

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 2022, our net Group emissions (Scope 1 and Scope 2) amounted to 746,457 MT CO₂eq (including historical land use change and peat oxidation). 94% of our emissions (702,068 MT CO₂eq) came from our upstream operations (our palm oil mills and associated estates); our downstream operations accounted for 6% of our net GHG emissions (44,389 MT CO₂eq).

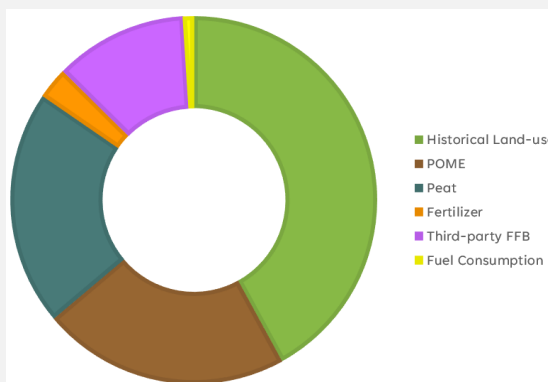
Upstream Emissions

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 2022, total GHG emissions from palm oil production amounted 1,922,938 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 (42% of upstream GHG emissions).
2. Methane emissions from POME contributed 419,455 MT CO₂eq (22% of upstream GHG emissions).
3. CO₂ and NO₂ emissions from peat oxidation resulted in 398,651 MT CO₂eq (21% of upstream GHG emissions).

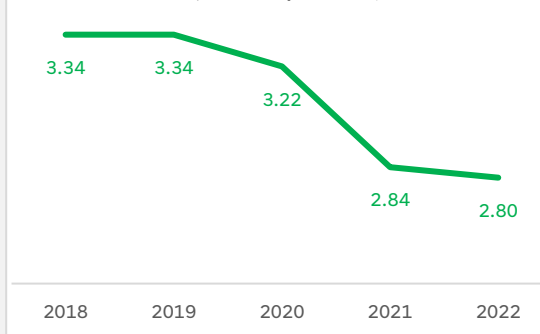
These three sources of emissions accounted for 85% of our total upstream emissions in 2022.

SOURCES OF EMISSIONS FROM PALM OIL PRODUCTION (MT CO₂eq)



Scope 1 & 2	MT CO ₂ eq
Historical Land-use	808,232
POME	419,455
Peat	398,651
Fertilizer	53,788
Fuel Consumption	18,547
Scope 3	MT CO ₂ eq
Third-party FFB	224,265

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



GHG emission intensity decreased from 2.84 MT CO₂eq per MT CPO in 2021 to 2.80 MT CO₂eq per MT CPO in 2022. 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.

Downstream Emissions

In 2022, emissions from refinery processes amounted to 44,389 MT CO₂eq (6% 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 Steam Boilers and High-Pressure Boilers (Scope 1) accounting for 44% 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 15%, from 0.27 to 0.23 MT CO₂eq per MT product.

Year	Scope 1	Scope 2	MT CO ₂ eq/ MT Product Intensity
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

Reducing Our Emissions

Approaches/ strategies aimed at reducing our GHG emissions include:

- Commitment to zero deforestation
- On going protection of HCV/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

