



# Environmental Management

**Sufficiency Economy Garden**  
**SOMBOON ADVANCE TECHNOLOGY PUBLIC COMPANY LIMITED**

## 7.7 Environmental Management

Somboon Advance Technology Public Company Limited conducts business under a framework of sustainable environmental stewardship, which is recognized as a key strategic priority of the Company. The Company has established environmental policies and targets in accordance with the Sustainability Development Policy Framework for 2025–2029, covering impact reduction and full compliance with applicable laws. The framework comprises five key performance indicators, as follows.

1. Greenhouse gas management
2. Energy consumption
3. Industrial waste management (hazardous and non-hazardous) and zero waste disposal to landfill
4. Water resource utilization
5. Air pollution control

The Company has adopted internationally recognized management systems, including environmental management in accordance with ISO 14001:2015 and the preparation and reporting of greenhouse gas inventories in line with ISO 14064-1:2018. In addition, the guidelines of the Thailand Greenhouse Gas Management Organization (Public Organization) are implemented to govern operations, ensuring the achievement of established targets, alignment with the corporate strategy, and effective responses to stakeholder expectations. All seven manufacturing facilities under the Company’s supervision have been certified and operate in full compliance with these standards, representing 100 percent coverage.

In addition, the Company promotes and embeds environmental awareness among employees at all levels to cultivate an environmentally responsible workplace culture and to encourage active participation in environmental responsibility, supporting sustainable business success alongside environmental preservation.

### Environmental Management Governance

The Company places importance on systematic and effective environmental management, supported by a well-defined governance structure that covers both policy and operational levels to ensure sustainable business operations. The environmental governance framework is outlined as follows.

•**The Risk Management and Sustainability Development Committee** is responsible for overseeing the overall environmental management of the Company, including the approval of climate change risk management issues and approaches across the short-, medium-, and long-term. The Committee considers both physical risks and transition risks and integrates these considerations into the Company’s sustainable development direction to ensure that climate-related management is aligned with the corporate strategy and sustainable business operations.

•**The Executive Sustainability Development Committee**, chaired by the President, is responsible for establishing the Company’s environmental policies, targets, and strategic direction. The Committee also identifies, analyzes, and proposes climate change risk management approaches for submission to the Risk Management and Sustainability Development Committee for review and approval. In addition, the Committee oversees performance monitoring and regularly reviews the effectiveness of the environmental and climate management systems to enable timely improvements and ensure an effective response to evolving risks.



- **The Sustainability Development Team**, comprising representatives from all functional areas, is responsible for driving the implementation of policies and strategic directions established by executive management. The Team supports the achievement of the Company’s environmental and sustainability targets by coordinating information, conducting analyses, and proposing responses to climate change related issues. Key responsibilities include assessing climate-related risks and opportunities at the departmental level, as well as defining operational-level adaptation and mitigation measures to support informed decision-making at the management level.
- **The Sustainability Development Department** is responsible for planning, managing, and monitoring the Company’s environmental management performance. The Head of Corporate Strategy and Sustainability are overseen strategic planning and risk assessment to ensure alignment with the Company’s overall strategy and effective environmental risk management.
- **The Environment and Energy Department** is responsible for implementing the environmental management system at the operational level, including monitoring, verifying, and reporting environmental data such as energy consumption, greenhouse gas emissions, waste management, and the use of natural resources. The Department ensures compliance with applicable laws, standards, and Company policies, and supports the implementation of environmental and energy-related projects at operational sites to drive continuous improvement and alignment with the Company’s sustainable development objectives.

In 2025, the Company successfully achieved the environmental targets as planned, as follows:

Indicators (KPI)	Targets 2025	Performance Results 2025
Greenhouse gas (GHG) emissions (Scope 1 and Scope 2) :		
• Absolute GHG emissions Decreased. (tons of CO2 equivalent per year)	17%	35%
• GHG Emissions per unit of production: Decreased. (GHG intensity, tons of CO2 equivalent per ton of production)	17%	24.7%
Non-hazardous industrial waste sent to disposal per unit of production : Decreased (Tons non-hazardous industrial waste per ton of production)	13%	31%
Waste to landfill : Zero	Decreased 60% from 2023	99.94% from 2023
Air pollutant emissions control : CO, NOx, SOx, and TSP emissions are controlled.	Below legal requirements	Below legal requirements



# 1. Climate Change Management

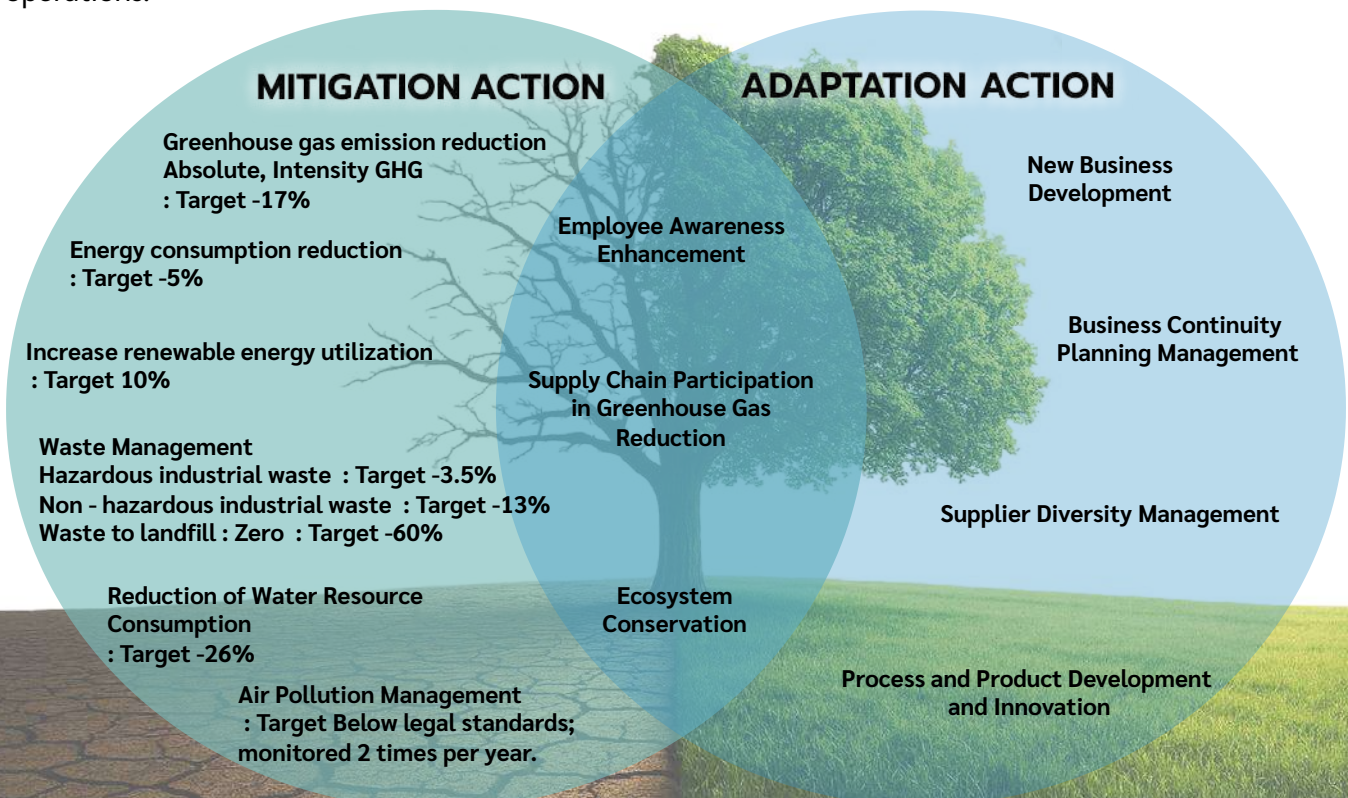
The Company is committed to managing and responding to climate change through a structured approach, with a strong focus on reducing greenhouse gas (GHG) emissions across the entire business value chain. This commitment supports the achievement of the Company’s sustainable development objectives and aligns with internationally recognized climate frameworks and commitments.

