



## Minutes of Meeting



Subject : 3<sup>rd</sup> Greenhouse Gas Working Group 2 (GHGWG-2) Meeting  
 Date : October 27<sup>th</sup>, 2022  
 Time : 9.00 - 10.35 am (MYT)  
 Venue : Zoom Meeting

Name	Organisation	Status
Hans Athaide	BASF	Substantive
Derrick Jovannus	Musim Mas	Alternate
William Siow	IOI	Substantive
Lai Wei Shoon	IOI	Substantive
Foo Siew Theng	Wilmar International	Substantive
Azizul bin Rahman	Wilmar International	Substantive
Hema Nadarajah	WWF	Substantive
Henry Cai	Permata Hijau Group	Substantive
Gotz Martin	Golden Agri Resources (GAR)	Substantive
Siti Nurhayati Kamaruddin	RSPO Secretariat	Secretariat
Akmal Arif Razali	RSPO Secretariat	Secretariat
Azamuddin Hassan	RSPO Secretariat	Secretariat
<i>Absent with apologies:</i>		
<i>Eza Nurain Abdullah</i>	Sime Darby	Substantive
<i>Peter Callister</i>	New Britain Palm Oil Limited (NBPOL)	Substantive
<i>Dita Galina</i>	Musim Mas	Substantive
<i>Low Sim Loo</i>	IOI	Alternate
<i>Kamal Seth</i>	WWF	Alternate

No.	Item Descriptions	Main Discussion Points	Action Points	Progress Update
1.	<p>Review of the previous meeting's minutes and action item progress</p> <p>Introduction of New Members</p>	<p>The RSPO Secretariat started the meeting by reviewing the agenda. The Secretariat then proceeded to provide members with an explanation of the antitrust statement, consensus-based decision making, and declaration of conflict of interest.</p> <p>The Secretariat recommunicated the structure of the WG, which is led by the Chair, i.e., William Siow, and supported by two leaders of upstream and downstream subgroups, Peter and Henry, respectively, based on the first meeting's consensus.</p> <p>A brief introduction of the new P&amp;T with refineries representative, Hans Athaide, and the Lai WS of IOI alternate, Sim Loo (Absent) to the WG.</p> <p>The Secretariat reviewed the previous meeting's minutes' (MOM) action items for progress. The previous MOM was subsequently endorsed by Henry and seconded by Siew Theng.</p>	For information	
2.	Gap Analysis Discussion for Upstream	<p>The Secretariat continued by projecting the documents of the current PalmGHG formula and emission factors, which had been separated according to Scope emission 1, 2, and 3, to the WG members. It is a summary of data extracted from the Excel spreadsheet of the New Plantation Procedure (NPP), whose formulas are identical to those used in the PalmGHG V4 web-based calculator.</p> <p>Henry began his explanation of the concept of separating the scope of PalmGHG emissions in the PalmGHG comparison tab by noting that the calculator is only used for plantations and palm oil mills. We are considering the perspective of emission within the boundary, i.e., Scope 1 emission and emissions associated with supporting materials consumed in the production of PO, such as fertilizers, etc. In the case of fertilizer, production and distribution according to palm oil mill and plantation will result in a Scope 3 emission, as nitrogenous fertilizer applied to the ground will emit nitrous oxide.</p> <p>The Chair suggests the downstream column to be added in the table.</p>	<p>In the next meeting, the Secretariat will revise the separation of scope and the new reference.</p> <p>Hans of BASF will provide the WG with information regarding the fertilizer at the next meeting.</p>	

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		<p>Hans stated that there is an emission of the fertiliser at a plantation level, such as when applying nitrogen (N), phosphorus (P), and potassium (K) – NPK fertiliser, which leaches nitrous oxide into the groundwater.</p> <p>Henry then proposed a rephrasing: material production and fertilizer transportation should be classified as Scope 3 emissions, while field emissions from the use of fertilizers should be classified as Scope 1 emissions (fertilizer application).</p> <p>Afterwards, the Secretariat projected the New Development GHG Calculator. Henry asked the WG whether the parameters in 6. Fertiliser and N2O tab (emissions from transport &amp; manufacture and emission from application) could be considered Scope 3 and Scope 1 emissions, respectively. Using Ammonium Nitrate (AN) as an example, Column C (Source to local port) and Column D (Road transport) – which are categorized as Scope 3 – must be separated from Column E (Material) – Scope 1. Henry reasoned that Column G34 the ‘Emission from transport &amp; manufacture and emission from application’ occurred outside of the boundary. And according to the strict definition of Scope 1, he stated that this scope emission is the only emission from fertilizer that is escaping into the air and soil.</p> <p>Noting the following formula for "Emissions from transport and manufacturing":</p>		

