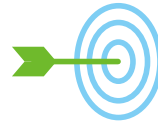


# Environment



Global environmental conservation is the most important issue for our survival. Moreover, our business relies on the gifts provided by the earth's environment. As such, we believe that contributing to a sustainable global environment is one of our most important responsibilities and are continuously working to lessen the environmental impact of our business activities.



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**Responses to Climate Change**  
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## ◆ Environmental Policy and Promotion System

### Basic Approach

Global environmental conservation is the most important issue for our survival. Moreover, our business relies on the gifts provided by the earth's environment. As such, we believe that contributing to a sustainable global environment is one of our most important responsibilities. In particular, we are working on contributing to the realization of a "decarbonized society" and a "circular economy" as the priority issues to be addressed.

▶ Policy on Environment

<https://www.lotte.co.jp/english/charter/environment.html>

### Promotion System

The Sustainability Section of our ESG Promotion Department serves as a secretariat to promote groupwide environmental activities. Furthermore, the Executive Committee looks into important environment-related policies and medium-term targets and monitors the progress toward targets already in place.

In addition, our factories in Urawa, Sayama, Kyusyu, and Shiga have acquired ISO 14001 certification, the International Organization for Standardization's standard for environmental management systems.

### Environmental Audits

Our factories in Urawa, Sayama, Kyusyu, and Shiga receive annual internal audits on environmental matters. Internal audits are conducted by in-house certified lead auditors and auditors using a checklist based on ISO 14001. Each factory works to make continuous improvements based on the findings on the audit.

### Environmental Education Programs

To properly address environmental issues, each of our factories offers Environmental Education Programs to all employees. In addition, an environmental education grading system has been introduced to increase the effectiveness of the environmental education program and environmental activities. Furthermore, the environmental manager, the ISO 14001 secretariat, and the Technology Development Section in the Production Strategy Department meet regularly to share information regarding the environment and improve the Company's response.

### Environmental Accidents and Compliance Violations

In case of an environmental accident or a compliance violation, we have a system in place for promptly responding in cooperation with relevant departments and government bodies. In FY2022, there were no serious environmental accidents or compliance violations.

## ◆ Responses to Climate Change

### Basic Approach

As the Group's business relies on the gifts provided by the Earth's environment, and climate change has a significant impact on our business activities, we recognize that responding to it is a key issue for management. In May 2021, we declared our support for the TCFD\*1 and joined the TCFD Consortium,\*2 a discussion forum for member companies and financial institutions. We are strengthening climate resilience and promoting the disclosure of information through analysis of risks and opportunities based on the TCFD recommendations.



\*1 TCFD: Task Force on Climate-related Financial Disclosures. Established by the Financial Stability Board (FSB) in 2015 in response to a request from the G20. The task force compiled recommendations advising companies to disclose information relating to climate change-related risks and opportunities.

\*2 TCFD Consortium: Established in 2019 as a forum for discussing the effective disclosure of information by companies, and measures to ensure that the disclosed information leads to appropriate investment decisions by financial institutions and other investors

### Governance

All business-related risks are managed by a risk management system that is led by the Risk Management Committee (page 54), and the same applied to the risks and opportunities related to climate change. Important matters related to sustainability are deliberated on and incorporated into management by the Executive Committee under the supervision of the Board of Directors.

As one of our Medium-Term ESG Targets, we are also working to reduce Scope\*1 and 2 energy-related CO<sub>2</sub> emissions, our primary sources of greenhouse gases, and the Sustainability Section in the ESG Promotion Department coordinates progress in this area. The Executive Committee and the Board of Directors receive progress reports from the Executive Officer in charge of the ESG Promotion Department.

\*Scope: Classification of calculation boundaries based on GHG Protocol  
 Scope 1: Direct emissions from a company's own business activities  
 Scope 2: Indirect emissions associated with use of power, heat, and steam supplied by other companies  
 Scope 3: Indirect emissions in the supply chain other than Scope 1 and 2

### Strategy

The Group has conducted the climate change scenario analysis recommended by the TCFD for our main business in Japan. We conducted an evaluation of the medium and long term impacts of climate change-related risks and opportunities. Referencing published information, including IPCC\*1 and IEA\*2, we set 4°C scenario under which mainly physical impacts will be apparent and 1.5°C scenario under which mostly transition impacts will be apparent. Using the set scenarios, we analyzed both risks and opportunities related to the impact of climate change over the medium and long term (2030 and 2050) and estimated the potential financial impact (impact on operating profit).

\*1 IPCC: An acronym for Intergovernmental Panel on Climate Change. The IPCC is an intergovernmental organization established in 1988 by the Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP). It provides evaluations of the latest scientific knowledge about climate change.

\*2 IEA: An acronym for International Energy Agency. The IEA is an international organization established within the framework of the Organization for Economic Co-operation and Development in 1974. It reports on the global energy outlook based on multiple scenarios.

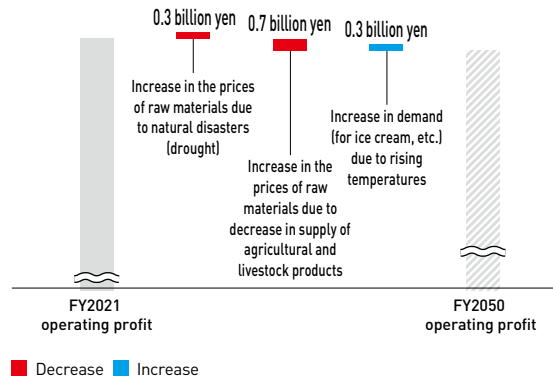
### ● Analysis Results

The main impacts with an annual impact amount of at least 100 million yen are analyzed and listed as follows.

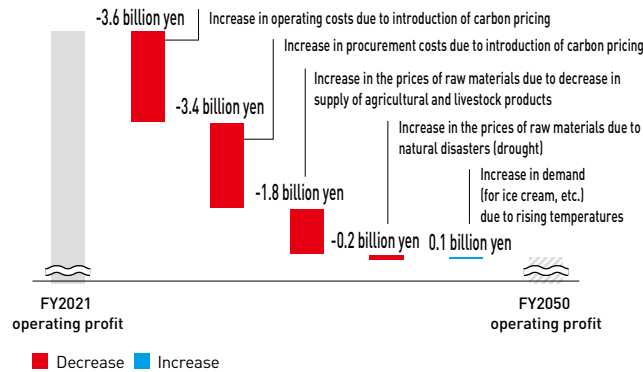
#### — Risks and Opportunities in the 4°C Scenario

