

# Materiality 1

## Contributing to the Future of the Earth and Its Regions through Environmental Awareness



### Social Background and Issues to Recognize: Significance



World population growth and economic development have confronted us with a global environmental crisis from worsening pollution and destruction of the environment and overuse of resources. Due to the progress of global warming is considered to be a cause of the increase in CO<sub>2</sub> emissions, extreme weather has become frequent and severe around the world, is threatening people's daily lives.

Under these conditions, international consensus on Sustainable Development Goals (SDGs) has accelerated adoption of targets and frameworks aimed at mitigating or adapting to climate change and encouraging a recycling-oriented society. Companies are expected to do more.

These environmental issues, which also greatly affect our business, cannot be overlooked. By actively working toward solutions to these issues, we will contribute to a sustainable society.

### Vision: Approach to Our Initiatives

#### Environmental Policy (Introduction)

FamilyMart will work earnestly to become a store that is rooted closely and evolves as an integral part of the local community. We will foster close ties with business partners like a family, and want customers to feel part of the neighborhood family.

We will contribute to the sustainable development of local communities through environmentally conscious initiatives that are based on our principles. To promote this, we periodically evaluate the environmental impact of our business activities and set environmental goals, and improve our environmental performance.

Moreover, we have set the policy to continuously remedy the environmental management system, and also work on preventing pollution and protecting the environment.



Environmental Policy

<https://www.family.co.jp/english/sustainability/management/policy.html>

### Measures Taken

- Continuous improvement of environmental management system
- Climate change mitigation and adaptation
- Reduction of food wastage
- Use of sustainable resources
- Prevention of environmental pollution

# Continuous Improvement of Environmental Management System

## Environmental Management System

For environmental management consistent with our basic principles and sustainability/environmental policies, we have established an ISO 14001-based environmental management system (EMS) at all workplaces that is constantly improved through collaboration between headquarters and all stores in a company-wide framework under the president.

Our framework to promote environmental management is under the Sustainability Committee, an advisory body to the president, chaired by the CAO and General Manager of the Management Division, who is the Chief Environmental Officer. Progress toward environmental targets is verified and evaluated at semiannual meetings of the Sustainability Committee, where new measures are also planned. Decisions in recent years have accounted for the impact of environmental problems such as climate change, food waste, plastic waste, and water resources on society and our business, in analyzing and recognizing risks and opportunities.

Now that the FamilyMart Environmental Vision 2050 with mid- to long-term environmental targets has been in place since fiscal 2019, we have set Science-Based Targets (SBT<sup>\*1</sup>) and conducted climate scenario analysis in line with TCFD recommendations in fiscal 2020.<sup>\*2</sup>

Through every process from procurement/planning of products and services to logistics and sales, the heads of each department are appointed as Environment Promoters so that they can lead work in environmental activities.

<sup>\*1</sup> Scientifically based targets to reduce greenhouse gas emissions, aimed at meeting goals of the Paris Agreement  
<sup>\*2</sup> Recommendations on disclosure of information on the financial impact of climate change risks and opportunities from a task force established by the Financial Stability Board (FSB)

## Internal Environmental Audits

Appropriate and efficient operation of the EMS is ensured by annual internal environmental audits of all offices and stores. Store supervisors oversee the audits. Guidance is provided for any stores that should improve, and after corrective actions are confirmed, results are reported to the Sustainability Promotion Department.

Items raised in the audits are also reported to executive management, who applies this information to refine the EMS for the subsequent fiscal years. Success stories are shared with other stores and sites as case studies. In this way, auditing supports company-wide environmental activities.

In fiscal 2019, internal environmental audits revealed nothing that suggested any violations of environmental laws or serious environmental issues.

## External Environmental Audits

Since obtaining ISO 14001 certification in March 1999, we have received regular audits from an external auditing organization. More recently in November 2019, the certification was maintained through a renewal audit of stores, regional headquarters, and main divisions at headquarters.

## Environmental Training



We are committed to environmental education and awareness so that all employees are aware of these issues in their work. Several times a year, all employees participate in e-learning on environmental basics and environmental regulations relevant to store operations. Training is tailored to specific departmental needs, because those in various roles, such as supervisors supporting store operations, or procurement members doing business with suppliers, require different environmental knowledge.