The Company recognizes climate change as a critical global challenge that presents both risks and opportunities with potential long-term impacts on the environment, the economy, and business operations. Accordingly, the Company places emphasis on improving energy efficiency and increasing the proportion of renewable energy used within its operations to enhance energy security, mitigate risks associated with energy cost volatility, and promote the efficient use of resources. Within this context, the Company has established operational approaches aimed at the continuous reduction of greenhouse gas emissions, together with the development of environmentally friendly technologies and production processes. These efforts are intended to strengthen the Company’s competitiveness, reduce exposure to rising energy costs, and support sustainable long-term growth.

## Management Approach

The Company has set a target to reduce greenhouse gas (GHG) emissions by 30 percent by 2030, compared with the 2018 base year. The Company focuses on enhancing energy and resource efficiency to achieve optimal utilization, while advancing the adoption of renewable energy and embedding climate change awareness among employees at all levels. These efforts are intended to drive organization-wide engagement and enable tangible and measurable reductions in greenhouse gas emissions across the Company’s operations.

The Company assesses and analyzes climate-related risks and opportunities and integrates the results into its strategies and action plans, covering both climate mitigation and climate adaptation. In addition, the Company continuously monitors performance against defined indicators and ensures transparent disclosure to align its climate management with international practices and support sustainable long-term business operations.



The Company recognizes the importance of engagement at the industry level through active participation in environmental, energy, and sustainability networks and collaborative platforms, including UNGC, TCNN, and ESG Network. The Company also supports government policies and initiatives focused on decarbonization and the promotion of clean energy, contributing to the mitigation of climate change impacts and fostering concrete collaborative actions at both the national and international levels.

## Qualitative Targets

Toward an organization with strong capacity to adapt to climate change, enhancing business competitiveness, strengthening compliance with both domestic and international regulatory requirements, and supporting suppliers and stakeholders, underpinned by comprehensive greenhouse gas management across all business units and transparent disclosure practices.


### Performance Results for 2025

- The Company collected data and calculated greenhouse gas (GHG) emissions for three additional boundary entities, including the training center, manufacturing facility (hot-forged steel components), and real estate leasing business, and included the results in the Company’s greenhouse gas inventory.
- The Company collected data and calculated Scope 3 greenhouse gas emissions, Category 5 (Waste generated in operations), and included the results in the Company’s greenhouse gas inventory.
- The Company collected data and calculated greenhouse gas emissions to assess materiality for additional Scope 3 categories, including Category 4 (Upstream transportation and distribution), Category 6 (Business travel), Category 7 (Employee commuting), Category 9 (Downstream transportation and distribution), and Category 13 (Downstream leased assets).
- The Company provides greenhouse gas emissions–related information to suppliers and engages with supply chain partners on emissions management activities.
- The Company organizes activities to promote and support its suppliers in the preparation of organizational greenhouse gas (GHG) inventories.

## Quantitative Targets

Reduction in absolute greenhouse gas emissions from Scope 1 and Scope 2 (Absolute GHG, tons of CO<sub>2</sub> equivalent per year) 30% by 2030.

### Performance Results for 2025

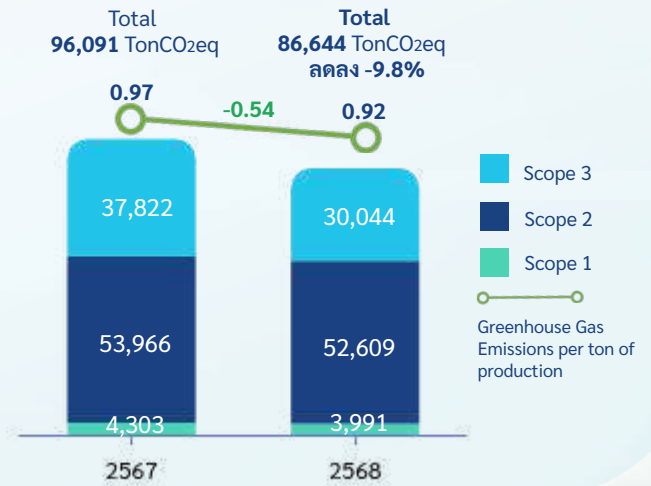
	Indicators (KPI)	Targets 2025	Performance Results 2025
Greenhouse gas (GHG) emissions (Scope 1 and Scope 2)			
	• Absolute GHG emissions : Decreased (tons of CO <sub>2</sub> equivalent per year)	17%	35%
	• GHG Emissions per unit of production : Decreased (GHG intensity, in tons of CO <sub>2</sub> equivalent per ton of production)	17%	24.7%

The Company has continuously conducted organizational carbon footprint assessments since 2021. In 2025, the Company prepared a greenhouse gas (GHG) inventory in accordance with ISO 14064-1:2018 and the guidelines of the Thailand Greenhouse Gas Management Organization (Public Organization). The inventory was independently verified by BSI Group (Thailand) Co., Ltd. to identify significant sources of greenhouse gas emissions. To enhance the accuracy, completeness, and transparency of disclosed data, the scope of the assessment was expanded to include three additional boundary entities 1.Somboon Advance Technology Public Company Limited – Training Center (SLA) 2. Somboon Advance Agriculture Co., Ltd. (SAA) 3. Somboon Development and Service Co., Ltd. (SDS) In parallel, the calculation of Scope 3 greenhouse gas emissions was included, covering Category 5 (Waste generated in operations), along with collected and calculated greenhouse gas data to assess materiality across other relevant Scope 3 categories, namely Category 4 (Upstream transportation and distribution), Category 6 (Business travel), Category 7 (Employee commuting), Category 9 (Downstream transportation and distribution), and Category 13 (Downstream leased assets).

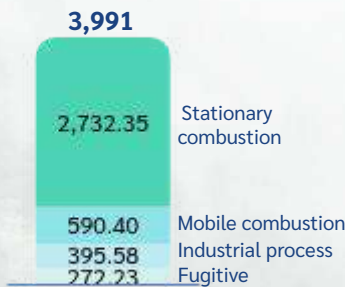
### Greenhouse Gas Emissions Verification Results for 2025