	Changes in society and the environment	Specific impacts	Impacts on business activities	
			Potential financial impact (annual impact on operating profit)	
			2030	2050
Physical risks	Increasingly severe natural disasters	Increase in the prices of raw materials due to natural disasters (drought)	0.2 billion yen	0.3 billion yen
	Changes in weather patterns	Increase in the prices of raw materials due to decrease in supply of agricultural and livestock products	0.3 billion yen	0.7 billion yen
Opportunities	Changes in weather patterns	Increase in demand (for ice cream, etc.) due to rising temperatures	0.1 billion yen	0.3 billion yen

**Potential Financial Impact in 2050 in the 4°C Scenario**



**Potential Financial Impact in 2050 in the 1.5°C Scenario**



**Risks and Opportunities in the 1.5°C Scenario**

	Changes in society and the natural environment	Impacts on business activities		
		Specific impacts	Potential financial impact (annual impact on operating profit)	
			2030	2050
Transition risks	Strengthening of regulations	Increase in operating costs due to introduction of carbon pricing	1.9 billion yen	3.6 billion yen
		Increase in procurement costs due to introduction of carbon pricing	1.8 billion yen	3.4 billion yen
Transition risks/ Physical risks	Strengthening of regulations/ Changes in weather patterns	Increase in the prices of raw materials due to decrease in supply of agricultural and livestock products	0.9 billion yen	1.8 billion yen
Physical risks	Increasingly severe natural disasters	Increase in the prices of raw materials due to natural disasters (drought)	0.2 billion yen	0.2 billion yen
Opportunities	Changes in weather patterns	Increase in demand (for ice cream, etc.) due to rising temperatures	0.1 billion yen	0.1 billion yen

**Increase in the Prices of Raw Materials Due to Natural Disasters (Drought)**

The IPCC forecasts that natural disasters, such as heavy rain and drought caused by climate change, will be increasingly severe and frequent in the future. There is a risk that agricultural crop yields will decline, increasing transaction prices for raw materials due to natural disasters. Out of the Group's primary raw materials, we conducted evaluations using the IPCC scenarios for sugar, palm oil, and wheat flour, for which drought risk is already apparent, and estimated the financial impact in 2030 and 2050.

**Increase in the Prices of Raw Materials Due to Decrease in Supply of Agricultural and Livestock Products**

There is a risk that transaction prices for raw materials will increase as yields of agricultural and livestock products are impacted by rising temperatures and other effects due to climate change. We referenced academic papers and other information to evaluate changes in production volume for sugar, palm oil, cacao beans, wheat flour, and dairy ingredients out of the main raw materials used by the Group as climate change progresses for each of the main areas (countries and regions) where we procure raw materials. As a result, it was forecasted that production volume of palm oil and wheat flour would decline due to a decrease in yields per area in the future, particularly for oil palms and wheat. Therefore, we estimated the price outlook for palm oil and wheat flour. For the price outlook, we analyzed the factors involved in past price fluctuations such as the balance of demand and supply between volumes of production and consumption and per capita GDP,

and derived a formula for price analysis. We entered the forecasts for future production and consumption volumes into the formula to estimate the future prices and the financial impact in 2030 and 2050. We factored in price increases due to certain controls being placed on the expansion of agricultural land in the 1.5°C scenario for palm oil.

In response to the increase in the prices of raw materials, it is conceivable we can reduce the risks by changing product compositions or considering alternative ingredients, exploring new regions for procurement, and strengthening engagement with suppliers. As the situation is different for each raw material, we will proceed to organize and examine specific countermeasures in the future.

**Yield Forecasts for Each Scenario in 2050**

Main agricultural and livestock-related raw materials		Main procurement areas	4°C scenario	1.5°C scenario
Sugar	Sugar beet	Japan (Hokkaido)	+11%	+7%
	Sugarcane	Australia	+2%	+1%
Palm oil	Oil palm	Thailand	-35%	-18%
		Malaysia	-16%	-8%
		Indonesia	±0%	±0%
Cacao beans		Ghana	+15%	+7%
Wheat flour	Wheat	Venezuela	-7%	-4%
		United States	-9%	-5%
		Australia	-8%	-4%
		Canada	+12%	+6%
Dairy ingredients	Milk	Japan	-1%	-1%
		New Zealand	-1%	±0%
		France	-1%	±0%

**Increase in Demand (for Ice Cream, etc.) Due to Rising Temperatures**

It is forecasted that demand for ice cream, etc. will increase as a result of rising temperatures and other effects due to climate change. Analyzing the correlation between past sales of ice cream and average temperatures suggested there is a significant correlation between the average temperature and ice cream sales. Using the results of this correlation analysis, we estimated the financial impact in 2030 and 2050.

To allow us to meet the increase in demand for ice cream, etc. as a result of rising temperatures, we will examine initiatives aimed at enhancing the product lineup and building flexible and efficient production and sales systems.

● **Increase in Operating Costs due to Introduction of Carbon Pricing**

In the 1.5°C scenario, our operating costs will be forecasted to increase as governments introduce and strengthen regulations related to carbon emissions, such as carbon pricing. We calculated the financial impact in 2030 and 2050, assuming no progress in reducing energy-derived CO<sub>2</sub> emissions in our own operations (Scope 1 and 2) beyond the FY2021 results. The carbon prices used in the estimates are as shown in the table.

The Group has set Medium-Term ESG Targets and is working to reduced energy-derived CO<sub>2</sub> emissions (Scope 1 and 2). If these targets are achieved, the effect on curbing increases in our operating costs and the costs for achieving this effect are anticipated to be as shown below. With regard to the costs for achieving the Medium-Term ESG Targets, we estimated the amount of the impact assuming the procurement cost for renewable energy-derived electricity to be ¥4/kWh, the procurement cost for carbon credits to be ¥1,200/tCO<sub>2</sub>, and that there will be no progress in reducing Scope 1 emissions until 2030.

In response to an increase in operating costs due to the introduction of carbon pricing, we expect the introduction of an internal carbon pricing system, in addition to the energy-saving activities and procurement of renewable energy-derived electricity currently being implemented. Through these initiatives, we will reduce energy-derived CO<sub>2</sub> emissions (Scope 1 and 2).

	2030	2050
Effect on curbing cost increases when Medium-Term ESG Targets are achieved	0.3 billion yen	3.6 billion yen
Costs for achieving Medium-Term ESG Targets	0.1 billion yen	0.8 billion yen

● **Increase in Procurement Costs due to Introduction of Carbon Pricing**

In the 1.5°C scenario, it is forecasted that the operating costs of suppliers will increase and will be passed onto procurement costs as governments introduce and strengthen regulations related to carbon emissions, such as carbon pricing. We estimated the financial impact in 2030 and 2050, assuming no progress beyond the FY2021 results in reducing greenhouse gas emissions (part of Scope 3 Category 1 and 4) related to “procured raw materials (packaging)” and “transportation and delivery (upstream)” where the risk of increase in procurement costs is particularly high. The carbon prices used in the estimates are as shown in the table.