TOPICS

Store Environmental Education

The environmental education publication *Eco and Social Partner* is issued three times a year for all FamilyMart store managers and staff members. It has been distributed electronically since 2019. A format that is accessible for store staff and others improves environmental awareness and encourages thoroughness in these activities. Self-assessment checklists are also distributed to stores, which helps us to keep improving environmental activities.

The *FAMILY* newsletter for franchised stores provides sustainability information in a familiar format, addressing key issues for FamilyMart and topics such as reducing use of plastic shopping bags.

*FAMILY*, a newsletter for franchised stores

# Climate Change Mitigation and Adaptation

## Issues to Recognize

Global warming attributed to higher human emissions of carbon dioxide and other greenhouse gases (GHGs) has been linked to more frequent and intense extreme weather conditions around the world. Climate change of this kind has a serious impact on natural disasters as well as food, water, and ecosystems, which poses a serious risk not only to our daily lives and corporate activities but also to future generations.

Under these conditions, international consensus on SDGs, the Paris Agreement, and other arrangements has accelerated adoption of targets and frameworks for climate change mitigation or adaptation, as people call on companies to do more.

## Management Approach

In working toward a decarbonized society, we promote careful energy conservation at stores (which account for much of our GHG emissions), seek renewable energy sources, and develop eco-friendly stores. We also strive to take effective steps in consideration of how climate change may affect our business activities – in areas from raw material sourcing to product demand to store management – treating this impact as both a risk and an opportunity while remaining committed to information disclosure.

## Key Accomplishments and Performance in FY2019

- Supported TCFD recommendations (as of February 2020)
- Science-Based Targets certification acquired (March 2020)

## Future Activities

- Participating as a model enterprise in support of CO<sub>2</sub> reduction planning to achieve SBTs in FY2020 (Ministry of the Environment program)
- Reducing CO<sub>2</sub> with Biomass Plastic Containers

## Targets and KPIs

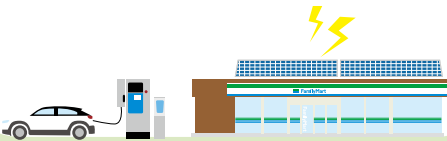


Reduction of greenhouse gases  
CO<sub>2</sub> emissions from store operations

2030	2050
<b>40%</b> reduction	<b>100%</b> reduction (compared to FY2013)

### KPIs for FY2020

- Stores deploying refrigerator/freezer cases with CO<sub>2</sub> refrigerant: **92**
- Stores with solar panels (for internal consumption): **70**
- Stores switching to internal LED lighting fixtures: **4,000**
- Stores switching to LED signage: **6,000**
- Stores deploying EMS (optimal control of air conditioning/ventilation/cooling): **5**
- Reduction in CO<sub>2</sub> emissions from store operations: **21%** (compared to FY2013)
- Delivery vehicles replaced with clean diesel trucks (per year): **750**
- Testing in preparation to deploy electric/fuel cell delivery trucks



## Carbon Management

FamilyMart engages in a variety of initiatives across business processes to reduce GHGs, viewed as a primary factor of climate change and global warming. Store energy consumption accounts for most of our GHG emissions. Accordingly, as established in February 2020, the FamilyMart Environmental Vision 2050 targets a reduction in per-store energy consumption (electricity usage) of 40% by 2030 and 100% by 2050, both relative to fiscal 2013. Toward this end, we have accelerated efforts to switch to more energy-efficient equipment, and we aggressively introduce advanced technologies in the environmentally conscious model stores we develop.

Looking ahead, we will continue to work with stakeholders in pursuing climate change measures.

## TOPICS

### SBT Certified – First in the Convenience Store Industry

In contrast to limiting global temperature rise to 2°C as targeted by the Paris Agreement, the Science-Based Targets (SBT) initiative\* recognizes science-based targets aimed at well below 2°C, and in March 2020, FamilyMart became the first company in the convenience store industry to earn certification for our GHG reduction targets.



Our SBT targets include not only GHGs from FamilyMart store operations but also from products procured and manufactured by suppliers. FamilyMart participation in an program of the Ministry of the Environment as a model enterprise in support of CO<sub>2</sub> reduction planning to achieve SBTs in FY2020 has also been confirmed, and we will be studying a specific reduction action plan to meet SBT targets.

