

Sustainability Performance Statistics

Governance and Economic Performance

Revenue						
Indicator	Material Aspect	Unit	2020	2021	2022	2023
GRI 201-1	Revenue from sales and service ¹	million THB	136,450.29	199,417.00	328,017.36	385,853.02
	Total revenue ¹	million THB	136,982.82	200,695.74	329,871.06	388,632.44
	Net Profit	million THB	(5,769.98)	9,844.72	15,152.48	11,908.38
	EBITDA	million THB	4,104.00	25,818.00	44,724.00	41,680.00

Expenditure for income distribution to stakeholders						
Indicator	Material Aspect	Unit	2020	2021	2022	2023
GRI 201-1	Operating expenses ¹	million THB	132,122.13	175,744.43	281,748.69	352,114.90
	Interest expenses paid to financial institution creditors and debentures	million THB	2,050.58	2,395.39	2,975.74	3,947.09
	Tax payment to government and local authorities	million THB	20.44	20.13	1,229.97	1,837.11
	Financial supports for membership of associations	million THB	5.35	2.72	3.20	3.73
	Community and social development	million THB	21.67	27.74	25.68	68.36
	Donation to society and schools	million THB	22.62	16.00	6.20	5.24
	Dividend payment to shareholders	million THB	742.55	2,672.18	4,260.85	3,208.98
		THB/share	0.40	2.00	2.25	1.50
	Wages and employee benefits	million THB	3,401.92	4,572.62	6,302.61	8,464.76

Remarks:

1. The subsidy from oil fuel fund has been categorized within the Revenue from sales and service since 2022.

Supply chain management						
Indicator	Material Aspect	Unit	2020	2021	2022	2023
GRI 204-1	Local purchases of goods and services ¹	million THB	1,846	1,814	5,688	3,838
	Percentage of local purchases of goods and services ¹	%	97	98	93	92

Remarks:

1. Purchasing of non-hydrocarbon goods and services in Thailand.

Compliance with laws and regulations						
Indicator	Material Aspect	Unit	2020	2021	2022	2023
GRI 417-3	Incidents of non-compliance regarding marketing communications					
	Significant case of customers data breach	case	0	0	0	0
	Significant case of non-compliance in marketing communication laws	case	0	0	0	0
GRI 2-27	Incidents of non-compliance with laws and regulations in the social, economic, and environmental areas					
	Significant case associated with economic and social law violation	case	0	0	0	0
	Significant case associated with environment law violation	case	0	0	0	0

Energy Consumption						
Indicator	Material Aspect	Unit	2020	2021	2022	2023
GRI 302-1	Net energy consumption within the organization (non-renewable energy + renewable Energy - energy sold)					
	Net energy consumption of Refinery Business and Office building and Region Business Centers	TJ	12,845.84	12,241.19	13,687.68	13,647.46
		MWh	3,568,287.62	3,400,330.02	3,802,162.54	3,790,992.60
	Net energy consumption of Refinery Business, Office building and Region Business Centers, and Marketing Business	TJ	12,942.24	12,332.30	13,753.21	13,708.36
		MWh	3,595,066.35	3,425,640.03	3,820,253.81	3,807,909.34
	Net energy consumption of Refinery Business, Office building and Region Business Centers, Marketing Business, Bangkok Fuel Pipeline and Logistics (BFPL), and BCP Trading (BCPT)	TJ				13,749.84
		MWh				3,819,431.81

Remarks:

- The Refinery Business consists of Bangchak Phra Khanong Refinery and Oil Depot at Sukhumvit 64, Oil Depot at Bang Pa Inn, Oil Depot at Surat Thani, and offices at the refinery area.
- The Marketing Business consists of Bangchak Green Net Co., Ltd. and Bangchak Retail Co., Ltd.
- Office building and Region Business Center consists of the main office building (M Tower), the Central Region Business Center, the Northeastern Region Business Center, the Northern Region Business Center, and the Southern Region Business Center.
- The reporting boundary of energy consumption has been expanded to Bangkok Fuel Pipeline Transportation and Logistics (BFPL) and BCP Trading (BCPT) in 2023.
- Conversion of fuel to energy by applying heating value provided by the Department of Alternative Energy Development and Efficiency.
- Transporting finished petroleum products is included in the refinery business's downstream transportation and distribution, excluding heavy fuel oil and lubricant transportation.
- N/A means not applicable.

GHG emissions scope 1 & scope 2																		
Business unit			Refinery Business ¹				Bangkok Fuel Pipeline and Logistics (BFPL) ⁴	BCP Trading (BCPT) ⁴	Marketing Business ²				Office building and Region Business Centers ³					
Indicator	Material Aspect	Unit	2020	2021	2022	2023	2023	2023	2020	2021	2022	2023	2020	2021	2022	2023		
GRI305-1	Total direct GHG emission (Scope 1)																	
	Reporting according to operational control approach	Total direct GHG emission (Scope 1)	tCO ₂ e	885,906.72	821,155.65	930,897.27	940,428.34	-	-	507.98	493.41	738.50	730.53	-	478.63	484.69	419.44	
		• CO ₂	tCO ₂ e	883,796.95	819,065.76	928,384.04	938,073.49	-	-	499.21	485.38	572.33	559.60	-	468.15	475.33	411.61	
		• CH ₄ and fugitive CH ₄	tCO ₂ e	1,723.01	1,766.10	2,045.70	1,992.96	-	-	0.80	103.34	160.49	62.38	-	0.82	0.71	0.66	
			tonne	57.43	58.87	68.19	66.43	-	-	0.03	3.44	5.80	2.23	-	0.03	0.03	0.02	
		• CH ₄	tCO ₂ e	387.41	369.00	413.10	412.18	-	-	0.80	103.34	160.49	0.90	-	0.82	0.71	0.66	
			tonne	12.91	12.30	13.77	13.74	-	-	0.03	3.44	5.80	0.03	-	0.03	0.03	0.02	
		• Fugitive CH ₄	tCO ₂ e	1,335.60	1,397.10	1,632.60	1,580.77	-	-	-	-	-	61.49	-	-	-	-	
			tonne	44.52	46.57	54.42	52.69	-	-	-	-	-	2.20	-	-	-	-	
		• N ₂ O	tCO ₂ e	386.66	323.76	361.76	360.59	-	-	8.58	8.04	11.39	9.27	-	9.80	8.44	7.08	
		• Hydrofluorocarbon (HFC)	tCO ₂ e	-	-	105.76	1.29	-	-	-	-	154.78	99.13	-	-	-	-	
		• Other biogenic (CH ₄ and N ₂ O)	tCO ₂ e	0.10	0.02	0.01	0.02	-	-	0.19	-	-	0.14	-	-	0.17	0.09	
		Direct GHG emission (separately reporting)		tCO ₂ e	28.04	5.39	3.80	166.00	-	-	53.61	90.71	102.13	123.19	-	64.76	48.52	26.98
		• Biogenic CO ₂	tCO ₂ e	28.04	5.39	3.80	4.50	-	-	53.61	90.71	102.13	41.52	-	64.76	48.52	26.98	
• CO ₂ of R-22 refrigerant	tCO ₂ e	-	-	-	161.50	-	-	-	-	-	81.66	-	-	-	-			

