

Carbon Management Plans for CBAM

The European Union expects to enact the “Carbon Border Adjustment Mechanism (CBAM)” in 2023 as a support for the world’s first “carbon tax” scheme, whereas the US is also introducing its Clean Competition Act (CCA). Kaori plans to introduce product carbon footprint (ISO 14067) in the third quarter of 2022 and obtain certification by the end of 2023. Once reliable data has been established, the Company will be able to devise carbon footprint reduction plans based on the emissions of a product’s entire life cycle to conform with CBAM requirements. Furthermore, the Company has been making use of the export carbon reduction counseling service offered by the Taiwan External Trade Development Council since November 2022 and completed analysis of the composition of key products and raw materials exported to Europe and the US in order to establish a preliminary understanding of the carbon reduction controls implemented in the two markets. According to the opinions of the consultancy team, stainless steel—a raw material used in brazed plate heat exchangers—is one of the controlled materials outlined in the EU’s CBAM, whereas the equipment and raw materials used in the production of external casings for fuel cells are not regulated by the US CCA. Based on this knowledge, the Procurement Center is currently coordinating with raw material suppliers in the upstream to explore ways to reduce carbon.

Plans for Green and Renewable Energy Sources

The net zero movement has become the world’s most important issue today, and all leading businesses with strong sustainability awareness are starting to adopt green energy as the first step. The 744.51 kW commercial rooftop photovoltaic system installed at Kaori’s Kaohsiung Benzhou Plant began production in September 2022. It is expected to generate 18,448,369 kWh of green power over 20 years to reduce 9,390 tonnes of CO₂ emissions, which is 23 times the CO₂ absorption capacity of Da’an Park. The amount of power generated between September and December 2022 was approximately 1.06% of the total energy usage for the year. The Company continues to promote energy transformation as a way to reduce GHG emissions and contribute to Earth’s environment.



Air Pollution Management

Kaori did not emit any nitrogen oxide (NO_x), sulfur oxide (SO_x), or other gases of significant impact.

5.3 Water Resource Management

Kaori has developed an environmental management system along with water resource management practices based on ISO 14001. Through data monitoring, the Company keeps track of water used as well as the water resource management practices adopted at various plant sites on a daily basis. Any abnormal change in water volume is met with appropriate inspection and response. Meanwhile, Kaori organizes campaigns from time to time to promote employees’ awareness of the conservation and use of water.

All major operating sites draw water entirely from the municipal water supply system (i.e., tap water). Most of the water drawn is used for employees’ living activities and kitchen equipment, and any effluents generated from living activities are either treated using appropriate treatment facilities or discharged into the municipal water treatment system, and therefore should have no significant impact on the local water body. Furthermore, Kaohsiung Benzhou Plant has installed its own water treatment facilities to treat wastewater in a legal manner. No incidents of illegal pollution occurred in 2022, and the Company’s business activities had no significant impact on water sources.

Total Water Drawn

Unit: million liters

Year	2021		2022			
	All locations	Locations prone to water stress	All locations	Locations prone to water stress		
Surface water (total volume)	0	0	0	0		
Fresh water (total dissolved solids ≤1,000 mg/L)	0	0	0	0		
Other water sources (Total dissolved solids >1,000 mg/L)	0	0	0	0		
Groundwater (total volume)	0	0	0	0		
Water withdrawal by source	Fresh water (total dissolved solids ≤1,000 mg/L)	0	0	0		
	Other water sources (Total dissolved solids >1,000 mg/L)	0	0	0		
	Seawater (total volume)	0	0	0	0	
	Fresh water (total dissolved solids ≤1,000 mg/L)	0	0	0	0	
	Other water sources (Total dissolved solids >1,000 mg/L)	0	0	0	0	
	Water from third parties (total volume)	21.31	0	26.97	0	
	Fresh water (total dissolved solids ≤1,000 mg/L)	21.31	0	26.97		
	Other water sources (Total dissolved solids >1,000 mg/L)	0	0	0	0	
	Total water drawn	Surface water (total volume) + groundwater (total volume) + seawater (total volume) + water from third parties (total volume)	21.31	0	26.97	0

Note: There were errors in the total volume of water drawn by Kaohsiung Plant in 2021, and the errors have since been corrected.

Water Discharge

Unit: million liters

Year	2021		2022		
	All locations	Locations prone to water stress	All locations	Locations prone to water stress	
Water discharge by destination	Surface water	15.46	0	20.88	0
	Groundwater	0	0	0	0
	Seawater	0	0	0	0
	Water from third parties (total volume)	0	0	0	0
	Water from third parties supplied to other organizations	0	0	0	0
Total water discharge	Surface water + groundwater + seawater + water from third parties (total volume)	15.46	0	20.88	0
Water discharge by fresh water and others	Fresh water (total dissolved solids ≤1,000 mg/L)	0	0	20.88	0
	Other water sources (Total dissolved solids >1,000 mg/L)	0	0	0	0
Water discharge by level of treatment	Untreated	9.86	0	20.88	0
	Level 1 treatment	5.60	0	0	0
	Level 2 treatment	0	0	0	0
	Level 3 treatment	0	0	0	0

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Preamble

1

Sustainability and development

2

Honor and Integrity

3

Innovation and quality

4

Responsibility and care

5

Environmental protection and inclusion

Water Consumption

Unit: million liters

Year	2021		2022	
Location	All locations	Locations prone to water stress	All locations	Locations prone to water stress
Total water consumption	5.85	N/A	6.095	N/A
Change in water storage	N/A	N/A	N/A	N/A

5.4 Waste Management

Kaori observes the ISO 14001 standard and has created a dedicated unit to track the sources and volumes of waste and adopted waste management practices that aim to maximize resource utilization and minimize waste generation. All departments are committed to minimizing waste volumes from production activities, increasing the life cycles of raw materials used, and promoting circulation and reuse of resources and waste for total waste reduction. Kaori engages qualified service providers to dispose of waste and uses appropriate forms to audit waste handlers, thereby ensuring the appropriateness of waste treatment and that the waste generated does not pose a significant impact on the nearby environment. There were no violations of environmental laws in 2022.

Waste Reduction Measures

Kaori reduces the volume of waste by recycling waste iron, carton boxes, and waste glass and reusing waste pallets. Waste pallets are handed over to qualified service providers for reuse, thereby minimizing environmental impact. Driven by the mission of a responsible producer, Kaori duly reports how waste generated from plant sites is handled and retains complete documents to ensure that waste is properly treated.

- Establishment of employee cafeterias and use of environment-friendly tableware
- Total recycling of paper containers
- Use of kitchen waste recycling bins