In response to the increase in procurement costs due to introduction of carbon pricing, we will reduce petroleum-based

plastic used in containers and packaging, in addition to the engagement with suppliers currently being implemented.

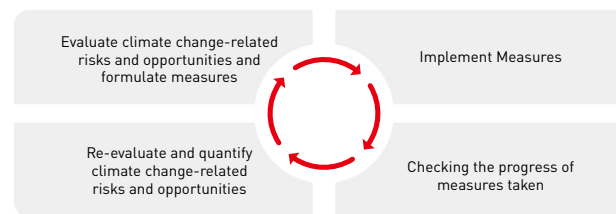
— **Carbon Prices Used in Estimating Impact on Operating and Procurement Costs**

	Carbon price (USD/tCO <sub>2</sub> )	
	2030	2050
Japan, Poland	140	250
Indonesia	90	200
Other	25	180

Based on scenario analysis, we were able to list and analyze the risks and opportunities for the Group, as well as the amount of impact and the countermeasures. Going forward, we will continue to promote measures such as energy saving and procurement of renewable energy, which we are already working on, in addition to examining further countermeasures, mainly based on the introduction of internal carbon pricing. Through these initiatives, we will work to minimize risks and maximize opportunities, while increasing the Group’s resilience.

**Risk Management**

Our risk management team, led by the Risk Management Committee (page 54), is prepared to take action for risks that may have a significant impact on our business. Among these, climate change is considered as the most critical management risk. The Sustainability Section of the ESG Promotion Department is assigned to handle climate change-related risks. Together with the related departments and Group companies, it evaluates risks and opportunities, and then reports the progress to the Risk Management Committee at least once a year. The Risk Management Committee evaluates business risks and opportunities and examines countermeasures based on these reports and then escalates them to the Executive Committee and the Board of Directors for decisions.



**Metrics and Targets**

The Group’s business relies on the gifts provided by the Earth’s environment. As such, we believe that contributing to the realization of sustainable global environment is one of our most important responsibilities. As climate change has a particularly big impact on our business, we recognize it as an important issue for management. We aim to reduce Scope 1 and 2 energy-related CO<sub>2</sub> emissions, our primary producer of greenhouse gases as part of our Medium-Term ESG Targets. In 2022, we also set targets for Scope 3 and have been promoting initiatives.

— **Greenhouse Gas Emission Reduction Targets**

● **Scope 1 and 2: Energy-related CO<sub>2</sub> emissions (Medium-Term ESG Targets)**

2028 Target ▶ 23% or more reduction compared with FY2019 (certified by SBTi\*1 in May 2022)

2050 Target ▶ Carbon neutrality

● **Scope3 : Category<sup>2</sup> 1, 2, 4**

2027 Target ▶ Engagement with suppliers (certified by SBTi\*1 in May 2022)

● **Scope3 : Category<sup>2</sup> 3**

2028 Target ▶ 23% or more reduction compared with FY2019 (certified by SBTi\*1 in May 2022)

\*1 SBTi: An acronym for Science-Based Targets initiative. The SBTi certifies companies that have set targets to reduce greenhouse house gas emissions in alignment with the Paris agreement goals.

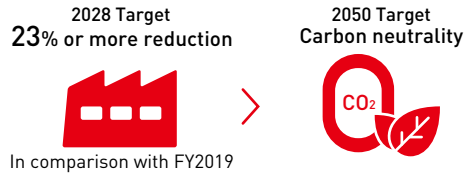


\*2 Category: Classification of Scope 3 based on GHG Protocol (page 23)

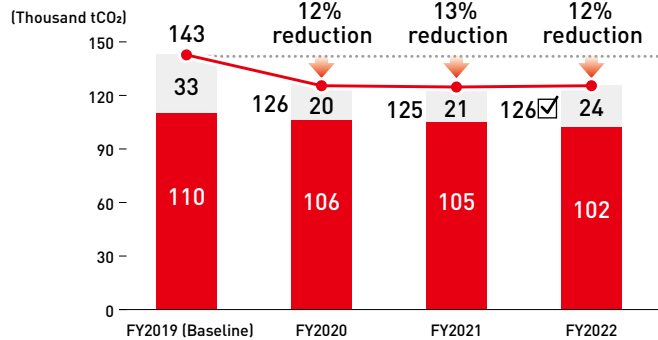
# Reducing Greenhouse Gas Emissions

## Scope 1 and 2 Results

We aim to reduce Scope 1 and 2 energy-related CO<sub>2</sub> emissions, our primary producer of greenhouse gases, for at least 23% by FY2028 compared to levels in FY2019. Furthermore, we are targeting carbon neutrality by FY2050. In May 2022, we received the SBTi certification for our targets to be achieved by FY2028.



### Reduction Rate of Energy-Related CO<sub>2</sub> Emissions (Scope 1 and 2) (Comparison with FY2019)



■ Japan ■ Overseas

Data indicated with  have received the independent practitioner's assurance by Deloitte Tohmatsu Sustainability Co., Ltd. (Please see page 30).

#### Scope of Tabulation

**Japan** LOTTE CO., LTD. and its Group companies in Japan (Mary Chocolate Co., Ltd., Dari K Co., Ltd., Ginza Cozy Corner Co., Ltd.)

**Overseas** Major Group companies overseas (THAI LOTTE CO., LTD., LOTTE VIETNAM CO., LTD., PT. LOTTE INDONESIA, and LOTTE Wedel sp. z o.o.)

The previously provided information has been updated due to changes in Group companies.

#### Calculation Methods

Scope1: CO<sub>2</sub> Emissions = Σ (Fuel consumption x emission factors)

Scope2: CO<sub>2</sub> Emissions = Σ (Volume of purchased electricity, etc. x emission factors)

#### Emission Factors

**Japan** The emission factors for Scope1 emissions are based on the Act on Promotion of Global Warming Countermeasures, while for Scope2 emissions the adjusted emission factors determined separately by individual power companies based on the same Act are used.

**Overseas** The emission factors for Scope1 emissions have been determined according to the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories, while the emission factors for Scope 2 emissions have been determined according to the International Energy Agency (IEA) Emission Factors 2022. In instances where these emission factors are difficult to obtain, an emission factor based on the Act on Promotion of Global Warming Countermeasures is used.

#### Progress on SBT-Certified Targets

	FY2019 (Baseline)	FY2022
Energy-Related CO <sub>2</sub> Emissions	130 thousand tCO <sub>2</sub> *	126 thousand tCO <sub>2</sub>
Reduction rate	-	3% reduction

\* Note that the SBT-certified baseline does not include Dari K Co., Ltd. and Ginza Cozy Corner Co., Ltd.

