Environmental Performance

Production and Raw Materials

Performance	2021	2022	2023	2024	2025	GRI Standard	SASB
Production (Thousand Tons) *	5,700	5,548	5,526	6,061	6,727		RT-CP-000.A
Total Raw Materials (Thousand Tons) ENO.1	7,219	8,649	6,828	7,443	7,255	GRI 301-1	
Recycled Materials (Thousand Tons) ENO.1	4,420	3,916	3,649	5,723	3,932		
Percentage of Raw Materials from Recycled Materials ENO.1	N/A	N/A	N/A	76.9	54.2	GRI 301-2	RT-CP-410a.1
Renewable Materials (Thousand Tons) ENO.1	2,750	4,691	3,117	7,304	7,099	GRI 301-1	
Percentage of Raw Materials from Renewable Materials ENO.1	N/A	N/A	N/A	98.1	97.9		RT-CP-410a.1
Renewable and Recycled Materials (Thousand Tons) ENO.1	N/A	N/A	N/A	N/A	7,104		
Percentage of Raw Materials from Renewable and Recycled Materials ENO.1	N/A	N/A	N/A	98.1	97.9		RT-CP-410a.1

Greenhouse Gas Emissions and Sequestration

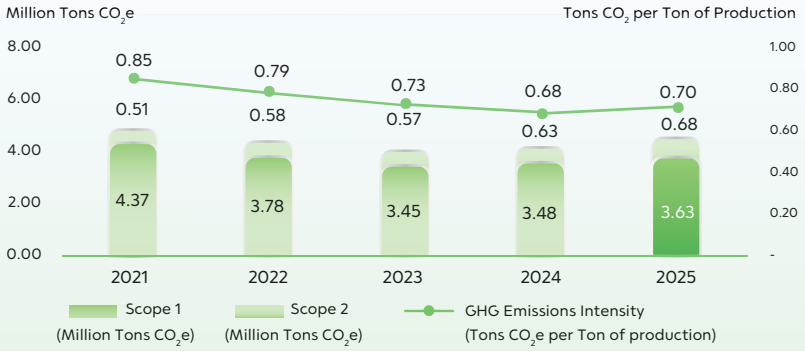
Performance	2021	2022	2023	2024	2025	GRI Standard	SASB
Scope 1 and 2 GHG emissions (Tons CO2 equivalent) EN1,*	4,872,474	4,357,603	4,015,834	4,117,063	4,321,076		
Scope 1 GHG emissions (Tons CO2 equivalent) EN1,*	4,365,669	3,778,126	3,447,684	3,478,086	3,634,313	GRI 305-1	RT-CP-110a.1.
- CO_2 emissions from fuel combustion and process (Tons CO_2 equivalent) EN1,*	N/A	N/A	N/A	N/A	3,632,179		
- CO_2 emissions from Land Use, Land-Use Change and Forestry (Tons CO_2 equivalent) EN1,*	N/A	N/A	N/A	N/A	2,134		
Biogenic CO_2 emissions / CO_2 emissions from biomass (Tons CO_2 equivalent) EN1,*	1,399,131	1,540,860	1,786,776	2,054,168	1,936,769	GRI 305-1	
Scope 2 GHG emissions (Tons CO_2 equivalent) EN1,*	506,806	579,477	568,150	638,977	686,763	GRI 305-2	
- Market Based (Tons CO_2 equivalent) EN1,*	506,806	579,477	568,150	638,977	686,763		
- Location Based (Tons CO_2 equivalent) EN1,*	508,118	631,788	586,057	673,520	736,900		
Scope 3 GHG emissions (Tons CO_2 equivalent) EN1,*	N/A	1,459,010	2,096,246	2,800,423	7,100,424	GRI 305-3	
Category 1: Purchased goods and services (Tons CO_2 equivalent) EN1,*	N/A	556,430	859,465	1,419,020	1,545,614		
Category 2: Capital goods (Tons CO_2 equivalent) EN1,*	N/A	N/A	36,550	53,830	101,570		
Category 3: Fuel and energy related activites (Tons CO_2 equivalent) EN1,*	N/A	427,544	441,172	407,527	889,043		
Category 4: Upstream transportation & distribution (Tons CO_2 equivalent) EN1,*	N/A	354,632	384,560	344,322	303,673		
Category 5: Waste generated in operations (Tons CO_2 equivalent) EN1,*	N/A	N/A	17,883	26,502	58,836		

* Within SGS (Thailand) limited assurance scope (page 102-104)

