



Carbon Footprint for Coffee Supply Chains

Session: How to Fulfil Voluntary and Regulatory Market Requirements

MEO CARBON SOLUTIONS IS A LEADING CONSULTANCY FOR A SUSTAINABLE FUTURE

MCS is a solution provider in areas of sustainability, renewable and circular resources, deforestation-free supply chains and certification



MCS has developed **GHG calculators** for a large number of **agricultural products**, waste/residues and downstream supply chains



Corn



Coffee



Municipal solid waste



Palm



Coconut fibers



Used Cooking Oil



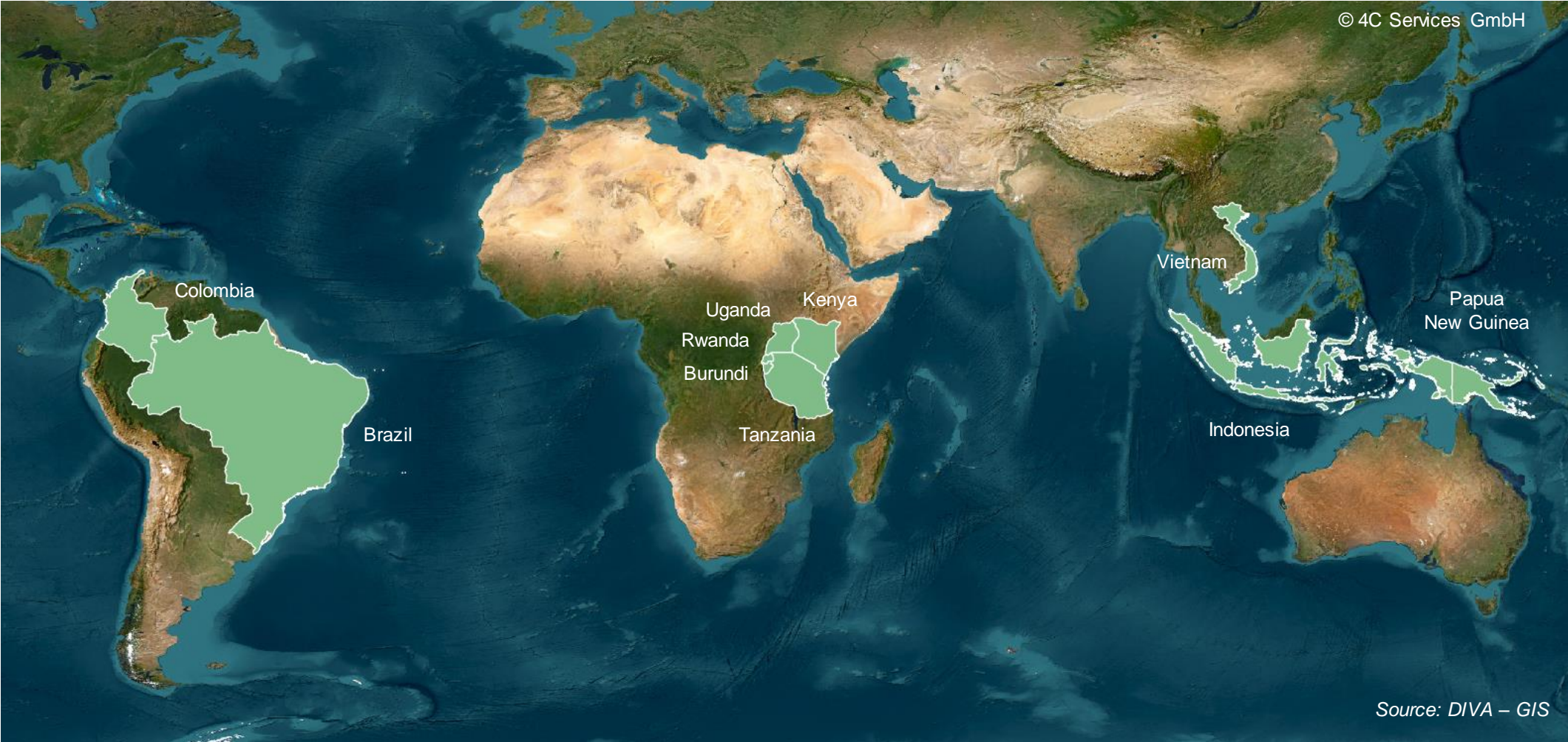
Rubber



Forest Residues

Selection

Increasing global demand for GHG emission calculations – Development of **GHG calculations** for producers in ten coffee producing countries completed




