

**10<sup>th</sup> ERWG Meeting**  
**26/9/2016 - 27/9/2016**  
**VE Hotel, Bangsar South**

Name	Organisation	Status
Faizal Parish (Chair)	GEC	Substantive
Gan Lian Tiong (co-chair)	Musim Mas	Substantive
Lim Sian Choo	Bumitama Gunajaya Agro	Substantive
Audrey Lee	Olam	Substantive
Foo Siew Theng	Wilmar	Substantive
Azmariah Muhamed	FGV Felda	Substantive
Joseph Hutabarat	Rainforest Alliance	Substantive
Olivier Tichit	SIPEF	Alternate
Arina Schrier	Wetlands International	Alternate
Jason Foong	KLK	Alternate
Lee Kuan Yee	KLK	Alternate
Mukesh Sharma	Asian Agri	Alternate
Henry Cai	Musim Mas	Alternate
Javin Tan	RSPO Secretariat	Secretariat
Jan Van Driel	RSPO Secretariat	Secretariat
Devaladevi Sivaceyon	RSPO Secretariat	Secretariat
Absent with apologies		
Jose Roberto Montenegro	AgroCarbie	Substantive
Henry King	Unilever	Substantive
Phubalan Karunakaran	WWF-Malaysia	Alternate
Julia Lo	GEC	Substantive
Marcel Silvius	Wetlands International	Substantive
Shahrakbah Yacob	Sime Darby	Substantive
Cecille Bessou	CIRAD	Technical Advisor

No.	Description	Main Discussion Points	Action Item
Monday, 26 <sup>th</sup> September 2016			
1.	Review of previous meeting minutes and updates on new meeting agenda	Secretariat gave a short briefing on the new meeting venue with several housekeeping matters. The previous meeting minutes was reviewed and endorsed. New meeting agenda was updated to all members.	
2.	Updates from secretariat	<ul style="list-style-type: none"> <li>• Incentive Taskforce Comments from SHWG and BHCVWG was communicated to members of ERWG and everyone collectively agrees to have Incentive Taskforce as a stand-alone taskforce instead of being under working group. All the comments have been compiled into Board Paper which will be submitted for approval during the next Board meeting in November. Following the delay in this, commencement of works is also expected to be delayed from the date stated in the ToR of Incentive Taskforce.</li> <li>• Guatemala Event RSPO Secretariat engaged with consultant to conduct the session on PalmGHG which was attended by a total of 80 participants. The session was conducted using PalmGHG Version 3 and received good feedbacks especially in terms of generating own electricity and fuel use. One common practise in OP cultivation in Latin America is to clear the OP before completion of 25 years' crop cycle. This is mainly due to diseases or economic reason. Therefore, the growers had concern over how the emission debt will then be calculated. This issue is to be further discussed among ERWG on how to capture the balance amortized emission.  On peat, the feedbacks received shows that there are presence of peat and some of the companies have already engaged with research institute to begin planning on peat management. RSPO has engaged with some of the companies to see if the definition of peat from our Peat BMP suits the type of peat found in LatAm.</li> <li>• Ghana Event A total of 76 participants attended this event and training on palmGHG was conducted using Version 3. One of the feedback received is to have training looking more into the application of palmGHG rather than the principles behind palmGHG.</li> </ul>	<p>RSPO Secretariat to push for Board paper on establishment of Incentive Taskforce to be tabled in October BoG call.</p> <p>C5.6 sub-group to discuss the 'emission debt' matter</p> <p>Peat WG to be revived to include the development of regional definition on peat.</p>

		<p>There is publication and presentation over in Guatemala Conference pointing that LATAM has a higher production rate at 7tCPO/ha. There is concern raised of which new growers in LATAM may use the rate during the GHG assessment for new planting (C7.8), which yield lower net GHG emission/products as in projection. And later (may or may not) faces challenges in providing justification during the reporting of actual emissions (in C5.6) should the production rate reached to a lower rate.</p> <p>A recommendation is to have RSPO default provided and highlight the importance of using the default as for projection.</p> <ul style="list-style-type: none"> <li>• RSPO Next It was clarified to all the members that the guidance is not just for the CBs but for everyone. Two issues were discussed, which are on supply chain emission calculation and reporting on GHG at organisational level (GHG 3.1). The organisational GHG reporting would mean using palmGHG to include any other corporate level emission resulting from every management unit. There is a need to provide clarification on what is 'organisational GHG' under RSPO Next.</li> <li>• No-mill option for smallholders The new feature of no-mill option for independent smallholders and outgrower was presented during SHWG to which members of SHWG has agreed to take part in the pilot test. Emission reporting for certified smallholders using palmGHG is compulsory and the members are in consideration of several things such as: <ul style="list-style-type: none"> <li>- to have similar 2 years' implementation period</li> <li>- throughout the implementation period the certified smallholders are not to be being heavily penalised over incorrect use of palmGHG.</li> </ul> </li> </ul> <p>The discussion continued with how to bring in more smallholders under group certification given limited land bank. However, this was not extensively discussed due to lack of time. The discussion was concluded by saying this topic will be parked as part of Smallholder's Strategy planning.</p> <p>ERWG members expressed their concern with the current grouping mechanism for independent smallholders. The current guidance requires grouping of smallholders wih existing plantations. The</p>	<p>RSPO Secretariat to indicate the importance of using RSPO default for the projection of production rate within New Development Calculator</p> <p>RSPO Next is to be discussed in after all updates, leading by Jan Van Driel (Head of Certification, RSPO).</p> <p>RSPO Secretariat to kick start the pilot of No-mill PalmGHG Calculator with existing certified SH groups.</p> <p>RSPO Secretariat to check if SH strategy could be shared with ERWG</p>
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	<p>reality on the ground is that smallholders opening up new land for oil palm planting without the knowledge of the RSPO requirements. In such situation, the applicability of C 7.8 is hindered. Based on that, for now new independent smallholders that did land clearing are then not subjected to C 7.8 in the absence of group manager. These smallholders will only be grouped only after their oil palm plantation comes into bearing. Inevitably, they will infringe the RSPO P&amp;C requirements. The proposed solution by SHWG to have this gap resolved as part of Smallholders Strategy Planning was not well accepted among ERWG members since existing Group Certification document has failed to address this.</p> <p>The concern would be no new independent SH would be able to join and certified by RSPO due to no group manager appointed prior to land clearing, as current procedure specified that group manager to conduct C7.8 assessment. Same dilemma applied to HCV assessment. There was a recommendation paper prepared jointly by ERWG years ago, on simplified C7.8 assessment for smallholder, which was rejected by other WG (believed to be on certification).</p> <ul style="list-style-type: none"> <li>• C 7.8 discussion - Conservation set aside area</li> </ul> <p>ERWG members suggested to include the reference for conservation value as part of C7.8 document and palmGHG. Separately, there were also comments on minutes taking in terms of capturing the essence of the discussion rather than action points only. Secretariat explained that the minutes are together with other attachments which further clarifies on the action points. Not all details were included in the minutes since the attachments explains for it.</p> <p>There is a need to have the reference or additional annexes attached to reference guidance document (i.e. GHG Procedure or PalmGHG Manual) to provide clarity on how decision for default value is made and is based on what ground.</p> <ul style="list-style-type: none"> <li>• C 5.6 discussion</li> </ul> <p>Discussion was on implementing 5.5% from other major land use emission in PalmGHG and how the new changes will be communicated with CBs. The medium of communication will be via RSPO Interpretation Forum (RIF) and during CB Workshop. Secretariat also proposed a new percentage for other major land use change emission after collecting more data sampling. Besides this, the issue on emission debt was also discussed since it's a common practise to clear OP before completing single</p>	<p>RSPO Secretariat to bring this discussion to SHWG.</p> <p>RSPO Secretariat to refer back to a recommendation document (2 years ago) for simplified approach for smallholder on C7.8.</p> <p>This matter to be parked for afternoon C7.8 discussion.</p> <p>RSPO Secretariat to elaborate more on the key discussions leading to the decision derived in future minutes of meeting.</p> <p>RSPO Secretariat to include relevant reference for the decision made for Conservation Default Value set.</p>
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3.	RSPO Next by Jan Van Driel, Head of Certificate, RSPO	<p>Many comments were received and mostly was from ERWG with regards to the standards and guidelines. Jan explained that the standards developed can't be changed anymore since it has been approved by the BoG. Also, the guideline documents are ready for publication. The discussion proceeded to Eligibility document on how buyers (ie; retailers, bankers and product manufacturers) of RSPO Next Credit will calculate their GHG emission. Organisational emission reporting was explained as any operational activity that is under the direct control of RSPO Credit buyer in which anything that was outsourced need not be reported.</p> <p>Besides, the basis of using Life Cycle Analysis (LCA) for organisational emission was not agreed as LCA is more reflective on product emission. The way forward proposed by Jan is to have organisational emission to be based from energy usage.</p> <p>Members of ERWG expressed concern as this may lead to organisation to outsource more as a way to bypass their emission. It is strongly felt that any emissions (in regardless if the activity is outsourced) should be accounted within the whole supply chain. There are two ways to look at the emissions, by products (palm oil LCA) or by organisational or others products (beyond usual vertical LCA of PO) as well.</p> <p>ERWG members also raised the concern over confusing term of 'organisational level' emissions used within the supply chain under eligibility document, and the used of term within GHG 3.1 for growers, of RSPO NEXT. ERWG requested to have more clarity in some of the terms used in the guidance document.</p>	Secretariat to circulate the revised RSPO Next guidance document with ERWG.