### Greenhouse Gas Emissions (Scope 1, 2, and 3) 2025 Compared to 2024 (Market-based)



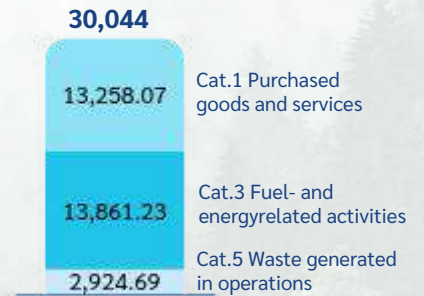
### Scope 1 Direct GHG Emissions



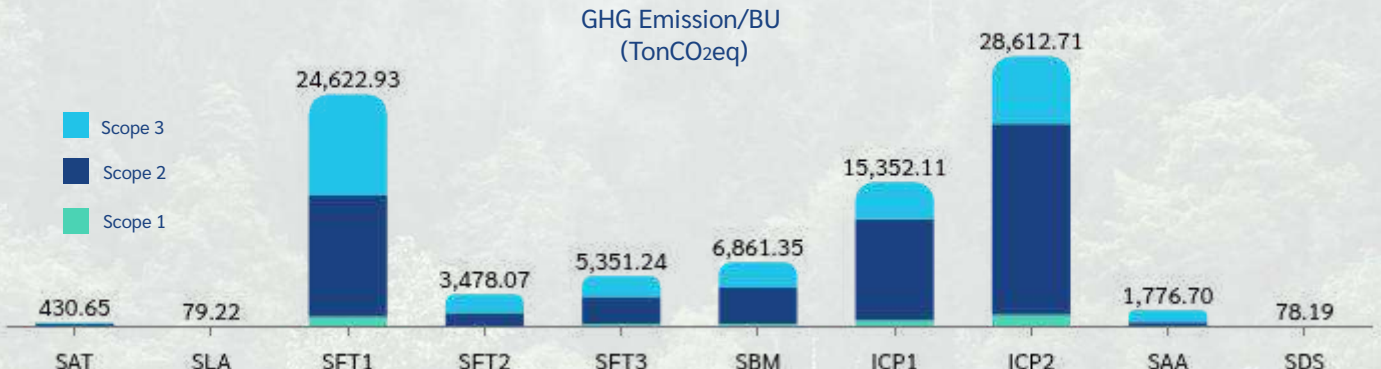
### Scope 2 Indirect GHG Emissions

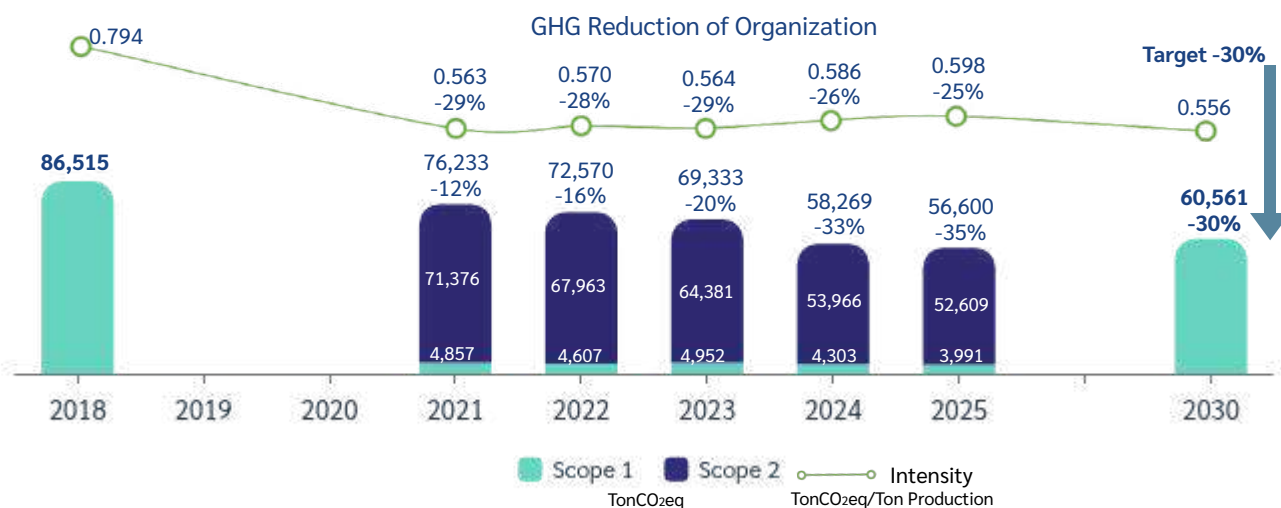


### Scope 3 Indirect GHG Emissions



### GHG Emission/BU (TonCO<sub>2</sub>eq)





Based on the Company’s performance in reduction greenhouse gas (GHG) emissions, an assessment of Scope 1 and Scope 2 emissions compared with the 2018 base year indicates a continued decreasing trend. In 2025, the Company achieved a 35 percent reduction in GHG emissions, exceeding its stated target of a 30 percent reduction by 2030. Nevertheless, when considering GHG emissions intensity relative to the 2018 base year, the Company achieved a 25 percent reduction, which remains below the target level set by the Company. This performance was primarily influenced by changes in the production structure and variations in production volumes across periods, as well as ongoing challenges in further improving energy efficiency and increasing the share of renewable energy used in operations. The Company remains committed to enhancing production process efficiency, deploying energy-efficient technologies, and continuously increasing the proportion of renewable energy consumption. In addition, the Company closely monitors national policies and regulatory developments related to the promotion of renewable energy to support sustained emissions reduction and long-term climate performance.



The Company places importance on promoting greenhouse gas emissions reduction throughout the supply chain. Key actions and collaborative initiatives implemented to support this objective are outlined as follows :

- The Company provides customers with information on the organization’s greenhouse gas emissions and removals and continuously participates in activities related to greenhouse gas emission reduction.
- The Company promotes and supports its suppliers in developing organizational greenhouse gas (GHG) inventories by organizing the SAT – CFO Sharing Day (for SAT ESG Network). The program provides training on greenhouse gas inventory preparation in accordance with the standards of the Thailand Greenhouse Gas Management Organization (Public Organization). In 2025, the program was attended by 27 suppliers and 53 participants, with the objective of strengthening knowledge and understanding of data collection and preliminary GHG calculation methodologies.

In addition, the Company plans to further expand its initiatives in the following year by providing in-depth, on-site advisory services to suppliers, covering the identification of greenhouse gas emission sources, improvement of data accuracy and completeness, and preparation for verification and certification, to support supplier reporting and the future development of product carbon footprint assessments.

## 2. Energy Management

Effective energy management is one of the key focus areas of the Company, as energy consumption is closely linked to operating costs, greenhouse gas emissions, and environmental impacts. Accordingly, the Company is committed to developing a systematic energy management approach, with a focus on improving energy efficiency, adopting high-efficiency technologies, and promoting energy conservation awareness throughout the organization. These efforts are intended to support responsible business operations with due consideration for environmental and social impacts.

### Management Approach

The Company has established a structured energy management approach, beginning with the analysis and identification of significant energy consumption sources across its operations. The information obtained is used to plan and drive continuous improvements in energy efficiency through process enhancements, the adoption of high-efficiency technologies and equipment, as well as the establishment of regular energy consumption control and monitoring measures.

In addition, the Company promotes employee participation in energy conservation through communication, awareness-raising, and the implementation of internal energy-saving activities to foster an organizational culture that emphasizes efficient energy use. The Company supports the adoption of alternative energy sources and environmentally friendly operational practices. These approaches help reduce unnecessary energy consumption, improve resource efficiency, and decrease greenhouse gas emissions from operations, in alignment with the Company's long-term sustainability objectives.

### Qualitative Targets

Toward an organizational capability to transition to the sustainable use of renewable energy and energy efficiency in order to enhance production cost competitiveness, supported by energy and manufacturing technologies, along with the promotion of energy conservation activities and energy conservation personnel.

#### Performance Results for 2025

- Improve efficiency and reduce energy consumption through energy conservation projects and measures.
- Study and implement a direct power purchase agreement (Direct PPA) project from renewable energy power generation sources.
- Promote ERI (Energy Reduction Innovation) activities within business units.

### Quantitative Targets

Reduction in energy consumption intensity (gigajoules per ton of production, GJ/ton of production) 7.5% by 2030.

#### Performance Results for 2025

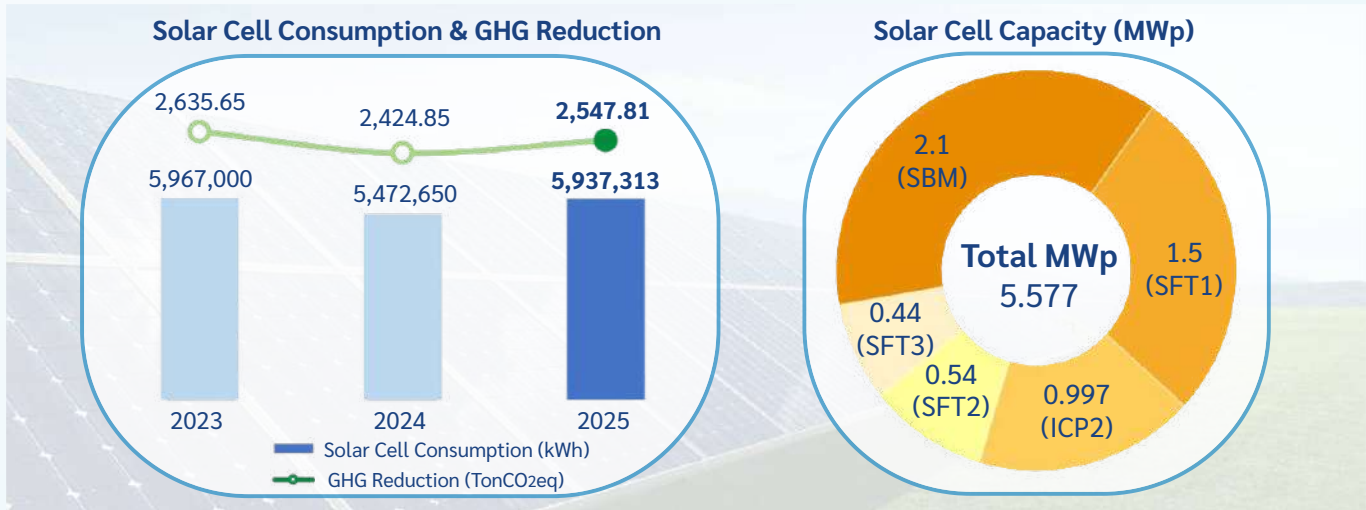


Indicators (KPI)	Targets 2025	Performance Results 2025
• Energy consumption per unit of production: Decreased (GJ/Ton of Production)	5%	3.8%
• Achieve a 10% of renewable energy use by 2030.		4.74%

The Company has implemented key initiatives to achieve these targets.