## Scope 3 Result

Greenhouse Gas Emissions (Thousand tCO<sub>2</sub>)

Category	FY2021	FY2022
1. Purchased goods and services	655	715
2. Capital goods	22	20
3. Fuel-and energy-related activities (not included in Scope 1 or 2)	21	23
4. Upstream transportation and distribution	75	78
5. Waste generated in operations	1	2
6. Business travel	1	1
7. Employee commuting	4	4
8. Upstream leased assets	-*	-*
9. Downstream transportation and distribution	49	58
10. Processing of sold products	-*	-*
11. Use of sold products	-*	-*
12. End-of-life treatment of sold products	106	113
13. Downstream leased assets	-*	-*
14. Franchises	-*	-*
15. Investments	-*	-*
<b>Total</b>	<b>933</b>	<b>1,013</b> <input checked="" type="checkbox"/>

\* Excluded from calculation as there were no applicable emissions

Data indicated with  have received the independent practitioner's assurance by Deloitte Tohmatsu Sustainability Co., Ltd. (Please see page 30).

The previously provided information has been updated due to an error.

#### Scope of Tabulation

**Japan** LOTTE CO., LTD., and its major Group companies in Japan (Mary Chocolate Co., Ltd., and Ginza Cozy Corner Co., Ltd.\*)

**Overseas** Major Group companies overseas (THAI LOTTE CO., LTD., LOTTE VIETNAM CO., LTD., PT. LOTTE INDONESIA, and LOTTE Wedel sp. z o.o.)

\* Ginza Cozy Corner Co., Ltd. is included in the scope of tabulation from the results for FY2022.

#### Calculation Methods

Category 1: GHG Emissions = Σ (Weight of raw materials purchased × emissions intensity, etc. [1]) + Σ (Value of purchased goods and services other than raw materials × emissions intensity, etc. [2])

Category 2: GHG Emissions = Σ (Value of capital goods × emissions intensity, etc. [2])

Category 3: GHG Emissions = Σ (Energy consumption × emissions intensity, etc. [1] or [2])

Category 4: GHG Emissions = Σ (Ton-km of transportation × emissions intensity, etc. [1]) + Σ (Ton-km of transportation × fuel consumption per ton-km of transportation × emissions intensity, etc. [2]) + Σ (Transportation distance/average fuel efficiency × emissions intensity, etc. [3]) + Σ (Electricity consumption for cargo handling & storage × emissions intensity, etc. [4]). Scenarios are employed for transportation relating to consigners that are not Specified Consignors as defined in Japan's Act on the Rational Use of Energy

Category 5: GHG Emissions = Σ (Amount of waste emissions according to type and disposal method × emissions intensity, etc. [1] or [2])

Category 6: GHG Emissions = Σ (No. of employees × emissions intensity, etc. [2])

Category 7: GHG Emissions = Σ (No. of employees × no. of operating days × emissions intensity, etc. [2])

Category 9: Same as Category 4

Category 12: GHG Emissions = Σ (Amount of waste emissions\* according to type and disposal method × emissions intensity, etc. [1])

\*Amount of waste emissions = calculated as the weight of purchased packaging materials

#### Emissions Intensity, etc.

[1] IDEA Ver. 2.3 (the greenhouse gas emissions database of the National Institute of Advanced Industrial Science and Technology and the Japan Environmental Management Association for Industry)

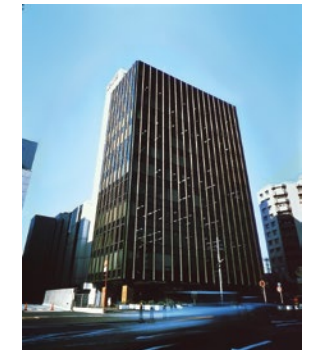
[2] Database on Emissions Unit Values for Accounting of Greenhouse Gas Emissions, etc., by Organizations Throughout the Supply Chain (Ver. 3.3) of the Ministry of the Environment and the Ministry of Economy, Trade and Industry

[3] Emission factors used for the reporting system targeting Specified Consignors pursuant to the Act on the Rational Use of Energy

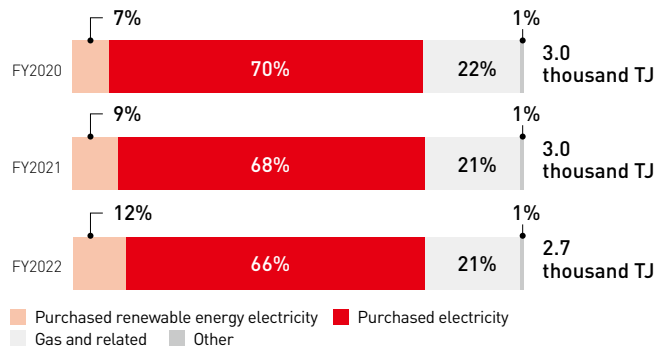
[4] Alternative emission factors determined separately by individual power companies based on the Act on Promotion of Global Warming Countermeasures

## Utilizing Renewable Energy

In April 2019, our head office, located in the Shinjuku ward of Tokyo, switched to the Aqua Premium program, which uses hydroelectric power. Aqua Premium is one of the programs offered by the TEPCO Group and is notable for utilizing renewable hydroelectric power and producing zero CO<sub>2</sub> emissions when generating electricity. We are also adopting renewable energy at our domestic factories and some of business sites nationwide in stages, and in February 2020, LOTTE Wedel sp. z o.o. in Poland switched to power derived from wind power generation, another form of renewable energy. Moving forward, we will continue to constrain our greenhouse gas emissions by utilizing renewable energy, thereby contributing to the prevention of global warming.



### Volume of Energy Input



#### Scope of Tabulation

Same as Scope 1 and 2 energy-related CO<sub>2</sub> emissions

### Energy Saving Initiatives

Our factories account for more than half of our energy-related CO<sub>2</sub> emissions. In addition to daily energy saving activities at each factory, we are promoting capital investment for dramatic energy savings by combining our knowledge and ingenuity with the latest technology. In FY2022, we updated the hot water heat source equipment used for the chocolate tank at the Urawa Factory. We realized an annual reduction of approximately 115 t CO<sub>2</sub> emissions by switching from a steam and electric heater to an air-source heat pump.

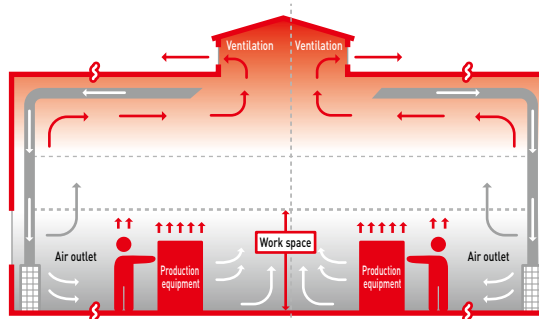
Moreover, at each of our factories, we are using equipment that visualizes air leaks to reduce leakage of air (compressed air), in addition to striving for facility management with no waste.