		<p>It was agreed that RSPO PalmGHG Calculator is not suitable measuring tool for organisational emissions. There is a need for another tool for the measuring and reporting of emissions for supply chain members. The questions raised are what tool and who is leading the development the tool (if it is a new tool). It was informed by Jan that big down-stream players are monitoring their GHG emissions and reporting could be done easily.</p> <p>The Chair suggested that the secretariat collate information from the supply chain players on their methods of calculating their GHG emissions. The collated data will enable the ERWG to review the data on commonality or diversity of the methods used and examine if there should be further studies on this.</p> <p>RSPO Next should be made easy for the down-stream player in reporting their GHG based on existing tool. It would be useful to have information on what tool(s) the down-stream players of RSPO members are using to track their emissions and the approach or boundary of such tool. It will also be useful to know the approach and accounting boundary of the tool(s) and ensure the same tool is used by a member across its reporting. This could be done through extracting data from ACOP submissions, however there is a need to collect data on the tool used.</p> <p>Members of ERWG highlighted that RSPO Secretariat would need to inform the group should there be a need for the group to look at developing the tool for down-stream players for RSPO Next. RSPO Secretariat would need to state their position on this, if existing tools used by down-stream players are adequate in relative to the efforts of growers in reporting its GHG emissions.</p> <p>There is also a need for the definition of 'landscape' within RSPO Next guidance document.</p>	<p>RSPO Secretariat to do data collection on what are the tools used for GHG emissions accounting by down-stream players. (Of 4/5 big companies)</p> <p>RSPO Secretariat to provide better clarity on the term and the boundary set for the 'organisation-level', within the revised RSPO guidance document.</p>
4.	HCSA Steering group meeting	<p>RSPO attended the steering group meeting as observant and gave a 4-minutes presentation on the revised RSPO GHG Assessment Procedure to which the group made a reconsideration of including carbon assessment as part of the convergence process.</p> <p>The convergence process as communicated in last HCSA meeting is very promising, however carbon assessment as a key component is taken out. The key convergence outputs would be on the i) inclusion of LIDAR as an option of land cover mapping; ii) higher resolution requirements; and iii) the compromise on the possible land development on 'Young Re-generation Forest, YRF'.</p>	Secretariat to circulate materials from steering group to ERWG members.

		<p>The concept of 'give-and-take' is in discussion on how this 'off-setting' approach could be applied. There are on-going discussions on 'high-forest cover landscape' where conditions set as, '1-to-1 swamp for clearing' and 'carbon neutrality'; 'integration of HCV-HCS and Social'; and HCSA for smallholders.</p> <p>Faizal mentioned he was approached by Gabriel Eickhoff from Forest Carbon on the revision and writing of Carbon Chapter for HCS+ and HCSA Converged Method. This could be the work needed urgently to inform the converged decisions in November 2016 during RT14.</p> <p>There is also a request from HCSA Steering Committee if RSPO could make the launching of GHG Assessment Procedure in parallel with the launching of the converged methods. Members of ERWG discussed and agreed that the revised Procedure should include a clear note on the converged methods to be adopted for as for the carbon assessment of the Procedure. This should be covered in Chapter 3 of the procedure related to carbon stock estimation.</p> <p>There is no definition of peat within the convergence process, as there is no provision for the methods to look at Below-ground Biomass. Based on reliable sources, there is a push to have the threshold of 75tCarbon and organic soil of &gt; depth of 15cm to be incorporated. There is a need to seek clarification on this. Members of ERWG to seek clarification on this aspect.</p>	<p>Any members of ERWG who are also part of the HCSA committee to share any relevant documents with others.</p> <p>Mukesh to share relevant documents on HCSA discussion with Javin to be shared with others.</p>
5.	Updates from PalmGHG Version 3	<p>Challenges with PalmGHG V3:</p> <ul style="list-style-type: none"> <li>• Generating pdf report</li> </ul> <p>There were members' complaints from Africa and Latin America Region on the large size of PalmGHG V2 installer, mainly due to the large size of the pdf functioning file. One of the solution proposed was to remove the pdf function in Version 3. Suggestion is to continue packaging PalmGHG V3 with pdf functions and find other solution to have the installer reaches to members from Africa and Latin America.</p> <ul style="list-style-type: none"> <li>• Software Compatibility issue</li> </ul> <p>There is still compatibility issue with PalmGHG V3, with its desktop-based application. PalmGHG V3 is in fact in stable to run in Windows 8 and above. Clear instruction on how to change the compatibility mode of installed PalmGHG V3 to minimise 'crash' incidences should be included within the PalmGHG V3 Manual.</p>	<p>RSPO Secretariat to ensure guidance provided within</p>