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		<p><b>Fertilisers (2) Emissions from transport</b></p> <ul style="list-style-type: none"> <li>Sea transport – port of origin to local port (km)  Sea transport emission = Distance(km) × Def. sea transport <math>\left(\frac{\text{kgCO}_2\text{e}}{\text{km}}\right)</math>  Default = 0.01777 kg CO<sub>2</sub>e/km</li> <li>Road transport – local port to storage facility (km)  Road transport emission = Distance(km) × Def. road transport <math>\left(\frac{\text{kgCO}_2}{\text{km}}\right) \times 2</math>  Default = <math>\frac{2}{20} \times 3.12 = 0.312</math>  <math>\left(\frac{2}{20}\right)</math>; 2litre of diesel is needed to travel 1 km for 2 tonne of FFB per trip)</li> </ul> <p> <b>RSPO</b>   Roundtable on Sustainable Palm Oil</p> <p>In addition, the equation for "Emission from field application" is:</p> <p><b>Fertilisers (3)Emissions from field application</b></p> <ul style="list-style-type: none"> <li>N<sub>2</sub>O emissions</li> </ul> <p>Direct emissions (kgN<sub>2</sub>O/t fertilizer) = %N × 0.01 × 1.57 × 1000  Indirect emissions (kgN<sub>2</sub>O/t fertilizer) = %N × [(30% × 0.0075)+(10% × 0.01) × 1.57 × 1000  Total (kgCO<sub>2</sub>e/t fertilizer) = (Direct + indirect) × 298</p> <p>Direct N<sub>2</sub>O production kgN<sub>2</sub>O-N/kg applied N = 0.01  1 kg N<sub>2</sub>O-N = (44/28) × 1 kg N<sub>2</sub>O = 1.57 kg N<sub>2</sub>O  N lost through runoff and leaching % = 30  Indirect N<sub>2</sub>O production kgN<sub>2</sub>O-N/kg N lost through runoff and leaching = 0.0075  N volatilisation loss % = 10  Indirect N<sub>2</sub>O production kgN<sub>2</sub>O-N/kg N lost through volatilisation = 0.01  GWP of N<sub>2</sub>O kgCO<sub>2</sub>e/kgN<sub>2</sub>O = 298 (IPCC 2007)</p> <p> <b>RSPO</b>   Roundtable on Sustainable Palm Oil</p> <p>Reference:  <a href="https://drive.google.com/file/d/105KgvSmVWdHpe6S44fgglSrlf5Uh9j9j/view">https://drive.google.com/file/d/105KgvSmVWdHpe6S44fgglSrlf5Uh9j9j/view</a></p> <p>Siew Theng argued otherwise, stating that the use of all fertilizers has no effect on emissions. According to Hans, it does have an effect. 1 kilogram of nitrous oxide has the same global warming potential as 300 kilograms of carbon dioxide equivalent.</p>		

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		<p>Siew Teng disputed further on fertiliser that has no nitrogen (N) content in it like boron phosphate will not set out an impact to emission too.</p> <p>For these reasons, Siew Theng was unsure in Henry's stance on the Scope 1 emission of the plantation, which will only include N2O and nothing else, given that the use of fertilizer, chemicals, etc. originate from external sources.</p> <p>Henry firmly stated again on the boundary based on literal definition of GHG Protocol corporate standard and mentioned that even in calculating Scope 1, 2 and 3 based on GHG Protocol, they are stating mostly only on calculating fuel consumption like diesel and gasoline in the process.</p> <p>He mentioned that default values in PalmGHG for diesel consumption had already combined the diesel combustion that has a direct CO2 emission and the emission via distribution and operation. To really segregate the scoping, the default values for diesel should be separated. Hence, the same basis shall be applied for fertiliser scoping.</p> <p>Note that the PalmGHG for fuel formula for mill and field is:</p> <div data-bbox="622 965 1451 1422" style="border: 1px dashed blue; padding: 10px;"> <p><b>Fuel (same calculation for both mill and field)</b></p> <ul style="list-style-type: none"> <li>• Formula           <math display="block">\text{Fuel emission } \left( \frac{\text{litre}}{\text{year}} \right) = \text{Volume used} \times \left( \frac{\text{Emission factor}}{1000} \right)</math> </li> <li>• Note:           <ul style="list-style-type: none"> <li>• Diesel emission factor = 3.12</li> <li>• Petrol emission factor = 2.75</li> </ul> </li> <li>• There is provision for bioethanol and biodiesel use but default has to be user defined as this is based on blend and feedstock</li> </ul> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;">   </div> </div>		

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		<p>The IPCC default values for Scopes 1, 2, and 3 could be used in this instance. He noted that these values are lower than the ISCC and current PalmGHG values.</p> <p>The Secretariat will contact the developer about incorporating a scoping feature into the new calculator. To generate the new data, it is necessary to implement new programming. This would also facilitate the scoping of emissions downstream (Scope 3).</p> <p>The Chair posed the question of whether the current spreadsheet's references should be reviewed or if new references should be added. Siew Theng mentioned that we may need references that should be new, though, unless the same reference has both or all three scopes listed down.</p> <p>Henry proposed comparing the old default values to the IPCC default values in order to identify differences.</p> <p>Lai WS concurred with the WG's use of the most up-to-date data available and noted that most of the figures are obsolete due to advances in technology. As time passes, the application will undergo modifications.</p> <p>Hans also mentioned that, as BASF is a member of the International Fertilizer Association (IFA), plus these details (emission factors, etc.) could be obtained from publicly available data. Hans will share updated emission factor information based on the list.</p> <p>Members of the Working Group unanimously agreed to divide the scope to facilitate sustainability reporting.</p> <p>Siew Theng added that PalmGHG already has adequate and existing emission factors for base fertilisers, which members can use to calculate the new emission factors for new mixtures. She also suggested separating these into distinct scopes.</p>		

