

Breakout Session 9: Palm Oil Industry to Reach Net Zero

Sime Darby Plantation's Carbon Journey



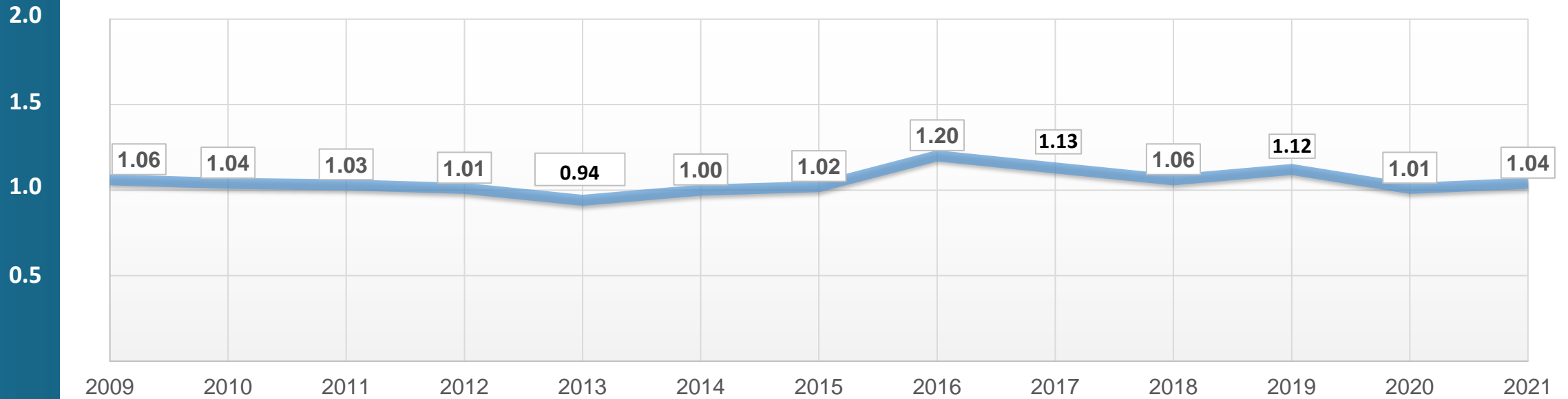
**SCALING UP THE SUSTAINABLE PALM OIL
VALUE CHAIN THROUGH COLLECTIVE ACTION**



We started working on carbon in 2012...

GHG Emission Intensity 2009 – 2021
Upstream operations

tCO₂e/MT CPO



— GHG Emission Intensity (SDP)

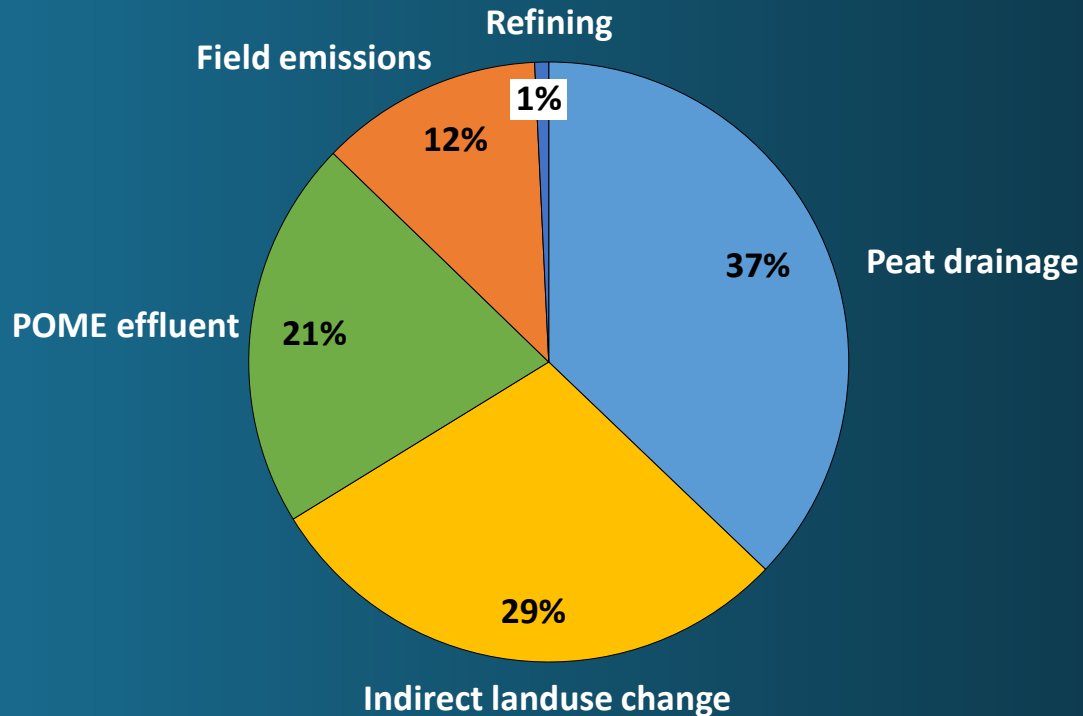


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...and have been working to reduce our carbon emissions intensity for our upstream operations by 50% by 2030.