\* The SBT Initiative is a joint initiative by international nongovernmental organizations CDP, the UN Global Compact, the World Resources Institute (WRI), and the World Wide Fund for Nature (WWF). It advocates setting science-based GHG emission reduction targets to prevent the global average temperature rise from climate change from exceeding 2°C above pre-industrial levels, as sought by the Paris Agreement.

## Climate change mitigation and adaptation

### Product Initiatives

### Reducing CO<sub>2</sub> with Biomass Plastic Containers

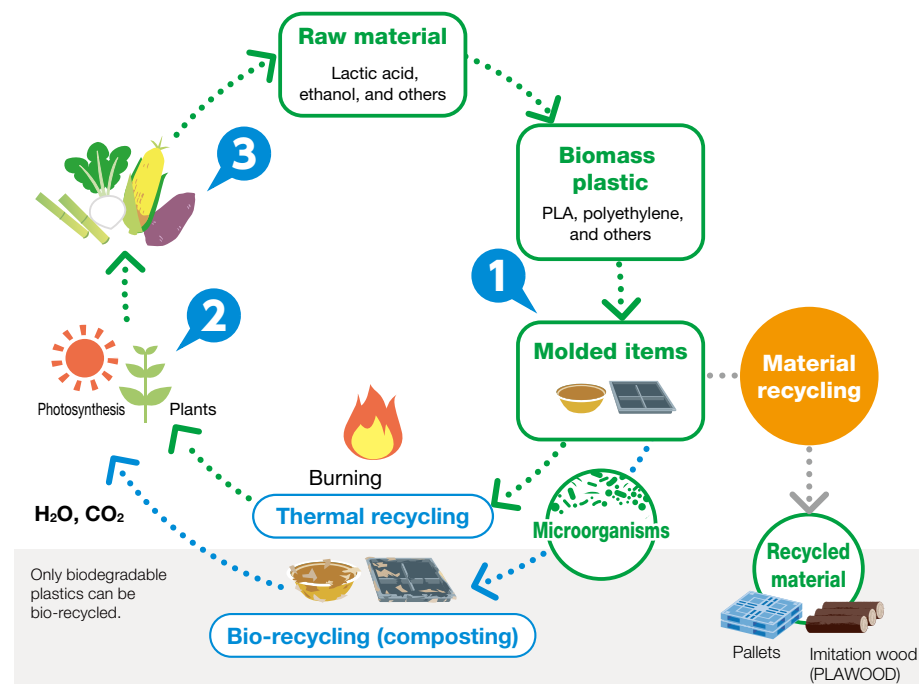
Although Japan has a high plastic recycling rate even considered internationally, at about 84%,\* oil-based plastic does not biodegrade easily, and besides the CO<sub>2</sub> emissions from incineration or thermal recycling, some have pointed out the potential for harmful substances to be released.

As an alternative that helps reduce CO<sub>2</sub> emissions, we have been introduced biomass plastic (specifically, PLA) containers for popular salads and other products since 2007. Our use of this material now surpasses all other retailers and currently accounts for about 20% of the amount in domestic distribution. Because the PLA items used by FamilyMart are biodegradable, it is believed that even if they are discarded in a natural environment, the impact would be small.

This has been estimated to represent an annual reduction of 2,400 tons of CO<sub>2</sub> emissions compared to conventional oil-based plastic (A-PET containers). We will be expanding this effort beyond the PLA containers for our popular salads to products packaged in alternative bioplastics, recycled PET, and other environmentally conscious materials.

\* Source: Plastic Waste Management Institute

#### Environmental Circulation of Biomass Plastics



### TOPICS

#### Vegetable Plant Factories, for a Stable Supply of Vegetables

Since 2015, FamilyMart has used vegetables grown in domestic vegetable plant factories in some sandwiches, salads, and other ready-to-eat products. Cultivation in vegetable plant factories mitigates the impact of poor harvests due to weather or disasters, so that vegetable plant factories can support stable procurement of vegetables, which are an ingredient in ready-to-eat products.