	<ul style="list-style-type: none"> <li>• Different language display within PalmGHG</li> </ul> <p>The space of which the texts to be displayed within the PalmGHG is limiting. As some of the terms of other language is much longer than it is in English. The programmer then needs to adjust the boxes to be able to accommodate the longer translation.</p> <p>RSPO Secretariat informed that times are taken by existing programmer in understanding the coding structure and languages, done by the initial programming team, before any actual changes or updating could take place. This has also lead to challenges in which the changes made may result in some dis-link to other calculation formula or structure of the calculator. Hence more times needed in updating and improving the program.</p> <p>Other discussion relating to updating PalmGHG V3:</p> <ul style="list-style-type: none"> <li>• 5.5% is decided by members as RSPO default for the accounting of emissions from other land use. This 5.5% emissions calculation will be based on total planted area for emissions calculation within PalmGHG V3.</li> <li>• Conservation sequestration rate</li> </ul> <p>Decision on conservation area was made to add forested and non-forested area. Guidance on what basis and how the figures are derived; and guidance on how companies could use RSPO default value.</p> <p>Discussion took place around how could this conservation sequestration could be captured, as per the condition set for the claim of sequestration rate, which only allowed on forested area. In view of the feasibility and practically for data collection and inputting, the decision made to have conservation area captured within existing planting data tab of the calculator, distinguishing these areas into forested and non-forested.</p> <p>Options also provided for conservation set-aside falls outside of the planting blocks to be key-in as additional row or field within the planting data tab.</p> <p>It is also crucial to check with programmer if the first two rows within the planting data tab could be allocated (fix rows) for conservation area data.</p>	<p>PalmGHG V3 Manual for changing of compatibility</p> <p>RSPO Secretariat to work with programmer in incorporating the conservation rate (only forested area); including relevant guidance and information of RSPO default value on conservations sequestration.</p> <p>RSPO Secretariat to check on having the fix rows for conservation areas</p>
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	<ul style="list-style-type: none"> <li>• CO2 emission from Urea and Lime</li> </ul> <p>ERWG agreed to in principle to incorporate accounting of CO2 emission resulting from urea application, which was inadvertently left out during the drafting stage, provide options given for coated and un-coated; and more information provided. Emission from GML is agreed by members of not to be included, as lime is the by-product from mining and it may not necessary to enter into the oil palm life cycle.</p> <p>The concern over including the CO2 emission from Urea would be that it is conflicting with industrial initiatives of which promoting the use of Urea. On top of that, buyers should be made aware that RSPO certified products would give the highest net GHG emissions due to the current accounting boundary and assumption adopted of PalmGHG Calculator.</p> <p>There is also observation that application of coated urea/fertiliser, which function to control or slow the release or volatilisation of urea, eventually reduce the greenhouse gas emissions.</p> <p>There is also observation raised that ISCC recently released a new list of emission factors, of which Emission Factor used for Urea has in fact dropped from 3.3 to 1.9. It is crucial to check the rational of the change and if the EF is based on European circumstances of temperate environment (European database), and thus the applicability of such in tropical countries.</p> <p>RSPO Secretariat reached out for assistance in accessing such information and data, as there is a lack of capacity within the Secretariat on this. C5.6 subgroup would provide assistance on this.</p> <ul style="list-style-type: none"> <li>• Emission Debt</li> </ul> <p>Most growers in Latin America and Ghana practise clearing crop within 25 years' crop cycle due to economic and disease factor. Current structure of how data is to be captured based on previous land use and year of planting, does not catered for emission debt to captured. This is because once the replanting take place, with the year of planting changed and the previous land use changed to be OP, the calculator would assume the re-planting is taking place after a full cycle.</p> <p>There is an option for the grower to take up all remaining emissions on the year of clearing, manually made note on its reporting. This would then make the following year reporting simpler without affecting the current procedure of reporting using PalmGHG Calculator.</p>	<p>RSPO Secretariat will need to collect more information and data on coated and un-coated urea and its emission factors</p> <p>RSPO Secretariat to work with Henry in understanding the recent revised ISCC emission factors for Urea</p> <p>RSPO Secretariat is to provide guidance on how to key in the conservation area</p> <p>RSPO Secretariat to work with Henry on his suggest for capturing emission debt with PalmGHG Calculator.</p> <p>C5.6 sub-group to continue the discussion on emission debt</p>
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		<p>However, should grower preferred to have the remaining emissions to be captured as 'debt' within the calculator, a suggest is to remaining the initial planting year even though the planting block is to be re-planted. This will have implication for grower to do data recording, in having two separate data recording of the planting year of the same blocks.</p> <p>Henry suggested to keep the initial planting year within the calculator, and having another year for replanting. In this case, user would still indicate the previous land use as 'Oil Palm'. The calculator would then need to be set with the rules that a cross check on if 25 years (one full cycle) is achieved between the initial year and the replanting year. Should it not, the calculator would be captured it as 'debt' and having it amortises for the remaining years. This provided the field name of the planting block remained the same and the replanting took place at a whole.</p> <p>There are also concerns over replanting (or gap -fill) of existing oil palm planted taking place on a portion of the existing planting block. Suggestion to have this condition remained as unchanged, the year of planting and previous land use change remained unchanged and the only thing will be the year of planting will be extended. In this case, ERWG will need to determine the % or condition of which would then considered as 'partial' or 'full' replanting. There are cases of which the naming of the field ID, would be different for this partial re-planting.</p> <p>The decision made is to roll-out PalmGHG V3 with English as the ONLY language used for the calculator. PalmGHG Manual would then need to be translated into different languages.</p>	
6.	Outreach and Training Materials	<p>All relevant trainings conducted were based on updated version of power point prepared by Melissa Chin on the 'Principle of RSPO PalmGHG Calculator'.</p> <p>RSPO Secretariat presented the draft PalmGHG V3 Manual, comments received are:</p> <ul style="list-style-type: none"> <li>• Two chapters needed: i) for new database creation; and ii) existing users for converting old version database;</li> <li>• All relevant information relating to the basis on how RSPO default value is derived needed</li> <li>• FAQ needed as separate from this Manual</li> <li>• A glossary would be helpful</li> </ul>	RSPO Secretariat to refine the PalmGHG V3 Manual incorporated comments received and send out to C5.6 subgroup for comments

		PalmGHG leaflet updated. It is useful to include the updated functions or values of Version 2 in Version 3.	
7.	C 5.6 Submission	<p>RSPO Secretariat presented on the submission figure for submission on C 5.6 to which there were still discrepancies in figures for submission received in 2015 (152 reports) versus 2016 (156). Discrepancies mainly found on the submission recordings reported in the meeting for 2015 is lesser than the number reported in the last meeting (156 submissions for year 2015).</p> <p>There are also concerns raised over the non-submission, taking that 41 submissions received for two consecutive years reporting. This would mean (assuming 152 reports received are the full 100% certified mill) 111 non-submissions for year 2016 (unless the auditing date for all 111 mills fall at the end of the year). The submissions monitoring, should include reporting on the total non-submissions for certified mill. A simple reporting of total submissions versus total certified mill would be crucial. Actions should follow to non-submitters.</p> <p>RSPO Secretariat presented the result of a simple analysis based on emissions data collected through submissions. The presentation focuses on showing the average emissions based on data collected and comparing the emissions reported for assessment year 2014 versus year 2015 from the 27 consecutive submissions reports received.</p> <p>Total submission received as of 31<sup>st</sup> August, was 156 reports against 273 mills that are certified. From the 156 reports, 27 reports were submitted for following assessment year. It was found that 11 submissions showed an increase in the final emission figure. The reasons are due to shifting from palmGHG calculator Option 3 to exclude land use emission to Option 2 of using Nov 2005 cut off value, increase in POME emission, increase in the use of fertiliser and also error in data entry method.</p> <p>From the 156 submissions, 37 submissions were identified to have methane capture facilities. Among these, 4 mills have submitted report for following assessment year in which only 2 mills showed a decrease in their final emission.</p> <p>ERWG members suggested to use these data collected for regional base analysis, comparison emission between mills with methane capture and without methane capture, cultivation on peat versus mineral soil and also to identify the key parameters that results in high emission value.</p>	<p>RSPO Secretariat to tidy-up the submissions data and reports back to ERWG, including some details monitoring of submissions by region/country and the data analysis.</p> <p>RSPO Secretariat to send reminders to certified growers who has not submit GHG reports; and highlight this to CBs.</p>

		ERWG members requested for more detailed analysis to be conducted in terms of LUC emission, POME emission peat emission and methane capture.	
8.	C 7.8 Submission	<p>Members of ERWG raised that no more 'pink and purple' colour to be used for powerpoint presentation.</p> <p>RSPO Secretariat gave an update on submission received for C7.8. A total of 42 reports received from 1<sup>st</sup> January 2016 – 31<sup>st</sup> August 2016. A total of 5 submissions indicated the presence of peat, but no development proposed. 25 submissions with no presence of peat and 3 submissions with methane capture.</p> <p>RSPO Secretariat to double confirm if the reported 14 submissions for the year of 2015 approved or still pending. There is also suggest to do a simple observation check on how many submissions submitted that were approved with complied to the Procedure in year 2015 versus year 2016. This could be presented during RT14 informing the efforts of ERWG in providing relevant training and clarity of the Procedure. This include cross-checking with the NPP submissions without the submission of GHG assessment.</p> <p>RSPO Secretariat informed the members that with the implementation of NPP (2015), the procedure for NPP submission and approved specified that NPP would only be uploaded to RSPO Website upon the completion of all assessments approved.</p> <p>The concern over the time in delay for clarification received to approved, which depending on the clarification needed. Usually, minor clarification like signing-off by companies would be completed within 1-2 days; and a week to 2 for the missing of scenario development. The more crucial leading to long delay often happened on major methodological and land clarification issues.</p> <p>The adoption of HCSA and/or HCS+ Study for GHG assessment would covered the carbon assessment, all submissions using these tools are to complete the emissions assessment and scenario development.</p> <p>There is concern over carbon assessment conducted by independent assessors (i.e. IPB, PT Sinar Hijau Jaya) that reported 50% lowers in carbon stock compared to RSPO Default on the same land</p>	<p>RSPO Secretariat to take note that no more 'pink and purple' colour in PPT.</p> <p>RSPO Secretariat to confirm on the status of the 14 reports submitted for year 2015 and the check on the submission quality.</p>