Key elements for low carbon palm oil

Percentage Breakdown of Palm Oil Emissions by Source



Source: Comparative Life Cycle Assessment of RSPO-certified and Non-certified Palm Oil
Schmidt J, De Rosa M (2019)

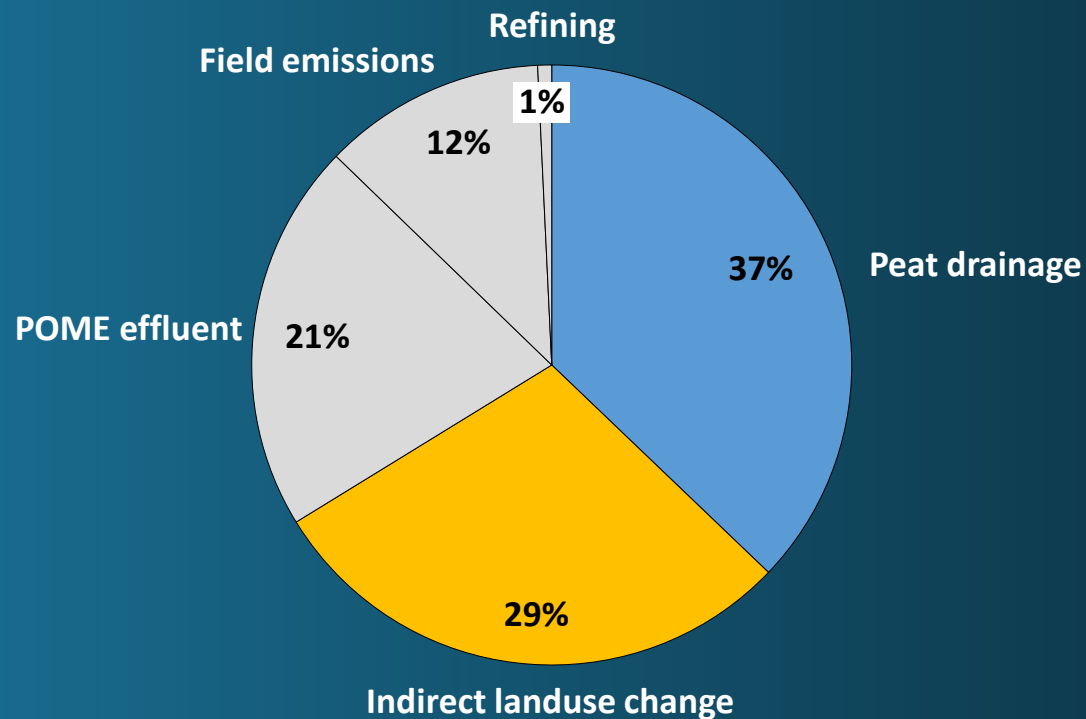


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*Delivering on no deforestation and no peat commitments is critical to address emissions from land use change.
Methane from effluent treatment is the next major emissions source to address.*

Key elements for low carbon palm oil

Percentage Breakdown of Palm Oil Emissions by Source



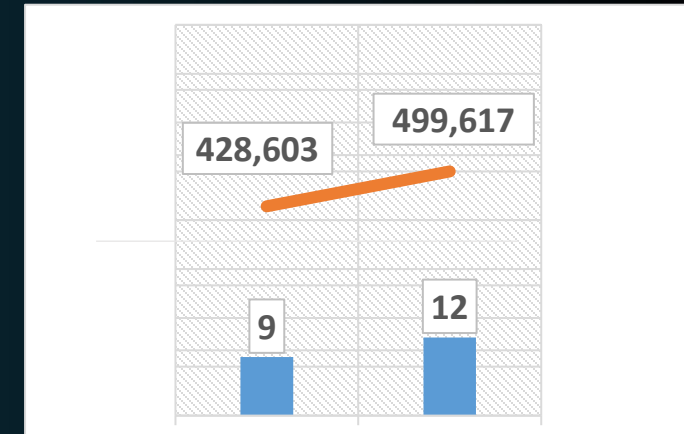
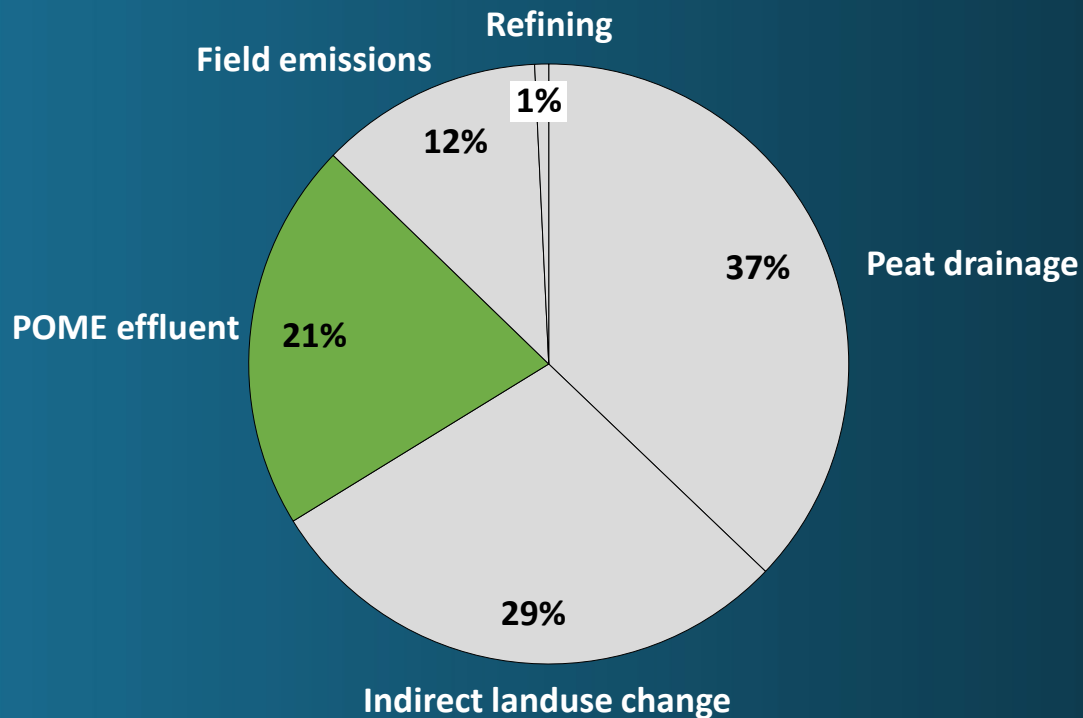
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Source: Comparative Life Cycle Assessment of RSPO-certified and Non-certified Palm Oil
Schmidt J, De Rosa M (2019)