### 1) Renewable Energy Utilization

Currently, the Company’s use of renewable energy accounts for 4.74 percent of total electricity consumption in 2025, with a target to increase this proportion to 10 percent by 2030. In 2025, the Company utilized renewable energy generated from solar cell systems across all subsidiaries, totaling 21,374.33 GJ, or 5,937.31 MWh, resulting in a reduction of 2,547.81 tons of CO<sub>2</sub> equivalent (tCO<sub>2</sub>eq) and with total cost savings of 6.65 million baht.



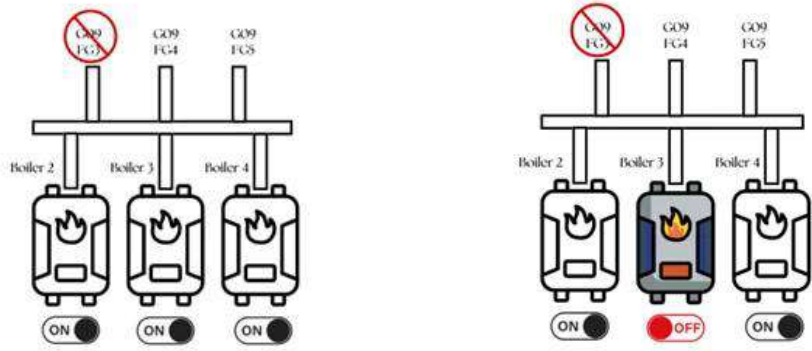
### 2) Energy Efficiency in the Production Process

The Company has continuously enhanced energy efficiency and reduced energy losses through the implementation of various measures, projects, and activities, focusing on maximizing effective energy use, reducing excessive energy consumption, and improving the efficiency of machinery and production processes. This has resulted in a significant reduction in overall energy consumption and has directly contributed to the reduction of greenhouse gas emissions from electricity and fuel use in production processes. In 2025, the Company implemented the following key projects and initiatives.

Project	Before	After
<b>1. Reduction of Air Compressor operations in Building 3 through adjustment of the keep pressure settings of Variable Speed Drive (VSD) air compressors</b>		
<b>Energy Reduction</b> <b>88,233.00 kWh/Year</b>	Keep pressure setting at 6.60 bar, with fixed-speed air compressors operating at 100%, VSD air compressors operating at 59%, and average energy consumption of 2,774 kWh/day.	keep pressure setting at 6.30 bar, resulting in fixed-speed air compressors operating at 100% and VSD air compressors operating at 41%, with an average energy consumption of 2,652 kWh/day.
<b>GHG Reduction</b> <b>41.91 TonCO<sub>2</sub>eq/Year</b>		

Project	Before	After
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**2. Natural Gas (NG) Consumption Reduction in Boiler Operations**



**Energy Reduction**  
**35,221.84**  
**m3/Year**



**GHG Reduction**  
**72.64**  
**TonCO<sub>2</sub>eq/Year**

Currently, three boilers were operated to supply steam to the G09 tank in the FG4 line, resulting in an average natural gas (NG) consumption of 1,618 m<sup>3</sup>/day.

Inspection and replacement of steam taps and leaking steam pipelines to reduce steam losses, boiler operation was optimized, enabling the Company to reduce the number of operating boilers by one unit. As a result, the average natural gas consumption decreased to 1,445 m<sup>3</sup> per day.

Project	Before	After
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**3. Reduction of Electricity Consumption of the Air Compressor System in Building 1**  
 (Project completed in September 2025)



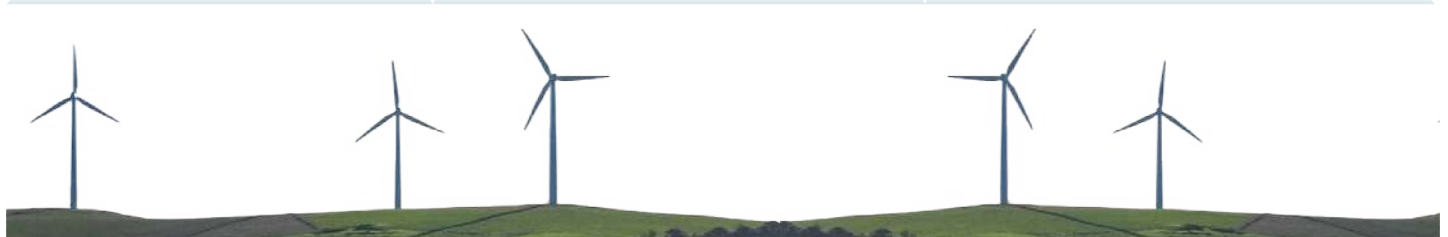
**Energy Reduction**  
**122,191**  
**kWh/Year**  
 (energy savings during September–December 2025)



**GHG Reduction**  
**48.85**  
**TonCO<sub>2</sub>eq/Year**

Building 1 was equipped with a total of 3 units of air compressors, of which 2 units were in operation : 160-kW 1 unit, 75-kW 1 unit and 75-kW 1 unit on standby to operate when the compressed air system pressure was insufficient.

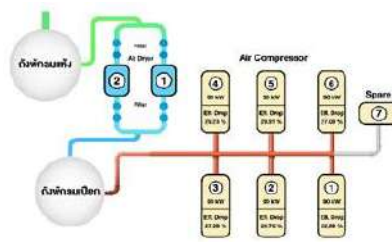
Inspection, repair of air leaks in the compressed air system, and data collection, it was found that the 75-kW air compressors operating in both active and standby modes were running in an unloaded condition for approximately 30–40 percent of the time. As a result, the maintenance department shut down both 75-kW air compressors and operated only one 160-kW air compressor to reduce energy losses during unloaded operation.



**Project**

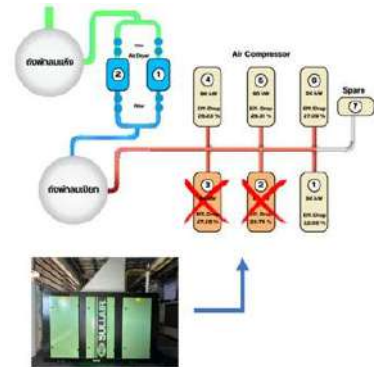
**4. Replacement of Two 90-kW Air Compressors with a High-Efficiency 160-kW Air Compressor**  
(Project completed in October 2025)

**Before**



Currently, Air compressors 90 kW, 6 Units and 75 kW, 1 unit for spare unit.

**After**



Installed air - compressor 160-kW 1 unit to replace existing air compressors 90-kW 2 units for helped to reduce energy losses resulting from the operation of multiple compressors simultaneously, where individual units may have operated at load levels below their optimal efficiency points or under unloaded conditions result to higher energy consumption per unit of compressed air produced (kWh/m<sup>3</sup>) compared with single-unit operation closer to the optimal efficiency range.