		<p>cover type. RSPO Secretariat (through Indonesia Office) is connecting to IPB highlighting on the concern over the quality of assessment conducted, mainly for HCV but could briefing bring this on the table.</p> <p>There were some discussions 1-year ago, on how to ensure the quality of the assessment report and the group should consider any solutions on how to ensure quality of assessment through independent assessor.</p> <p>It would be good to have a table summarising the process and also the estimated emissions profile. RSPO Secretariat to work with Dr. Gan and Henry on how to present the data during RT14.</p>	<p>RSPO Secretariat to work with Dr. Gan in summarising the data and submissions for presentation in RT14.</p>
9.	<p>Review for GHG Assessment Procedure for new planting</p>	<p>Comments and updating of GHG Assessment Procedure for New Planting by members of ERWG were concurrently captured in the document in the meeting.</p> <p>The review continues onto the next day.</p>	<p>The discussion continued the next meeting day</p>
<p>27<sup>th</sup> September 2016, Tuesday</p>			
10.	<p>Reviewing of GHG Assessment for new planting</p>	<p>(Continuation from yesterday) Comments and updating of GHG Assessment Procedure for New Planting by members of ERWG were concurrently captured in the document in the meeting.</p> <p>There were discussions on the recommendation for placement of permanent monitoring points in each peat block and conservation area to measure water table depth and peat subsidence over time, as this may be additional efforts from the Standards. In addition to that, it has been challenging for RSPO to define on the water management regime due to lack of control by growers (i.e. drainage outside of the concession area).</p> <p>The counter argument would be i) RSPO Standards do required active management of peat, including managing water level (which BMPs for Peat does provides guidance on); and ii) active</p>	<p>All members of ERWG to work with RSPO Secretariat to finalise the Procedure by end of October 2016.</p>

		<p>management for area outside (especially on peat) should be demonstrated by growers through partnership.</p> <p>There are concern of which activities (such as development of road) required for active monitoring on peat and the drainage of the areas could be infringing HCVRN requirement on what activities are allowed.</p> <p>A list of tasking to be done via email exchanges to finalise the Procedure:</p> <ol style="list-style-type: none"> <li>1) Joseph to provide a paragraph on accuracy assessment &amp; requirement for i) satellite data interpretation (on stratification matter); 2) accuracy for carbon estimation.</li> <li>2) Henry to provide reference on CAPA in relation to the accuracy % to be adopted with some justification.</li> <li>3) RSPO Secretariat to work with Henry on updating all samples maps as according to mapping guidance provided.</li> <li>4) Audrey to provide a paragraph on the 'conservation sequestration', condition apply etc.</li> <li>5) RSPO Secretariat to work with Proforest in updating all figures.</li> <li>6) RSPO Secretariat to cross-check if all Appendixes are correctly referenced within the body text of the procedure, including all reference well captured.</li> </ol> <p>There is a need to update FAQ on C7.8 to capture the progress on the HCSA and HCS+ convergence.</p>	
11.	Draft guidance for Peat rewetting	<p>Revised draft guidance for peat rewetting presented by Arina. The draft was renamed to 'Impact of Peat Rewetting on Rehabilitation on GHG emission in peatland set aside area' and serves as reference paper. Use of 0.91tCO<sub>2</sub>/ha/yr as an emission value for this draft and in PalmGHG was discussed, where a footnote was added to explain that the figure shall be adjusted based on future research.</p> <p>There was concern over the current RSPO Default value for the estimation of GHG emissions from the drainage of peatlands using an equation that relies on drainage depth of peatland (in cm) as the main variable. Members of ERWG agreed that the default value will remained till research findings done. Currently, users are allowed to set custom default with provided reference.</p>	<p>RSPO Secretariat to have the reference paper cleaned up and having it attached with this minutes.</p> <p>This reference paper would be tabled to Peatlands WG for consideration for incorporation within updated BMPs</p>

		<p>There were discussions on whether the guidance could be used immediately within C7.8 or PalmGHG Calculator for drained Peatland set-aside. Existing PalmGHG Calculator does account for emissions from existing management on peatlands under cultivation of oil palm, there is no measures for emissions from drained peatland set-aside nor the emissions reduction after management actions taken. Taking this into account, emissions reduction resulted from active management on peatland set-aside could not be accounted as initial emissions from peat set-aside is not accounted.</p> <p>However, this is important and this could come into the discussion of incentive as to encourage growers to take active management actions over drained peatland set-aside. A suggest to take the initial water level as the baseline measure against the water level after active management, then the calculation of emissions reduction could be credited.</p> <p>There are concerns over the justification and verification over the baseline. The same concern goes to existing accounting of GHG reduction from conservation set-aside through accounting of sequestration. There is no mechanism of PalmGHG V3 to account for emissions of these conservation set-asides on incidences like fire. This issue was previous discussed with no clear decision.</p> <p>Consensus could not reach on including the emissions reductions from peat rewetting and rehabilitation (based on the reference paper) into PalmGHG Calculator or C7.8. However, growers who wish to calculate the possible emissions reduction could be guided by this reference paper.</p> <p>It is to note that there should be a note on both GHG Calculator and GHG Procedure that active management on conservation areas should be demonstrated for growers to claim the sequestration credits.</p>	<p>RSPO Secretariat to include a note on the requirements to demonstrate active management for claiming of sequestration credits</p>
12.	Drainability Assessment	<p>Proposal on guidance gaps within existing RSPO BMPs for peat; guidance on qualitative and quantitative assessment on drainability; and the way forward for the development of such guidance presented by Arina (refer Annex 6) as a request from last ERWG meeting. This is to inform the next step towards providing guidance for growers in conducting drainability assessment prior to replanting on peat to comply with C4.3.</p>	<p>RSPO Secretariat to check and present the budget and expenditure of ERWG.</p>



		<p>It was agreed that simple and practical guidance is needed urgently for members. Thus option 1 of the proposal of refining existing guidance within RSPO BMPs for peat is crucial and needed to be completed before the next P&amp;C (2013) review.</p> <p>ERWG members expressed their concern to remove existing guidance on the use of Duflow method (as per proposed) should quantitative methods made available. It is agreed that more guidance to be provided for Duflow model together with other quantitative methods or models to be developed. RSPO Secretariat to ensure the budget is available for this consultancy.</p> <p>A draft ToR is to be prepared by peatlands sub-group.</p>	<p>RSPO Secretariat to come up with the draft ToR and distribute to the Peat Subgroup for comments.</p>
13.	Guidance for Off-site impact	<p>The matter of off-site impact was discussed in the last minutes and agreed that current P&amp;C (2013) is covering the off-site impact under C5.1, calling through the Environmental Impact Assessment (EIA). The current C5.1 do not however calling for a quantifying of GHG of the off-site impact.</p> <p>The guidance for off-site proposed by WI, would be a stand-alone document to provide guidance. The recommendation would be to put this paper forward to Peatlands WG and to be discussed in next meetings to formulate recommendations for P&amp;C review.</p>	<p>RSPO Secretariat to take note on this and bring forward the discussion to next meeting over the discussion on ERWG recommendations for P&amp;C review</p>
14.	TOR for extension of ERWG	<p>The members of ERWG agreed that the WG will need to extend for another year to support the implementation of the revised and updated GHG Assessment Procedure for New Plantings and the PalmGHG Calculator Version3, including the public reporting of both C5.6 &amp; C7.8.</p> <p>The draft ToR was reviewed to better capture the scope of works and the expected outputs. Scope of works relating to peat was transferred to the Peatlands WG ToR.</p>	<p>RSPO Secretariat to prepared Board Paper and tabled in next BoG meeting (Nov).</p>
15.	ToR for Peatlands Working Group	<p>The draft ToR was reviewed to better capture the scope of works and the expected outputs. There were discussions on the importance of monitoring of the trends of oil palm cultivation on peat and potentially be done through having RSPO members to report on the total peatlands and total cultivation on peat.</p> <p>RSPO Secretariat could starts searching for consultant in carrying out the development of guidance for drainability assessment and the work could then be continued by the revived Peatlands WG.</p>	<p>RSPO Secretariat to prepared Board Paper and tabled in next BoG meeting (Nov).</p>

16.	C 5.6 and C7.8 public reporting after implementation period	<p>Discussion took place around the process for public reporting of C5.6 and C7.8. The key discussion would be to derive to the most practical process, of which it is to be incorporated into existing auditing process with data still made available sufficiently for the WG to extract for analysis.</p> <p>Public reporting of C7.8 is to be incorporated within NPP document following the reporting framework developed within the GHG Assessment Procedure.</p> <p>The more challenging part for reporting would be for C5.6. Current reporting of net GHG emissions by members was done in three key ways: i) PalmGHG access file, which is the main file of PalmGHG and allow for all data inputs to be extracted; ii) pdf file, is the simplified summary of the PalmGHG with limited data appeared; and iii) own report, which a report by members reporting the key emissions and the management plan.</p> <p>There are concerns over the quality of the report submitted (i.e. emissions reported unrealistically high or low) should the reporting mainly through public reporting. There should also be a checklist for audit to ensure some key checking parameter, i.e. the option for emissions calculation of PalmGHG should not be for exclude land use option.</p> <p>The decision is made by ERWG is to: i) auditor to check on data input; and ii) key information to be extracted out from PalmGHG and reporting through audit summary report. Key information should be including all key parameters of the PalmGHG and POME treatments, extent of peat cultivated, conservation areas, and planted area. Submission of PalmGHg access file to RSPO Secretariat could be made voluntary and highly encouraged.</p>	RSPO Secretariat to prepare the announcement on the public reporting of C5.6 and C7.8 to be announced through RSPO Website.
17.	RT 14 Update	<p>RSPO Secretariat informed members of ERWG on events relating to GHG during RT14 as following:  7<sup>th</sup> Nov (Monday) GHG Training (C5.6 &amp; C7.8)  8<sup>th</sup> Nov (Tuesday) morning: Prep. Cluster titled RSPO Measure to Reducing Emissions. Presentations and speakers as below:</p> <ol style="list-style-type: none"> <li>1) 'GHG Emission Reduction, Monitoring and Reporting by RSPO Members' by ERWG. Speaker: Gan Lian Tiong (Dr.), cochair of ERWG</li> <li>2) Low Carbon New Plantings. Speaker: PT Dharma Satya Nusantara</li> </ol>	RSPO Secretariat to work with Dr. Gan on the presentation for the prep cluster session.