SDP protects 46,892 hectares as HCV/HCS and conservation set-aside areas. The adequate inclusion of conservation areas as carbon sinks, including the sequestration of carbon by the oil palm trees, into net zero accounting will be important.

Key elements for low carbon palm oil

Percentage Breakdown of Palm Oil Emissions by Source



— Estimated emissions avoided (MT CO2e)
■ Biogas plants installed (no.)



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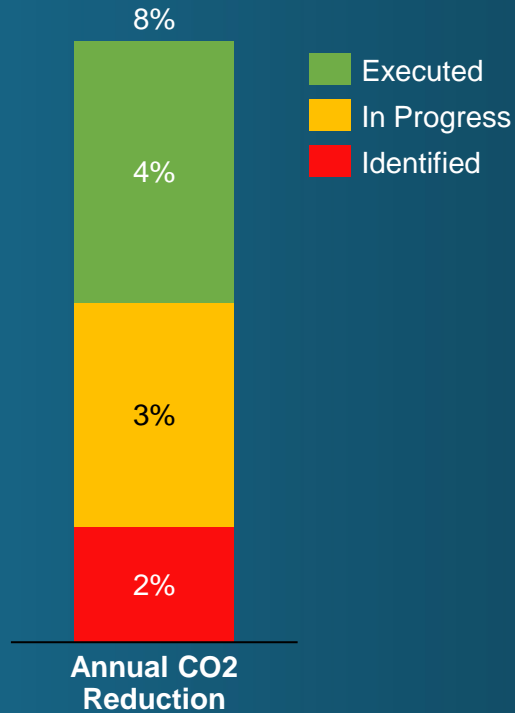
Source: Comparative Life Cycle Assessment of RSPO-certified and Non-certified Palm Oil
Schmidt J, De Rosa M (2019)

Methane from effluent treatment is the next major emissions source to address.

We have 12 biogas plants across our operations in Malaysia, Indonesia and Papua New Guinea, and are working to expand this to 68 biogas plants by 2030.

Key elements for low carbon palm oil

SDO GHG reduction pipeline monitor
% of total annual refining CO2e emissions in 2021



Renewable Energies

- Solar panel roofs
- Biomass based Steam

Reduced Chemical Inputs

- Electro Oxidation of Waste Water treatment
- Reverse Osmosis Water Filtration
- Enzymatic Rearrangement

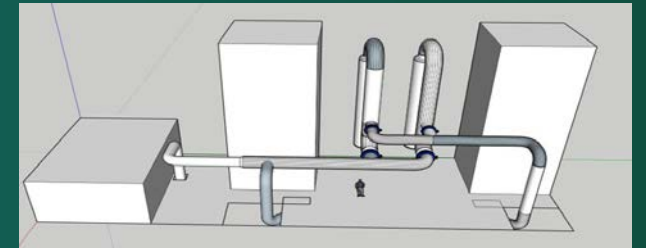
Reduce Energy Consumption with new technologies

Case Study: ICE Condensing Vacuum system

Deodorisers in refineries to be refitted with a more efficient vacuum system to create high pressure heating

Energy Consumption of deodorisers expected to drop:

- Avg -80% Steam consumption
- Avg -61% Electricity consumption
- CO2 reduction of > 8,300 tCO2 p.a.



Watch this space



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SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



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Thank You