**Energy Reduction**  
**51,976 kWh/Year**

(energy savings during November–December 2025)

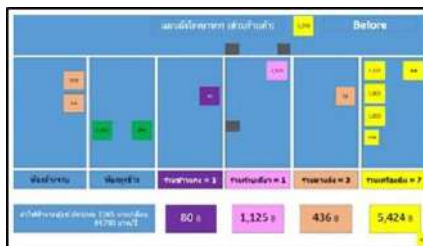


**GHG Reduction**  
**20.78 TonCO<sub>2</sub>eq/Year**

**Project**

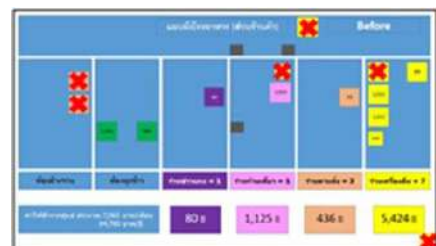
**5. Reduction in the Number of Refrigerators in the Canteen and Beverage Vending Machines**

**Before**



HR department surveyed refrigerators in the canteen and found that the number of refrigerators exceeded actual requirements, with a total of 15 units

**After**



HR department coordinated with the vendors to optimize refrigerator usage, reducing the total number to 9 units.



**Energy Reduction**  
**16,260 kWh/Year**



**GHG Reduction**  
**6.51 TonCO<sub>2</sub>eq/Year**

In addition, the Company improving production processes and machinery significant energy consumption, particularly metal melting furnaces, which represent a major source of electricity use. The Company has selected high-efficiency IGBT (Insulated Gate Bipolar Transistor) furnace control systems, which enable precise adjustment of electrical power (kW) to match melting loads at different operating stages without adversely affecting the power factor (maintained at approximately 0.95). As a result, electrical energy losses are reduced, and effectively reduces the power factor (PF) penalty from electricity providers.

The Company places importance on after-production energy management by strictly enforcing shutdown measures for idle systems and machinery to reduce unnecessary electricity consumption. Electricity use is regularly monitored during non-production hours and holidays to identify and eliminate avoidable energy use. These measures resulted in electricity savings of 314,950 kWh per year, equivalent to approximately 125 tCO<sub>2</sub>eq, and cost savings of 1.078 million baht.

### 3. Sustainable Water Resource Management

The Company places importance on the efficient and sustainable use of water resources, recognizing the risks associated with water scarcity as well as the environmental impacts of water use in production processes. Accordingly, the Company has set targets to continuously reduce water consumption across operations and encourages the participation of employees at all levels in the efficient water use.

#### Management Approach

The Company focuses on appropriate water use management in the production processes, particularly in the Casting, Machining, and Forging business units, which have high water consumption. The Company analyzes processes with significant water use to support continuous improvement, while implementing preventive measures and operational-level water risk management to address future uncertainties related to water resource availability.



## Qualitative Targets

Toward an organization that uses resources efficiently and responsibly to promote water conservation, reduce losses, and achieve a balance between business operations and environmental sustainability.

### Performance Results for 2025

- The Company improves production processes and water use in various activities to align with actual usage, in order to reduce losses from unnecessary water consumption.
- The Company controls and monitors wastewater quality to ensure compliance with legally prescribed standards.

## Quantitative Targets

Reduction in water consumption per unit of production (Cubic meters per ton of production, m<sup>3</sup>/Ton of Production) 31% by 2030



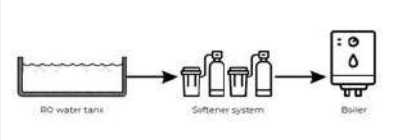

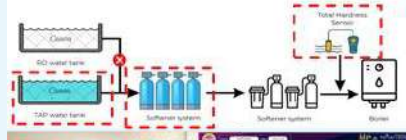

### Performance Results for 2025





Indicators(KPI)	Targets 2025	Performance Results 2025
• Water consumption per unit of production: Decreased (m <sup>3</sup> /Ton of Production)	26%	24%

Based on performance during the reporting year, the Company has not yet achieved its water management targets due to technical limitations in production processes, including the complexity and high-precision requirements of certain products, which have resulted in additional production processes. Nevertheless, the Company continues to closely monitor and improve water use across operations and is currently evaluating appropriate measures and projects to enhance water efficiency in order to achieve the established targets in the next phase.

In addition, the Company has implemented measures to reduce water consumption through technology improvements, minimization of losses in water quality improvement processes, and the identification of opportunities for water reuse. In 2025, the Company implemented the following key projects and initiatives



Project	Before	After
<p><b>1. Reduction of RO water consumption by using softened water as boiler feedwater</b></p> <p> <b>Water Reduction</b> 3,619.60 m<sup>3</sup>/Year</p> <p> <b>GHG Reduction</b> 0.93 TonCO<sub>2</sub>eq/Year</p>	<p></p> <p></p> <p>The process use of tap water 670 m<sup>3</sup> per month, which was treated to produce 400 m<sup>3</sup> per month of RO water for boiler use in steam generation for Lines FG3 and FG4. During the RO water production process, some of tap water was lost as RO reject water.</p>	<p></p> <p></p> <p>Installation of the water softener system, bring tap water into softened water system for boiler use instead of RO water, reducing tap water losses by approximately 329 m<sup>3</sup> per month.</p>

Project	Before	After
<p><b>2. Reuse of RO Reject Water for Green Area</b></p> <p> <b>Water Reduction</b> 161 m<sup>3</sup>/Year</p> <p> <b>GHG Reduction</b> 0.04 TonCO<sub>2</sub>eq/Year</p>	<p></p> <p>RO reject water generated during the RO water production process was discharged directly into the industrial estate's central wastewater treatment system without reuse.</p>	<p></p> <p>Installation of buffer ponds, storage tanks, piping, and pumping systems for bring RO reject water to green areas within the factory</p>

In addition to implementing water management measures and projects, the Company places importance on controlling wastewater quality before discharge to the environments. Wastewater quality is regularly monitored in strict compliance with legal requirements. The wastewater quality monitoring results for 2025 are presented in the table as follows.



Indicators	Location	Max	Min	Legal Standard
Biochemical Oxygen Demand BOD (mg/l)	SFT1	334.0	2.0	≤500/ <sup>1</sup>
	SFT2	95.2	6.5	≤500/ <sup>1</sup>
	SFT3	5.0	3.0	≤20/ <sup>2</sup>
	SBM	220.0	54.8	≤500/ <sup>1</sup>
	ICP1	83.4	18.2	≤500/ <sup>1</sup>
	ICP2	66.6	6.4	≤500/ <sup>1</sup>
	SAA	87.9	23.4	≤500/ <sup>1</sup>
	SDS	8.0	2.0	≤20/ <sup>2</sup>
Chemical Oxygen Demand COD (mg/l)	SFT1	510.0	25.0	≤750/ <sup>1</sup>
	SFT2	226.0	40.0	≤750/ <sup>1</sup>
	SFT3	29.0	25.0	≤120/ <sup>2</sup>
	SBM	454.0	180.0	≤750/ <sup>1</sup>
	ICP1	205.0	73.3	≤750/ <sup>1</sup>
	ICP2	212.0	41.4	≤750/ <sup>1</sup>
	SDS	70.0	25.0	≤120/ <sup>2</sup>
Total Suspended Solids TSS (mg/l)	SFT1	72.0	5.0	≤200/ <sup>1</sup>
	SFT2	43.4	6.5	≤200/ <sup>1</sup>
	SFT3	8.3	6.5	≤50/ <sup>2</sup>
	SBM	77.8	33.4	≤200/ <sup>1</sup>
	ICP1	70.1	13.3	≤200/ <sup>1</sup>
	ICP2	34.5	5.0	≤200/ <sup>1</sup>
Fat, Oil & Grease (mg/l)	SFT1	7.0	3.0	≤10/ <sup>1</sup>
	SFT2	4.0	3.0	≤10/ <sup>1</sup>
	SFT3	2.0	2.0	≤5/ <sup>2</sup>
	SBM	14.0	3.0	≤10/ <sup>1</sup>
	ICP1	6.0	3.0	≤10/ <sup>1</sup>
	ICP2	5.0	3.0	≤10/ <sup>1</sup>
	SAA	5.0	3.0	≤10/ <sup>1</sup>
	SDS	2.0	2.0	≤5/ <sup>2</sup>
Zinc Zn (mg/l)	SFT1	1.700	0.030	
	SFT3	0.060	0.036	≤5/ <sup>1,2</sup>
	SDS	0.358	0.022	