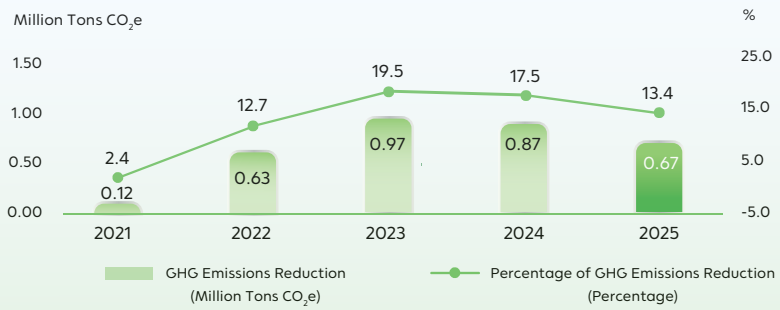
Performance	2021	2022	2023	2024	2025	GRI Standard	SASB
Category 6: Business travel (Tons CO_2 equivalent) EN1,*	N/A	653	831	996	1,121		
Category 7: Employee commuting (Tons CO_2 equivalent) EN1,*	N/A	533	247	26,824	81,100		
Category 8: Upstream leased assets (Tons CO_2 equivalent) EN1,*	N/A	N/R	N/R	N/R	N/R		
Category 9: Downstream transportation & distribution (Tons CO_2 equivalent) EN1,*	N/A	83,180	66,206	67,851	67,775		
Category 10: Processing of sold products (Tons CO_2 equivalent) EN1,*	N/A	N/A	219,533	405,334	963,627		
Category 11: Use of sold products (Tons CO_2 equivalent) EN1,*	N/A	N/A	N/A	N/A	48,679		
Category 12: End-of-life treatment of sold products (Tons CO_2 equivalent) EN1,*	N/A	17,035	37,463	28,940	3,021,004		
Categrory 13: Downstream leased assets (Ton CO_2 equivalent) EN1,*	N/A	N/A	N/A	107	60		
Category 14: Franchises (Tons CO_2 equivalent) EN1,*	N/A	N/R	N/R	N/R	N/R		
Category 15: Investments (Tons CO_2 equivalent) EN1,*	N/A	19,002	32,336	19,169	18,321		
Scope 3 Biogenic CO_2 emissions / CO_2 emissions from biomass acquisition (Tons CO_2 equivalent) EN1,*	N/A	N/A	N/A	N/A	423,153	GRI 305-3	
Scope 1 and 2 GHG Intensity (Tons CO_2 equivalent per Ton of Production)	0.85	0.79	0.73	0.68	0.70	GRI 305-4	
Scope 1 GHG Intensity (Tons CO_2 equivalent per Ton of Production)	0.77	0.68	0.62	0.57	0.59	GRI 305-4	
Scope 2 GHG Intensity (Tons CO_2 equivalent per Ton of Production)	0.09	0.10	0.10	0.11	0.11	GRI 305-4	
Reduction in Scope 1 and 2 greenhouse gas emission compared with the base year 2020 (ton CO_2 equivalent) EN1*	117,874	632,745	974,515	873,285	669,272	GRI 305-5	
Reduction in Scope 1 and 2 greenhouse gas emission compared with the base year 2020 (%)	2.36	12.68	19.53	17.50	13.41	GRI 305-5	
- GHG Emission Reduction from activities within organization (Tons CO_2 equivalent)	N/A	632,745	974,515	873,285	669,272		
- GHG Emission Reduction from carbon offset activities (Tons CO_2 equivalent)	N/A	0	0	0	0		
Carbon Sequestration in Economic forest plantation (Tons CO_2 equivalent) EN1,*	N/A	N/A	152,181	270,228	308,949	GRI 305-5	

* Within SGS (Thailand) limited assurance scope (page 102-104)

Greenhouse Gas Emissions



GHG Emissions Reduction Compare with the Base Year of 2020



Energy Consumption

Performance	2021	2022	2023	2024	2025	GRI Standard	SASB
Fuel Consumption from Non-Renewable Sources (Petajoules) EN2,*	47.5	41.5	38.1	38.3	39.0	GRI 302-1	
Fuel Consumption from Renewable Sources (Petajoules) EN2,*	13.4	14.6	16.8	19.3	18.6	GRI 302-1	RT-CP-130a.1.
Heating and Steam Consumption (Petajoules) EN2,*	1.47	1.43	1.47	1.20	1.16	GRI 302-1	RT-CP-130a.1.
Electricity Consumption (Petajoules)	2.66	3.48	3.31	3.52	3.95	GRI 302-1	RT-CP-130a.1.
Electricity Sold to grid (Petajoules)	0.35	0.26	0.25	0.25	0.24	GRI 302-1	
Energy Consumption outside of the organization (Petajoules)	0	0.40	0.34	0	0	GRI 302-2	
Total Energy Consumption within the organization (Petajoules) EN2,*	64.7	60.4	59.1	62.0	62.5	GRI 302-1	RT-CP-130a.1.
Energy Intensity (Gigajoules per Ton of Production)	11.3	10.9	10.7	10.2	10.1	GRI 302-3	
Reduction in Energy intensity (per ton of production) compared with the base year 2020 (%)	N/A	N/A	N/A	15.2	16.2	GRI 302-4	
Proportion of electricity purchased directly through the electricity grid (%)	N/A	N/A	N/A	4.64	5.18	GRI 302-1	RT-CP-130a.1.