Heat pump

### Ingenuity in Air Conditioning

In 2020, we installed a new air conditioning system in the chocolate processing process at the Urawa Factory. Whereas the previous system supplied cool air from the ceiling and cooled the entire air conditioned area, the new system supplies cool air from the floor, efficiently air conditioning the work space (about 2 meters from the floor) only. Cool air is also supplied to the interior of the control panel to maintain positive pressure inside the panel and keep it at a constant temperature, which has the advantage of making the control components much less likely to malfunction. Ingenuity in air conditioning has simultaneously achieved energy savings, improvement of the working environment, and decreased malfunctioning of control components.



### Management of Refrigerants (CFCs)

Our factories use CFCs as refrigerants for cold storage and freezing equipment. In light of the impact on global warming caused by the leakage of CFCs, we take steps to prevent leaks by regularly inspecting equipment to manage CFCs correctly while switching systematically to CFC substitutes with low global warming potential (GWP) and natural refrigerants at the same time.

The freezer installed for the product cooling tunnel on the new production line at the Urawa Factory in FY2022 uses the CO<sub>2</sub> refrigerant R744 (a natural refrigerant) with an ozone depletion potential of zero and low global warming potential giving consideration to protecting the ozone layer and curbing global warming.



Freezer

### Calculated Leakage of CFCs

FY2020	1.2 thousand tCO <sub>2</sub>
FY2021	1.5 thousand tCO <sub>2</sub>
FY2022	1.9 thousand tCO <sub>2</sub>

#### Scope of Tabulation

LOTTE CO., LTD.

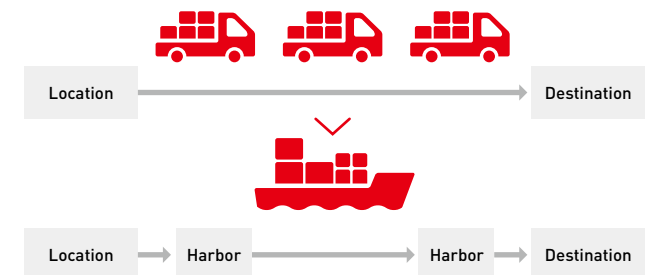
### Logistics Initiatives

We are working to reduce the environmental impact associated with logistics. In addition to our efforts to improve loading efficiency through packaging, we are also working to reduce CO<sub>2</sub> emissions by promoting cooperative distribution<sup>\*1</sup> and modal shifts<sup>\*2</sup>.

<sup>\*1</sup> Cooperative distribution: We are engaged in joint product delivery in cooperation with other companies in the same industry as well as carriers and warehouses. This serves to lower the number of trucks necessary for deliveries, which in turn reduces CO<sub>2</sub> emissions.



<sup>\*2</sup> Modal shift: Modal shift refers to a shift away from trucks toward sea and rail delivery, which have a lower environmental impact and support higher-volume delivery. We are promoting marine transport as part of this shift and is currently working to reduce CO<sub>2</sub> emissions by utilizing marine transport from Kyushu to Osaka and from Tokyo to Hokkaido.



## Preventing Pollution

The products we handle are considered to pose less risk to environment related to raw materials than other industries. Nevertheless, it cannot be said there is no risk of environmental pollution caused by our business activities. Therefore, we strive to ensure compliance with environment-related laws and regulations and appropriate management.

### Wastewater Quality and Air Pollutant Emissions

	FY2020	FY2021	FY2022
BOD pollution load*	-	2t	3t
COD pollution load*	-	13t	11t
Nox emissions	-	-	6t
Sox emissions	-	-	0t

\* Estimated value of wastewater discharged into rivers

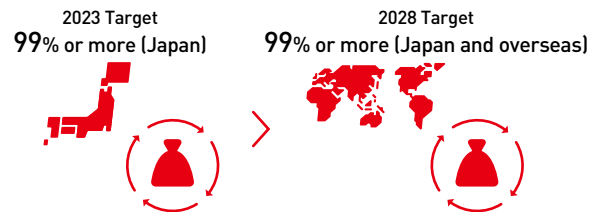
#### Scope of Tabulation

The factories of LOTTE CO., LTD.

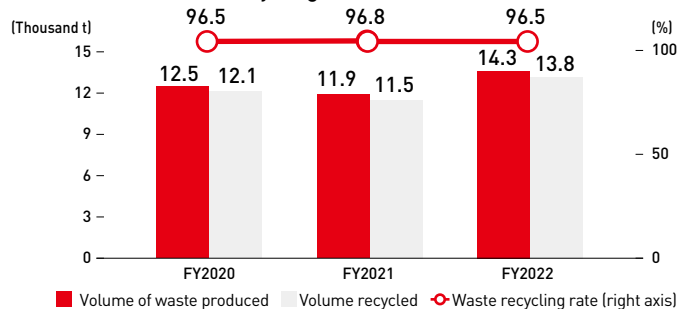
## Circular Economy

### Waste Reduction and Recycling

For waste generated by production processes at domestic factories, our goal is to realize a waste recycling rate of 99% or more by FY2023. Our target is to extend this recycling rate to include overseas factories by FY2028.



### Volume of Waste Generated by Production Processes and Waste Recycling Rate



#### Scope of Tabulation

LOTTE CO., LTD. and its major Group companies in Japan

### Reduction Rate of Food Loss and Waste (FLW)

We have set the FY2028 target of reducing the volume of FLW produced per unit of sales volume in our core confectionery and ice cream businesses by 50% or more compared with FY2019.



### FLW Produced and Per-Unit Volume

FY2019 (Baseline)	FLW produced: 4.1 thousand tons Per-unit volume: 0.015
FY2021	FLW produced: 3.6 thousand tons Per-unit volume: 0.013 (13% reduction compared with baseline)
FY2022	FLW produced: 3.3 thousand tons Per-unit volume: 0.012 (20% reduction compared with baseline)

#### Scope of Tabulation

LOTTE CO., LTD., and its major Group companies in Japan

#### Calculation Methods

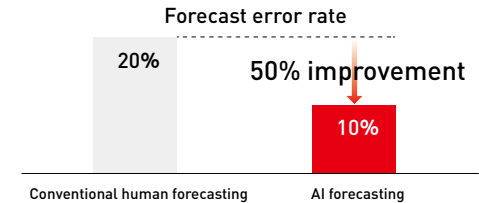
FLW produced = Volume of food and inedible parts discarded at our own factories + Volume of pre-shipment and returned products discarded  
Per-unit volume = FLW produced / (Sales volume + FLW produced)  
Volumes are measured with reference to the WRI Food Loss & Waste Protocol.  
Of the destinations, those that use it for animal feed or bio-material/processing generate relatively high value compared with other destinations, so food waste sent to these destinations is excluded from the FLW to which the reduction target applies.