Remarks: :

<sup>1</sup>Announcement of the Industrial Estate Authority of Thailand (IEAT) No. 029/2567 (2024) Re: Setting General Standards for Wastewater Discharge into Centralized Wastewater Treatment Systems in Industrial Estates

<sup>2</sup>Ministry of Industry Notification on Standards for the Control of Wastewater Discharge from Factories, B.E. 2560 (2017)

## 4. Waste Management and Circular Economy Promotion

The Company is committed to using resources efficiently and to deriving maximum benefit from their use, placing importance on systematic management of waste generated from production processes, which is achieved through the reuse of waste materials and the reduction of waste generation in accordance with the 3R principles (Reduce, Reuse, and Recycle).

In 2025, the Company reviewed and revised the waste management targets to cover three key areas: (1) reduction of hazardous waste, (2) reduction of non-hazardous waste, and (3) reduction of waste disposed of through landfill, to enhancing resource management efficiency, minimizing environmental impacts, and supporting long-term sustainable business operations.

### Management Approach

The Company promotes the use of recycled materials, particularly steel scrap, as a primary raw material in its production processes, supported by stringent supplier selection and quality control procedures to ensure that the materials used are capable of producing products that fully meet customer standards and specifications.

In addition, the Company focuses on reutilizing unused materials generated from internal production processes within business units as raw materials in manufacturing, thereby promoting the circular economy concept across the Company's value chain while enhancing resource efficiency, reducing the use of virgin materials, and minimizing the volume of waste requiring external disposal.

### Qualitative Targets

**Toward an organization with an effective waste management system based on circular economy principles, promoting the reduction, reuse, and recycling of resources to enhance resource value and minimize environmental impacts.**

#### Performance Results for 2025

- The Company recycles materials or unused materials, such as melting residues scrap, scrap, or non-conforming products, by remelting them for use as primary raw materials in new production processes.
- The Company promotes increased use of recycled raw materials sourced from suppliers.
- The Company has policies and projects to utilize black sand dust and black sand mixed with steel shot to manufacture interlocking paving blocks and bricks for wall construction, creating value for onsite use within the factory as well as for surrounding communities.

### Quantitative Targets

- **Reduction in Hazardous Industrial Waste Disposed per Ton of Production (Tons Hazardous Industrial Waste/ Ton of Production) 6% by 2030**
- **Reduction in Non Hazardous Industrial Waste Disposed per Ton of Production (Tons Non Hazardous Industrial Waste / Ton of Production) : 18% by 2030**
- **Achieve Zero Waste to Landfill within 2026**



## Performance Results for 2025



Indicators (KPI)	Targets 2025	Performance Results 2025
Hazardous industrial waste sent to disposal per unit of production : Decreased (Tons Hazardous Industrial Waste/Ton of production)	3.5%	increased by 53%
Non-hazardous industrial waste sent to disposal per unit of production : Decreased (Tons Non-Hazardous Industrial Waste/Ton of production)	13%	31%
Waste to landfill: Zero	Decreased 60% from 2023	99.94% from 2023

Based on performance results, the Company has not yet achieved its target for reducing the volume of hazardous waste sent for external disposal, as coolant oil and oil-contaminated wastewater remain significant waste streams that materially affect the target. The Company is currently implementing a wastewater treatment system improvement project to enable effective treatment of these wastes, while continuing to study and pilot appropriate technologies to enhance treatment efficiency and achieve the targets in the future.

In 2025, the Company's casting business unit continued to utilize recycled materials, specifically steel scrap, as 100 percent of the primary raw material in the production processes, supported by efficient melting technologies and control systems that enable the continuous use of high volumes of recycled materials while maintaining product quality in full compliance with customer standards and specifications.

For the forging business unit, the Company utilized recycled steel round bars (scrap steel round bars) with a recycled content ranging from 90 to 97%, representing approximately 31% of total steel round bar usage compared with virgin steel round bars.



Overall, the Company currently achieves a 66% share of recycled content sourced from suppliers, reflecting its commitment to enhancing resource efficiency, reducing reliance on virgin raw materials, and supporting the principles of the circular economy.

In addition, the Company has implemented various measures and projects to enhance the value of waste and unused materials by systematically applying the 3R principles (Reduce, Reuse, and Recycle), while reducing the volume of waste that requires landfill disposal, as follows.

- Reclamation of resin sand from used shell core processes (sand reclaim) for reuse, with a total reclaimed volume of 687 tons, resulting in a reduction of external disposal costs amounting to 137,400 Bath
- Utilization of spent black sand from the molding process, including black sand mixed with steel shot and black sand dust, which were tested and confirmed to be non-hazardous waste, to manufacture interlocking paving blocks and bricks for wall construction. These products were used within the factory and distributed to local schools and surrounding communities through CSR activities, including a cement-for-bricks exchange program (one bag of cement exchanged for 70 bricks). In 2025, the Company produced 69,743 interlocking paving blocks, utilizing 102 tons of recycled black sand, which resulted in a reduction of external disposal costs amounting to 47,940 Bath



**ตัวอย่าง การส่งอิฐบล็อกตัวหนอน**

<b>แลก</b>	 อิฐบล็อกตัวหนอน 5,000 ก้อน	=	 ใช้ปูน 71 ถุง คิดเป็นเงิน 9,643 บาท
<b>ซื้อ</b>	 อิฐบล็อกตัวหนอน 5,000 ก้อน	=	 จำนวน 60,000 บาท
<b>ส่วนต่าง</b>			
สำหรับหน่วยงานที่ ใช้ปูนมาแลกเปลี่ยน สามารถลดค่าใช้จ่ายได้			<b>จำนวน 50,357 บาท</b>



- The Company has set a target to reduce the volume of waste sent to landfill as part of Zero to Landfill objective by promoting waste recovery and reuse, recycling, and the application of other appropriate waste treatment methods as alternatives to landfill disposal.



As a result of the Company’s concrete and continuous waste management efforts, the Company and its relevant business units have achieved the following outcomes

- Forging Business Unit : SOMBOON FORGING TECHNOLOGY COMPANY LIMITED (SFT2)
- Machining Business Unit SOMBOON MALLEABLE IRON INDUSTRIAL COMPANY LIMITED (SBM)
- Casting Business Unit INTERNATIONAL CASTING PRODUCTS COMPANY LIMITED (ICP1, ICP2)

The Company has continuously received the Environmental Governance Flag (Green Star White Flag) under the concept of “Green Gold Growth for Sustainability: Governance toward Sustainability.” This recognition reflects the Company’s status as an industrial estate enterprise that conducts environmental management in accordance with good governance principles, covering five key dimensions and 13 criteria, with strict compliance with applicable regulations and transparent operational practices.

**SFT2** รับมอบและใบประกาศเกียรติคุณ ธรรมมาภิบาลสิ่งแวดล้อมและความปลอดภัย ประจำปี 2568 (ธงขาว-ดาวเขียว) ต่อเนื่องเป็นปีที่ 2 จาก กนอ.

เมื่อวันที่ 6 กุมภาพันธ์ 2569 บริษัท สมบูรณ์ ฟอริง เทคโนโลยี จำกัด (SFT2) โดย คุณศุภกัญญา สุขิชิตต งามวิจิตร เป็นตัวแทนผู้บริหาร รับมอบธรรมมาภิบาลสิ่งแวดล้อม และ ใบประกาศเกียรติคุณ (ธงขาว-ดาวเขียว) ประจำปี 2568 จาก คุณสุเมธ ตั้งประเสริฐ ผู้ว่าการนิคมอุตสาหกรรมแห่งประเทศไทย (กนอ.) ประธานพิธี ภายใต้แนวคิด “Green Gold Growth for Sustainability ธรรมมาภิบาลสู่ความยั่งยืน” จัดโดยกรมอุตสาหกรรมแห่งประเทศไทย (กนอ.)