Against the background of more frequent and severe natural disasters in recent years, we have expanded procurement of vegetables from vegetable plant factories to hedge risks of difficulty procuring ingredients for products. This procurement is now nearly 60 times higher than when first introduced in 2015. Vegetables grown in the factories are also easier to clean, which save energy and resources. Food loss is also minimal, with fewer parts for disposal. Growing vegetables in an essentially sterile environment also eliminates the need for agricultural chemicals, so produce is safe and reliable.

FamilyMart's vegetable plant factory suppliers have acquired Global G.A.P. certification, recognizing outstanding companies that practice sustainable production conscious of food safety, working environments, and environmental protection. In fiscal 2020, we are aiming to increase the ratio of these certified vegetables to 10%.



Learn more: [Factory Vegetables \(Vitec Vegetable Factory\)](#)

Episode: [What are factory vegetables?](#)

<https://www.family.co.jp/campaign/spot/famimatimes/meeting/extra01.html#episode2> (in Japanese)

## Climate change mitigation and adaptation

### Logistics Initiatives

#### Deployment of Eco-Friendly Vehicles

FamilyMart has proactively deployed low-emission delivery trucks, such as compressed natural gas (CNG) vehicles from fiscal 1998 and hybrid vehicles from fiscal 2003 as an environmentally conscious alternative.

Taking advantage of much better environmental performance by current clean diesel vehicles which meet the latest exhaust regulations, we are fully adopting and deploying these vehicles in a plan to replace delivery vehicles with clean diesel trucks by 2025.

As another option in reducing GHG emissions, we are studying electric and fuel cell vehicles, as we consider matters of charging times and deployment costs and discuss a range of issues with stakeholders.

CO<sub>2</sub> emissions compared to existing diesel vehicles

Reduction of **1** ton/year



Since September 2019, we have been deploying clean diesel vehicles that meet Japanese exhaust regulations, which are among the world's strictest.

#### Climate Change Adaptation

FamilyMart also studies ways to adapt and respond to a variety of changes in the business environment brought about by global warming or climate change, as we plan for business continuity and growth.

One example is safeguarding the logistics networks that are vital to retail operations. When investigating center sites, we review hazard maps to note typhoon and flooding risks. Centers are constructed away from flood-prone areas, embankments are built to avoid risks, and more robust construction methods are used.

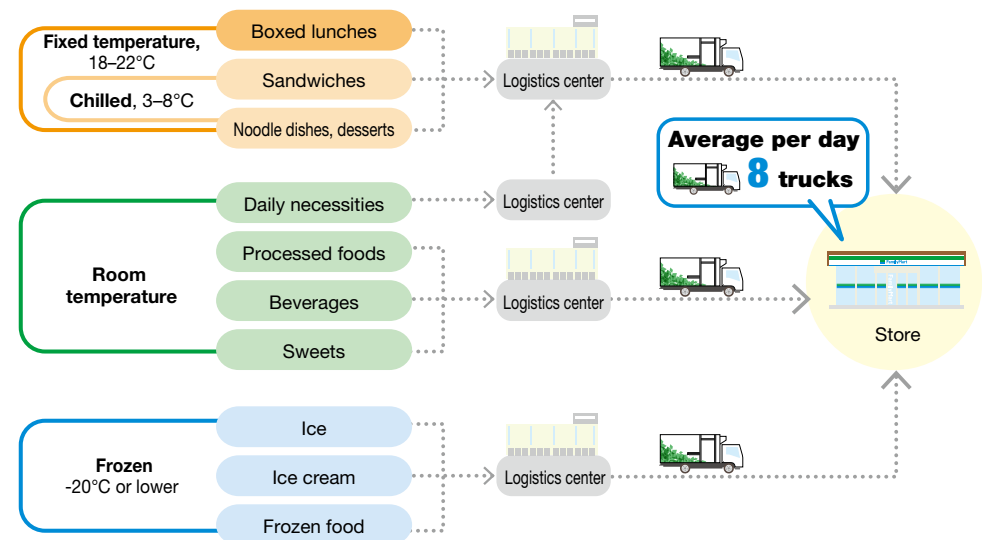
Emergency measures are in place if disasters disrupt logistics centers and producers of ready-to-eat products, or block road systems. These include sourcing products from other nearby centers and prioritizing deliveries likely to be needed after disasters, such as rice balls, daily necessities, and drinking water.