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		<p>Action item: the Secretariat to filter the current formula and emission factors based on Scope 1, 2 and 3 by using the New Development calculator as the baseline for the WG to review.</p> <p>The Secretariat has shared the Life Cycle analysis papers to the WG members in the WhatsApp group.</p>		
3.	4 <sup>th</sup> Physical Meeting	<p>The Secretariat has confirmed the venue for the next meeting. Details as per below:</p> <p>Date: 22nd to 23rd Nov (2 full days meetings)  Time: 830am – 530pm MYT  Venue: the Swiss-Garden Hotel, Kuala Lumpur Malaysia</p> <p>William and Lai WS from IOI will be attending the meetings. Hans to confirm the attendance. Dr. Gotz will not attend due to a clash of schedules.</p> <p>The Secretariat will hold a hybrid session for virtual participants and to prepare if some members are faced with unforeseen circumstances.</p>	The Secretariat will share the Google Form for members to book accommodation with the Hotel.	The Secretariat has the Google Form for the assistance. <a href="https://forms.gle/6qa6rTUoWfybQy1N9">https://forms.gle/6qa6rTUoWfybQy1N9</a>
4.	Gap Analysis Discussion for Downstream	<p>Continuing the discussion from the last meeting, Henry discussed the boundary for downstream emission where the WG has yet to decide on the options:</p> <ol style="list-style-type: none"> <li>1. To set the whole site as the boundary so we just calculate the GHG emission of the whole site</li> <li>2. To set the boundary on the per plant basis so we need to calculate the GHG emission of each plant in the site</li> </ol> <p>Emission by products get that taking emission by side. It means to calculate emission from site A and divide up by produced to get the emission per product. Note that it's not representative. For example, the emission from Refined, Bleached &amp; Deodorized Palm Oil (RBDPO) will be the same as oleochemicals even though oleochemicals have processing steps.</p>	The WG to come out with simple excel spreadsheet for downstream calculator for the next meeting	

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		<p>Advantage: Much simpler to collect data to calculate GHG emission. Only the site's simple material balance is required to identify and quantify the site's GHG emissions.</p> <p>Disadvantage: Less accurate. All products will have the same intensity of greenhouse gas emissions (RBDP oil and RBDP olein will have the same intensity of greenhouse gas emissions despite the fact that RBDP olein is further downstream, has more processing steps, and uses more energy).</p> <p>Siew Theng agreed with Henry and stated that if there is a per-product level, but the product is not tied to a specific product, then it is simply a product that appears on the entire site. This is the simplest alternative.</p> <p>Lai WS proposed doing the plant site and the product simultaneously. The product divides the total site by the annual output. So, just by adding one number and being given the formula, I don't think it's all that hard.</p> <p>Siew Theng explained what Henry had said. If it's just a refinery (refining, processing, and fractionation units), the total product would be RPO or oleostearin and all the energy put in. This is the simplest way. If we want by product, we can have the emissions from the refining/fractionation. After adding up all of the site's emissions, you divide that number by the total number of products.</p> <p>On the other hand, we have integrated sites like a refinery, KCP, Biodiesel, and oleochemical. And the oleochemical sites would be more complicated. The WG will decide if each site will have its own value or if all four sites will share a single value.</p> <p>Henry stated that one disadvantage would be that the refinery product would have higher emissions, whereas oleochemical products would have lower emissions. Because emissions from all products are identical. While in reality it should be the opposite way around</p>		



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		<p>Dr. Gotz mentioned having a goal for the option to assign each oleochemical plant a single value, as there are so many products and it will be extremely challenging to break down the data per product. For integrated sites, each site must have its own independent value. The Chair supports this position.</p> <p>Henry then posed the question of how to allocate the power plant's emissions to sites that share the same power plant. Henry concurred with Siew Theng's proposal to prorate the emission based on production values.</p> <p>Lai WS stated that his site utilized individual meters. Proposed introduction of meters as an alternative to prorating, which provides more precise readings. Siew Theng affirmed this.</p> <p>The chair suggested that members present a visual or numberings in Excel sheet, i.e., a streamlined downstream calculator, at the following meeting.</p> <p>The members of the WG will consult with their Oleochemicals team.</p>		
7.	AOB	<p>Siew Theng posed a question regarding the extraction of data within the RSPO platform in order to update Scope 3 for the purchase of CPO from another certified mill, where the emission figures can be automatically linked to PalmGHG.</p> <p>The Secretariat will return with a new programmer to be discussed further and incorporated into the calculator's upgrade.</p> <p>Next monthly meeting is set for 9 AM Jakarta / 10 AM Kuala Lumpur time. Meeting Adjourned</p> <p>Next Meeting: 22nd to 23rd Nov (Physical)</p>	With the new data extractor company, the Secretariat will discuss the add-on feature.	