		<p>3) Updates: Convergence of HCSA and HCS+. Speaker: Grant Rosoman, Greenpeace</p> <p>Tentatively, GAR is interested to present their emissions reduction approach in this session. There were concerns over if there are significant reductions from the new technology practices.</p>	
18.	AOB SH C7.8 & SH strategy	<p>ERWG has a concern on the practicality of implementing C 7.8 for group smallholders due to absence of Group Manager.</p> <p>There was a joint meeting before between ERWG and SHWG sometime back in RSPO Office discussing on the possible solution within the group certification document. RSPO Secretariat to trace the document for reference on this matter.</p> <p>There was also discussion on whether it is possible and if it is practical to set threshold on the minimal extent (total area) of which the assessment is made mandatory. Concern raised on possible arguments by NGOs in accepting the threshold set or even rejecting the approach. It may also serve as an interim or transition measure.</p> <p>This will need strong coordination between RSPO Secretariat, SHWG and BHCVWG. It is recommended that RSPO Secretariat to initiate the process.</p>	RSPO Secretariat to refer back to a recommendation document (2 years ago) for simplified approach for smallholder on C7.8.
19.	AOB GHG & Peat training	<p>RSPO Secretariat informed ERWG that two GHG and Peat Trainings are planned to be organised in partnership with Wetland International, one in Indonesia and another one in Sarawak, Malaysia. One training is planned in Dec this year in Indonesia. From the last peat training workshop, feedback received to have field visit.</p> <p>RSPO Secretariat opened for members to volunteer for the field visit to take place. Previously was Wilmar (on old peat). Another suggestion would be Woodland Plantation in Sarawak, Sime Darby (swallow and old peat), United Plantation in Semenanjung Malaysia.</p>	RSPO Secretariat to work with Wetlands International in reaching out to companies for field visit and arrangement of both training.
20.	AOB Updates from members	Dr. Gan informed the WG that there is a move from Indonesia national initiative in carrying out survey to 17 OP companies on GHG works and ISPO was approached on its GHG related work.	FYI

		<p>Audrey Lee informed the WG that Gabon conducted its country-level high carbon areas mapping (the threshold set is 108tC/ha) and the paper is published on Conservation Letter. Any development plan can take place on areas below the threshold with the condition that every 1ha of degraded or low carbon forest converted: 2.6ha of logged over forest to be conserved. The government of Gabon has also mapped the 20% of agriculture land. The paper can be found at <a href="http://onlinelibrary.wiley.com/doi/10.1111/conl.12265/full">http://onlinelibrary.wiley.com/doi/10.1111/conl.12265/full</a></p> <p>Arina mentioned that RSPO is engaging Wetlands International in developing online training modules on peatlands based on RSPO Manual on Best Management Practices (BMPs) for Existing Oil Palm Cultivation on Peat; and RSPO Manual on Best Management Practices (BMPs) for Management and Rehabilitation of Natural Vegetation Associated with Oil Palm Cultivation on Peat. These training modules will be uploaded and parked under the RSPO Sustainability College serves as online interactive training course.</p>	
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## Annex 1. ToR for Incentive Taskforce

### Terms of Reference

#### RSPO Incentives Task Force

##### **Background**

A RSPO Workshop on Exploring Incentives for Conservation Areas was held in Jakarta on 3<sup>rd</sup> and 4<sup>th</sup> May 2016. This is a joint initiative between the RSPO technical working groups, the Emission Reduction Working Group (ERWG) and the Biodiversity and HCV Working Group (BHCVWG) with participation from a few members of the Smallholder Working Group (SHWG). Throughout both days, the workshop had an attendance of 35-40 people (excluding Secretariat staff).

The purpose of the workshop is to convene interested stakeholders to discuss the development of mechanism options that can encourage or reward companies to voluntarily:

- i. Enhance management of existing conservation areas in order to improve its values (carbon and biodiversity)
- ii. Set aside areas beyond the minimum required by HCV assessments and also carbon assessments.

As a result of the discussions during the workshop, a recommendation was made to the RSPO Secretariat to form a small task force to continue the exploration of developing incentive mechanisms for conservation areas

[RSPO Secretariat to insert a para explaining why is the incentive discussion needed; and barriers (government) for set-aside; emerging opportunities (country commitments to UNFCCC)]

##### **Scope of work**

The task force will oversee and compile outputs from time bound commissioned work/studies to determine

1. Options for generating resources for the incentives which can include funds from downstream supply chain actors, development agencies, etc.
2. Type of incentives that are considered important (financial, reputation, certification, market) to the producers of varying scales (i.e. plantation owners, independent smallholders, scheme smallholders)
3. Range of incentive options such as enabling policies, legal approvals, tax breaks, etc. and beneficiaries (with a special consideration for smallholders)
4. Lessons learnt from other similar schemes (across region and countries)
5. Barriers and opportunities identified; and strategies identified to over-come barriers

The final objectives of the task force are to

- develop practical options for incentives mechanisms for rehabilitation and conservation of HCV and other required set-asides (river buffers etc)

- develop practical options for incentives mechanisms for rehabilitation and conservation of 'voluntary' set-asides such as peatland and 'other' forests
- recommend strategies to implement the options and overcome barriers (e.g. through engagement)

The options should include consideration related community activities for alternative livelihoods to safeguard the set aside HCV and HCS areas, peatlands and other conservation areas from being logged, cleared and/or mined.

### **Composition and Reporting**

The task force will be made up of 2-3 representatives from each of ERWG, BHCVWG and SHWG plus selected experts in the field of payment for ecosystem services and carbon finance. In order to facilitate discussion and efficiency, the size of the task force will not exceed 10 - 12 members (excluding Secretariat support staff).

The task force will work independently in coordination with the three WGs. Recommendations made by the task force will be submitted for discussion and endorsement at the Board of Governors. However, in order to ensure the full participation of all three working groups in this joint project, the relevant task force members are required to update, gather input and discuss progress made by the task force at the respective working group meetings.

### **Timeframe.**

It is anticipated that the Task Force should have a mandate to complete its work in 12 – 18 months (this will depend on the agreed work plan and key activities).

The initial timelines for delivery are

1. Created and ToR endorsed by the three WGs – July 2016
2. Establishment of the task force – early August 2016
3. Meeting to draft work plan and key activities – August 2016
4. First communication of progress – Nov 2016, RT 14

Subsequent outputs will have to depend on the agreed work plan when the task force meets for the first time in August 2016.

## Annex 2. ToR for Extension of ERWG

### Terms of Reference

#### Extension of Emission Reduction Working Group

##### 1. Main Purpose

To support and oversee the full implementation of Criterion 5.6 and Criterion 7.8 of RSPO P&C 2013.

##### 2. Scope of Work

- Oversee the implementation and promotion of PalmGHG Calculator Version 3 and assess any need for refinement.
- Oversee the implementation of GHG Assessment Procedure for New Plantings and assess any need for refinement.
- Oversee the compilation of best management practices to minimise and reduce operational emissions from palm oil production.
- Provide recommendations on plans for filling any identified gaps within current monitoring, reporting and auditing framework for C5.6 & C7.8 (if any).
- Provide input to the GHG aspects of RSPO Next, SHWG and other processes as required (RSPO RED)
- Review trends in GHG emission from RSPO members – based on reporting under 5.6 and 7.8.
- Provide recommendations for consideration in the next revision of the RSPO P&C linked to GHG and related issues.