GHG emissions scope 1 & scope 2																		
Business unit			Refinery Business ¹				Bangkok Fuel Pipeline and Logistics (BFPL) ⁴	BCP Trading (BCPT) ⁴	Marketing Business ²				Office building and Region Business Centers ³					
Indicator	Material Aspect	Unit	2020	2021	2022	2023	2023	2023	2020	2021	2022	2023	2020	2021	2022	2023		
GRI305-1	Total direct GHG emission (Scope 1)																	
	Total direct GHG emission (Scope 1)		tCO ₂ e	885,906.72	821,155.65	930,897.27	940,428.34	-	-	509.72	580.53	480.44	473.72	-	478.63	484.69	419.44	
	• CO ₂		tCO ₂ e	883,796.95	819,065.76	928,384.04	938,073.49	-	-	499.21	485.38	318.87	332.76	-	468.15	475.33	411.61	
	• CH ₄ and fugitive CH ₄		tCO ₂ e	1,723.01	1,766.10	2,045.70	1,992.96	-	-	0.67	86.12	80.03	35.93	-	0.68	0.71	0.66	
			tonne	57.43	58.87	68.19	66.43	-	-	0.03	3.44	2.93	1.28	-	0.03	0.03	0.02	
	• CH ₄		tCO ₂ e	387.41	369.00	413.10	412.18	-	-	0.67	86.12	80.03	0.54	-	0.68	0.71	0.66	
			tonne	12.91	12.30	13.77	13.74	-	-	0.03	3.44	2.93	0.02	-	0.03	0.03	0.02	
	• Fugitive CH ₄		tCO ₂ e	1,335.60	1,397.10	1,632.60	1,580.77	-	-	-	-	-	35.39	-	-	-	-	
			tonne	44.52	46.57	54.42	52.69	-	-	-	-	-	1.26	-	-	-	-	
	• N ₂ O		tCO ₂ e	386.66	323.76	361.76	360.59	-	-	9.65	9.04	6.73	5.80	-	9.80	8.44	7.08	
	• Hydrofluorocarbon (HFC)		tCO ₂ e	-	-	105.76	1.29	-	-	-	-	154.78	99.13	-	-	-	-	
	• Other biogenic (CH ₄ and N ₂ O)		tCO ₂ e	0.10	0.02	0.01	0.02	-	-	0.19	-	0.07	0.10	-	-	0.17	0.09	
	Direct GHG emission (separately reporting)		tCO ₂ e	28.04	5.39	3.80	166.00	-	-	26.27	44.45	50.04	75.24	-	64.76	48.52	26.98	
	• Biogenic CO ₂		tCO ₂ e	28.04	5.39	3.80	4.50	-	-	26.27	44.45	50.04	29.48	-	64.76	48.52	26.98	
• CO ₂ of R-22 refrigerant		tCO ₂ e	-	-	-	161.50	-	-	-	-	-	45.76	-	-	-	-		
GRI305-2	Total Indirect GHG emission (Scope 2)																	
	Total Indirect GHG emission (Scope 2)		tCO ₂ e	6,845.13	5,923.19	5,110.71	6,274.75	5,148.38	1.86	11,927.39	11,609.19	4,890.31	4,072.81	-	591.33	733.23	800.19	
	Total Indirect GHG emission (Scope 2) (Location-based)		tCO ₂ e	6,845.13	5,923.19	5,110.71	6,274.75	5,148.38	1.86	11,927.39	11,609.19	4,890.31	4,072.81	-	591.33	733.23	800.19	
	• CO ₂		tCO ₂ e	6,845.13	5,923.19	5,110.71	6,274.75	5,148.38	1.86	11,927.39	11,501.83	4,890.31	4,072.81	-	585.86	733.23	800.19	
	• Biogenic CO ₂		tCO ₂ e	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	• CH ₄		tCO ₂ e	-	-	-	-	-	-	-	35.41	-	-	-	1.80	-	-	
	• N ₂ O		tCO ₂ e	-	-	-	-	-	-	-	71.95	-	-	-	3.67	-	-	
	• Other biogenic (CH ₄ and N ₂ O)		tCO ₂ e	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Total Indirect GHG emission (Scope 2) (Market-based)		tCO ₂ e	6,845.13	5,923.19	5,110.71	6,274.75	5,148.38	1.86	11,927.39	11,609.19	4,890.31	4,072.81	-	591.33	733.23	800.19	
	• CO ₂		tCO ₂ e	6,845.13	5,923.19	5,110.71	6,274.75	5,148.38	1.86	11,927.39	11,501.83	4,890.31	4,072.81	-	585.86	733.23	800.19	
	• Biogenic CO ₂		tCO ₂ e	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	• Other biogenic (CH ₄ and N ₂ O)		tCO ₂ e	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	GRI305-1 and GRI305-2	Total GHG emission (Scope 1 and 2)		tCO ₂ e	892,751.85	827,078.83	936,007.98	946,703.10	5,148.38	1.86	12,437.11	12,189.72	5,370.75	4,546.53	-	1,069.96	1,217.91	1,219.63

Remarks:

- The Refinery Business consists of Bangchak Phra Khanong Refinery and Oil Depot at Sukhumvit 64, Oil Depot at Bang Pa Inn, Oil Depot at Surat Thani, and offices at the refinery area.
- The Marketing Business consists of Bangchak Green Net Co., Ltd. and Bangchak Retail Co., Ltd.
- Office building and Region Business Center consists of the main office building (M Tower), the Central Region Business Center, the Northeastern Region Business Center, the Northern Region Business Center, and the Southern Region Business Center.
- The reporting boundary of GHG emissions has been expanded to Bangkok Fuel Pipeline Transportation and Logistics (BFPL) and BCP Trading (BCPT) in 2023.
- Bangchak Corporation Public Company Limited (Refinery Business, M-Tower and Region Business Centers, and Marketing Business) firstly disclosed GHG emission scope 3 in 2021.
- The reporting boundary of scope 3 emissions has been expanded to crude oil purchasing and business travel activities in 2023. The GHG calculation of business travelling based on the ICAO Carbon Emissions Calculator (ICEC) principle.
- The report of scope 1, 2, and 3 emissions data are calculated by using the BCP GHG calculation tool following IPCC 2006.
- The emission factors from IPCC 2006 and API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry 2009 are used for scope 1 emissions calculation.
- The emission factors from Energy Policy and Planning Office, Ministry of Energy, Thailand (EPPO) are used for scope 2 emissions calculation.
- The emission factors from Thailand Greenhouse Gas Management Organization (TGO), IPCC, and Thai National LCI Database are used for scope 3 emissions calculation.
- Greenhouse gas emissions intensity is calculated from scope 1 and 2 emissions.
- GHG emissions reductions are calculated based on energy saving activities carried out in 2023.
- Conversion of fuel to energy by applying heating value provided by the Department of Alternative Energy Development and Efficiency.
- Global Warming Potential (GWP) values are based on the Fifth Assessment Report (AR5) of the Greenhouse Gas Protocol.
- Transporting finished petroleum products is included in the refinery business's downstream transportation and distribution, excluding heavy fuel oil and lubricant transportation.
- The gases included in the green house gas calculation are CO₂, CH₄, N₂O, and HFC.
- N/A means not applicable.