#### More Efficient Deliveries



Stores offer products at various temperatures, but to streamline deliveries and use fewer vehicles, dual-compartment refrigerated trucks deliver milk, desserts, and other chilled products (kept at 3°–8°C) at the same time as boxed lunches, bread, and other products at a constant temperature (18°–22°C). Additionally, we have devised a system for batch delivery of products in each temperature range to individual stores after food from multiple producers and manufacturers of ready-to-eat products is temporarily collected at logistics centers. This also enables a much smaller fleet. (See the figure below.) To plan routes with less traffic and more store deliveries in a shorter period, we simulate optimal routes with a transportation management system (TMS) for recording and managing routes and time between logistics centers and stores. Base values derived this way also help reduce GHG emissions and energy consumption.

##### Batch Delivery System for Products in Each Temperature Range





## Climate change mitigation and adaptation

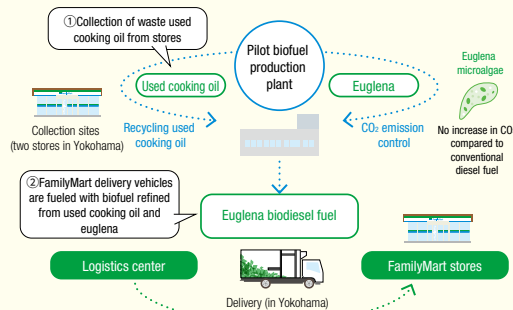
### TOPICS

#### Fueling Delivery Vehicles with Euglena Biodiesel

Since September 2020, some FamilyMart delivery trucks have been fueled with Euglena biodiesel fuel made with used cooking oil from two FamilyMart stores in Yokohama City. Each month a total of nearly 300 liters of used cooking oil is collected from the stores and converted to biofuel at a pilot biofuel production plant.

As part of joint Euglena-Yokohama efforts to develop local production for local consumption of biofuel, the initiative began with FamilyMart's support of GREEN OIL JAPAN<sup>\*1</sup>, which forms the basis of the project. Euglena biodiesel fuel mainly consists of microalgae lipids such as Euglena and used cooking oil. Compared to biodiesel made from other raw materials, it is viewed as posing less risk of competing with food resources and contributing to deforestation. Because it can also be used in ordinary diesel engines without modification, existing infrastructure can be maintained as the fuel is used and popularized.

FamilyMart also participates in a pilot program in Hiroshima Pref. by providing used cooking oil from stores and fueling company cars with Euglena biodiesel in the Hiroshima Your Green Fuel project organized by the Hiroshima Council for the Promotion of Collaboration between Government, Academia, and the Automobile Industry, among others.



<sup>\*1</sup> GREEN OIL JAPAN: A declaration by Euglena Co., Ltd., aiming to make Japan an advanced biofuel economy

### Store Initiatives



#### Environmentally Conscious Store Design

Switching to LED lighting for in-store lighting as well as façades, signage, and parking lot lights is a way to reduce store energy consumption. Brightness is controlled by a system that adjusts lighting by time of day or store zone. Deploying refrigerators and freezers with CO<sub>2</sub> as a refrigerant can reduce emissions of both chlorofluorocarbons (CFC) and energy-derived CO<sub>2</sub>.

Installation of refrigerators and freezers with CO<sub>2</sub> as a refrigerant



**234 units at 117 stores**  
(as of the end of February 2020)

#### Promotion of Renewable Energy

Along with reducing store energy consumption, we are also actively adopting renewable energy sources. One approach is to install solar panels on store roofs, so that stores can generate a portion of the energy consumed. Meanwhile, to help establish infrastructure for electric vehicles and plug-in hybrids, fast-charging stations are being installed in store parking lots.

Stores with solar panels

**2,083**  
(as of the end of February 2020)

Stores with fast-charging stations

**691**  
(as of the end of February 2020)



#### Store Operation Initiatives

Store staff are careful about turning lights on and off as needed and cleaning filters of store fixtures regularly. Familiarizing staff members with ten energy saving tips that can be done at the stores instills an awareness of costs as environmentally sound store operations are promoted.