##### 3. Expected Outputs

1. Recommendation paper on guidance required for gaps identified within current monitoring and reporting framework for C5.6 & C7.8.
2. Summary report on observations made on the full implementation and impacts of C5.6 & C7.8.
3. Compilations of best management practices to reduce operational emissions from palm oil production.
4. Report on trends in GHG emission from RSPO members – based on reporting under 5.6 and 7.8.
5. Recommendations for consideration in the next revision of the RSPO P&C and other processes linked to GHG and related issues (e.g. RSPO NEXT, RSPO RED, SHWG).

##### 4. Meeting Frequency

Members of this working group expected to meet once every six months.

##### 5. Composition

All members of existing ERWG remains. The working group is composed of 13 members with representation that reflects the sectoral and geographical composition and balance of RSPO:

- growers (6)
- environmental organizations (2)
- social organizations (2)
- consumer product manufacturers or financial institutions (1)
- processors and traders (1)
- technical expert (1)

There will be two Co-Chairs, one each selected from growers and environmental NGOs.

There will be sub-groups linked to C5.6 & C7.8 which will work between meetings of the whole group as necessary.

Quorum is reached when majority of the members are present physically or via telecon. Meetings can be held physically or through teleconference.

All members should have technical skills in one of the following discipline, greenhouse gas accounting and reporting, GIS and remote sensing, plantation and management, soil science, agronomics or corporate social responsibility. The working group will rely on the experience of the technical staff of RSPO members. However other research institutions or technical experts may be invited to participate, at the recommendation of the working group members if they bring specific expertise in the disciplines mentioned above.

All submissions made available to the working group are considered confidential unless specified otherwise.

#### *Role of secretariat*

Secretariat should support the working group and facilitate interactions with the members and stakeholders.

#### 6. Active Period

The working group will remain active throughout the period of 1-year upon the expiry of previous ToR which ends on 31<sup>st</sup> December 2016. The task mentioned above should be effectively completed before 31<sup>st</sup> December 2017.



## Draft Terms of Reference

### RSPO Peatland Working Group (2)

#### 1. Introduction

The first RSPO Peatland Working Group (PLWG) was established in 2010 and operated till late 2012. The objectives of the PLWG were to:

- i. Identify the environmental and social impacts related to oil palm plantations on peatlands.
- ii. Identify best practices for managing oil palm plantations on peat soils in order to minimize GHG emissions and enhance sustainability.
- iii. Identify practical methodologies for assessing and monitoring carbon stocks and key GHG emissions from oil palm plantations established on peat soils; and
- iv. Evaluate options and constraints for the rehabilitation of degraded peatlands.

The PLWG produced a number of specific outputs in 2011 and 2012 including:

- a. A review identifying the main environmental and social impacts related to oil palm plantations on peatlands.
- b. RSPO Manual on Best Management Practices (BMPs) for Existing Oil Palm Cultivation on Peat.
- c. RSPO Manual on Best Management Practices (BMPs) for Management and rehabilitation of Natural Vegetation associated with Oil Palm Cultivation on Peat.
- d. Report on practical methodologies that can be to assess and monitor key GHG emissions that originate from oil palm plantations established on peat soils.

It is now five years after the completion of the work of the RSPO Peatland Working group and much further work has been done on peatlands. It is considered that there is a need to re-establish the PLWG to review and update earlier guidance and contribute on other issues.

Development and management of Oil palm plantations on peatlands remains one of the most significant contributors of GHG emissions from the oil palm sector. It also leads to long term impacts related to land subsidence and flooding and contributes to increased risk of fires and associated smoke haze.

#### 2. Main Purpose

To Update guidance produced by the PLWG (2010-2012) and provide additional guidance in relation to RSPO P&C 2013.

#### 3. Scope of Work

- Monitor trends in oil palm cultivation on peatlands
- Propose refinement related to peatlands in RSPO tools, standards and guidance (PalmGHG, GHG assessment procedure, P&C 2013, NPP, RSPO Next, auditing etc.)
- Review and analyse the experience in implementing RSPO BMPs on peatlands
- Review and update the guidance in the RSPO Manual on Best Management Practices (BMPs) for Existing Oil Palm Cultivation on Peat
- Review and update the guidance in the RSPO Manual on Best Management Practices (BMPs) for Management and rehabilitation of Natural Vegetation
- Oversee development of Guidance on drainability assessments for peatlands

- Develop additional guidance and explore incentive options on rewetting and rehabilitation/conservation in peatlands
- Provide guidance for smallholder cultivation on peat.
- Guidance on regionally appropriate definition and practices
- Develop or guide appropriate outreach and capacity building programmes related to the BMP manuals.

#### 4. Expected Outputs

- A review assessing trends in Oil palm cultivation on peat and use of BMPs.
- b) Updated version of the RSPO Manual on Best Management Practices (BMPs) for Existing Oil Palm Cultivation on Peat.
- c) Updated version of the RSPO Manual on Best Management Practices (BMPs) for Management and rehabilitation of Natural Vegetation associated with Oil Palm Cultivation on Peat.
- d) New Guidance on drainability assessments for peatlands
- e) New guidance for smallholder cultivation on peat.
- f) Outreach and capacity development materials
- g) Inputs to other RSPO processes

#### 5. Meeting Frequency

Members of this working group expected to meet once every four to six months.

#### 6. Composition

It is proposed that the group comprises approximately 12 members, comprising mainly specialists in plantation and peatland management proposed primarily from Growers (Indonesia, Malaysia and Rest of the World) and Environmental and Social NGOs. In addition, (as with the first PLWG) some independent peatland experts may be invited to join/ provide inputs.

There will be two Co-Chairs, one each selected from growers and environmental NGOs.

All members should have technical skills in one or more of the following disciplines, peatland assessment and management, peatland restoration, peatland water management, oil palm cultivation on peatland, soil science, agronomics or corporate social responsibility. The working group will rely mainly on the experience of the technical staff of RSPO members. However other research institutions or technical experts may be invited to participate, at the recommendation of the working group members if they bring specific expertise in the disciplines mentioned above.

#### 7. Role of secretariat

Secretariat should support the working group and facilitate interactions with the members and stakeholders. The secretariat will also oversee the preparation of commissioned studies and other work.

#### 8. Active Period

It is proposed that the working group undertakes its work in the period January 2017 to December 2019

## ERWG Reference Paper

### Impact of Peat Rewetting and Rehabilitation on GHG emission in Peatland Set Aside Areas

#### Introduction

In peatland set-aside areas and peatland areas adjacent to the plantation (forest or not-forest) it is important to prevent fires, to minimize emissions and to minimize carbon losses. As required by RSPO, growers shall present management and monitoring actions to maintain, manage or enhance such areas. Outcome of actual monitoring result shall be incorporated during reporting.

If the natural hydrological functioning of a peatland is influenced by drainage, restoration of the hydrological functioning through rewetting is important. A number of ways to restore the wetland hydrology are outlined in the RSPO BMP for management and rehabilitation of natural vegetation associated with oil palm cultivation on peat (e.g. pages 44-47 and 87-89).

Calculation and accounting of (1) sequestration of above ground carbon, (2) avoided peatland emissions and (3) emission reductions may be possible. It depends, amongst others, on the original status of the peatlands which emissions reductions, carbon gains and or/emission avoidances can be achieved.

This reference paper is developed by Wetland International and adopted by ERWG.

#### Calculations of carbon sequestration and emission reduction after rewetting/conservation/rehabilitation in peatland set-asides and adjacent areas

##### 1. Above ground carbon

###### a. Sequestration or gain of above ground carbon

By applying good management (pages 43-71 BMP) in forested peatland set-aside areas and areas that are adjacent to the plantation, negative impacts and degradation can be avoided. This may even lead to sequestration of carbon through above ground biomass growth. Also rehabilitation of peat swamp forests in degraded sites may lead to sequestration of carbon in above ground biomass, and there are other situations where good management may lead to carbon sequestration.

Ways to determine carbon sequestration are:

- Using default values for biomass increase, peer reviewed and internationally approved (TIER 1)
- Using region specific default values for biomass increase from peer reviewed scientific studies (TIER 2)
- Using annual non-destructive measurement-based estimates of biomass increase in the site (TIER 3)

Regional default data is only applicable for set aside areas that represent the forest quality described as in the research where the numbers are extracted from. In principle the ERWG endorses the proposed defaults (reference!!), but performing own measurements and monitoring in the field is recommended.