MCS is collaborating with market players, initiatives and consortiums to measure and reduce the coffee carbon footprint

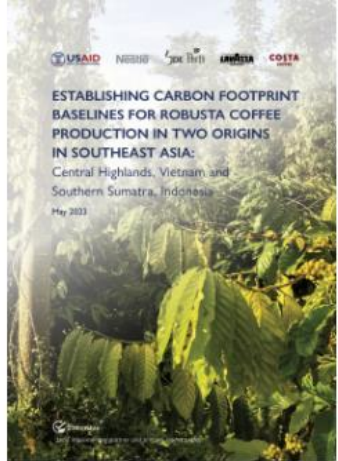
Examples

Working towards climate friendly coffee production in Tanzania

4C partners with JDE Peet's and DEG to reduce GHG emissions and strengthen climate resilience of smallholder producers



4C Services and JDE Peet's are proud to announce the start of a joint project on "Reducing GHG emissions and increasing yields from Robusta coffee production by 7,000 smallholder farmers and processors in Tanzania", co-financed by DEG – Deutsche Investitions- und Entwicklungsgesellschaft mbH – with funds of the developPPP.de program of the German Federal Ministry for Economic Cooperation and Development (BMZ), together with funds of JDE Peet's and 4C Services GmbH.



USAID Green Invest Asia

3,106 Follower:innen
6 Tage •

15 companies in the **#coffee** sector, 5 technical partners, 2 origins, 1 convener, and 1 goal: establish baseline of **#carbonemissions** from Robusta coffee production to standardize **#ghgemissions** measurements going forward. Final study led by **Enveritas**, annexes, technical insights here: <https://lnkd.in/gWskiJuT>. JDE Peet's, Nestlé, Costa Coffee, Lavazza Group, ECOM Agroindustrial Corp. Ltd., Hanns R. Neumann Stiftung - HRNS, Intimex Group, Louis Dreyfus Company, ofi, Neumann Kaffee Gruppe (NKG), Sari Makmur, Simexco Daklak Ltd., Sucafina, Sucden Coffee, Volcafe, CIRAD, Geotree Strategies, 4C, Sphera, Yara International.

GHG calculation for green coffee supply chain in Rwanda



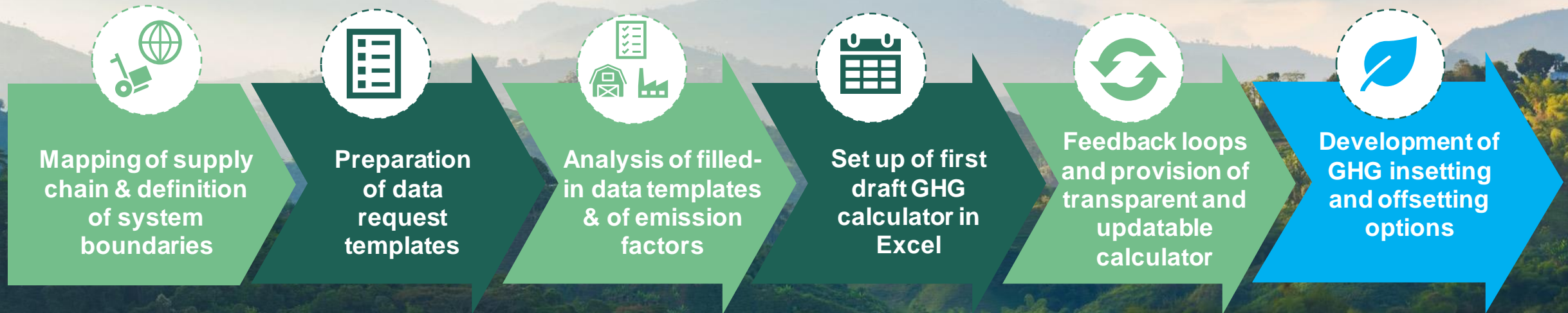
GHG calculation for robusta coffee supply chain in Vietnam