ในฐานะโรงงานที่มีการบริหารจัดการตามมาตรฐาน มีความโปร่งใส และมีผลการตรวจประเมินผ่านเกณฑ์ในระดับดีเยี่ยม สร้างการยอมรับและความเชื่อมั่นจากทุกภาคส่วนในการบริหารจัดการโรงงาน

ซึ่งสะท้อนถึงความมุ่งมั่นในการดำเนินธุรกิจด้วยความรับผิดชอบต่อสิ่งแวดล้อมและสังคมอย่างยั่งยืน

SOMBOON FORGING TECHNOLOGY

**SBM&ICP** รับมอบใบประกาศเกียรติคุณและ ธรรมมาภิบาลสิ่งแวดล้อม (ธงขาว-ดาวเขียว) ประจำปี 2568 ในระดับดีเยี่ยม ต่อเนื่องเป็นปีที่ 3 จาก กนอ.

เมื่อวันที่ 6 กุมภาพันธ์ 2569 บริษัท สมบูรณ์หล่อเหล็กเหนียว ลูตสาหกรรม จำกัด และ บริษัท อินเทอร์เน็ตเอ็นเนล แคลสติง ไบรด์ส์ จำกัด โดย คุณวิฑิต กมลรัตน์ ผู้จัดการสิ่งแวดล้อมและพลังงาน เป็นตัวแทนผู้บริหาร รับมอบ “ใบประกาศเกียรติคุณ และธรรมมาภิบาลสิ่งแวดล้อม (ธงขาว ดาวเขียว) ในระดับดีเยี่ยม ต่อเนื่องเป็นปีที่ 3 ประจำปี 2568” จากคุณสุเมธ ตั้งประเสริฐ ผู้ว่าการนิคมอุตสาหกรรมแห่งประเทศไทย (กนอ.) ประธานในพิธีภายใต้แนวคิด “Green Gold Growth for Sustainability ธรรมมาภิบาลสู่ความยั่งยืน”

ในฐานะโรงงานที่มีการบริหารจัดการตามมาตรฐานถึง 5 มิติ 13 ข้อกำหนด รอบทั้งการปฏิบัติตามกฎหมาย มีความโปร่งใส และมีผลการตรวจประเมินผ่านเกณฑ์ในระดับดีเยี่ยม สร้างการยอมรับและความเชื่อมั่นจากทุกภาคส่วนในการบริหารจัดการโรงงาน สะท้อนถึงความมุ่งมั่นในการดำเนินธุรกิจด้วยความรับผิดชอบต่อสิ่งแวดล้อมและสังคมอย่างยั่งยืน



## 5. Air Quality Management

The Company recognizes the impacts of air pollution on the environment and human health and therefore places importance on controlling and managing air quality arising from operations, particularly production processes within the factory area, in order to prevent and mitigate potential impacts on employees and surrounding communities.

### Management Approach

The Company has set a target to control air quality at levels better than the legally prescribed standards and the requirements stipulated in the Environmental Impact Assessment (EIA). Air quality is regularly monitored, measured, and evaluated by an authorized third party registered with government authorities every six months, covering both operational areas and all exhaust stacks within the factory premises. In addition, the Company consistently prepares and submits air emission data to the Department of Industrial Works, reflecting transparency in operations and reinforcing confidence among surrounding communities.

### Qualitative Targets

- **Toward an organization that continuously manages and reduces air pollutant emissions from operational processes to promote good air quality and minimize impacts on the environment and society.**


#### Performance Results for 2025

The Company strictly complies with relevant air pollution regulations, with all air pollutant emissions TSP, SO<sub>x</sub>, NO<sub>x</sub>, CO, and VOCs maintained below legal emission limits.

### Quantitative Targets

- **External authorized third parties conduct air quality monitoring 2 times per year.**

#### Performance Results for 2025

 Indicators (KPI)	Targets 2025	Performance Results 2025
External authorized third parties conduct air quality monitoring.	2 Times	2 Times

The above performance reflects the Company's air quality control measures being implemented in accordance with the plans and targets. Details of the air quality monitoring results for emissions released from exhaust stacks, together with comparisons against the relevant standards for 2025, are provided below.



Indicators	Location	1st		2nd		Legal Standard
		Max	Min	Max	Min	
Total suspended particulate TSP (mg/m <sup>3</sup> )	SFT1	1.328	0.482	3.369	0.534	≤ 8/ <sup>1</sup> ,10/ <sup>1</sup> ,320/ <sup>3</sup> ,400/ <sup>3</sup>
	SFT2	2.100	0.700	1.900	0.500	≤ 400/ <sup>3</sup>
	SFT3	2.600	1.000	2.700	1.100	≤ 320/ <sup>3</sup> ,400/ <sup>3</sup>
	SBM	2.900	1.400	2.800	1.400	≤ 320/ <sup>3</sup> ,400/ <sup>3</sup>
	ICP1	8.998	0.356	7.443	0.308	≤ 120/ <sup>2</sup> ,400/ <sup>3</sup>
	ICP2	5.201	0.477	2.582	0.676	≤ 120/ <sup>2</sup> ,400/ <sup>3</sup>
	SAA	3.500	2.600	3.700	2.000	≤ 320/ <sup>3</sup> ,400/ <sup>3</sup>
Sulfur dioxide SO <sub>2</sub> (mg/l)	SFT1	0.001	0.001	0.001	0.001	≤ 2/ <sup>1</sup> ,60/ <sup>3</sup>
	SFT2	1.000	1.000	1.000	1.000	≤ 500/ <sup>3</sup>
	SFT3	1.000	1.000	1.000	1.000	≤ 60/ <sup>3</sup> ,500/ <sup>3</sup>
	SBM	1.000	1.000	1.000	1.000	≤ 60/ <sup>3</sup> ,500/ <sup>3</sup>
	SAA	1.000	1.000	1.000	1.000	≤ 60/ <sup>3</sup> ,500/ <sup>3</sup>
Nitrogen dioxide NO <sub>x</sub> (mg/l)	SFT1	2.717	1.892	3.801	2.481	
	SFT2	1.000	1.000	1.000	1.000	≤ 40/ <sup>1</sup>
	SFT3	2.000	1.000	2.000	1.000	≤ 200/ <sup>3</sup>
	SBM	1.000	1.000	1.000	1.000	
	SAA	1.000	1.000	1.000	1.000	
Carbon monoxide CO (mg/l)	SFT1	6.451	0.001	5.612	0.001	
	SFT2	1.000	1.000	1.000	1.000	≤ 690/ <sup>3</sup>
	SFT3	31.000	1.000	27.000	1.000	
	SBM	4.000	2.000	3.000	3.000	≤ 870/ <sup>3</sup>
	SAA	2.000	1.000	3.000	1.000	
Xylene (mg/l)	SBM	0.154	0.070	0.148	0.070	-
	SAA	0.258	0.258	0.286	0.286	-
Toluene (mg/l)	SBM	0.137	0.061	0.143	0.067	-
Acetone (mg/l)	SBM	0.050	0.050	0.050	0.050	-
Cresol (mg/l)	SBM	0.050	0.050	0.050	0.050	-

Remarks :

<sup>1</sup> Emission limits as specified in the project's Environmental Impact Assessment (EIA) report.

<sup>2</sup> Ministry of Science, Technology and Environment Notification on Air Emission Standards for Steel Plants, B.E. 2544 (2001).

<sup>3</sup> Ministry of Industry Notification on Permissible Emission Levels of Air Contaminants from Industrial Facilities, B.E. 2549 (2006).