Filter cleaning

# Feature

## Compliance with TCFD Recommendations

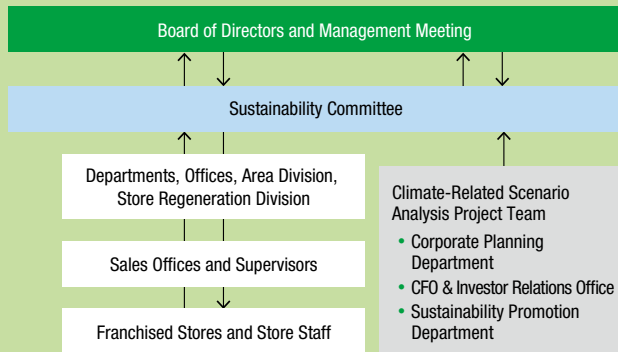
### Supporting TCFD recommendations

The Task Force on Climate-related Financial Disclosures (TCFD) was established by the Financial Stability Board (FSB) at the request of G20 finance ministers and central bank governors. The TCFD examines how companies should disclose information on risks and opportunities linked to climate change and enables accurate investor judgment, seeking appropriate capital allocation, efficient financial markets, and a sustainable, stable economy.

In February 2020, FamilyMart announced support of the goals of the TCFD final report, and we will disclose information on the four core elements of how organizational management proposed by the TCFD: governance, strategy, risk management, and metrics and targets.



Climate-Related Risk Management System



### Governance and Risk Management

Responses to a variety of climate-related risks and opportunities that may have a broad impact on the value chain are centrally managed by the Sustainability Committee, which oversees company-wide sustainability activities.

The committee monitors natural disasters and regulatory trends, examines response plans, sets climate-related targets and action plans including FamilyMart Environmental Vision 2050, and manages and evaluates progress. Matters discussed by the committee are reported to the Board of Directors as needed and considered in the context of annual budgets and business plans.

Fiscal 2020 marked the first year of analyzing climate-related risks and opportunities. A project team for scenario analysis led by the Corporate Planning Department, CFO & Investor Relations Office, and Sustainability Promotion Department identified, assessed, and analyzed climate risks and opportunities. These results are discussed by the Sustainability Committee and reported to the Board of Directors.

Sustainability Committee (advisory body to the President)	
Chairperson	CAO and General Manager, Management Division
Office	Sustainability Promotion Department
Main roles	<ul style="list-style-type: none"> <li>Risk management for natural disasters and relevant regulatory trends</li> <li>Setting climate-related targets</li> <li>Establishing response plans, managing progress, and conducting assessment</li> </ul>

### Strategy

#### ● Purpose and method of scenario analysis

In recognition of climate risks and opportunities, scenario analysis was conducted in 2020 to verify suitability of current climate change measures and apply this insight in formulation of future business strategies. Several scenarios at 2°C and 4°C were employed, seeking sustainable business activities in various climates and social environments. The period covered ends is until 2050, the final target fiscal year of FamilyMart Environmental Vision 2050.

#### ● Scope of analysis

Operations: Domestic convenience store operations

Scope: Raw materials procurement, ready-to-eat product suppliers, logistics, store operations, consumer use

Time frame: From now to 2050 (short term: within one year, medium term: within 10 years, long term: more than 10 years)

#### ● Scenarios used

Transition scenario: IEA WEO 2019 SDS (2°C)/CPS (4°C)

Physical scenario: IPCC Fifth Assessment Report 2.6 (2°C)/8.5 (4°C)


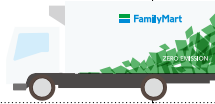
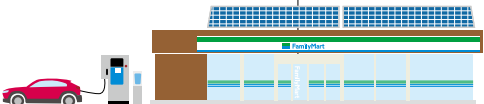
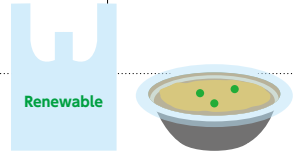

#### ● Steps in analysis

- (1) Comprehensively estimate the potential impact of each climate-related risk/opportunity factor on the value chain described in the scope of analysis
- (2) Sort out risks in the big-picture view of (1) that are more likely
- (3) Based on the scenario used, verify the impact on operations and calculate the financial impact under 2°C and 4°C scenarios
- (4) Consider measures in response to the results of (3)

#### ● Results

Scenario analysis results are presented on the next page. Between the 4°C scenario with worsening natural disasters and the 2°C scenario with strict climate change policies, analysis results show that the impact of acute physical risk from the former poses a greater risk of loss at all stages of the FamilyMart value chain, from raw materials procurement to store operations. Rising temperatures are also likely to have a relatively significant impact on consumer trends, and neglecting to introduce products that respond to changing temperature zones may result in lost opportunities. In the latter 2°C scenario, more rigorous climate policies are expected, and new carbon taxes and stronger fluorocarbon and plastic regulations would incur investment costs.