Details on how to measure above ground carbon can be found in literature, and specifically in the RSPO paper on "*Methods for determining greenhouse gas emissions and carbon stocks from oil palm plantations and their surroundings in tropical peatlands*" (RSPO, 2013). Implementation of the possibility to calculate above ground carbon sequestration by using PalmGHG will be progressed, but some steps need to be taken.

#### Example of above ground sequestration

Rehabilitation of peat swamp forest with species with an average sequestration rate of 2.5 tC/ha or **9.2 t CO<sub>2</sub> per year**.

#### b. Avoided loss of above ground carbon

If a forested peatland that was identified for development and/or logging is protected, conserved and rehabilitated, the forest carbon that is on the peatland is avoided to be lost. Some internationally approved methodologies for carbon accounting deal with avoided losses.

#### Example of above ground avoided loss

Baseline: oil palm development, time average C stock 64 t C ha<sup>-1</sup> (the growers could clear for plantation development)

Set-aside (if the grower decides to set-aside the forest voluntarily): conservation of peat swamp forest, time average C stock 124 t C ha<sup>-1</sup>

Avoided C loss is 60 t C or **220 t CO<sub>2</sub>-eq ha<sup>-1</sup> in total**.

#### c. Emissions reductions from peatlands

If the natural hydrological functioning of a peatland is influenced by drainage, restoration of the hydrological functioning through rewetting leads to emissions reductions. A grower is encouraged to restore the hydrological functioning of e.g. the peatlands set-aside areas to avoid fire, minimize soil subsidence, minimize emissions on-site and off-site. To calculate the emissions reduction after rewetting, different approaches can be used:

- Using default values for emissions or as inputs for emissions calculations, peer reviewed and internationally approved (TIER 1, such as IPCC)
- Using region specific default values for emissions or as inputs for emissions calculations, from peer reviewed scientific studies (TIER 2)
- Using water table measurements and/or soil subsidence measurements for determining emissions and/or direct emission measurement from the site (TIER 3)

*Approach:* compare the emissions in the baseline (oil palm) with the emissions in the scenario of set-aside and conservation (e.g. wet- and forested peatland).

### Example Peatland emission reductions

Baseline: oil palm development, average annual WT -60 cm:

- CO<sub>2</sub>: 0.91 ton CO<sub>2</sub> x 60 cm of drainage per ha per year<sup>1</sup> (\*ref RSPO PalmGHG)
- CH<sub>4</sub>: assumed 0 ton CH<sub>4</sub> per ha per year
- N<sub>2</sub>O: assumed 16 kg N<sub>2</sub>O-N or 7.4 ton CO<sub>2</sub>-eq per ha per year

Set-aside: conservation of peatland and rewetting, average annual WT -10 cm

- CO<sub>2</sub>: 0.91 ton CO<sub>2</sub> x 10 cm of drainage per ha per year (ref RSPO PalmGHG)
- CH<sub>4</sub>: 41 kg CH<sub>4</sub>-C per ha per year (Table 2, IPCC Wetlands Supplement) = 1.53 ton CO<sub>2</sub>-eq per ha per year
- N<sub>2</sub>O: assumed 0 ton N<sub>2</sub>O per ha per year

In this case rewetting will result in an emission reduction of **51.37 ton CO<sub>2</sub>-eq per ha per year**.

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<sup>1</sup> This factor may be adjusted in future depending on additional research

## Annex 1 Defaults that can be used for the calculations of peatland emissions

### 1. Emission factors for *drained peatlands*

Land use	Emissions CO <sub>2</sub>	Emissions CH <sub>4</sub>	Emissions N <sub>2</sub> O	Source
Oil palm	0,91 ton per ha per year for each cm of drainage	Assumed zero	7.4 t CO <sub>2</sub> -eq per hectare per year	PalmGHG
Other land uses	IPCC Wetlands Supplement	Assumed zero	IPCC Wetlands Supplement	IPCC Wetlands Supplement

### 2. Emission factors for *rewetted peatlands*

Table 1. Emissions of ton CO<sub>2</sub>-C ha<sup>-1</sup> yr<sup>-1</sup> for rewetted organic soils (IPCC 2013).

TABLE 3.1 DEFAULT EMISSION FACTORS (EF <sub>CO<sub>2</sub></sub> ) AND ASSOCIATED UNCERTAINTY, FOR CO <sub>2</sub> -C FROM REWETTED ORGANIC SOILS (ALL VALUES IN TONNES CO <sub>2</sub> -C HA <sup>-1</sup> YR <sup>-1</sup> ).			
Climate zone	Nutrient status	EF <sub>CO<sub>2</sub></sub>	95% range
Boreal*	Poor	-0.34 (n=26)	-0.59 – -0.09
	Rich	-0.55 (n=39)	-0.77 – -0.34
Temperate**	Poor	-0.23 (n=43)	-0.64 – +0.18
	Rich	+0.50 (n=15)	-0.71 – +1.71
Tropical***		0	

Note: Negative values indicate removal of CO<sub>2</sub>-C from the atmosphere. n = number of sites. 95% confidence interval is used to give the 95% range.

\* Emission factors for boreal rewetted organic soils derived from the following source material (see Annex 3A.1 for details): Bubier *et al.*, 1999; Komulainen *et al.*, 1999; Soegaard & Nordstroem, 1999; Tuittila *et al.*, 1999; Waddington & Price, 2000; Waddington & Roulet, 2000; Alm *et al.*, 1997; Laine *et al.*, 1997; Suyker *et al.*, 1997; Whiting & Chanton, 2001; Heikkinen *et al.*, 2002; Harazono *et al.*, 2003; Nykänen *et al.*, 2003; Yli-Petäys *et al.*, 2007; Kivimäki *et al.*, 2008; Nilsson *et al.*, 2008; Sagerfors *et al.*, 2008; Aurela *et al.*, 2009; Drewer *et al.*, 2010; Soini *et al.*, 2010; Maanaviija *et al.*, 2011.

\*\* Emission factor for temperate rewetted organic soils derived from the following source material but is not significantly different from zero (see Annex 3 A.1 for details): Shupali *et al.*, 1995; Lafleur *et al.*, 2001; Wickland, 2001; Aurela *et al.*, 2002; Schulze *et al.*, 2002; Petrone *et al.*, 2003; Roehm & Roulet, 2003; Billett *et al.*, 2004; Drösler, 2005; Nagata *et al.*, 2005; Bortoluzzi *et al.*, 2006; Hendriks *et al.*, 2007; Jacobs *et al.*, 2007; Lund *et al.*, 2007; Riutta *et al.*, 2007; Roulet *et al.*, 2007; Wilson *et al.*, 2007; Augustin & Chojnicki, 2008; Cagampan & Waddington, 2008; Golovatskaya & Dyukarev, 2009; Kurbatova *et al.*, 2009; Drewer *et al.*, 2010; Waddington *et al.*, 2010; Adkinson *et al.*, 2011; Augustin *et al.* in Couwenberg *et al.*, 2011; Koehler *et al.*, 2011; Christensen *et al.*, 2012; Urbanová, 2012; Strack & Zuback, 2013; Drösler *et al.*, 2013; Herbst *et al.*, 2013; Wilson *et al.*, 2013.

\*\*\* For tropical rewetted organic soils where decayed organic material is not oxidised due to saturated conditions.

Table 2. Emissions of kg CH<sub>4</sub>-C ha<sup>-1</sup> yr<sup>-1</sup> for rewetted organic soils.

**TABLE 3.3**  
**DEFAULT EMISSION FACTORS FOR CH<sub>4</sub> FROM REWETTED ORGANIC SOILS**  
**(ALL VALUES IN KG CH<sub>4</sub>-C HA<sup>-1</sup> YR<sup>-1</sup>)**

Climate zone	Nutrient Status	EF <sub>CH<sub>4</sub></sub>	95% range
Boreal*	Poor	41 (n=39 sites)	0.5 – 246
	Rich	137 (n=35 sites)	0 – 493
Temperate**	Poor	92 (n=42 sites)	3 – 445
	Rich	216 (n=37 sites)	0 – 856
Tropical***		41 (n=11 sites)	7 – 134

\* Derived from the following source material (see Annex 3 A.3 for details): Alm *et al.*, 1997; Bubier *et al.*, 1993; Clymo & Reddaway, 1971; Drewer *et al.*, 2010; Gauci *et al.*, 2002; Juottonen *et al.*, 2012; Komulainen *et al.*, 1998; Laine *et al.*, 1996; Nykänen *et al.*, 1995; Tuittila *et al.*, 2000; Urbanová *et al.*, 2012; Verma *et al.*, 1992; Waddington & Roulet, 2000; Whiting & Chanton, 2001; Yli-Petäys *et al.*, 2007; Strack & Zuback, 2013.