* Within SGS (Thailand) limited assurance scope (page 102-104)

Total Energy Intensity

Air Emissions

Performance	2021	2022	2023	2024	2025	GRI Standard	SASB
Oxides of Nitrogen (Thousand Tons) EN5,*	3.83	3.79	4.09	4.00	4.63	GRI 305-7	RT-CP-120a.1.
Oxides of Sulfur (Thousand Tons) EN5,*	3.80	3.67	4.30	3.00	4.48	GRI 305-7	RT-CP-120a.1.
Particulate Matter (Thousand Tons) EN5,*	0.95	0.90	0.75	0.90	0.86	GRI 305-7	RT-CP-120a.1.

* Within SGS (Thailand) limited assurance scope (page 102-104)

Water Withdrawal and Effluent Quality

Performance	2021	2022	2023	2024	2025	GRI Standard	SASB
Total water withdrawal (Million Cubic Meter) EN3,*	78.8	72.8	71.6	76.9	79.0	GRI 303-3	RT-CP-140a.1.
Water withdrawal from freshwater (TDS ≤ 1,000 mg/L) (Million Cubic Meter) EN3,*							
- Surface Water	34.2	32.0	34.0	35.9	36.2	GRI 303-3	RT-CP-140a.1.
- Groundwater	39.8	36.5	33.4	36	37.8	GRI 303-3	RT-CP-140a.1.
- Seawater	0	0	0	0	0	GRI 303-3	RT-CP-140a.1.
- Tap water or Third-party	4.80	4.30	4.11	4.98	4.98	GRI 303-3	RT-CP-140a.1.
Water withdrawal from freshwater (TDS > 1,000 mg/L) (Million Cubic Meter) EN3,*							
- Surface Water	0	0	0	0	0	GRI 303-3	RT-CP-140a.1.
- Groundwater	0	0	0	0	0	GRI 303-3	RT-CP-140a.1.
- Seawater	0	0	0	0	0	GRI 303-3	RT-CP-140a.1.
- Tap water or Third-party	0	0	0	0	0	GRI 303-3	RT-CP-140a.1.
Water withdrawal from freshwater (TDS ≤ 1,000 mg/L) in water stress area (Million Cubic Meter) EN3,*							
- Surface Water	0	0	0	17.8	17.9	GRI 303-3	RT-CP-140a.1.
- Groundwater	0	0	0	31.0	32.5	GRI 303-3	RT-CP-140a.1.
- Seawater	0	0	0	0	0	GRI 303-3	RT-CP-140a.1.
- Tap water or Third-party	0	0	0	1.0	1.0	GRI 303-3	RT-CP-140a.1.
Water withdrawal from freshwater (TDS > 1,000 mg/L) in water stress area (Million Cubic Meter) EN3,*							
- Surface Water	0	0	0	0	0	GRI 303-3	RT-CP-140a.1.
- Groundwater	0	0	0	0	0	GRI 303-3	RT-CP-140a.1.
- Seawater	0	0	0	0	0	GRI 303-3	RT-CP-140a.1.
- Tap water or Third-party	0	0	0	0	0	GRI 303-3	RT-CP-140a.1.
Recycled Water (Million Cubic Meter) *	15.9	14.2	14.6	14.4	14.0		RT-CP-140a.2.
Portion of Recycled Water (%)	14.2	16.3	17.0	15.7	15.1		RT-CP-140a.2.
Water Withdrawal Intensity (Cubic Meter per Ton of Production)	13.8	13.1	13.0	12.7	12.8		RT-CP-140a.2.
Reduction in Water withdrawal intensity (per ton of production) compared with the base year 2022 (%)	N/A	N/A	N/A	3.1	2.4		RT-CP-140a.2.
Water discharged to any sources (Million Cubic Meter) EN3,*							
- Surface Water	58.1	58.3	58.6	60.0	60.6	GRI 303-4	
- Groundwater	0	0	0	0.03	0	GRI 303-4	
- Seawater	0	0	0	0	0	GRI 303-4	
- Third-party water (total)	3.94	3.06	1.81	0.70	0.43	GRI 303-4	
- Third-party water sent for use to other organizations	3.81	2.91	1.67	0.49	0.17	GRI 303-4	