Sources: <https://www.meo-carbon.com/references/>, <https://greeninvestasia.com/research/usaaid-green-invest-asia-reports/>, <https://www.4c-services.org/working-towards-climate-friendly-coffee-production-in-tanzania/>

Measurement of carbon footprint based on recognized methodologies in line with science-based target initiative

- Greenhouse gas (GHG) emissions calculation for coffee cultivation and whole supply chain
- Introduction of mitigation measures and monitoring of GHG reduction





High quality dataset is crucial for a realistic GHG emission calculation

Take aways from past assessments:

- Data collection process most critical and time consuming
 - Intensive feedback loops required between company and 4C/MCS to finalize dataset
 - Willingness of coffee farmers to participate
 - Simplified data collection template with explanatory comments per entry available in local language
 - Selected company experts needed as responsible for data collection and exchange with farmers
 - Training of local company responsible staff in advance of the process for good data quality (non-farmers)
- Complete and verified data is key for GHG calculation and realistic results

Potential improvement measures to reduce GHG emissions along the coffee supply chain from farm to roastery



Increasing the yield of coffee per farm



Improving treatment of wastewater



Improving treatment of waste, residues and pulp



Reduction of fertilizer application



Reducing use of plastic packaging material



Switching to renewable energy sources



More efficient ways of transportation



Local capacity building, e.g., farmer education

Improved agricultural management practices leading to soil carbon accumulation



- Improved cropping systems including cover crops, intercropping with perennials and agroforestry



