries (A.I.S.E. and CESIO)