

## List of Environmental Expenses

Overall environmental expenses in 2022 increased by about 86,961.08 million baht from 2021 or by 85.33% due to a 40% increase in crude oil prices when compared to the previous year. This reflects an increase in raw material prices in tandem with products by 87,491.96 million baht. Although in this year, the company operated its refinery units by an average of 122.61 thousand barrels per day, which was greater than in 2021, the company was able to control quality in production processes such that raw material expenses not tied to products decreased by 9.66 million baht in line with the quantity of oil without quality losses, which had a value of 30.77 million baht. Furthermore, the company's expenses in pollution control equipment decreased by 508.88 million baht due to 484.39 million baht of depreciation in pollution control equipment, while environmental equipment maintenance fees amounted to 23.03 million baht, respectively. Furthermore, management system operating expenses decreased by 0.19 million baht and the cost of wastewater treatment and waste disposal decreased by 1.46 million baht.

In addition, byproducts and waste reuse increased by 12.09 million baht or 59.63%. Primarily, this was due to increased sale of liquid sulfur by 13.34 million baht, although the value of steel and aluminum sales decreased by 1.25 million baht.

(Unit: Million THB)

List of Environmental Expenses (EN 31)	2020	2021	2022
<b>Raw Material Expenses Tied to Products</b>			
Crude Feed	54,827.42	81,445.69	169,495.13
Ethanol	6,124.10	5,980.37	7,263.95
Biodiesel (B100)	0.11	0.00	0.00
Biodiesel (B100)-Premium	0.00	0.00	0.00
Biodiesel (B100)_Hi PURE TYPE2	7,131.39	8,371.91	8,049.93
Used Cooking Oil	0.32	0.01	31.18
Chemicals	162.17	160.35	173.75
Water used in production	18.77	27.65	24.24
Energy Consumption in Production	1,303.81	1,618.08	3,062.46
<b>Raw Material Expenses Not Tied to Products</b>			
Slop Oil	25.36	58.07	27.30
Wastewater	11.15	11.61	12.24
Excess Chemicals from Stabilization Ponds	0.11	0.20	20.68
<b>Pollution Control Equipment Expenses</b>			
Environmental Equipment Maintenance Expenses	12.62	23.03	0.93
Pollution Control Equipment Depreciation Expenses	234.88	500.07	686.69
Wastewater Treatment Expenses	6.34	6.12	5.69
Waste Disposal Expenses	4.99	5.46	4.95
<b>Environmental Protection Expenses</b>			
Monitoring and Measurement Expenses	8.27	7.70	9.32
Waste Storage Area Depreciation	0.02	0.05	0.02
Management System Operating Expenses	0.47	1.58	1.39
Environmental Equipment Expenses	-	-	-
<b>Byproducts of and Waste Reuse</b>			
Liquid Sulfur	(10.46)	(17.16)	(30.50)
Steel-Aluminum Scrap	(1.64)	(3.12)	(1.87)