* Within SGS (Thailand) limited assurance scope (page 102-104)

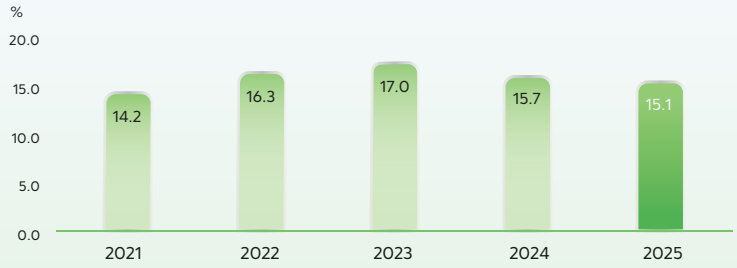
Water Withdrawal and Effluent Quality

Performance	2021	2022	2023	2024	2025	GRI Standard	SASB
Total Water Discharge (Million Cubic Meter) EN3,*	62.1	61.4	60.4	60.8	61.1	GRI 303-4	
- Water discharge by freshwater (TDS ≤ 1,000 mg/L) (Million Cubic Meter) EN3,*	19.1	14.6	21.7	19.1	22.4	GRI 303-4	
- Water discharge by other water (TDS > 1,000 mg/L) (Million Cubic Meter) EN3,*	42.9	46.8	38.8	41.6	38.7	GRI 303-4	
Water discharge in Water Stress Area							
- Water discharge by freshwater (TDS ≤ 1,000 mg/L) in Water Stress Area (Million Cubic Meter) EN3,*	0	0	0	0	0	GRI 303-4	
- Water discharge by other water (TDS > 1,000 mg/L) in Water Stress Area (Million Cubic Meter) EN3,*	0	0	0	0	0	GRI 303-4	
BOD (Tons) EN3,*	1,460	666	531	425	564		
COD (Tons) EN3,*	8,093	6,020	5,768	5,698	5,959		
TSS (Tons) EN3,*	1,155	999	777	688	805		

* Within SGS (Thailand) limited assurance scope (page 102-104)

