



SUSTAINABILITY BRIEF

GREENHOUSE GAS EMISSIONS

At Goodhope, we take climate change seriously and are committed to reducing our environmental impact. We uphold our No Deforestation and No Peat commitments, take measures to monitor our GHG emissions and implement viable methods for emissions reduction.

Group Emissions

We measure our greenhouse gas (GHG) emissions at a Group level using the World Resources Institute (WRI) GHG Protocol. In 2023, our net Group emissions (Scope 1 and Scope 2) amounted to 721,653 MT CO₂eq (including historical land use change and peat oxidation). 93% of our emissions (670,685 MT CO₂eq) came from our upstream operations (our palm oil mills and associated estates); our downstream operations accounted for 7% of our net GHG emissions (50,969 MT CO₂eq).

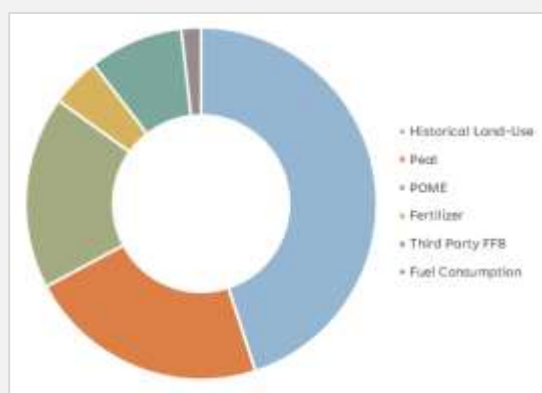
Upstream Emissions

The RSPO PalmGHG Calculator (V.4 November 2019) methodology is used to estimate GHG emissions from all our palm oil mills (eight mills), their associated estates and third-party FFB supply. In 2023, total GHG emissions from palm oil production amounted 1,796,038 MT CO₂eq. Most of our emissions came from these sources:

1. Historical land-use change (land, conversion to oil palm) contributed 808,232 MT CO₂eq (45% of upstream GHG emissions).
2. CO₂ and NO₂ emissions from peat oxidation resulted in 398,651 MT CO₂eq (22% of upstream GHG emissions).
3. Methane emissions from POME contributed 318,856 MT CO₂eq (18% of upstream GHG emissions).

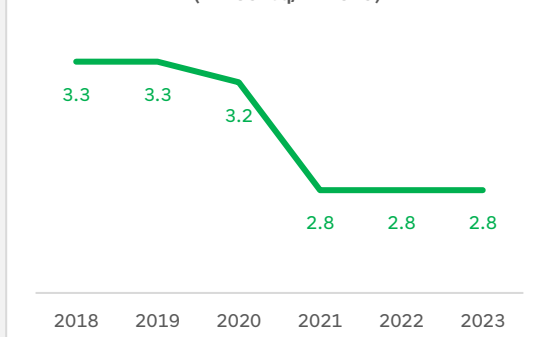
These three sources of emissions accounted for 85% of our total upstream emissions in 2023.

SOURCES OF EMISSIONS FROM PALM OIL PRODUCTION (MT CO₂eq)



Description	MT CO ₂ eq
Historical Land-use	808,232
Peat	398,651
POME	318,856
Fertilizer	81,856
Third-party FFB	155,937
Fuel Consumption	32,507

GHG EMISSION INTENSITY FROM PALM OIL PRODUCTION (MT CO₂eq/ MT CPO)



GHG emission intensity decreased from 3.3 MT CO₂eq per MT CPO in 2018 to 2.8 MT CO₂eq per MT CPO in 2023. This reflects a 16% reduction compared to 2018 and 2019. With these results, we have exceeded our target: 'By 2022, reduce the 2019 GHG emissions intensity per MT of CPO produced by 10%'. We are now working towards defining a new target that is in line with the global target of net zero CO₂ emissions by 2050.

In 2023, land use change emissions from all third-party FFB smallholder suppliers (Scope 3) were calculated at 230,388 MT CO₂eq, based on previous land cover analysis and the RSPO PalmGHG Calculator methodology.

Downstream Emissions

In 2023, emissions from refinery processes amounted to 50,969 MT CO₂eq (7% of Group net emissions). There are two main contributors to downstream emissions:

1. The use of electricity (Scope 2) accounting for 52% of downstream emissions.
2. Consumption of natural gas for boilers (Scope 1) accounting for 45% of downstream emissions.

To reduce emissions, we search for projects to conserve energy for both natural gas and power. Since 2018, downstream GHG emissions have reduced by 19%, from 0.27 to 0.22 MT CO₂eq per MT product.

Year	MT CO ₂ eq		MT CO ₂ eq/ MT Product Intensity
	Scope 1	Scope 2	
2018	26,279	22,860	0.27
2019	24,502	24,869	0.24
2020	19,162	21,712	0.23
2021	20,033	23,342	0.22
2022	21,491	22,897	0.23
2023	24,713	26,256	0.22

Reducing Our Emissions

Approaches/ strategies aimed at reducing our GHG emissions include:

- Commitment to zero deforestation
- On going protection of High Conservation Value (HCV)/ High Carbon Stock (HCS) areas
- Adoption of best management practices for management of peatlands
- Participation in the Nabire Landscape Conservation Program
- Installation of methane capture facility
- Enhancing supplier engagement: No Deforestation commitments