Water Management ¹										
Business unit			Refinery Business ² and office building ³			Refinery Business ²	BCP Trading (BCPT)	Marketing Business ⁵	Office building and Region Business Centers ⁴	
Indicator	Material Aspect	Unit	2020	2021	2022	2023				
GRI 303-3 (2018)	Total water withdrawal									
	Total water withdrawal (excluding brine water from crude oil extraction)		million cubic meter	2.495	2.411	2.344	2.792	0.082	0.507	0.003
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids		million cubic meter	2.395	2.294	2.334	2.710	0.082	0.507	0.003
	• Other water > 1000 mg/L Total Dissolved Solids		million cubic meter	0.100	0.117	0.010	0.082	-	-	-
	Total water withdrawal (including brine water from crude oil extraction)		million cubic meter	21.325	2.444	2.383	2.803	0.082	0.507	0.003
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids		million cubic meter	2.395	2.294	2.334	2.710	0.082	0.507	0.003
	• Other water > 1000 mg/L Total Dissolved Solids		million cubic meter	18.930	0.150	0.049	0.093	-	-	-
	Total water withdrawal by source⁷									
	Surface water⁸		million cubic meter	0.185	0.197	0.147	0.165	-	-	-
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids ⁸		million cubic meter	0.085	0.080	0.136	0.083	-	-	-
	• Other water > 1000 mg/L Total Dissolved Solids ⁸		million cubic meter	0.100	0.117	0.010	0.082	-	-	-
	Groundwater⁹		million cubic meter	0.270	0.112	0.440	0.020	-	0.062	0.000
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids ⁹		million cubic meter	0.270	0.112	0.440	0.020	-	0.062	0.000
	• Other water > 1000 mg/L Total Dissolved Solids ⁹		million cubic meter	-	-	-	-	-	-	-
	Produced water¹⁰		million cubic meter	18.830	0.033	0.039	0.011	-	-	-
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids ¹⁰		million cubic meter	-	-	-	-	-	-	-
	• Other water > 1000 mg/L Total Dissolved Solids ¹⁰		million cubic meter	18.830	0.033	0.039	0.011	-	-	-
	Third-party water¹¹		million cubic meter	2.040	2.101	1.757	2.608	0.082	0.445	0.003
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids ¹¹		million cubic meter	2.040	2.101	1.757	2.608	0.082	0.445	0.003
	• Other water > 1000 mg/L Total Dissolved Solids ¹¹		million cubic meter	-	-	-	-	-	-	-
Third-party water withdrawal by source¹²										
• Surface water		million cubic meter	2.040	2.101	1.757	2.608	0.082	0.445	0.003	

Water Management ¹									
Business unit			Refinery Business ² and office building ³			Refinery Business ²	BCP Trading (BCPT)	Marketing Business ⁵	Office building and Region Business Centers ⁴
Indicator	Material Aspect	Unit	2020	2021	2022	2023			
GRI 303-3 (2018)	Total water withdrawal in water stressed areas								
	Total water withdrawal in water stressed areas	million cubic meter	-	-	-	-	-	0.258	-
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million cubic meter	-	-	-	-	-	0.258	-
	• Other water > 1000 mg/L Total Dissolved Solids	million cubic meter	-	-	-	-	-	-	-
	Total water withdrawal in water stressed areas by source ¹³								
	Groundwater	million cubic meter	-	-	-	-	-	0.029	-
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million cubic meter	-	-	-	-	-	0.029	-
	• Other water > 1000 mg/L Total Dissolved Solids	million cubic meter	-	-	-	-	-	-	-
	Third-party water	million cubic meter	-	-	-	-	-	0.229	-
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million cubic meter	-	-	-	-	-	0.229	-
	• Other water > 1000 mg/L Total Dissolved Solids	million cubic meter	-	-	-	-	-	-	-
	Third-party water withdrawal in water stressed areas by source ¹²								
• Surface water	million cubic meter	-	-	-	-	-	0.229	-	
GRI 303-4 (2018)	Total water discharge								
	Total water discharge	million cubic meter	0.727	0.828	0.899	0.945	0.000	0.405	0.003
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids ¹⁴	million cubic meter	0.176	0.207	0.103	0.480	0.000	0.405	0.003
	• Other water > 1000 mg/L Total Dissolved Solids ¹⁴	million cubic meter	0.552	0.621	0.796	0.465	-	-	-
	Total water discharge by destination ¹⁵								
	• Surface water	million cubic meter	0.725	0.827	0.897	0.945	-	0.078	-
	• Third-party water	million cubic meter	0.002	0.001	0.002	-	0.000	0.328	0.003
	Total water discharge in water stressed areas								
	Total water discharge in water stressed areas	million cubic meter	-	-	-	-	-	0.206	-
	• Freshwater ≤ 1000 mg/L Total Dissolved Solids	million cubic meter	-	-	-	-	-	0.206	-
• Other water > 1000 mg/L Total Dissolved Solids	million cubic meter	-	-	-	-	-	-	-	
GRI 303-5 (2018)	Total water consumption (excluding brine water from crude oil extraction) = total water withdrawal (excluding brine water from crude oil extraction) - total water discharge								
	Total water consumption (excluding brine water from crude oil extraction)	million cubic meter	1.768	1.582	1.445	1.847	0.082	0.101	0.001
	Total water consumption in water stressed areas	million cubic meter	-	-	-	-	-	0.052	-
	Change in water storage, if water storage has been identified as having a significant water-related impact	million cubic meter	-	-	-	-	-	-	-

Water Management

Business unit			Refinery Business ²	Office building ³	Refinery Business ²	Office building ³	Refinery Business ²	Office building ³	Refinery Business ²	BCP Trading (BCPT)	Marketing Business ⁵		Office building and Region Business Centers ⁴	
											Bangchak Green Net (BGN)	Bangchak Retail (BCR)	M Tower	Region Business Centers
Indicator	Material Aspect	Unit	2563		2564		2565		2566					
GRI 303-4-d (2018)	Waste water quality													
	COD	tonne	33.22	N/A	28.98	N/A	33.53	N/A	38.12	0.00	57.20	3.06	N/A	0.03
	BOD	tonne	6.53	0.01	4.85	0.00	5.76	0.00	6.60	0.00	18.85	1.01	0.01	0.01
	Oil and Grease	tonne	2.17	0.00	2.48	0.00	2.69	0.00	2.83	0.00	2.44	0.13	0.00	0.00
	TSS	tonne	4.54	0.02	4.87	0.02	5.63	0.02	8.31	0.00	8.46	0.45	0.03	0.00
	TDS	tonne	973.23	0.55	1,100.98	0.28	1,273.38	0.32	998.89	0.01	270.81	14.47	0.71	0.13
	Sulfide	tonne	0.09	0.00	0.26	0.00	0.45	0.00	0.47	0.00	N/A	N/A	0.00	N/A
	Mercury	tonne	0.00	N/A	0.00	N/A	0.00	N/A	0.00	0.00	N/A	N/A	N/A	N/A