In order to achieve this target, we practice the 3Rs (Reduce, Reuse, and Recycle) and work to reduce the FLW generated by our business activities.

### Reduce

The most important factor in reducing FLW is to prevent the generation of FLW. To achieve this, we have launched verification to realize demand forecasting utilizing AI. As we have succeeded in reducing the error rate in summer ice cream sales forecasting, we will continue to expand the scope of application. By minimizing the difference between demand and supply, we are working to reduce FLW generated by excess inventory and returns. We are also extending and displaying expiration dates by year/month, and reducing losses in the production process.

### Results of Sales Forecasting Verification for Existing Ice Cream Products



### Reuse

We are working with food banks that provide free food to welfare facilities and those who may not have full access to food. We support this effort, and from FY2022 we have been donating our products nationwide in cooperation with MOWLS\* in order to expand the scope of our activities. Through this cooperation, it is now possible to ship and donate to multiple sites where large donations can be accepted, and we expect to be able to reduce disposal of our unshipped\*2 confectionery in FY2023. We believe that these efforts not only help spread deliciousness and the joy of food but also serve as a meaningful way to use food effectively. As such, we will continue to cooperate with food banks in the future.

\*MOWLS: A project run by Meals for the Aged Liaison Committee in collaboration with 50 intermediary organizations. Storage spaces, including freezer and refrigeration equipment, have been established at sites all over the country to facilitate the acceptance of food donations from groups and local governments providing food assistance.



● Recycle

We make effective use of waste generated at the highest possible value. Converting waste into animal feed is a high-value use. However, in the case of excess inventory and returned products, containers and packaging have been an issue which makes it difficult to convert them into animal feed. In FY2021, we began working with a facility that has equipment capable of accepting packaged products to convert them into animal feed.

● Cooperation to Reduce FLW

We are participating in the Japanese project under the 10x20x30 Food Loss and Waste Reduction Initiative\*. We are working toward the goal of halving FLW by making reductions in cooperation with the entire supply chain while exchanging information with a variety of companies.

\* 10x20x30 Food Loss and Waste Reduction Initiative: An initiative to halve food waste throughout companies' entire supply chains. It is led by the World Resources Institute (WRI), a U.S. think tank that conducts policy research and develops technologies relating to the global environment and development. The meaning of "10x20x30" is that 10 companies, primarily comprising major international retailers, will each join forces with 20 of their suppliers to work toward halving the food waste produced by these key suppliers by 2030. Within the initiative's Japanese project, AEON Co., Ltd. is the major retailer that is spearheading efforts, and we are participating as its supplier.



**Environmentally Friendly Containers and Packaging**

We take the environment into consideration when designing its product containers and packaging. While still ensuring that the original function of preserving quality is fulfilled, we work to conserve resources by reducing the amount of materials used as much as possible and to develop containers and packaging that are easy to recycle. We also endeavor to increase barrier capabilities in order to extend expiration dates as a means of reducing FLW. Meanwhile, we design containers and packaging with the aim of enabling optimal product loading to improve logistics efficiency, thereby helping to reduce greenhouse gas emissions from transport.

● Plastic Containers and Packaging

Recent years have witnessed worldwide debate about plastics, particularly with regard to climate change and marine pollution resulting from plastic waste. Also in Japan, the Act on Promotion of Resource Circulation for Plastics came into effect on April 1, 2022. We have established the LOTTE Basic Policy on Plastics, and set targets in order to accelerate our initiatives. We will collaborate with our suppliers to reduce plastic emissions and recycle plastic and develop new technologies that can help enable their resource circulation.

**LOTTE CO., LTD. Targets Related to Reducing Plastic Emissions and Recycling Plastic**

Reducing Plastic Discharge

We will work to reduce plastic emissions in accordance with our Basic Policy on Plastics.

Promoting Recycling, etc.

- Factories  
By 2025, we will list the issues related to recycling such as industrial waste from products using plastic and examine targets to promote recycling.
- Offices  
We will change sorting rules so that industrial waste from products using plastics and other such waste previously processed with combustible garbage is sorted and discharged as plastic. We will chemically or materially recycle waste that can be recycled and switch to heat recovery for waste that is difficult to chemically or materially recycle.

▶ Basic Policy on Plastics

<https://www.lotte.co.jp/corporate/sustainability/environment.html>  
(Japanese only)

In March 2021, we reduced the volume of plastic in the plastic bottle containers used for our leading bottled gum products, including *Xylitol Gum*. We reduced the weight of the plastic in the body by 21.8%, which reduced the volume of plastic used by approximately 90 t annually. Going forward, we will continue our measures to reduce the volume of plastic used and seek out and consider environmentally friendly packaging materials.



In addition, we have been participating in Loop since 2021 as part of our resource circulation efforts, and have been selling *Xylitol Gum* in reusable containers that can be used repeatedly. Loop is a platform for reuse that sells food and everyday items, which were previously sold in disposable containers, in reusable containers. Loop Japan LLC, a social enterprise with the mission to "dispose of the concept of throwing away," operates the Loop platform. Through the Loop platform, Loop Japan not only aims to reduce disposable plastic but also to break away from the throw-away culture. Loop has already expanded to four countries around the world (the U.S., Germany, the U.K., and Canada), and launched services in Japan in 2021.



● Paper Containers and Packaging

We treat the paper used in containers and packaging in the same way as plastic, endeavoring to conserve resources by reducing the amount we use as much as possible. In addition, we are striving to use more environmentally friendly paper raw materials derived from recycled paper and paper certified by the Forest Stewardship Council (FSC) or other third parties.

● Smile Eco Mark

Since 2022, we have been gradually labelling products that pass unique environmental criteria with the *Smile Eco Mark* to inform customers about its environmental initiatives through a variety of containers and packaging in a way that is easy to understand.

The design of the *Smile Eco Mark* uses a leaf motif to express consideration for the global environment, and the Smile Eco copy and mark were created to incorporate LOTTE's desire to make people smile with its products. In order to create a social movement that makes ethical consumption part of daily life and contribute to developing an environment that makes it easy to put into practice, we have expanded our initiatives, including participation in TOKYO ETHICAL Action Project.