\*\* Augustin & Merbach, 1998; Augustin, 2003; Augustin *et al.*, 1996; Augustin in Couwenberg *et al.*, 2011; Bortoluzzi *et al.*, 2006; Cleary *et al.*, 2005; Crill in Bartlett & Harris, 1993; Dise & Gorham, 1993; Drösler, 2005; Drösler *et al.*, 2013; Flessa *et al.*, 1997; Glatzel *et al.*, 2011; Harriss *et al.*, 1982; Hendriks *et al.*, 2007; Jungkunst & Fiedler, 2007; Koehler *et al.*, 2011; Nagata *et al.*, 2005; Nilsson *et al.*, 2008; Roulet *et al.*, 2007; Scottish Executive, 2007; Shannon & White, 1994; Sommer *et al.*, 2003; Tauchnitz *et al.*, 2008; Von Arnold, 2004; Waddington & Price, 2000; Wickland, 2001; Wild *et al.*, 2001; Wilson *et al.*, 2009, 2013; Beetz *et al.*, 2013.

\*\*\* Derived from the following source material from undrained sites (see Annex 3 A.3 for details): Furukawa *et al.*, 2005; Hadi *et al.*, 2001, 2005; Inubushi *et al.*, 1998; Jauhainen *et al.*, 2001, 2004, 2005, 2008; Melling *et al.*, 2012; Pangala *et al.*, 2012.

## ERWG Discussion Paper

### Proposal for Next Step in Relating to Updating and/or Development of Guidance on Peatland Drainability Assessment

#### Background

Current drainability assessment guidelines provided in the RSPO Manual on Best Management Practices (BMPs) for existing oil palm cultivation on peat refer to 'van den Eelaart, 2005': a Draft Version (09-04-2005) of (not peer reviewed and not published) text from the personal website of Adriaan van den Eelaart (<http://www.eelaart.com/index.htm>).

Feedback received from RSPO members that there is a need for a clearer step-by-step guidance on how to conduct drainability assessment. In the 9<sup>th</sup> ERWG meeting, there was a suggestion proposed by Wetland International (WI), however, there was concern over the feasibility and cost-effectiveness of the proposed suggestion. Hence, members of ERWG requested WI to conduct a simple analysis on the gaps of existing guideline and propose a way forward, taking into consideration the cost and practicality of such.

Below are the results proposed:

#### For the qualitative analyses (analyses 'by monitoring the field')

- i. What: Improve the current BMP asap, or add in a separate guidance document, the guidance on the Qualitative assessment (by monitoring the field) of the current drainability:
  - a. Determine what the important content should be of this guidance and agree with ERWG:
    - i. Explanation and illustration on what exactly drainability is, and which factors determine the drainability in a plantation, (+what is visible and can be determined *by eye*, what is invisible and should be measured)
    - ii. Explanation on short- term and long term consequences of reaching the drainability limit
    - iii. Examples + pictures
  - b. Analyse the guidance (in Powerpoint) developed by Dr Lim and distributed by Mukesh and determine which parts can be used for the qualitative guidance.
  - c. Make this guidance completely compliant to the P&C and refer to other (RSPO) documents

Who: external expert/consultant (analyses and preparing document), and ERWG (review and improvements)

#### For the required quantitative analyses, we can choose for the next step, or directly go to step 3.

- ii. What: research on the applicability of the Duflow model (current BMP) for the calculation (the quantitative part) of the time that it takes to reach (two cycles away from) the drainage limit drainage limit: can we use the Duflow Model for this calculation (applicability, error, significance etc). Outcome:



- a. Yes, we can use this model (which I do not expect based on a quick analyses).
  - i. Then improve the current BMP so that it is usable for growers:
    - 1. Improve text
    - 2. Illustrations and examples
    - 3. Make sure that the 'whole story' is in this guidance (time that it takes to reach 'two cycles away' from the drainage limit)
  - ii. Test the model with at least 5 growers on applicability and outcome
  - iii. Plan training for growers etc etc

Who: Model developer (Netherlands, WUR) or specialist/master student and ERGW (tests)

- iii. What: Further develop a quantitative guidance document based on the draft by Wetlands International:
  - a. Determine gaps in current draft
  - b. Comply to P&C and provide clear guidance on the following steps:
    - i. Assessment of the drainage limit based on the distance to the closest water body and including tides.
    - ii. Assessment of the thickness of the peat layer and thickness of the peat layer above the drainage limit
    - iii. Assessment of the soil subsidence rate OR the use of a conservative and science-based default factor for the soil subsidence rate (foot note: 'conservative' means a 'relatively high rate', in view of the need for precaution and based on internationally peer reviewed published science)
    - iv. Assessment of the period of time that it takes to reach the drainage limit
  - c. Test with growers
  - d. Determine the format+location of this guidance
  - e. Implement/include in trainings/workshops etc

Who: external expert/consultant (analysis and completing guidance), ERGW (tests)

## Annex 7. Term of Reference (ToR) for development of guidance document for drainability assessment

### Terms of Reference

Development of guidance for peat drainability assessments for complying with Indicator 4.3.5 of Criterion 4.3

#### 1. Objective

To develop practical and detailed step-by-step guidelines for a peat drainability assessment to determine the long-term viability of the necessary drainage for oil palm.

#### 2. Background

Indicator 4.3.5 of RSPO Principle & Criteria (2013) is stating that 'drainability assessments shall be required prior to replanting on peat to determine the longterm viability of the necessary drainage for oil palm growing'. This indicator requiring RSPO members cultivating on peat to conduct a drainability assessments prior to replanting to determine the suitability. If the assessment indicates high risk of serious flooding and/or salt water intrusion within two crop cycles, growers and planters should consider ceasing replanting and plans should be in place for appropriate rehabilitation of alternative use of such areas.

In view of the need to provide guidance to RSPO members for ensuring sustainability, the Manual on Best Management Practices (BMPs) for Existing Oil Palm Cultivation on Peat is developed and published in 2013. Current guidance on how to conduct a drainability assessment, including the use of the 'Duflow Model', is captured under Chapter 3.6 (Replanting Practice) of the BMP.

It came to the attention of the RSPO Emission Reduction Working Group (ERWG) that current guidance provided in the RSPO Manual for conducting the drainability assessment is difficult to understand and may be insufficient to fulfil the requirements under indicator 4.3.5.

We seek for a robust and 'easy to understand' guidance on how 'high risk of serious flooding/salt water intrusion within two crop-cycles' can be determined by growers for their oil palm cultivation on peat. To determine the time that it takes to reach the 'point in time' of serious flooding, at least the following variables need to be known:

- i. the drainage limit, considering tidal and seasonal fluctuations of the water table.
- ii. the total thickness of the peat layer and the thickness of the peat layer above the drainage limit
- iii. the soil subsidence rate
- iv. the period of time that it takes for the peat to subside to the drainage limit

#### 3. Expected output

- i. Refined and updated, to provide improved clarity and practical guidance, on existing drainability assessment guidance provided under Chapter 3.6 Replanting Practice of RSPO Manual on Best Management Practices (BMPs) for Existing Oil Palm Cultivation on Peat.

- ii. Analyses of the applicability of the Duflow model for indicating high risk of serious flooding and/or salt water intrusion within two crop cycles, and thus to indicate the potential for replanting.
- iii. Analyses of other approaches (including materials provided by ERWG) that can be used to indicate high risk of serious flooding and/or salt water intrusion within two crop cycles, and thus to indicate the potential for replanting.
- iv. Development of a practical and step-by-step guidance for the application of appropriate method for the purposes of assessing the suitability for oil palm replanting.

#### 4. Guiding Principles

Deliverables required under this ToR:

A robust drainability assessment guideline, Practical to be used on the ground, and testing with grower/users. To come to this robust drainability assessment guideline for assessing the risk of serious flooding/salt water intrusion within two crop cycles, the following deliverables are needed

- i. An analytical report on the applicability of methods, including of 'Duflow Model' for the purpose of assessing the risk of serious flooding/salt water intrusion within two crop cycles
- ii. The identified method shall be:
  - a. Cost effective and practical
  - b. Testing with grower/users for different situation and scenario (e.g. by PLWG members)

#### 5. Timeline:

Report on the review findings and methods identified – within 3 months

Testing with grower/users – within 2 months after the report

Final report – within 1 month after testing