Remarks:

- In 2020-2022, the amount of water withdrawal, water discharge, and water consumption of Bangchak Phra Khanong Refinery and Oil Depot at Sukhumvit 64 and M Tower were reported. In 2023, the reporting scope has been expanded to the Regional Business Centers, the Marketing Business, and BCP Trading (BCPT).
- The Refinery Business consists of Bangchak Phra Khanong Refinery and Oil Depot at Sukhumvit 64, and offices at the refinery area.
- Office building consists of the main office building (M Tower).
- Office building and Region Business Center consists of the main office building (M Tower), the Central Region Business Center, the Northeastern Region Business Center, the Northern
- The Marketing Business consists of Bangchak Green Net Co., Ltd. and Bangchak Retail Co., Ltd.
- Characteristics of water is collected from analysis result from 3rd party laboratory which is licensed by department of Industry work.
- No seawater withdrawal.
- The volume of total surface water withdrawal at the Refinery Business is collected from pump capacity or tank volume.
- The volume of total groundwater withdrawal is collected from meter reading.
- The volume of total produced water withdrawal from crude oil extraction, processing, or raw material is calculated from the ratio of oil and brine.
- The volume of total 3rd party water withdrawal is collected from invoices.
- The 3rd party water of all areas is withdrawn from the surface water source.
- The water in water stressed areas is withdrawn from groundwater and 3rd party water sources.
- The total amount of water discharge was collected from the water flow meter readings and calculation of wastewater treatment system design.
- No water discharge to groundwater and seawater sources.

Air Emission at the Refinery Business unit

Indicator	Material Aspect	Unit	2020	2021	2022	2023
GRI 305-7	Nitrogen oxides (NO_x)¹					
	NO _x (combustion)	tonne	280.00	458.88	506.11	526.79
	Control limit (not exceed)	tonne	1,000.00	1,000.00	1,000.00	1,000.00
	Intensity of NO _x	tonne/ thousand tonne of crude oil	0.060	0.099	0.087	0.092
	Sulfur dioxide (SO₂)¹					
	SO ₂ (combustion)	tonne	27.00	53.48	45.25	38.95
	Control limit (not exceed)	tonne	1,000.00	1,000.00	1,000.00	1,000.00
	Intensity of SO ₂	tonne/ thousand tonne of crude oil	0.010	0.012	0.008	0.007
	Total Suspended Particulate (TSP)¹					
	TSP PM10 (combustion)	tonne	3.00	3.50	7.54	15.35
	Control limit (not exceed)	tonne	200.00	200.00	200.00	200.00
	Intensity of TSP	tonne/ thousand tonne of crude oil	0.002	0.001	0.001	0.003
	Hydrogen sulfide (H₂S)¹					
	H ₂ S (SRU/TGTU Stack)	tonne	4.00	4.37	2.22	6.62
	Control limit (not exceed)	tonne	20.00	20.00	20.00	20.00
	Intensity of H ₂ S	tonne/ thousand tonne of crude oil	0.000	0.001	0.000	0.001
	Volatile Organic Compound (VOCs)^{2, 3, 4}					
	VOCs inventory ^{2, 3}	tonne	417.61	341.47	480.21	356.50
	Fugitive VOCs ⁴	tonne	2.51	2.53	2.99	2.90
	Control limit (not exceed)	tonne		500.00	500.00	500.00
	Intensity of fugitive VOCs	tonne/ thousand tonne of crude oil	0.002	0.001	0.001	0.001
	Flared hydrocarbon⁵					
	Flared hydrocarbon	kL	1,174.30	2,311.28	1,327.24	814.94
		Nm ³	0.17	0.57	0.27	0.22
	Flared hydrocarbon per total product produced	Nm ³ /million barrel oil equivalent	0.002	0.015	0.003	0.003
	Vented hydrocarbon					
	Vented hydrocarbon	Nm ³	N.A.	N.A.	N.A.	N.A.
	Vented hydrocarbon per total product produced	Nm ³ /million barrel oil equivalent	N.A.	N.A.	N.A.	N.A.

Remarks:

1. Calculated from production capacity using a third-party entity.
2. Include VOC Inventory from combustion, flare, tank, marketing and terminal, and wastewater.
3. Use emission factors from AP 42-US EPA, for VOC inventory calculation from combustion, flare, and marketing and terminal. Tank 4 program and Water 9 program are used as tools for VOC inventory calculation from tank and wastewater respectively.
4. Calibrated measurement tools
5. Include flared hydrocarbon from Plant 2, 3, 4.

Industrial Waste Management at the Bangchak Phra Khanong Refinery						
Indicator	Material Aspect	Unit	2020	2021	2022	2023
GRI306-3	Total waste generated by category					
	Total waste generated	tonne/year	3,157.79	2,940.80	1,729.64	12,723.76
	• Total hazardous waste	tonne/year	2,676.61	2,618.73	1,584.44	3,435.37
	• Total non-hazardous waste	tonne/year	484.66	322.07	145.20	9,288.39
	Total waste generated by activity					
	Routine waste	tonne/year	3,059.00	1,681.67	1,102.96	911.65
	• Hazardous waste ¹	tonne/year	2,671.00	1,414.61	957.76	821.86
		percentage	84.58	48.10	55.37	6.46
	• Non-hazardous waste ¹	tonne/year	388.00	267.06	145.20	89.79
		percentage	12.29	9.08	8.39	0.71
	Non-routine waste	tonne/year	98.79	1,259.13	626.68	11,812.12
	• Hazardous waste from non-routine activity	tonne/year	-	-	626.68	153.42
		percentage	-	-	36.23	1.21
	• Non-hazardous waste from non-routine activity	tonne/year	-	-	-	10.89
		percentage	-	-	-	0.09
	• Hazardous waste from oil and chemical spill clean-up	tonne/year	-	-	-	1,924.76
		percentage	-	-	-	15.13
	• Hazardous waste from construction activities ²	tonne/year	-	-	-	535.34
		percentage	-	-	-	4.21
	• Non-hazardous waste from construction activities ²	tonne/year	97.00	-	-	9,187.71
percentage		3.07	-	-	72.21	
• Hazardous waste for Turnaround Maintenance ²	tonne/year	1.77	1,204.12	-	-	
	percentage	0.06	40.95	-	-	
• Non-hazardous waste for Turnaround Maintenance ²	tonne/year	0.02	55.01	-	-	
	percentage	0.00	1.87	-	-	
BCP Indicators	Industrial waste diverted from landfilling	percentage	100.00	100.00	100.00	100.00
	• Reuse and recycling	percentage	25.52	47.16	56.67	19.20
	• Other recovery operation methods	percentage	2.33	8.85	7.80	70.95
	• Energy recovery (alternative fuels/ fuel blending)	percentage	72.10	43.77	35.52	9.85
	• Incineration without energy recovery	percentage	0.04	0.22	0.01	-
	• Other disposal operation	percentage	-	-	-	-
	• Landfilling	percentage	-	-	-	-