## Raw Materials Procurement Volume

### Procurement Volume of Product Ingredients (Thousand t)

	FY2020	FY2021	FY2022
Total raw materials	270	271	292
Ingredients	202	204	219
Packaging materials	68	68	72
Paper	50	49	52
Plastic	14	14	15
Other	4	4	5

#### Scope of Tabulation

LOTTE CO., LTD., and its major Group companies

## Consideration for Biodiversity

### Assessment of Biodiversity Risks at Production Sites

We surveyed the area within a 10km radius of our production sites and those of Group companies (8 sites in Japan and 4 sites overseas) in FY2021 to assess biodiversity risk using IBAT<sup>\*1</sup> (World Heritage, Ramsar Convention wetlands, UNESCO MAB<sup>\*2</sup>, IUCN Categories I-V<sup>\*3</sup>, KBA<sup>\*4</sup>, IUCN Red List<sup>\*5</sup>). Although there are some sites located close to KBAs and other similar areas, no cases have been confirmed in which our business activities directly harm biodiversity as of FY2022. We will continue to give consideration to biodiversity based on the environment of the regions where our production sites are located.

\*1 IBAT: An acronym for Integrated Biodiversity Assessment Tool.

\*2 UNESCO MAB: An acronym for UNESCO's Man and the Biosphere Programme, which has established biosphere reserves.

\*3 IUCN categories: The six categories for protected area management based on International Union for Conservation of Nature's (IUCN) definitions of protected areas and protection targets.

Category Ia: Strict nature reserve

Category Ib: Wilderness preservation area

Category II: National park

Category III: Natural monument or feature

Category IV: Habitat or species management area

Category V: Protected landscape or seascape

Category VI: Protected area with sustainable use of natural resources

\*4 KBA: An acronym for Key Biodiversity Area

\*5 IUCN Red List: Covers sites with at least one species classed as "VU (Vulnerable)"

### Biodiversity Risk Assessment

As of FY2022

	Sites in Japan	Sites overseas	Total
World Heritage	0	0	0
Ramsar Convention wetlands	2	0	2
UNESCO MAB	0	0	0
Ia	0	0	0
Ib	0	0	0
IUCN categories	0	0	0
II	0	0	0
III	0	0	0
IV	8	1	9
V	5	1	6
KBA	3	1	4
IUCN Red List	3	0	3

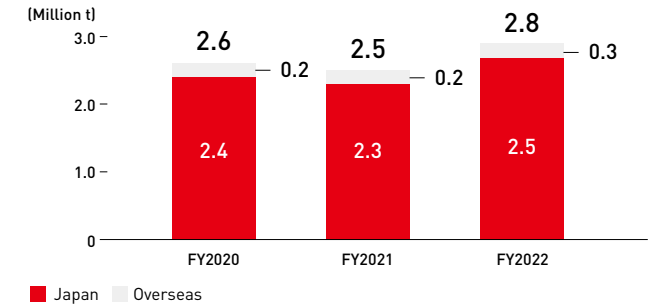
#### Scope of Tabulation

LOTTE CO., LTD., Mary Chocolate Co., Ltd. and major Group companies overseas

## Water Resources

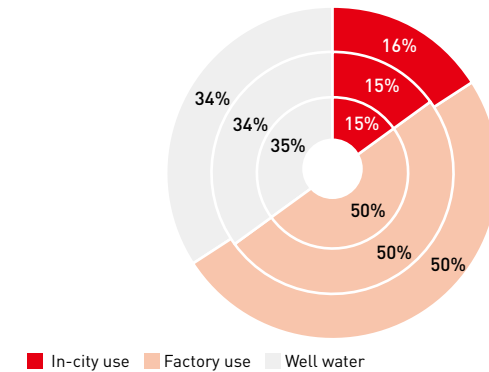
### Water Usage

#### Volume of Water Used



#### Water Usage Ratio

(Inner: FY2020, Middle: FY2021, and Outer: FY2022)



#### Scope of Tabulation

Major bases operated by LOTTE CO., LTD. and its major Group companies

### Water Risks

In FY2021, we use WRI's AQUEDUCT Water Risk Atlas to evaluate water risk. As a result, we have confirmed that there are no "extremely high" level risks at the locations of any factories owned by us and our Group companies. We will continue to collect local information and monitor water consumption while looking into measures to mitigate related risks.

## Environmental Data

### Volume of Energy Input and Greenhouse Gas Emissions

		FY2019	FY2020	FY2021	FY2022	
Volume of Energy Input [Thousand TJ]	Japan and Overseas	3.0	3.0	3.0	2.7	
	Per unit of sales [TJ/hundred million yen]	—	—	—	0.96	
Scope 1 and 2 energy-related CO <sub>2</sub> emissions [Scope 1 + 2] [Thousand tCO <sub>2</sub> ]	Scope 1 + Scope 2	Japan and Overseas	143	126	125	126
		Japan	110	106	105	102
		Overseas	33	20	21	24
	Scope 1	Japan and Overseas	32	32	33	33
		Japan	26	26	27	27
		Overseas	6	5	6	7
	Scope 2	Japan and Overseas	111	95	92	93
		Japan	84	80	78	75
		Overseas	27	15	15	18
	Reduction rate [%]	Japan and Overseas	Baseline	-12	-13	-12
	Per unit of sales [tCO <sub>2</sub> /hundred million yen]	Japan and Overseas	—	—	—	45
	Calculated leakage of CFCs [Thousand tCO <sub>2</sub> ]	LOTTE CO., LTD.	2.6	1.2	1.5	1.9

Japan: LOTTE CO., LTD. and its Group companies in Japan (Mary Chocolate Co., Ltd., Dari K Co., Ltd., Ginza Cozy Corner Co., Ltd.)  
Overseas: Major Group companies overseas (THAI LOTTE CO., LTD., LOTTE VIETNAM CO., LTD., PT. LOTTE INDONESIA, and LOTTE Wedel sp. z o.o.)

The previously provided information has been updated due to changes in Group companies.  
Information on the method, etc. used for calculating energy-related CO<sub>2</sub> emissions is provided on page 23.

		FY2019	FY2020	FY2021	FY2022	
Greenhouse Gas Emissions [Scope 3] [Thousand tCO <sub>2</sub> ]	Japan and Overseas	—	912	933	1,013	
	Japan	Total (Japan)	817	734	733	775
		1. Purchased goods and services	541	504	510	542
		2. Capital goods	72	28	22	20
		3. Fuel-and energy-related activities (not included in Scope 1 or 2)	17	17	17	18
		4. Upstream transportation and distribution	56	55	59	59
		5. Waste generated in operations	1	1	1	1
		6. Business travel	0.4	0.4	0.4	0.5
		7. Employee commuting	2	2	2	2
		8. Upstream leased assets	Out of scope as not applicable			
		9. Downstream transportation and distribution	37	37	36	44
		10. Processing of sold products	Out of scope as not applicable			
		11. Use of sold products	Out of scope as not applicable			
		12. End-of-life treatment of sold products	90	89	86	88
		13. Downstream leased assets	Out of scope as not applicable			
		14. Franchises	Out of scope as not applicable			
15. Investments	Out of scope as not applicable					
Overseas	Total (Overseas)	—	178	201	239	

Japan: LOTTE CO., LTD. and its major Group companies in Japan (Mary Chocolate Co., Ltd. and Ginza Cozy Corner Co., Ltd.\*)  
Overseas: Major Group companies overseas (THAI LOTTE CO., LTD., LOTTE VIETNAM CO., LTD., PT. LOTTE INDONESIA, and LOTTE Wedel sp. z o.o.)

