SUSTAINABILITY BRIEF

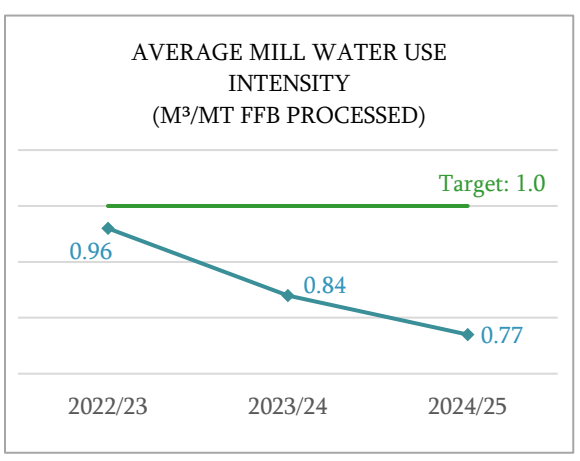
WATER USE & WASTEWATER MANAGEMENT

Water Use

In FY 2024/25, our palm oil mills used 1,595,881m^3 of water for the processing of fresh fruit bunches (FFB). The average water usage intensity for our palm oil mills was 0.77m^3 of water per MT FFB processed. We have met our annual target of keeping the water usage intensity below 1.0m^3 of water per MT of FFB processed.

Water management is a critical pillar of our sustainability efforts. We will continue to improve the efficiency of water use for palm oil processing by optimizing mill utilization.

At all mills, turbine cooling water and vacuum drier sealing water is recycled, and the use of condensate replaces the need for dilution water. Water is only used when condensate is insufficient.



Treatment of Palm Oil Mill Effluent

Palm oil mill effluent (POME) is treated by a pond system and all treated POME is used for land application rather than being discharged to waterways.

The biological oxygen demand (BOD) and the chemical oxygen demand (COD) of treated POME is kept well below the legal limits for land application in Indonesia (5000 mg/L).

We continue to minimize BOD and COD levels through our POME pond management program – including di-silting works and new pond construction.

BOD and COD are measurements of the organic matter of water:

- BOD is the quantity of oxygen consumed by bacteria while decomposing organic matter under aerobic conditions.
- COD is the quantity of oxygen required for the chemical oxidation of total organic matter in water.

	2022/23	2023/24	2024/25
Average BOD (mg/L)	1,039	620	770
Average COD (mg/L)	3,058	2,182	2,184
Average pH	7.7	7.8	7.6

Treatment of Palm Oil Refinery Effluent

The first steps of the wastewater treatment process involve the removal of oils – firstly by a fat trap in the Wastewater Collection Pit and then by the Solid Oil Water Separator.

In the Chemical Tank, wastewater is mixed with chemicals to promote the aggregation of suspended and dissolved solid particles, so they are large enough to be separated by sedimentation. The wastewater is also adjusted to optimal pH for biological treatment.

The biological breakdown of organic matter occurs in the Aeration Tank. Here, air is added to allow for the aerobic digestion of organic matter by microorganisms to reduce BOD and COD.

The wastewater then enters the Clarifier Tank where particles settle to the bottom and form sludge. The water content of sludge is reduced further by the Filter Press. Treated water is re-used for cleaning purposes or discharged to the environment.

	Legal Limit	2022/23	2023/24	2024/25
Average BOD (mg/L)	50	12.4	14.0	11.8
Average COD (mg/L)	200	52.8	60.7	58.0
Average pH		8.0	7.7	7.8