Significant reductions in greenhouse gas emissions by optimized use of by-products from palm oil production: a comprehensive assessment

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- **For plenary or keynote talk only** -

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Abstract

The production of palm oil is known for generating many by-products, several of which are used today for different applications. Some examples include:

- the distribution of empty fruit bunches (EFB) to the oil palm plantations where they serve as fertilizer.
- disused oil palm trunks are chipped and scattered so that when an oil palm plantation becomes re-established, they rot and serve as fertilizer.
- palm kernel shells can be used to build roads.

Unfortunately, these applications go no way towards tapping into the full potential of achieving reduction in greenhouse gases. This has been proven in several investigations covering the Carbon footprint of the use of by-products from palm oil production.

The presentation will focus on the potential options for each by-product, to optimize their use in maximizing GHG savings. For example, oil palm trunks can be used to produce furniture or in the construction or building sector. EFB can also be used in cascades by producing biogas before using their potential as fertilizer. Several valuable substances such as carotinoids and other phytonutrients can be extracted.

The identification of the optimized use options of the by-products of palm oil productions to maximise GHG savings can be quantified. On top of that, their inter relationships can be ranked to give all stakeholders including producers, politicians and consumers sufficient information towards the most effective and sustainable use of the by-products.

The presentation does not cover optimizations of palm oil production but rather highlights the optimal use of all by-products of oil palm production. As palm oil production is under heavy discussion in some parts of the world such as Europe because of its environmental implications, using the findings presented, the acceptance of palm oil in the public can be increased significantly.

Dr. Guido Reinhardt, scientific director of the IFEU-Institute for Energy and Environmental Research in Heidelberg, Germany, works since 30+ years on carbon footprint, life cycle assessment and sustainability assessment of palm oil and all other products and coproducts from oil palm cultivation and oil palm processing. He and his team performed dozens of studies and assessments on these oil palm objectives as a core advisor for multiple stakeholders from policy, industry and the public. They include, next to others, the United Nations organizations FAO, UNIDO, UNFCCC and UNEP, the European Council and European Commission, oil palm related associations such as UFOP in Germany, MPOC in Malaysia and Fedepalma in Columbia as well as NGOs such as Greenpeace and Friends of the Earth. Next to this, he is a noted expert in several national and international expert groups, advisory committees and advisory boards. Dr. Reinhardt is author and co-author of more than 500 publications.