\* Ginza Cozy Corner Co., Ltd. is included in the scope of tabulation from the results for FY2022.

The previously provided information has been updated due to an error.

Information on the method, etc. used for calculating greenhouse gas emissions is provided on page 23.

## ● Preventing Pollution

		FY2019	FY2020	FY2021	FY2022
BOD pollution load [t]*	Factories of LOTTE CO., LTD.	—	—	2	3
COD pollution load [t]*		—	—	13	11
NOx emissions [t]		—	—	—	6
SOx emissions [t]		—	—	—	0

\*Estimated value for wastewater discharged into rivers

## ● Circular Economy

		FY2019	FY2020	FY2021	FY2022
Waste generated by production processes [Thousand t]	Factories in Japan	11.5	12.5	11.9	14.3
Recycling rate of waste generated by production processes [%]		99.2	96.5	96.8	96.5
Final disposal volume (landfill volume) [Thousand t]		—	—	—	0.002
Food Loss and Waste (FLW) generated* [Thousand t]	Japan and Overseas	4.1	3.8	3.6	3.3
Per-unit volume reduction rate* [%]		Baseline	-7	-13	-20
Weight of products sold [Thousand t]		—	459	469	486

Factories in Japan: Factories of LOTTE CO., LTD. and its major Group companies in Japan

Japan: LOTTE CO., LTD. and its major Group companies in Japan

Overseas: Major Group companies overseas

\*The previously provided information has been updated due to changes in Group companies.

## ● Water Resources


		FY2019	FY2020	FY2021	FY2022
Water withdrawal [Million t]	Japan + Overseas factories	2.5	2.6	2.5	2.8
	Japan	2.4	2.4	2.3	2.5
	In-city use	0.3	0.3	0.3	0.4
	Factory use	1.1	1.2	1.1	1.2
	Well water	0.9	0.9	0.9	0.9
	Overseas factories	0.2	0.2	0.2	0.3
	In-city use	0.1	0.1	0.1	0.1
	Factory use	0.1	0.1	0.2	0.2
	Well water	0.0	0.0	0.0	0.0
Water discharge [Million t]	Japan + Overseas factories	2.2	2.1	2.2	2.2
	Japan	2.0	1.9	1.9	1.9
	Sewerage	0.3	0.3	0.3	0.4
	Rivers	1.7	1.6	1.6	1.7
	Seas	0.0	0.0	0.0	0.0
	Groundwater	0.0	0.0	0.0	0.0
	Overseas factories	0.2	0.2	0.2	0.2
	Sewerage	0.1	0.1	0.1	0.1
	Rivers	0.1	0.1	0.1	0.1
Seas	0.0	0.0	0.0	0.0	
Groundwater	0.0	0.0	0.0	0.0	

Japan: All sites of LOTTE CO., LTD. and factories of its major Group companies in Japan (Mary Chocolate Co., Ltd. and Ginza Cozy Corner Co., Ltd.)

Overseas factories: Factories of major Group companies overseas

## ◆ Independent Practitioner's Assurance of Greenhouse Gas Emissions

Energy-related CO<sub>2</sub> emissions (Scope 1 and 2) and greenhouse gas emissions (Scope 3) for FY2022 indicated with  on page 23 in the Japanese version of the Databook, have received the independent practitioner's assurance by Deloitte Tohmatsu Sustainability Co., Ltd.



**デロイト トーマツ**  
(TRANSLATION)

Independent Practitioner's Assurance Report

August 25, 2023

Mr. Eiichi Gochou,  
President / Representative Director,  
LOTTE CO., LTD.

Tomoharu Hase  
Representative Director  
Deloitte Tohmatsu Sustainability Co., Ltd.  
3-2-3, Marunouchi, Chiyoda-ku, Tokyo

We have undertaken a limited assurance engagement of the energy-related CO<sub>2</sub> emissions (Scope 1 and Scope 2) and greenhouse gas emissions (Scope 3) indicated with  for the year ended March 31, 2023 (the "Greenhouse Gas Information") included in the "LOTTE CO., LTD. Sustainability Databook 2023" (the "Report") of LOTTE CO., LTD. (the "Company").

**The Company's Responsibility**  
The Company is responsible for the preparation of the Greenhouse Gas Information in accordance with the calculation and reporting standard adopted by the Company (indicated with the Greenhouse Gas Information included in the Report). Greenhouse gas quantification is subject to inherent uncertainty for reasons such as incomplete scientific knowledge used to determine emissions factors and numerical data needed to combine emissions of different gases.

**Our Independence and Quality Control**  
We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. We apply International Standard on Quality Control 1, *Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements*, and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

**Our Responsibility**  
Our responsibility is to express a limited assurance conclusion on the Greenhouse Gas Information based on the procedures we have performed and the evidence we have obtained. We conducted our limited assurance engagement in accordance with the International Standard on Assurance Engagements ("ISAE") 3000, *Assurance Engagements Other than Audits or Reviews of Historical Financial Information*, issued by the International Auditing and Assurance Standards Board ("IAASB"), ISAE 3410, *Assurance Engagements on Greenhouse Gas Statements*, issued by the IAASB and the *Practical Guideline for the Assurance of Sustainability Information*, issued by the Japanese Association of Assurance Organizations for Sustainability Information. The procedures we performed were based on our professional judgment and included inquiries, observation of processes performed, inspection of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records. These procedures also included the following:

- Evaluating whether the Company's methods for estimates are appropriate and had been consistently applied. However, our procedures did not include testing the data on which the estimates are based or reperforming the estimates.
- Performing interviews of responsible persons and inspecting documentary evidence to assess the completeness of the data, data collection methods, source data and relevant assumptions applicable to the sites.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement.

**Limited Assurance Conclusion**  
Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Greenhouse Gas Information is not prepared, in all material respects, in accordance with the calculation and reporting standard adopted by the Company.  
The above represents a translation, for convenience only, of the original Independent Practitioner's Assurance report issued in the Japanese language.

Member of  
**Deloitte Touche Tohmatsu Limited**