- Improved fertilizer or manure management



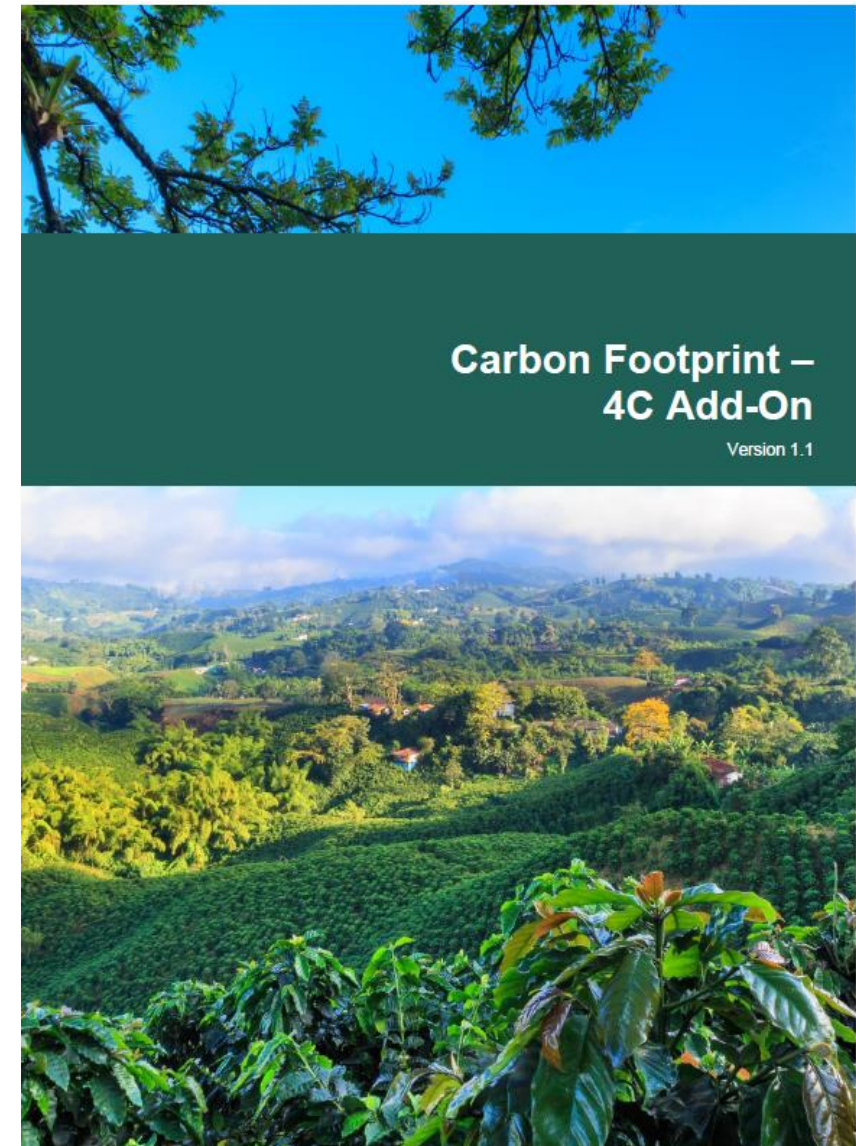
- Improved crop residues management



- Use of soil improver (e.g., compost)

MCS supports the **development of 4C climate-friendly solutions** for coffee supply chains globally

- Development of 4C Carbon Footprint Add-On
- Two-level certification approach for climate friendly and climate neutral coffee
- Carbon footprint calculation, reduction and optional offsetting of emissions and external communication
- 4C Carbon Footprint Add-On provides tools for data gathering, GHG calculation and audit preparation
- MCS experts available to consult 4C system users and conduct GHG emission calculations





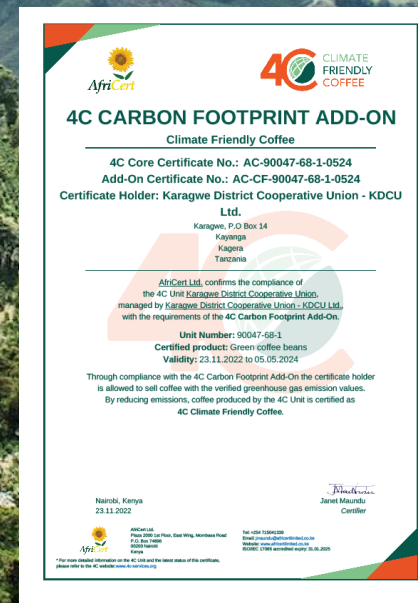
4C Carbon Footprint Add-On relies on the most relevant standards and initiatives

The 4C Add-On is aligned with:

- **ISO 14067:2018** → provides guidance for the quantification of GHG for the development of the carbon footprint of a product
- **GHG Protocol Product Standard** → Product Life Cycle Accounting and Reporting Standard is the guideline document stating the requirements for a LCA of a product
- **PAS 2050:2011** → Publicly Available Specification for the calculation of the GHG emissions produced during a product's life cycle (BSi)
- **IPCC (2006) Guidelines for National GHG Inventories and 2019 Refinement**
- The guide from the **Science Based Target Initiative (SBTi)** and the **Paris Agreement** target to limit global warming to 1.5°C

Carbon Footprint Add-On – First Certificate issued in 2022

- First **4C Climate Friendly Coffee Certificate**
- Issued to KDCU in **Tanzania** by Africert on **23 November 2022**
- 4C Team provided guidance during the pilot audit
- KDCU is now allowed to trade coffee as **4C Climate Friendly** certified with a verified GHG emission value





Let's get started – Your company could be next

- 1 Contact 4C for core certificate as prerequisite or directly start with CF-Add On preparation
- 2 Prepare your GHG emission calculation & set plan for improvement measures following CF-Add On
- 3 Conduct on-site audit and receive approval by 4C auditor and 4C
- 4 4C Climate Friendly Coffee certification and on-product logo use



Optional: Insetting/ Offsetting to become “climate neutral”





Thank you for your attention!

Follow us on 

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