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RSPO's Approach in Calculating GHG Emission in Palm Oil Production

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Accounting for potential GHG emissions from the palm oil production is essential to demonstrate partly how responsible palm oil production can be carried out. Results of the GHG emission calculation from certified RSPO members using the RSPO PalmGHG Calculator are collated and reported. The potential sources of GHG emission that result directly from production of palm oil are enumerated. The cumulative impact, which affects the final carbon balance in the production of crude palm oil (CPO), is quantified. The analysis helps to identify GHG emission hotspots so that mitigation plans can be developed and implemented. The aim is to minimise and reduce GHG emissions that result from production of palm oil.

The emission from planting on peat, land conversion, and POME are the major sources of emission in CPO production. Peat is the most dominant contributing factor to GHG emission. Land conversion emission is dependent on the type of land cover which was converted to oil palm. Converting land cover with higher carbon stocks such as secondary forest to oil palm will cause higher GHG emission than converting land cover with lower carbon stocks such as shrubland. Emission from POME is significant and construction of methane capture can reduce the POME emission significantly. Sequestration from conservation areas and emission credit from export of biomass and electricity has a moderate positive impact on the GHG emission.

Emission from existing certified RSPO plantations during the period of January 2015 to August 2017 is 3.33 tCO₂e/tCPO for peat area and 0.94 tCO₂e/tCPO for non-peat area. This is lower compared to average GHG emissions of the oil palm industry of 10.6 tCO₂e/tCPO for peat area and 1.73 tCO₂e/tCPO for non-peat area.

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