



RSPO
Roundtable on Sustainable Palm Oil

PalmGHG: scientific peer review and action plan to roll out the RSPO GHG calculator

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Contents

- PalmGHG: progress since RT9
 - _ New features
 - _ Peer Review
- Suggested implementation of PalmGHG
 - _ Assessing hotspots; planning improvement; target setting; monitoring; reporting
- Outlook
 - _ Current uptake
 - _ Next steps

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PalmGHG

Progress since RT9



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PalmGHG

Palm products greenhouse gas accounting tool

- Developed by WS1 based on **Chase & Henson (2010)**
- Based on LCA approach (ISO 14044) and a review of guidelines/tools
- Goal & scope
 - To identify GHG emission **hotspots and reduction opportunities**
 - To **monitor progress** in reducing GHG emissions
 - To **report for certifications** (external *e.g.* RED, RSPO...)
 - ➔ Focus: to account the **bulk of GHG** emissions and carbon sequestration
 - ➔ Assessment at the mill level (i.e. **certification unit**)
 - ➔ Need for **flexibility**:
 - Default data & field data as often as possible
 - Functional units: tCO_2e/ha , $tCO_2e/$ Crude Palm Oil, tCO_2e/MJ palm biodiesel
 - Physical allocations & credits for exported biomaterial or energy savings



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PalmGHG: benefits



- Efficiency in GHG reductions
- Reduce costs
- Robust communication and reporting
- Consistency of measurement
- Scientific leadership

PalmGHG development in 2012

- ❖ Update C stock values and peat emission factors from WS3
 - Peat updated; C stocks for 9 previous land uses; CO₂ and N₂O emissions
- ✓ Incorporate biofuel calculations for compliance with RED
 - Biograce model incorporated; will need replacement
- ✓ Peer review of PalmGHG
 - Undertaken between July-October 2012
- ⇒ Refine POME emissions calculation
- ⇒ Post-review development - user friendly, manual

Main Challenges from Peer Review

- LCA (Life Cycle Assessment) specifics
 - _ Allocation rules
 - _ System boundaries
 - _ Sensitivity; uncertainty
- Land Use Change (LUC) and C fixation
 - _ Direct vs. Indirect LUC
 - _ C fixation in palms and Conservation areas
- Usability and Auditing
 - _ Default values used
 - _ Ensuring traceability of input data



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Implementing PalmGHG

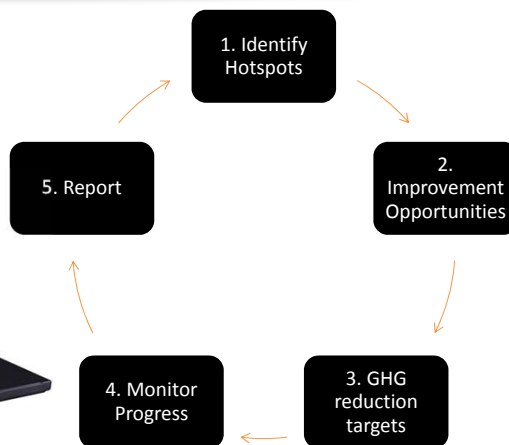
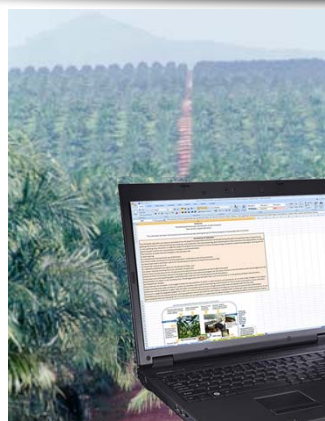
Suggested implementation by RSPO members



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PalmGHG implementation steps



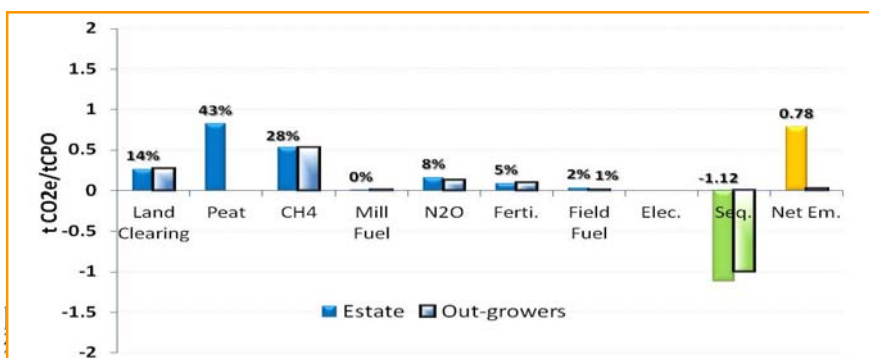

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PalmGHG Calculator Implementation

