

SUSTAINABILITY PERFORMANCE DATA : ENVIRONMENT



ESG Data: Environment

#	GRI		Required Data	Unit	2021	2022	2023	2024		
	GRI Standards Title	GRI Standards								
Energy and Electricity										
Energy [1]										
Topic : Total Energy Consumption <u>within</u> the organization										
1	Energy 2016	302-1 Energy consumption within the organization	Total Energy Consumption within the organization	GJ	893,042.3	959,118.9	936,230.4	999,946.0		
			MWh	248,069.3	266,424.1	260,066.1	277,765.0			
2			Total Cost of Fuel Consumption	THB	349,581,358.7	324,846,650.5	346,034,055.9	345,161,993.8		
Electricity [2]										
3	N/A	N/A	Total Electricity Consumption	kWh	7,753,686.6	2,751,842.4	8,180,708.0	7,821,027.6		
4			- Electricity purchased (From Non-renewable fuel)	kWh	416,304.0	562,051.4	923,080.0	643,600.0		
5			- Electricity purchased or self-generated (From Renewable fuels)		7,337,382.6	2,189,791.0	7,257,628.0	7,177,427.6		
6			Total Cost of Electricity Consumption	THB	4,232,733.6	4,819,842.5	5,206,482.4	9,299,409.2		
Water										
Water										
Topic: Water Withdrawal [3]										
Reporting coverage (% of total of power plants) (Exclude Solar power plants)					=9/16	=9/16	=9/16	=9/17		
7	Water and Effluents 2018	303-3 Water withdrawal	Total water withdrawal from all areas	Million Litres	3,442.58	3,241.58	3,591.86	3,860.81		
8			Surface water	Million Litres	2,940.63	2,744.46	2,947.39	3,025.04		
8.1			- Fresh water (≤1,000 mg/L TDS)	Million Litres	2,940.6	2,744.5	2,947.4	3,025.0		
8.2			- Other water (>1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
9			Ground Water	Million Litres	0.00	0.00	0.00	0.00		
9.1			- Fresh water (≤1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
9.2			- Other water (>1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
10			Seawater	Million Litres	0.00	0.00	0.00	0.00		
10.1			- Fresh water (≤1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
10.2			- Other water (>1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
11			Produced Water	Million Litres	0.00	0.00	0.00	0.00		
11.1			- Fresh water (≤1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
11.2			- Other water (>1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
12			Third-party water: Municipal water suppliers or other water utilities	Million Litres	501.95	497.12	644.47	834.57		
12.1			- Fresh water (≤1,000 mg/L TDS)	Million Litres	501.9	497.1	644.5	834.6		
12.2			- Other water (>1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
13			Harvested Rainwater	Million Litres	0.0	0.0	0.0	1.2		
14			External Wastewater	Million Litres	0.0	0.0	0.0	0.0		
15			Used quarry water collected in the quarry	Million Litres	0.0	0.0	0.0	0.0		
16			Total water withdrawal from all area with water stress	Million Litres	0.00	0.00	0.00	0.00		
17			Surface water	Million Litres	0.00	0.00	0.00	0.00		
17.1			- Fresh water (≤1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
17.2			- Other water (>1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
18			Ground Water	Million Litres	0.00	0.00	0.00	0.00		
18.1			- Fresh water (≤1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
18.2			- Other water (>1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
19			Seawater	Million Litres	0.00	0.00	0.00	0.00		
19.1			- Fresh water (≤1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
19.2			- Other water (>1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
20			Produced Water	Million Litres	0.00	0.00	0.00	0.00		
20.1			- Fresh water (≤1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
20.2			- Other water (>1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
21			Third-party water: Municipal water suppliers or other water utilities	Million Litres	0.00	0.00	0.00	0.00		
21.1			- Fresh water (≤1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
21.2			- Other water (>1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
22			Harvested Rainwater	Million Litres	0.0	0.0	0.0	0.0		
23			External Wastewater	Million Litres	0.0	0.0	0.0	0.0		
24			Used quarry water collected in the quarry	Million Litres	0.0	0.0	0.0	0.0		
Topic: Water Discharge [3]										
Reporting coverage (% of total of power plants) (Exclude Solar power plants)					=9/16	=9/16	=9/16	=9/17		
25	Water and Effluents 2018	303-4 Water discharge	Total water discharge to all areas (by destination)	Million Litres	0.00	0.00	0.00	0.00		
25.1			- Surface water	Million Litres	0.0	0.0	0.0	0.0		
25.2			- Ground water	Million Litres	0.0	0.0	0.0	0.0		
25.3			- Seawater	Million Litres	0.0	0.0	0.0	0.0		
25.4			- Third-party water / Off-site Water Treatment	Million Litres	0.0	0.0	0.0	0.0		
26			Total water discharge to all areas	Million Litres	0.00	0.00	0.00	0.00		
26.1			- Fresh water (≤1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
26.2			- Other water (>1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
27			Total water discharge to all areas with water stress	Million Litres	0.00	0.00	0.00	0.00		
27.1			- Fresh water (≤1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
27.2			- Other water (>1,000 mg/L TDS)	Million Litres	0.0	0.0	0.0	0.0		
28			Total Recycled water returned to internal process [4]	Million Litres	77.5	75.7	77.4	75.8		