Water Withdrawal Intensity

Portion of Recycled Water

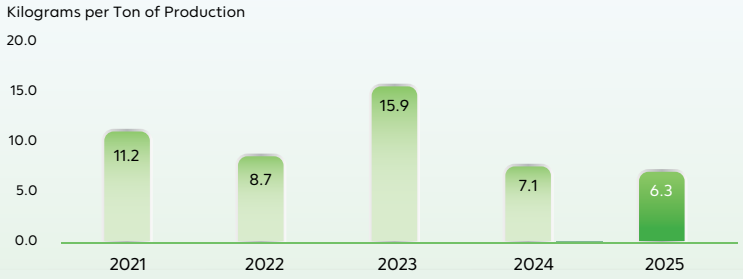


Industrial Waste Management

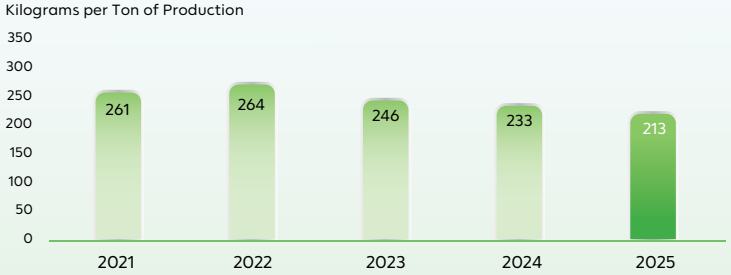
Performance	2021	2022	2023	2024	2025	GRI Standard	SASB
Hazardous Waste							
Hazardous Waste Generation during reporting year (Thousand Tons) EN4,*	64.0	48.4	87.7	43.1	42.6	GRI 306-3	RT-CP-150a.1.
Percentage of Recycled Hazardous (%) EN4	N/A	N/A	N/A	36.7	42.7		RT-CP-150a.1.
Hazardous Waste Generation Intensity (Kilograms per Ton of Production)	11.2	8.7	15.9	7.1	6.3		
Hazardous Waste Diverted from Disposal by Recovery Operations (Thousand Tons) EN4							
- Reuse / Recycled / Other Recovery Operations / Treatment	N/A	N/A	N/A	33.9	36.6	GRI 306-4	RT-CP-150a.1.
Hazardous Waste Directed to Disposal by Disposal Operations (Thousand Tons) EN4	N/A	N/A	N/A	10.0	6.0	GRI 306-5	RT-CP-150a.1.
- Incinerated with energy recovery (Thousand Tons)	N/A	N/A	N/A	1.9	1.5	GRI 306-5	RT-CP-150a.1.
- Incinerated without Energy Recovery (Thousand Tons)	0.06	0.21	0.03	0.70	0.76	GRI 306-5	RT-CP-150a.1.
- Landfilled (Thousand Tons)	14.8	8.7	7.2	7.0	3.6	GRI 306-5	RT-CP-150a.1.
- Other disposal operations (Thousand Tons)	N/A	N/A	N/A	0.5	0.2	GRI 306-5	RT-CP-150a.1.
Hazardous Waste in the Storage at the end of reporting year (Thousand Tons) EN4	0.18	1.18	0.95	0.13	0.13		RT-CP-150a.1.
Non Hazardous Waste							
Non Hazardous Waste Generation (Thousand Tons) EN4,*	1,489	1,467	1,359	1,415	1,431	GRI 306-3	
Non Hazardous Waste Generation Intensity (Kilograms per Ton of Production)	261	264	246	233	213		
Non Hazardous Waste Diverted from Disposal by Recovery Operations (Thousand Tons) EN4							
- Reuse / Recycled / Other Recovery Operations / Treatment	N/A	N/A	N/A	993	901	GRI 306-4	
Non Hazardous Waste Directed to Disposal by Disposal Operations (Thousand Tons) EN4	N/A	N/A	N/A	321	518	GRI 306-5	
- Incinerated with energy recovery (Thousand Tons)	N/A	N/A	N/A	286	502	GRI 306-5	
- Incinerated without Energy Recovery (Thousand Tons)	36.1	36.0	32.4	33.2	15.3	GRI 306-5	
- Landfilled (Thousand Tons)	2.9	3.5	0.3	2.1	0.3	GRI 306-5	
- Other disposal operations (Thousand Tons)	N/A	N/A	N/A	0.4	0.4	GRI 306-5	
Non Hazardous Waste in the Storage at the end of reporting year (Thousand Tons) EN4	103	105	152	252	265		

* Within SGS (Thailand) limited assurance scope (page 102-104)

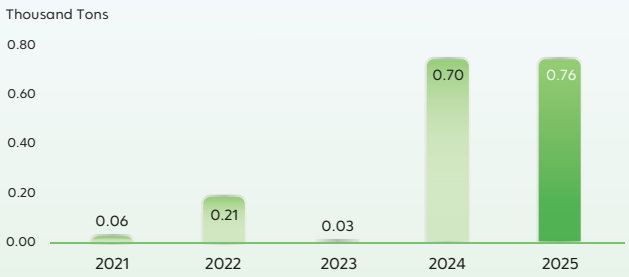
Hazardous Waste Generation Intensity



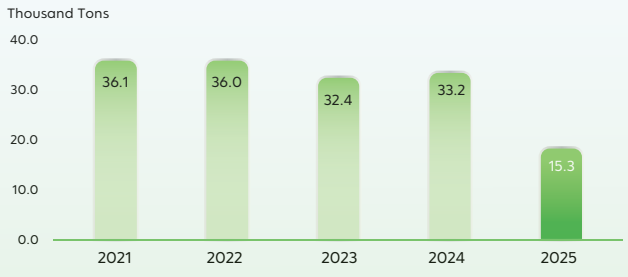
Non Hazardous Waste Generation Intensity



Hazardouse waste management by Incinerated without Energy Recovery



Non Hazardouse waste management by Incirated without Energy Recovery



Waste diverted from disposal - Thailand and Abroad, GRI 306-4*

Waste	2025 (Tons)				
	Inside SCGP		Outside SCGP		Total
	Within Factory	Inside SCGP	Inside SCG	Outside SCG	
Hazardous Waste					
Reuse	0	0	0	20,516.80	20,516.80
Recycling	0	0	4.77	15,592.23	15,597.00
Other recovery operations	0	0	0	420.83	420.83
Treatment	0	0	0	15.40	15.40
Total	0	0	4.77	36,545.25	36,550.02
Non Hazardous Waste					
Reuse	554.71	20,724.44	2,550.65	11,054.84	34,884.64
Recycling	74,881.39	420,902.86	16,555.13	353,307.85	865,647.24
Other recovery operations	0	0	0	17.00	17.00
Treatment	0	0	0	0	0
Total	75,436.10	441,627.30	19,105.78	364,379.69	900,548.88