- GHG emission hotspots in the case of mill C1 (Previous land use: shrub/grassland, 25% peat soils in estate)
 - Peat emissions, CH₄ from effluent, land clearing, fertilisers
 - Main difference between estate and outgrowers: peat area

1. Identify Hotspots



PalmGHG Calculator Implementation

- Opportunities to reduce peat emissions
 - Implement peat Best Management Practices: water table... (5-10%; 2-3 yr)
 - Select peat-free (and low C) areas to expand production
 - Progressively abandon and restore current plantation on peat (43%; 15 yr+)
- Addressing POME methane emissions
 - Capture and combustion with heat and electricity recovery...? (20-25%; 2-3yr)
- Increasing efficiency of mill, energy recovery...
- Fertilisers
 - Optimise fertilisers for yield increase and reduction of N₂O
 - Yield increase tends to reduce overall impact as “fixed” emissions from clearing are divided over bigger output
- Address key knowledge gaps identified!
 - Land clearing history; data from out growers; biomass value for former land uses; etc.

2.
Improvement
Opportunities



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PalmGHG Calculator Implementation

- Technological opportunities balanced with GHG reduction opportunity; trade-offs (water quality? Soil quality?); cost; funding opportunities (CDM; Carbon trading schemes; REDD+?...)
- Plan project implementation pipeline
- Step-wise reduction targets
 - More stretchy reduction targets for higher emissions (more low hanging fruit)
 - OK to maintain emissions when GHG intensity is already very low
- Go public!

3. GHG
reduction
targets



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PalmGHG Calculator Implementation



- Updating PalmGHG with relevant new data is straightforward
 - Land clearing in current year
 - Fertiliser use and diesel use
 - Changes in POME technology?
 - ...
- Then plot the annual variation in GHG emissions
→ progress against GHG reduction plan

4. Monitor Progress



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PalmGHG Calculator Implementation

- Information can be used for company-based reporting
 - Sustainability reports
 - Carbon Disclosure Project?
 - Information requests from stakeholders: customers; regulators (e.g. RED; UK Government); investors (e.g. Stock Exchange; Banks); etc.
 - ...
- ... or shared within RSPO for RSPO communications:
 - GHG intensity of CSPO vs. non-certified oil?
 - Effects of certification on GHG emissions?

5. Report & Communicate




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Outlook

PalmGHG uptake and Next steps



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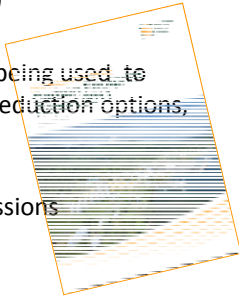
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CERTIFIED SUSTAINABLE PALM OIL
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Current PalmGHG Uptake

- 2011 pilot: 8 companies shared their information to test the tool
 - Results shared with the companies
- **New Britain Palm Oil** already used a precursor of PalmGHG to calculate and report their overall GHG footprint (February 2012)
 - Informing their commitment to 'zero net carbon emissions'
- **REA Holdings** (pilot participants): results of PalmGHG being used to quantify GHG emissions, assess effectiveness of GHG reduction options, and plan reporting of GHG emissions
 - Informing research needs (current study on land use history)
- **AgroAmerica** currently assessing its palm oil GHG emissions
 - Collaborating with key customer strategy (Wal-Mart)





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Next Steps

- Training
 - 6-7th December 2012, Kuala Lumpur
 - Express your interest to Melissa.Chin@rspo.org
- Further development of PalmGHG user-friendliness
 - Downloadable vs. Web-based?
 - Reduce chances of error (e.g. checks in input data)
 - Improve consideration of technology options
- Continued development of PalmGHG
 - Update of previous land use values
 - Update default values
 - Mill values for POME generation
 - Consideration of C fixed in conservation areas (with RT-REDD project)



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THANK YOU! Questions?

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