ESG Data: Environment								
#	GRI		Required Data	Unit	2021	2022	2023	2024
	GRI Standards Title	GRI Standards						
Topic: Water Consumption [3]								
Reporting coverage (% of total of power plants) (Exclude Solar power plants)					=9/16	=9/16	=9/16	=9/17
29	Water and Effluents 2018	303-5 Water consumption	Total water consumption from all areas (Total water withdrawal - Total water discharge)	Million Litres	3,442.58	3,241.58	3,591.86	3,860.81
				Cubic meters	3,442,578.00	3,241,583.00	3,591,856.60	3,860,814.65
30					Total water consumption from all ares with water stress areas	Million Litres	0.00	0.00
Topic: Cost of Water Usage [4]								
31	N/A	N/A	Total Cost of total water usage	THB	171,178.60	170,558.00	205,840.45	318,094.95
GHG Emissions								
GHG Emissions [5]								
Reporting coverage (% of total of power plants) (Exclude Solar power plants)					=1/16	=1/16	=1/16	=15/17
32	N/A	N/A	Total for Greenhouse gas emissions (Scope 1 -3)	Metric tonnes CO2 equivalent	41,053.30	39,221.96	49,687.68	105,643.00
Topic: Direct Greenhouse Gas Emissions (Scope 1)								
33	Emissions 2016	305-1 Direct (Scope 1) GHG emissions	Total direct GHG emissions (scope 1)	Metric tonnes CO ₂ equivalent	36,633.9	34,532.4	44,892.6	61,317.0
Topic: Indirect Greenhouse Gas Emissions (Scope 2)								
34	Emissions 2016	305-2 Energy indirect (Scope 2) GHG emissions	Total indirect GHG emissions (scope 2)	Metric tonnes CO ₂ equivalent	4,414.1	4,684.0	4,789.4	42,130.0
Topic: Indirect Greenhouse Gas Emissions (Scope 3)								
35	Emissions 2016	305-3 Other indirect (Scope 3) GHG emissions	Total other indirect (Scope 3) GHG emissions	Metric tonnes CO ₂ equivalent	5.3	5.6	5.7	2,196.0
Emissions								
Emissions [6]								
Reporting coverage (% of total of power plants) (Exclude Solar power plants)					=11/16	=11/16	=11/16	=11/17
Topic: NOx Emissions								
36	Emissions 2016	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	NOx emissions	Metric tonnes	1,936.6	1,572.8	1,155.5	1,168.5
Topic: SOx Emissions								
37	Emissions 2016	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	SOx emissions	Metric tonnes	288.4	205.5	204.4	51.0
Topic: VOC Emissions								
38	Emissions 2016	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	VOC emissions	Metric tonnes	N/A	N/A	N/A	N/A
Topic: TSP								
39	Emissions 2016	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	TSP (Total Suspended Particulate)	Metric tonnes	307.7	237.2	385.4	538.1
Waste								
Waste [7]								
Reporting coverage (% of total of power plants) (Exclude Solar power plants)					=8/16	=8/16	=8/16	=8/17
Topic: Waste Generated								
40	Waste 2020	306-3 Waste generated	Total waste generated (A+B)	Metric tonnes	55,987.2	57,231.9	54,280.3	41,244.9
				Kilograms	55,987,189.6	57,231,930.6	54,280,342.7	41,244,864.8
41			A. Total non-hazardous waste generated (A=A1+A2)	Metric tonnes	55,981.8	57,162.5	54,155.0	41,204.2
				Kilograms	55,981,780.0	57,162,520.0	54,154,980.0	41,204,220.0
42			B. Total hazardous waste generated (B=B1+B2)	Metric tonnes	5.4	69.4	125.4	40.6
				Kilograms	5,409.6	69,410.6	125,362.7	40,644.8