Waste directed to disposal - Thailand and Abroad, GRI 306-5*

Waste	2025 (Tons)				
	Inside SCGP		Outside SCGP		Total
	Within Factory	Inside SCGP	Inside SCG	Outside SCG	
Hazardous Waste					
Incineration (with energy recovery)	0	0	0	1,542.47	1,542.47
Incineration (without energy recovery)	0	0	0	759.69	759.69
Landfilling	0	0	0	3,563.32	3,563.32
Other disposal operations	0	0	0	171.58	171.58
Total	0	0	0	6,037.07	6,037.07
Non Hazardous Waste					
Incineration (with energy recovery)	309,126.25	20,537.75	30,394.58	141,555.07	501,613.65
Incineration (without energy recovery)	0	0	0	15,319.66	15,319.66
Landfilling	0	0	0	371.32	371.32
Other disposal operations	0	0	0	428.43	428.43
Total	309,126.25	20,537.75	30,394.58	157,674.48	517,733.06

*Within SGS (Thailand) limited assurance scope (page 102-104)

Environmental Expenditures and Benefits/Violations of Legal Obligations and Regulations

Performance	2021	2022	2023	2024	2025	GRI Standard	SASB
Environmental Operating Expenses (Million Baht)	739	1,005	871	843	777		
Environmental Capital Expenditures/Investment (Million Baht)	512	310	345	678	533		
Tax Incentives linked to Environmental Investment (Million Baht) EN6	70	56	10	48	177		
Number of violations of legal obligations/regulations (Number of Cases) EN7	0	0	0	0	0	GRI 2-27	
Amount of fines/penalties related to the above (Baht) EN7	0	0	0	0	0	GRI 2-27	
Environmental liability accrued at year end (Baht) EN7	0	0	0	0	0	GRI 2-27	

EN0.1 Production and Raw Materials

1. In 2020, the reporting covered the total raw material volume and the volume of raw materials from recycled materials across all plants in Thailand and abroad.
2. In 2021, the reporting covered the total production volume of all plants in Thailand and abroad.
3. In 2024, the reporting covered the total volume of all key raw materials, the volume of raw materials from recycled materials, and the volume of raw materials from renewable sources, such as wood chips, recycled paper scraps, virgin pulp, starch, and plastic pellets, across all plants in Thailand and abroad.
4. In 2024, the reporting covered the percentage of raw materials from: (1) recycled content, (2) renewable sources, and (3) renewable and recycled content.
5. In 2025, the reporting scope has been expanded to include the total volume of wood logs as a renewable resource within the overall raw material volume.

EN1 Greenhouse Gases

Greenhouse Gases (GHG) mean the volume of greenhouse gas emissions from operations, calculated in accordance with the "Greenhouse Gas Reporting and Calculation Guidelines" by the WRI/WBCSD, GHG Emissions Protocol, and the calculation tools of the International Council of Forest and Paper Associations (ICFPA). The principles are as follows:

1. Reporting scopes
   - 1.1 Direct Greenhouse Gas emissions (Scope 1) are generated from the production processes or activities that are under the supervision, control and management of the Company or its plants. Examples of Scope1 GHG emissions include GHG emissions from stationary combustion, mobile combustion, fugitive emissions, and chemical reactions. However, carbon dioxide emissions from the combustion of biomass, biogas, and lime mud at lime kilns shall be reported separately from Scope 1, since these carbon dioxide emissions are defined as Biogenic Carbon Dioxide: Carbon Dioxide that comes from biomasses, biogases, and lime in natural sources.
   - 1.2 Indirect Greenhouse Gas Emission (Scope 2) are GHG emission associated with the Company's energy purchased such as electricity, steam and heat. The information is reported in the following two formats:
     - Location-based method reflects the average emissions intensity of grids on which energy consumption occurs (using mostly grid average emission factor data).
     - Market-based method reflects emissions from electricity that companies have purposefully chosen (or their lack of choice). It derives emission factors from contractual instruments, which include any type of contract between two parties for the sale and purchase of energy bundled with attributes about the energy generation, or for unbundled attribute claims.

1.3 Indirect Greenhouse Gas Emissions (Scope 3) are other indirect GHG emissions or those not specified in Scope 1 and Scope 2. The Scope 3 GHG emissions cover 15 categories as follows:

Category 1: Purchased Goods and Services
Category 2: Capital Goods
Category 3: Fuel and Energy-Related Activities
Category 4: Upstream Transportation and Distribution
Category 5: Waste Generated in Operations
Category 6: Business Travel
Category 7: Employee Commuting
Category 8: Upstream Leased Assets (Not significant or related to SCGP businesses)
Category 9: Downstream Transportation and Distribution
Category 10: Processing of Sold Products
Category 11: Use of Sold Products (reporting commenced in 2025)
Category 12: End-of-Life Treatment of Sold Products
Category 13: Downstream Leased Assets (reporting commenced in 2024)
Category 14: Franchises (Not significant or related to SCGP businesses)
Category 15: Investments