Results of Scenario Analysis

Major Risk Category	Medium Risk Category	Minor Risk Category	Time Frame of Impact	Key Climate-Related Risks and Opportunities Expected in the FamilyMart Value Chain						Scale of Impact on Operations, by Scenario	
				Product Planning	Raw Materials Procurement	Production	Logistics	Store Sales	Consumer Use	2°C Scenario	4°C Scenario
Physical Risks	Acute	Increased severity of extreme weather events such as typhoons and floods	Short term		<b>[Risks]</b> <ul style="list-style-type: none"> <li>Suspended product supply due to damage to suppliers and distribution centers, or disruption in the road network</li> <li>Lost sales opportunities due to store damage or closure</li> </ul> <b>[Opportunities]</b> <ul style="list-style-type: none"> <li>Switching supply chains in response to suspended product supply from damage at suppliers and distribution centers, or disruption of road network</li> <li>Building a system for prompt recovery of store operations (as by maintaining power generators)</li> </ul>					Small	Large
	Chronic	Rise in average temperature	Long term		<b>[Risks]</b> <ul style="list-style-type: none"> <li>Supply shortages due to poor productivity of raw materials</li> </ul> <b>[Opportunities]</b> <ul style="list-style-type: none"> <li>Decentralization/diversification of raw materials procurement sites</li> <li>Expanded use of vegetable plant factories</li> <li>Development of alternative products</li> </ul>					Small	Small
Transition Risks	Market	Soaring raw materials costs	Long term								
	Policies and regulations	Introduction of carbon tax	Medium term		<b>[Risks]</b> <ul style="list-style-type: none"> <li>Taxation across each stage of the value chain</li> <li>Capital investment to reduce emissions</li> </ul> <b>[Opportunities]</b> <ul style="list-style-type: none"> <li>Reducing purchased energy by installing energy-efficient equipment and solar panels at stores</li> <li>Establishing energy-efficient habits through environmental education</li> <li>Consolidation of power contracts</li> <li>Promoting deployment of environmentally conscious delivery vehicles</li> <li>Innovation in supplier production processes and lines</li> </ul>					Large	Small
		Stricter CFC regulations	Short term					<b>[Risks]</b> <ul style="list-style-type: none"> <li>Investment in non-CFC refrigeration and freezing equipment</li> </ul> <b>[Opportunities]</b> <ul style="list-style-type: none"> <li>Reduced energy consumption from use of non-CFC refrigerators/freezers</li> </ul>		Small	Small
		Stricter plastic regulations	Medium term		<b>[Risks]</b> <ul style="list-style-type: none"> <li>Switching from plastic packaging and equipment to alternatives</li> </ul> <b>[Opportunities]</b> <ul style="list-style-type: none"> <li>Controlling regulatory compliance costs by using environmentally conscious packaging</li> <li>Improving brand image through consumer communication</li> </ul>					Large	Small
	Market/reputation	Changes in consumer behavior/preferences	Long term		<b>[Risks]</b> <ul style="list-style-type: none"> <li>Changes in customer traffic and best-selling products from changes in behavior</li> <li>Warmer winters result in lower sales of autumn/winter products</li> <li>Lower customer loyalty without appropriate environmental measures for products and services</li> </ul> <b>[Opportunities]</b> <ul style="list-style-type: none"> <li>Product management applying purchase data</li> <li>Cultivating new needs and market opportunities to address consumer interest in climate change</li> </ul>					Small	Large

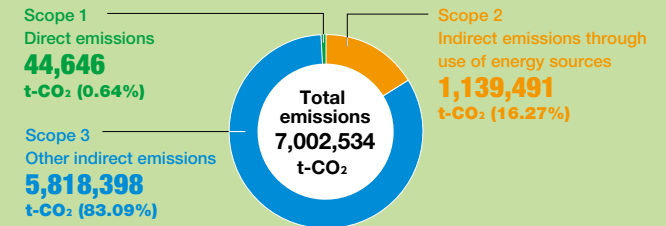


## Metrics and Targets

As we work to reduce climate risks and strengthen opportunities, we have set short- to long-term metrics and targets across the value chain.