**Total suspended particulate (TSP)**



Ton/Year

**Sulfur dioxide (SO<sub>x</sub>)**



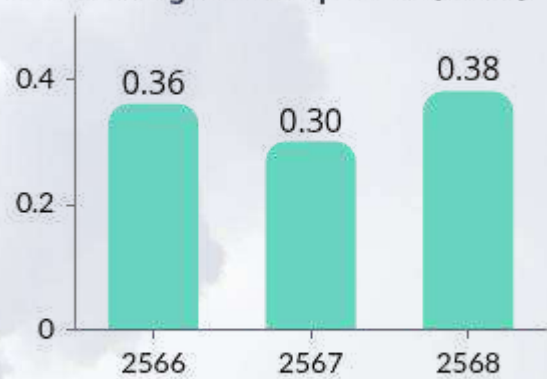
Ton/Year

**Nitrogen dioxide (NO<sub>x</sub>)**



Ton/Year

**Volatile Organic Compounds (VOCs)**

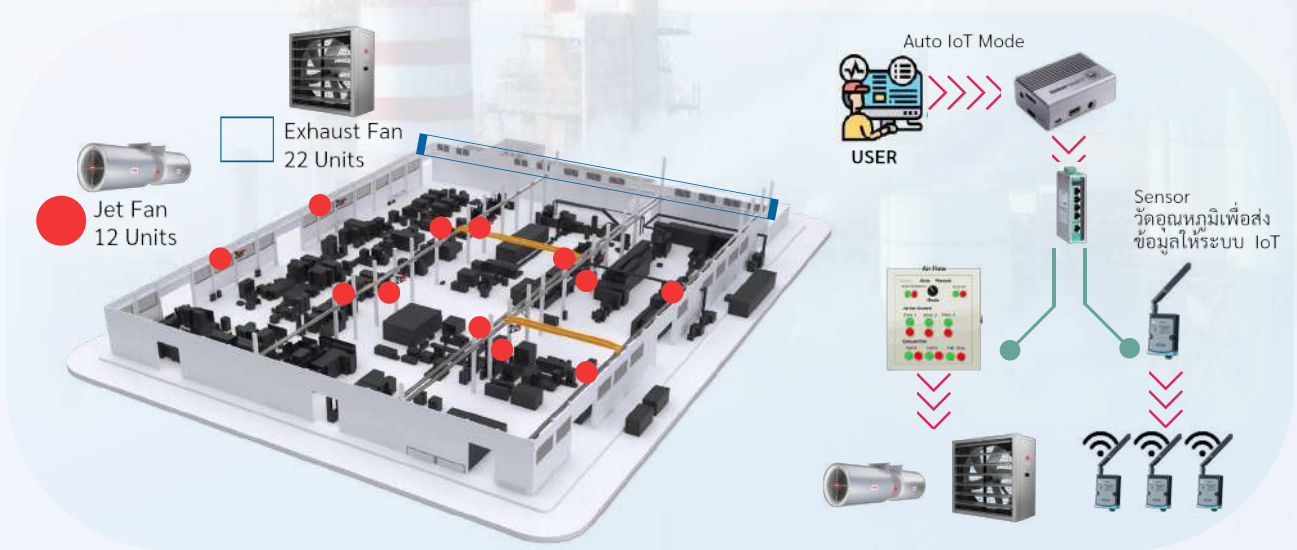


Ton/Year

**Projects or Activities to Reduce Air Pollutant Emissions Related to Business Operations**

Project	Production Building Ventilation System Project
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Installation of Exhaust Fans and Jet Fans, Achieving an Air Change Rate of 10 ACH, Integrated with an IoT Based Ventilation Monitoring and Control System



## Environmental Projects and Activities within the Organization

### 1.) Environmental and Resource Conservation Knowledge and Awareness Projects

The Company continuously implements initiatives to enhance employees' knowledge, understanding, and management-related skills, with a focus on developing competencies related to environmental management systems, greenhouse gas management, and energy conservation, to support operations in alignment with international standards and the Company's objectives and to strengthen overall employee capability.

In 2025, the Company conducted a total

 **22** Training courses

 **4,278** Hours

 **1,199** Employees

ISO 14001:2015 Environmental Management System Training Program	Greenhouse Gas Management Training Program	Awareness-Raising Training Program
<ul style="list-style-type: none"> <li>Internal Auditor ISO 14001:2015 + Techniques for Preparing NC and CAR Responses</li> </ul>	<ul style="list-style-type: none"> <li>Integrating ESG into Internal Audit</li> </ul>	<ul style="list-style-type: none"> <li>Energy Conservation in Factories</li> </ul>
<ul style="list-style-type: none"> <li>ISO14001:2015 Requirement</li> </ul>	<ul style="list-style-type: none"> <li>ISO14064-1:2018 Requirements</li> </ul>	<ul style="list-style-type: none"> <li>Environmental Law and Regulations ISO14001:2015</li> </ul>
<ul style="list-style-type: none"> <li>Risk and Opportunity Assessment and Environmental Issues Evaluation</li> </ul>		<ul style="list-style-type: none"> <li>Safety, Environmental, and Energy Awareness Training</li> </ul>
<ul style="list-style-type: none"> <li>OJT on ISO 14001:2015 Compliance</li> </ul>		<ul style="list-style-type: none"> <li>Pollution Control and Pollution Treatment System Management</li> </ul>
<ul style="list-style-type: none"> <li>OJT on ISO 14001 and Environmental Risk and Opportunity Assessment</li> </ul>		<ul style="list-style-type: none"> <li>Industrial Waste Pollution Management System Operator</li> </ul>
<ul style="list-style-type: none"> <li>OJT on Environmental Aspect Communication</li> </ul>		<ul style="list-style-type: none"> <li>Basic Energy and Environmental Knowledge (SBM)</li> </ul>
<ul style="list-style-type: none"> <li>OJT on ISO 14001 Environmental Management System</li> </ul>		<ul style="list-style-type: none"> <li>Safety, Occupational health, and Workplace Environment</li> </ul>
<ul style="list-style-type: none"> <li>OJT_IATF16949 : 2016 / ISO14001:2015</li> </ul>		<ul style="list-style-type: none"> <li>Occupational Health and Safety Practices and Environmental Law Compliance in Production Processes Level 1 (SFT)</li> </ul>
		<ul style="list-style-type: none"> <li>Occupational and Environmental Health Diseases</li> </ul>
		<ul style="list-style-type: none"> <li>OJT on Safety and Environment</li> </ul>
		<ul style="list-style-type: none"> <li>OJT on Basic Energy and Environmental Knowledge</li> </ul>
		<ul style="list-style-type: none"> <li>OJT on Environmental Policy and Energy Conservation</li> </ul>



## 2) Natural Resource and Environmental Conservation Projects

The Company emphasizes continuous employee participation in internal environmental management by implementing activities that promote awareness of natural resource and environmental conservation, while encouraging efficient and responsible use of resources to support the Company's sustainable development approach.

### • Waste Segregation Promotion Project

The Company implements a waste segregation promotion project within the organization to encourage employee participation by establishing a systematic waste management system, including the installation of waste sorting bins in designated areas and clear communication to ensure proper waste segregation practices.



### • Efficient Resource Utilization Projects

Efficient use of organizational resources remains a key focus for the Company during the reporting year. The Company works to reduce unnecessary resource consumption and minimize operational losses to lower operating costs and improve the workplace environment for employees. Accordingly, the Company has implemented the following projects and activities to promote efficient resource use and maximize resource value.

- Encouraging online meetings to reduce the need for travel.
- Adopting digital systems to decrease paper consumption for documentation.
- Campaigning to switch off lights and air conditioners when not in use.
- Installing sensor-activated water faucets to control water usage.
- Installing LED lighting and automatic on/off systems in common areas to enhance electricity usage efficiency.
- Collecting used paper within offices for handover to recycling companies.
- Implementing an authentication system for document printing to reduce redundant or unused printouts
- The Company provides shuttle van services for employees traveling to work at the Rayong facility, promoting carpooling instead of the use of private vehicles in order to reduce unnecessary travel, lower energy consumption, and decrease greenhouse gas emissions.