Remark: Indirect greenhouse gas emissions (Scope 3) in 2025 increased by 4,300,001 tonnes of carbon dioxide equivalent (tCO_2e) compared with 2024. The increase was primarily attributable to four key factors: Category 12 (End-of-Life Treatment of Sold Products) increased by 2,964,984 tCO_2e as reporting scope has expanded to cover products across both B2B and B2C customer segments. Category 10 (Processing of Sold Products) increased by 600,751 tCO_2e as reporting scope has expanded to include all categories of products sold. Category 3 (Fuel- and Energy-Related Activities) increased by 485,591 tCO_2e due to additional reporting of electricity transmission and distribution losses (T&D Loss) and fuel transportation. The scope of this Sustainability Report has expanded to cover more companies, resulting in an increase of 65,438 tCO_2e in greenhouse gas emissions.

1.4 Biogenic Carbon dioxide (Biogenic CO_2) are carbon dioxide emissions released during the combustion of biomass/biogenic fuels, such as biomass fuel, sludge from wastewater treatment systems, biogas, black liquor from pulp production, and lime mud combustion at lime kilns.

1.5 Carbon Sequestration refers to the process of capturing and storing carbon dioxide from the atmosphere in the form of wood. For example, eucalyptus plantations can serve as a carbon sink.

2. Reporting of Volumes

2.1 Calculation of Scope 1 Greenhouse Gas Emissions is based on the summation of GHG emissions from all combustion sources.

- Calculate from the volume of fuel consumption (by lower heating value), such as the volume of coal × lower heating value × greenhouse gas emission factor, with emission factors referenced from the Thailand Greenhouse Gas Management Organization (TGO). Other than TGO refer to "Intergovernmental Panel on Climate Change (IPCC) 2006".

2.2 Calculation of Indirect (Scope 2) Greenhouse Gas Emissions is based on the volume of purchased electricity, steam × greenhouse gas emission factor referenced from TGO, energy producer or supplier

2.3 In 2023, SCGP has set the target to reduce Scope 1 and Scope 2 greenhouse gas emissions by 25% by year 2030 compared to the base year of 2020 (4.99 million tons CO_2e), covering both Thailand and abroad businesses, and aims to achieve net-zero greenhouse gas emissions by 2050.

2.4 Greenhouse gas data from abroad companies has been included since 2020.

2.5 The margin of error in calculating greenhouse gas emissions shall not exceed 5% of the reported data.

3. Greenhouse Gas Type

This report will cover all 7 types of Greenhouse gases: CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 and NF_3. Emissions are calculated and presented in terms of carbon dioxide equivalents using the Global Warming Potential (GWP) values set by the IPCC.

4. SCGP uses the Operational Approach to calculate its greenhouse gas emissions.

5. SCGP has designated 2020 as the base year for setting greenhouse gas reduction targets, as it was the first year in which the Company's report also included its overseas operations

EN2 Energy

The total energy consumption includes thermal energy, steam, all the electricity used in the Company or factory areas, and the volume of electricity sold externally and to associated companies. For thermal energy, the report shows the fuel consumption from both renewable and non-renewable sources.

1. Thermal Energy Consumption is the volume of fuel or steam (estimated based on the purchased amount or the change in stock) × Lower Heating Value (obtained from laboratory testing or from suppliers.)
2. Electrical Energy Consumption is the volume of electricity purchased from external sources for the activities of the Company or its plants. This does not include electricity generated internally through fuel combustion, as this would be double-counting energy.
3. Renewable fuels include fuels from wood chips, bark, agricultural residues, sludge from wastewater treatment systems, black liquor from the pulp production process, and biogas from anaerobic wastewater treatment systems.
4. Non-Renewable Fuel refers to fossil fuels and fuels from waste materials or by-products from production processes produced from fossil fuels, including waste reject and used oil.
5. Renewable Energy is clean energy derived from natural sources, including biomass energy (Biomass, Biogas, Sludge and Black Liquor), solar energy, wind energy, hydro energy, geothermal energy, used to replace dependency of fossil fuels.
6. Non-Renewable Energy is energy derived from fossil fuels or purchased energy produced from fossil fuels.
7. SCGP has designated 2020 as the base year for setting greenhouse gas reduction targets, as it was the first year in which the Company's report also included its overseas operations.
8. Data from overseas companies has been included since 2020.