Industrial Waste Management at the Bangchak Phra Khanong Refinery

Indicator	Material Aspect	Unit	2020	2021	2022	2023
Total waste generated by category and disposal/recovery operation						
GRI 306-3	Hazardous waste ¹ by disposal/recovery operation	tonne/year	2,676.61	2,618.73	1,584.44	3,435.37
GRI 306-4	Hazardous waste ¹ diverted from disposal (offsite)	tonne/year	484.94	1,462.86	991.38	2,192.93
	• Reuse	tonne/year	-	-	-	-
	• Recycling	tonne/year	484.94	1,220.57	856.42	1,101.73
GRI 306-5	• Recovery (reclamation, regeneration of metal and metallic compounds)	tonne/year	-	242.29	134.96	1,091.20
	Hazardous waste ¹ directed to disposal (offsite)	tonne/year	2,191.67	1,155.87	593.06	1,242.45
	• * DIW Energy recovery (alternative fuels/ fuel blending)	tonne/year	2,190.40	1,149.29	592.95	1,242.45
	• Incineration without energy recovery	tonne/year	1.27	6.58	0.11	-
GRI 306-5	• Landfilling	tonne/year	-	-	-	-
	• Other disposal operations ³	tonne/year	-	-	-	-
GRI 306-3	Non-hazardous waste ¹ by disposal/recovery operation	tonne/year	484.66	322.07	145.20	9,288.39
GRI 306-4	Non-hazardous waste ¹ diverted from disposal (offsite)	tonne/year	395.72	184.26	123.77	9,277.50
	• Reuse	tonne/year	-	-	-	-
	• Recycling	tonne/year	321.96	166.28	56.06	1,340.99
	• Other recovery operation (other recovery unlisted materials)	tonne/year	-	17.98	-	-
	• Other recovery operation (land reclamation: using construction waste)	tonne/year	73.76	-	-	7,899.16
	• Sorting	tonne/year	73.76	-	67.71	37.35
GRI 306-5	• Composting	tonne/year	-	-	-	-
	Non-hazardous waste ¹ directed to disposal (offsite)	tonne/year	88.94	137.81	21.43	10.89
	• Energy recovery (alternative fuels/ fuel blending)	tonne/year	88.94	137.81	21.43	10.89
	• Incineration without energy recovery	tonne/year	-	-	-	-
	• Landfilling	tonne/year	-	-	-	-
GRI 306-5	• Other disposal operations ³	tonne/year	-	-	-	-

Industrial Waste Management at the Bangchak Phra Khanong Refinery

Indicator	Material Aspect	Unit	2020	2021	2022	2023
*DIW	Hazardous waste directed to disposal (offsite) ⁴	tonne/year	2,191.67	1,155.87	593.06	1,242.45
04	• Recycle (042, 041, 044 and 049)	tonne/year	2,190.40	1,149.29	592.95	1,242.45
	• 041: Use as fuel substitution or burn for energy recovery					
	• 042: Fuel blending					
	• 044: Use as co-material in cement kiln or rotary kiln					
07	• Disposal (075: Incineration in hazardous waste incinerator)	tonne/year	1.27	6.58	0.11	-

หมายเหตุ:

1. Weight from waste manifest.
2. Estimate from volum of waste sent to disposal based on calculation of number of bags per container and average weight per bag /container
3. According to Department of Industrial Works (DIW), Bangchak refinery have complied with DIW's Announcement of Waste processor B.E. 2550, Best Practice of Waste Management and Disposal B.E. 2551 and Hazardous Substance Act. 2535 and the waste management have been classified and managed according to Notification of Ministry of Industry Re: Industrial Waste Disposal B.E. 2548 (2005). Waste management can be classified into 8 methods as follows: Method 01 Sorting, Method 02 Storage, Method 03 Reuse, Method 04 Recycle, Method 05 Recovery, Method 06 Treatment, Method 07 Disposal and Method 08 Others.
4. Disposal methods and quantity from DIW waste disposal permit documents and manifests

Office Waste Management						
Indicator	Material Aspect	Unit	2020	2021	2022	2023
GRI 306-3	Total waste generated by category and disposal/recovery operation					
	Total waste generated	tonne/year			55.32	74.70
	• Total hazardous waste	tonne/year			0.15	0.05
	• Total non-hazardous waste	tonne/year			55.17	74.65
GRI 306-3	Hazardous waste ¹ by disposal/recovery operation					
GRI 306-4	Hazardous waste ¹ diverted from disposal (offsite)	tonne/year			-	-
	• Reuse	tonne/year			-	-
	• Recycling	tonne/year			-	-
	• Recovery (reclamation, regeneration of metal and metallic compounds)	tonne/year			-	-
GRI 306-5	Hazardous waste ¹ directed to disposal (offsite)	tonne/year			0.15	0.05
	• Energy recovery (alternative fuels/ fuel blending)	tonne/year			-	-
	• Incineration without energy recovery	tonne/year			-	-
	• Landfilling	tonne/year			-	-
	• Other disposal operations ²	tonne/year			0.15	0.05
GRI 306-3	Non-hazardous waste ¹ by disposal/recovery operation					
GRI 306-4	Non-hazardous waste ¹ diverted from disposal (offsite)	tonne/year			15.96	30.08
	• Reuse	tonne/year			-	-
	• Recycling	tonne/year			5.57	17.37
	• Composting	tonne/year			10.39	12.71
GRI 306-5	Non-hazardous waste ¹ directed to disposal (offsite)	tonne/year			39.21	44.57
	• Energy recovery (alternative fuels/ fuel blending)	tonne/year			0.36	6.21
	• Incineration without energy recovery	tonne/year			-	-
	• Landfilling	tonne/year			38.85	38.36
	• Other disposal operations ²	tonne/year			-	-

Remarks:

- Office waste is managed to be offsite disposal.
- Office hazardous which is batteries is stored and waited for authorized disposal vendor to collect.

Social Performance

Employee										
Indicator	Material Aspect	Unit	2020		2021		2022		2023	
			Person	%	Person	%	Person	%	Person	%
GRI 2-7 and GRI 405-1	Employment¹									
	Total employee	person, %	1,230	100.00	1,103	100.00	1,098	100.00	1,184	100.00
	Employee by gender									
	• Male	person, %	854	69.43	759	68.81	752	68.49	773	65.29
	• Female	person, %	376	30.57	344	31.19	346	31.51	411	34.71
	Employee by greligion									
	• Buddhism	person, %	1182	96.10	1060	96.10	1055	96.08	1135	95.86
	• Christian - Catholic	person, %	24	1.95	19	1.72	20	1.82	23	1.94
	• Islam	person, %	22	1.79	20	1.82	21	1.91	23	1.94
	• Others	person, %	2	0.16	4	0.36	2	0.18	3	0.26
	Employee by generation									
	• Baby Boom	person, %	22	1.79	14	1.26	8	0.73	5	0.42
	• Generation X	person, %	533	43.33	451	40.89	450	40.98	454	38.34
	• Generation Y	person, %	626	50.89	585	53.04	584	53.19	631	53.29
	• Generation Z	person, %	49	3.98	53	4.81	56	5.10	94	7.94
	Employee by level									
	• Manager level and above	person, %	161	13.09	158	14.32	169	15.39	191	16.13
	• Male	person, %	103	8.37	97	8.79	102	9.29	108	9.12
	• Female	person, %	58	4.72	61	5.53	67	6.10	83	7.01
	• Senior Officer	person, %	234	19.02	231	20.94	243	22.13	268	22.63
	• Male	person, %	150	12.20	148	13.42	154	14.03	166	14.02
	• Female	person, %	84	6.83	83	7.52	89	8.11	102	8.61
	• Officer	person, %	454	36.91	390	35.36	382	34.79	429	36.23
	• Male	person, %	263	21.38	227	20.58	225	20.49	231	19.51
	• Female	person, %	191	15.53	163	14.78	157	14.30	198	16.72
	• Operator	person, %	381	30.98	324	29.37	304	27.69	296	25.00
	• Male	person, %	338	27.48	287	26.02	271	24.68	268	22.64
	• Female	person, %	43	3.50	37	3.35	33	3.01	28	2.36
Employee by age group										
• Less than 30 years old	person, %	205	16.67	154	13.96	126	11.48	146	12.30	
• Between 30-50 years old	person, %	875	71.14	809	73.35	804	73.22	826	69.80	
• More than 50 years old	person, %	150	12.20	140	12.69	168	15.30	212	17.90	