ESG Data: Environment								
#	GRI		Required Data	Unit	2021	2022	2023	2024
	GRI Standards Title	GRI Standards						
Biodiversity								
Biodiversity [8]								
43	Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Total area of operational sites	Rai	184.1	184.1	184.1	184.1
				Hectares	29.46	29.46	29.46	29.46
44			The site conducts an assessment of biodiversity risks.	Yes/No	YES	YES	YES	YES
Spills & Environmental Compliance								
Spills & Environmental Compliance								
Topic: Significant Spills								
Reporting coverage (% of total of power plants) (Exclude Solar power plants)					=16/16	=16/16	=16/16	=17/17
45	Effluents and Waste 2016	306-3 Significant spills	Number of significant spills	Number	0.0	0.0	0.0	0.0
46			Total volume of significant spills	Liters	0.0	0.0	0.0	0.0
Topic: Environmental Compliance [9]								
Reporting coverage (% of total of power plants) (Exclude Solar power plants)					=8/16	=8/16	=8/16	=8/17
47	Environmental Compliance 2016	307-1 Non-compliance with environmental laws and regulations	Environmental violations of legal obligations/regulations	Case	0.0	0.0	0.0	0.0
48			Significant fines and amount of penalty paid	THB	0.0	0.0	0.0	0.0
49			Total number of Non-monetary sanctions	Case	0.0	0.0	0.0	0.0
50			Total case brought through dispute resolution mechanisms	Case	0.0	0.0	0.0	0.0
Topic: Certification [10]								
Reporting coverage (% of total of power plants) (Exclude Solar power plants)					=15/16	=15/16	=15/16	=16/17
51	N/A	N/A	Sites with Certified ISO 140001	Yes/No	15	15	15	16

Reporting Coverage:

[1] The presented data included the power plants of Sirindhorn ("ALCP2"), Ta Nee ("AAPP1"), Nam Phong ("AAP1"), Muang Korat ("AAE1") , and and MSW Krabi ("ALCP6").

[2] The presented data included the power plants of Ta Nee ("AAPP1"), Nam Phong ("AAP1"), Thoen ("ABA1"), and. Koh Khanun ("AAA1")

[3] The presented data included the power plants of Bo Ploy ("ACP3"), Sri Chiang Mai ("ALCP1"), Ta Nee ("AAPP1"), Chok Chai ("AAPP2"), Nam Phong ("AAP1"), Thoen ("ABA1"), Don Mon ("ABE1"), Koh Khanun ("AAA1"), and MSW Khon Kaen ("ALCP3").

[4] The presented data included the power plants of Nam Phong ("AAP1") .

[5]

- 2021-2023; The presented data included the power plants of Bo Ploy ("ACP3") (This data has not been verified by the third party yet.)
- 2024; The presented data included the power plants of Ban Bueng ("ACP1"), Phon Thong ("ACP2"), Bo Ploy ("ACP3"), Khlong Khlung ("ACP4"), Sri Chiang Mai ("ALCP1"), Sirindhorn ("ALCP2"),Ta Nee ("AAPP1"), Chok Chai ("AAPP2"), Nam Phong ("AAP1"), Thoen ("ABA1"), Mueng Buriram ("ACES1"), Don Mon ("ABE1"), Muang Korat ("AAE1"), MSW Khon Kaen ("ALCP3"), and MSW Krabi ("ALCP6"). (This data has not been verified by the third party yet.)

[6] The presented data included the power plants of Phon Thong ("ACP2"), Bo Ploy ("ACP3"), Sri Chiang Mai ("ALCP1"), Ta Nee ("AAPP1"), Chok Chai ("AAPP2"), Nam Phong ("AAP1"), Thoen ("ABA1"), Don Mon ("ABE1"), Muang Korat ("AAE1"), Koh Khanun ("AAA1"), and MSW Khon Kaen ("ALCP3").

[7] The presented data included the power plants of Phon Thong ("ACP2"), Sirindhorn ("ALCP2"), Ta Nee ("AAPP1"), Chok Chai ("AAPP2"), Nam Phong ("AAP1"), Thoen ("ABA1"), Muang Korat ("AAE1"), and MSW Khon Kaen ("ALCP3").

[8] The presented data included the power plants of Koh Khanun ("AAA1").

[9] The presented data included the power plants of Bo Ploy ("ACP3"), Sri Chiang Mai ("ALCP1"), Sirindhorn ("ALCP2"), Ta Nee ("AAPP1"), Chok Chai ("AAPP2"), Nam Phong ("AAP1"), Muang Korat ("AAE1"), and MSW Krabi ("ALCP6").

[10] The presented data included the power plants of Ban Bueng ("ACP1"), Phon Thong ("ACP2"), Bo Ploy ("ACP3"), Khlong Khlung ("ACP4"), Sri Chiang Mai ("ALCP1"), Sirindhorn ("ALCP2"),Ta Nee ("AAPP1"), Chok Chai ("AAPP2"), Nam Phong ("AAP1"), Thoen ("ABA1"), Mueng Buriram ("ACES1"), Don Mon ("ABE1"), Muang Korat ("AAE1"), Koh Khanun ("AAA1"), and MSW Khon Kaen ("ALCP3"), and MSW Krabi ("ALCP6").