EN3 Water

1. Water Management (comprising the volume of water withdrawal, water treated before discharge into external water bodies, and recycled water) is a consideration for assessing the efficiency of water usage from various sources.
2. Water withdrawal refers to the volume of water withdrawn from various raw water sources and used in production processes, offices, maintenance, and utilities. The sources of raw water are classified into five categories: surface water, groundwater, sea water, tap water, and water produced within the production process. Data on this part is obtained from accounting records or meter readings.
3. Water Source Quality refers to the quality of water from various sources, measured by Total Dissolved Solids (TDS) using standard methods. And is classified into two following categories:
   - Freshwater: TDS less than or equal to 1,000 milligrams per liter.
   - Other water: TDS greater than 1,000 milligrams per liter.
4. Recycled Water refers to the volume of water reused in all factory activities after being treated, excluding water that has not been through quality improvement process.
5. Effluent Quality refers to the quality of water discharged externally, such as BOD, COD, and total suspended solids, which are measured for concentration using standard methods along with the volume of effluent discharged into external water bodies.
6. Receiving Water Body Quality refers to the quality of various receiving water bodies, measured by Total Dissolved Solids (TDS) using standard methods. And is classified into two following categories:
   - Freshwater: TDS less than or equal to 1,000 milligrams per liter.
   - Other water: TDS greater than 1,000 milligrams per liter.
7. Water Data from abroad companies has been included since 2021.
8. The latest version of the AQUEDUCT 4.0 tool is used for assessing water-related risks.

EN4 Industrial Waste

Waste management is a consideration for assessing the efficiency of production processes, product quality enhancement, and manufacturing cost reduction. SCGP has established guidelines for the collection and reporting of environmental data since 2013, which also applies to all companies in SCGP.

The volume of industrial waste refers to the amount of waste generated from production processes, excluding waste in the production process that can be recycled (Work in Process, WIP). Industrial Waste is categorized into two types: hazardous waste and non-hazardous waste, as defined by the Ministry of Industry's 2023 Decree on the Disposal of Industrial Wastes.

Quantification Report

1. Waste Generated refers to the volume of industrial waste at the point of origin, or before entering the waste storage building. The volume is quantified by weighing scales or estimation.
2. Waste Stock refers to the volume of industrial waste accumulated and not yet managed or stored in designated areas as of the end of the year. The volume is quantified by weighing scale or estimation.
3. Waste Managed refers to the volume of industrial waste handled both internally and externally The volume is determined by weighing scale only.
4. Onsite Waste Management refers to waste management carried out by companies within the scope of SCGP's management.
5. Offsite Waste Management refers to waste management carried out by companies outside the scope of SCGP's management.
6. Reporting of waste management volumes from 2017-2020 was in accordance with GRI 306-2, 2016.
7. Reporting of waste management volumes from 2021 onwards has been in accordance with GRI 306-4 and GRI 306-5, 2020.
8. Data from overseas operations has been included since 2021.
9. The volume and percentage of hazardous waste generated that has been recycled both in Thailand and in abroad have been reported since 2024 in accordance with SASB (RT-CP-150a.1).
10. The report has expanded to cover hazardous and non-hazardous waste diverted from disposal by other recovery operations in Thailand and abroad (thousand tons) since 2024 in accordance with GRI 306-4.
11. Reporting of hazardous and non-hazardous waste directed to disposal in Thailand and abroad (thousand tons) has been included since 2024 in accordance with GRI 306-5.

EN5 Air Emissions

Air emissions refer to the volume of air pollutants, such as nitrogen oxides, sulfur oxides, and particulate matters deriving from combustions and present in production processes. The type of pollutant depends on the specific production processes of each operational unit. The results and methods of measurement are based on legal requirements, such as those set by the US EPA or equivalent standards.

1. Reporting Air emission calculation base on the concentration measured through spot emission testing under actual conditions. This is conducted by laboratories certified and registered with the Department of Industrial Works, Thailand. This includes the flow rate of the released flue gas and the operating hours of steam boilers. Additionally, the measurement of pollutant discharge from the stacks is carried out using Continuous Emission Monitoring Systems (CEMS).
    - Fiber packaging business and Consumer and Performance packaging business conducts random emission testing of air pollutants discharged from stacks (Spot Check) under actual conditions at the time of measurement by laboratories certified and registered with the Department of Industrial Works, Thailand.
    - Packaging Paper Business, Pulp & Paper/Foodservice packaging Business measures air emissions from stacks using Continuous Emission Monitoring Systems (CEMS).

2. Data from abroad operations has been included since 2020.

EN6 Tax Incentives and Privileges from the Board of Investment (BOI) for Environmental Projects

EN7 Number / Amount of Fines or Settlements in case of Violations of Legal Binding/Regulatory Obligations Exceeding 10,000 US Dollars. Covering topics related to air, water, waste , and health and safety.