Employee											
Indicator	Material Aspect	Unit	2020		2021		2022		2023		
			Person	%	Person	%	Person	%	Person	%	
GRI 2-7 and GRI 405-1	Employment ¹										
	Employee by area										
	• Head office	person, %	533	43.33	476	43.16	492	44.81	575	48.56	
	• Refinery	person, %	620	50.41	551	49.95	528	48.09	530	44.76	
	• Northern region	person, %	9	0.73	10	0.91	10	0.91	10	0.84	
	• Central region	person, %	49	3.98	46	4.17	47	4.28	47	3.97	
	• Northeastern region	person, %	11	0.89	12	1.09	12	1.09	12	1.03	
	• Southern region	person, %	8	0.65	8	0.73	9	0.82	10	0.84	
	Employee by race										
	• Asian	% of total workforce				99.91		99.91		99.91	
		% of total management workforce				99.87		99.87		99.89	
	• White	% of total workforce				0.09		0.09		0.09	
		% of total management workforce				0.13		0.13		0.11	
	• Black or African American	% of total workforce				0.00		0.00		0.00	
		% of total management workforce				0.00		0.00		0.00	
	• Hispanic or Latino	% of total workforce				0.00		0.00		0.00	
		% of total management workforce				0.00		0.00		0.00	
	• Indigenous or Native	% of total workforce				0.00		0.00		0.00	
		% of total management workforce				0.00		0.00		0.00	

Employee						
Indicator	Material Aspect	Unit	2020	2021	2022	2023
BCP Indicators	Diversity of employees					
	Share of women in total workforce	%	30.57	31.19	31.51	34.71
	Target of share of women in all management positions	%	35.95	39.79	39.79	39.79
	Share of women in all management positions ²	%	35.95	37.79	37.96	40.39
	Share of women in junior management positions	%	35.90	35.93	37.96	38.06
	Share of women in top management positions ³	%	41.67	36.36	43.48	40.74
	Share of women in management positions in revenue-generating functions	%	22.44	24.15	26.52	26.43
	Share of women in STEM-related positions (STEM: Science Technology Engineering and Mathematics)	%	26.45	24.64	27.14	36.03
	Share of workforce on minority group - people with disability	%	1.00	1.00	1.00	1.00
Share of LGBTQI+	%	1.79	The respondents did not wish to disclose survey results.	The respondents did not wish to disclose survey results.	The respondents did not wish to disclose survey results.	

Employee										
Indicator	Material Aspect	Unit	2020		2021		2022		2023	
			Person	%	Person	%	Person	%	Person	%
GRI 401-1	Employee turnover									
	Employee turnover rate	%	4.13		5.76		5.05		2.99	
	Voluntary employee turnover rate	%	3.16		5.13		4.50		2.99	
	Employee turnover by gender									
	• Male	person, %	25	64.10	37	64.91	25	51.02	19	55.88
	• Female	person, %	14	35.90	20	35.09	24	48.98	15	44.12
	Employee turnover by age group									
	• Less than 30 years old	person, %	18	46.15	27	47.37	20	40.81	14	41.18
	• Between 30-50 years old	person, %	17	43.59	28	49.12	26	53.06	20	58.82
• More than 50 years old	person, %	4	10.26	2	3.51	3	6.12	0	0.00	

Employee										
Indicator	Material Aspect	Unit	2020		2021		2022		2023	
			Person	%	Person	%	Person	%	Person	%
GRI 401-1	Employee turnover									
	Employee turnover by level									
	• Manager level and above	person, %					6	12.24	3	8.82
	• Senior officer and officer	person, %					38	77.55	30	88.23
	• Operator	person, %					5	10.20	1	2.95
	Employee turnover by race									
	• Asian	person, %					49	100.00	34	100.00
	• White	person, %					0	0.00	0	0.00
	• Black or African American	person, %					0	0.00	0	0.00
	• Hispanic or Latino	person, %					0	0.00	0	0.00
	• Indigenous or Native	person, %					0	0.00	0	0.00
	New Employee									
	New Employee	person, %	30	100.00	43	100.00	57	100.00	123	100
	New employee by gender									
	• Male	person, %	19	63.33	21	48.84	28	49.12	43	34.96
	• Female	person, %	11	36.67	22	51.16	29	50.88	80	65.04
	New employee by age group									
	• Less than 30 years old	person, %	24	80.00	24	55.81	30	52.63	67	54.47
	• Between 30-50 years old	person, %	6	20.00	17	39.53	26	45.61	55	44.71
	• More than 50 years old	person, %	0	0.00	2	4.65	1	1.75	1	0.81
	New employee by level									
	• Manager level and above	person, %					9	15.79	9	7.31
	• Senior officer and officer	person, %					46	80.70	114	92.68
• Operator	person, %					2	3.51	0	0.00	
New employee by race										
• Asian	person, %					57	100.00	123	100.00	
• White	person, %					0	0.00	0	0.00	
• Black or African American	person, %					0	0.00	0	0.00	
• Hispanic or Latino	person, %					0	0.00	0	0.00	
• Indigenous or Native	person, %					0	0.00	0	0.00	
BCP Indicators	Percentage of open position filled by internal candidates (internal hires)	%	10.11		11.11		10.71		11.2	
	Average hiring cost per person ⁴	THB/person	122,955		42,812		41,000		96,000	

Employee										
Indicator	Material Aspect	Unit	2020		2021		2022		2023	
			Person	%	Person	%	Person	%	Person	%
GRI401-3	Parental leave									
	Female employees who were entitled to parental leave	person, %					346	100.00	411	100.00
	• Female employees who took parental leave (as % of female employees who were entitled to parental leave) ⁵	person, %	4	0.33	8	0.73	4	1.16	5	1.22
	• Female employees who took parental leave (as % of all employees who were entitled to parental leave)	person, %					4	0.36	5	0.42
	Male employees who were entitled to parental leave	person, %					752	100.00	773	100.00
	• Male employees who took parental leave (as % of female employees who were entitled to parental leave)	person, %					16	2.13	0	0.00
	• Male employees who took parental leave (as % of all employees who were entitled to parental leave)	person, %					16	1.46	0	0.00
	Female employees who returned to work after parental leave	person, %	4	100.00	8	100.00	4	100.00	5	100.00
	Male employees who returned to work after parental leave	person, %					16	100.00	0	0.00
	Female employees who returned to work after parental leave that were still employed 12 months after their return to work	person, %					4	100.00	5	100.00
	Male employees who returned to work after parental leave that were still employed 12 months after their return to work	person, %					16	100.00	0	0.00

Employee						
Indicator	Material Aspect	Unit	2020	2021	2022	2023
GRI 404-1	Employee development					
	Total training hour	hour	28,650.27	30,869.65	31,931.70	42,333.60
	Average training hour per person	hour/person	23.29	27.99	29.08	35.75
	Average amount spent on training and development per person	THB/person	8,717.66	14,447.45	15,930.68	23,825.76
	Training hour by gender					
	• Male	hour/person	21.05	29.03	31.97	36.82
	• Female	hour/person	28.18	25.69	22.80	33.75
	Training hour by level					
	• Manager level and above	hour/person	45.15	53.66	25.08	22.19
	• Senior officer and officer	hour/person	24.03	24.87	27.11	24.31
	• Operator	hour/person	12.53	21.46	35.36	36.31
	Training hour by business category					
	• President & Chief Executive Officer (PS)	hour/person	38.45	31.84	26.18	37.84
	• Corporate Sustainability Development and Strategic Synergy (CSBU)	hour/person	46.99	0.00	14.55	29.21
	• Corporate Management and Organization Development (MDBU)	hour/person	37.00	23.47	25.23	39.57
	• Accounting and Finance (AFBU)	hour/person	18.85	27.00	46.10	32.71
	• Marketing Business Group (MKBG)	hour/person	15.58	29.56	13.05	18.31
	• Refinery Business Group (RFBG)	hour/person	21.82	28.09	37.22	46.39
	Best Employer score	%	56.00	N/A	N/A	N/A
	Employee Engagement Score	%	63.00	70.00	75.00	85.00
Labour and Human rights Complaints	case	0	0	0	0	
Harassment and Discrimination Complaints	case	0	0	0	0	
Training to increase awareness of harassment and discrimination	frequency		1 time/year	1 time/year	1 time/year	

Employee						
Indicator	Material Aspect	Unit	2020	2021	2022	2023
BCP Indicators	KPIs on employee development					
	KPI 1: Average training hours per person					
	Average training hours by level					
	• Manager level and above	hour/person	45	54	25	22
	• Senior officer and officer	hour/person	25	25	27	24
	• Operator	hour/person	15	22	35	36
	Average training hours by training category					
	• Hard skills	hour/person	14	11	20	25
	• Soft skills	hour/person	9	17	15	10
	KPI 2: Average amount spent per person					
	Average amount spent per person by level					
	• Manager level and above	THB/person	15,000	30,000	50,000	50,000
	• Senior officer and officer	THB/person	4,500	8,000	15,000	20,000
	• Operator	THB/person	1,500	3,000	8,000	10,000
	Average amount spent per person by training category					
• Hard skills	THB/person	2,900	5,000	10,000	20,000	
• Soft skills	THB/person	1,800	3,000	15,000	15,000	

Employee						
Indicator	Material Aspect	Unit	2020	2021	2022	2023
BCP Indicators	Human Capital Return on Investment					
	Total revenue	THB	136,450,288,879	199,416,997,279	328,017,357,411	385,853,022,710
	Total operating expenses	THB	132,122,127,969	175,744,433,215	281,748,692,278	352,114,899,628
	Total employee-related expenses	THB	1,796,270,554	2,066,886,200	2,466,797,249	2,517,022,106
	Human Capital Return on Investment (HC ROI)	ratio	3.41	12.45	19.76	14.40

Employee						
Indicator	Material Aspect	Unit	2020	2021	2022	2023
GRI 405-2	Ratio of basic salary and remuneration (women : men)⁶					
	Ratio of basic salary and remuneration					
	• Ratio of basic salary	women : men		1.16	1.18	1.16
	• Ratio of remuneration	women : men			1.08	1.00
	Ratio of basic salary by age group					
	• Less than 30 years old	women : men		1.33	1.25	1.18
	• Between 30-50 years old	women : men		1.20	1.22	1.25
	• More than 50 years old	women : men		0.96	1.06	1.16
	Ratio of remuneration by age group					
	• Less than 30 years old	women : men			0.96	0.78
	• Between 30-50 years old	women : men			1.09	1.08
	• More than 50 years old	women : men			1.05	1.03
	Ratio of basic salary by religion					
	• Buddhism	women : men		1.17	1.19	1.19
	• Others	women : men		0.78	0.87	0.78
	Ratio of remuneration by religion					
	• Buddhism	women : men			1.09	1.02
	• Others	women : men			0.85	0.68
	Ratio of basic salary by level					
	• Manager level and above	women : men		0.89	0.92	0.95
	• Senior Officer	women : men		0.98	0.98	0.94
	• Officer	women : men		0.94	0.95	0.94
	• Operator	women : men		1.13	1.05	0.98
	Ratio of remuneration by level					
	• Manager level and above	women : men			0.92	0.87
	• Senior Officer	women : men			0.95	0.87
	• Officer	women : men			0.81	0.74
	• Operator	women : men			0.82	0.79
	Ratio of basic salary by area					
	• Head office	women : men		0.79	0.83	0.85
	• Refinery	women : men		1.35	1.37	1.30
	• Others (Northern, Central, Northeastern, Southern region)	women : men		0.78	0.77	0.77
Ratio of remuneration by area						
• Head office	women : men			0.82	0.79	
• Refinery	women : men			1.22	1.16	
• Others (Northern, Central, Northeastern, Southern region)	women : men			0.72	0.70	

Employee								
Indicator	Material Aspect	Unit	2020	2021	2022	2023		
GRI 202-1	Ratio of employee mean pay (based on basic salary) to legal minimum pay	ratio			1.45	1.37	1.55	1.40
	Ratio of contractor mean pay (based on basic salary) to legal minimum pay	ratio			Omission		Omission	
GRI 202-2	Share of native (Thai) employees on manager and above level.	%			99.41	99.48		
Ratio of basic salary and remuneration (men : women)								
BCP Indicators	Mean gender pay gap (based on basic salary)	%	-16.97	-15.66	-17.55	-16.57		
	Median gender pay gap (based on basic salary)	%	-20.29	-18.88	-21.34	-19.40		
	Mean gender pay gap (based on remuneration)	%			-8.03	-0.08		
	Median gender pay gap (based on remuneration)	%			-2.90	2.98		
	Mean bonus gap	%	-14.92	-14.47	-17.31	-8.18		
	Median bonus gap	%	-15.96	-17.83	-18.96	-12.67		

Remarks:

- The Company has an exclusive full-time employment policy. There are no self-employment, temporary, part-time, non-guaranteed-hours employments with no seasonal variations in manpower. The number of employees is reported in headcount, the average number across the reporting period.
- Employee in all management positions cover officer, senior officer, and manager and above.
- Top management positions are all management-level positions with a reporting line 2 levels or less from the CEO.
- The average cost of the new employee hiring process in 2023 increased from the previous year due to an increase in recruitment.
- The percentage of parental leave has been reported as a percentage of all female employees since 2020. In 2022, the parental leave welfare has been expanded to cover female and male employees. Male employees is eligible for 15 days parental leave. Thus, the reporting of the percentage of parental leave as a percentage of all employees has been presented since 2022.

Occupational Health and Safety Performance										
Indicator	Material Aspect	Unit	2020		2021		2022		2023	
			Male	Female	Male	Female	Male	Female	Male	Female
GRI 2-8	Workers covered by an occupational health and safety management system									
	• Workers who are not employees	person							640	
		person							461	179
GRI 403-9	Total Working Hour									
	• Employee	hour	2,344,462.90		1,258,971.00		2,043,251.90		2,130,210.40	
		hour	1,675,031.60	669,431.30	1,149,249.50	109,721.50	1,448,331.30	594,920.60	1,464,010.90	666,199.50
	• Contractor	hour	7,815,554.00		2,810,960.50		1,777,185.50		1,995,613.72	
		hour	5,959,383.00	1,856,171.00	2,238,417.50	572,543.00	1,401,309.00	375,876.50	1,536,011.22	459,602.50

Occupational Health and Safety Performance

Indicator	Material Aspect	Unit	2020		2021		2022		2023	
			Male	Female	Male	Female	Male	Female	Male	Female
GRI 403-9	Work-Related Injuries									
	Fatality as a result of Work-Related Injury									
	• Employee	case	0		0		0		0	
			0	0	0	0	0	0	0	0
		case/million working hours	0		0		0		0	
			0	0	0	0	0	0	0	0
	data coverage (%)		100		100		100		100	
	• Contractor	case	0		0		0		0	
			0	0	0	0	0	0	0	0
		case/million working hours	0		0		0		0	
			0	0	0	0	0	0	0	0
	data coverage (%)		100		100		100		100	
	Total Recordable Injury Frequency Rate (TRIFR)									
	• Employee	case	1		0		2		0	
			1	0	0	0	2	0	0	0
		case/million working hours	0.43		0		0.98		0	
			0.60	0	0	0	1.38	0	0	0
	data coverage (%)		100		100		100		100	
	• Contractor	case	4		4		2		3	
			2	2	4	0	2	0	3	0
case/million working hours		0.38		1.42		1.13		1.50		
		0.34	0.54	1.79	0	1.43	0	1.95	0	
data coverage (%)		100		100		100		100		

Occupational Health and Safety Performance										
Indicator	Material Aspect	Unit	2020		2021		2022		2023	
			Male	Female	Male	Female	Male	Female	Male	Female
GRI 403-9	Work-Related Injuries									
	Lost-Time Injury Frequency Rate (LTIFR) ¹									
	• Employee	case	0		0		0		0	
			0	0	0	0	0	0	0	0
		case/million working hours	0		0		0		0	
			0	0	0	0	0	0	0	0
	data coverage (%)		100		100		100		100	
	• Contractor	case	2		1		2		0	
			2	0	1	0	2	0	0	0
		case/million working hours	0.26		0.36		1.13		0	
			0.34	0	0.45	0	1.43	0	0	0
	data coverage (%)		100		100		100		100	
	High-Consequence Work-Related Injuries									
	• Employee	case	0		0		0		0	
			0	0	0	0	0	0	0	0
	data coverage (%)		100		100		100		100	
	• Contractor	case	0		0		1		0	
			0	0	0	0	1	0	0	0
	data coverage (%)		100		100		100		100	
	Near Miss Incident									
Total cases		case	101		24		12		11	
• Employee		case	12		21		8		11	
• Contractor		case	1		3		4		0	
Data coverage		%	100		100		100		100	
GRI 403-10	Work-Related Illnesses									
	Occupational Illness Frequency Rate (OIFR)									
	• Employee	case	0		0		0		0	
			0	0	0	0	0	0	0	0
		case/million working hours	0		0		0		0	
			0	0	0	0	0	0	0	0
		fatality case		0		0		0		0
data coverage (%)		100		100		100		100		



Occupational Health and Safety Performance

Indicator	Material Aspect	Unit	2020		2021		2022		2023	
			Male	Female	Male	Female	Male	Female	Male	Female
Process Safety Events										
GRI Sector Standard reference number 11.8.3 (Process Safety Management: PSM)		event	0	0	0	0	0	0	0	0
	Process Safety Events - Tier 1	event/million working hours	0	0	0	0	0	0	0	0
		data coverage (%)	100	100	100	100	100	100	100	100
	Process Safety Events - Tier 2	event	0	0	0	0	0	0	0	0
		event/million working hours	0	0	0	0	0	0	0	0
		data coverage (%)	100	100	100	100	100	100	100	100
PSM Assessment Score										
	PSM Assessment Score (Target in 2023: 4.0)	score	3.30	3.50	4.00	4.00	4.00	4.00	4.00	4.00

Remarks:

1.The lost day counts from the work day after the accident.

Hydrocarbon Spill						
Indicator	Material Aspect	Unit	2020	2021	2022	2023
GRI306-3 ¹ (2016)	Hydrocarbon spill > 100 barrels per time					
	Number of significant hydrocarbon spill-related cases (> 100 barrels/time)	case	0	0	0	0
	Volume of significant hydrocarbon spill (> 100 barrels / time)	barrel	0	0	0	0
		L	0	0	0	0
	Hydrocarbon spill > 1 barrels per time (but not over 100 barrels)					
	Number of significant hydrocarbon spill-related cases (> 1, but not over 100, barrels per time)	case	3	0	0	0
	Volume of significant hydrocarbon spills (> 1, but not over 100, barrels per time)	barrel	11	0	0	0
		L	1,760	0	0	0
	Volume of hydrocarbon over 1 barrel spilled into the environment	barrel	0	0	0	0
		L	0	0	0	0
Sector standard reference 11.8.3	Number of Tier 1 cases related to significant spills (LOPC)	case	0	0	0	0
	Number of Tier 2 cases related to significant spills (LOPC)	case	0	0	0	0

Remarks:

1. Content related to wastewater and waste according to GRI Standard - GRI306 (2016) has been replaced by GRI Standard - GRI 303: Water and Wastewater (2018) and GRI 306: Waste (2020), but content related to leakage in GRI 306 (2016) is still in effect.

2. Process safety performance indicators (Leading and Lagging), such as indicators regarding Tier 1 and Tier 2 loss of primary containment (LOPC), following API RP 754 (American Petroleum Institute Recommended Practice 754) guidelines.

Loss of Primary Containment (LOPC) is an unplanned or uncontrolled release of any material from primary containment, including non-toxic and non-flammable materials

- Tier1 : LOPC Events of Greater Consequence, the count of Tier 1 process safety events is the most lagging performance indicator and represents incidents with greater consequence resulting from actual losses of containment.

- Tier2 : LOPC Events of Lesser Consequence, the count of Tier 2 process safety events represents loss of primary containment events with a lesser consequence, but may be predictive of future, more significant incidents.