Target/Category	Time Frame	Metrics and Targets		Achievements
				FY2019
FamilyMart Environmental Vision 2050	Long term	GHG Reduction	CO <sub>2</sub> emissions from store operations 2030: 40% reduction 2050: 100% reduction compared to FY2013	-18%
		Plastic Countermeasures	Proportion of environmentally conscious materials 2030: 60% 2050: 100%	10%
Science-Based Targets (SBTs)	Medium term	Scope 1+2	2030: 30% reduction (compared to 2018)	-9.1%
		Scope 3 (category 1)	2030: 15% reduction (compared to 2018)	-3.2%
Material Issues: FY2020 targets/KPIs	Short term	Stores deploying refrigerator/freezer cases with CO <sub>2</sub> refrigerant:	92	—
		Stores with solar panels (for internal consumption):	70	
		Stores with in-store LED lighting fixtures:	4,000	
		Stores with LED digital signage:	6,000	
		Stores deploying EMS (optimal control of air conditioning/ventilation/cooling):	5	
		Replacement of delivery vehicles with clean diesel trucks:	750	

### Emissions, by Scope

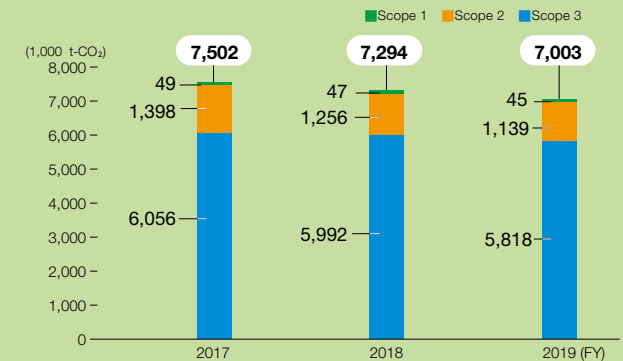


Scope 1: Direct GHG emissions from fuel combustion or other sources (such as from gas-powered company vehicles)

Scope 2: Indirect GHG emissions from purchased electricity or other sources (such as electricity used by the headquarters, sales offices, and stores)

Scope 3: Indirect GHG emissions from corporate activities outside scope 1 and 2

### Changes in CO<sub>2</sub> Emissions, by Scope



## Emissions, by Scope

In addition to emissions from FamilyMart stores and offices, we are working to monitor\* and reduce CO<sub>2</sub> emissions across the entire supply chain, including raw materials procurement from suppliers, product manufacturing, logistics, and disposal by consumers.

Emissions across the supply chain in fiscal 2019 stood at 96% year-on-year. What was effective in this regard was deploying energy-efficient equipment and closing unprofitable stores, which reduced Scope 2 emissions.

We will continue working to improve data collection precision and expand the scope of calculations, as we analyze these calculations and seek to reduce CO<sub>2</sub> emissions across the supply chain.

\* Calculation of emissions for the entire supply chain based on *Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain, Ver. 1.0*, Ministry of the Environment

# Reduction of Food Waste



## Issues to Recognize

Many people in the world suffer from poverty, hunger, and malnutrition, yet each year, some 1.3 billion tons of food are discarded. Even in Japan, which relies heavily on food imports, 25.5 million tons is wasted annually, including an estimated 6.12 million tons that is still edible.\*

This has set the scene for SDG 12, which by 2030 seeks to halve per capita global food wastage at retail and consumer levels and reduce food loss in production and supply chains. In Japan, the Food Loss Reduction Promotion Act took effect in October 2019, mandating greater action in the retail sector.

\* Source: Estimated food wastage values in fiscal 2017 published by the Ministry of Agriculture, Forestry and Fisheries

## Management Approach

Food wastage has an environmental impact as well as considerable repercussions on our business operations. Costs associated with sorting and disposal are only one example. Food represents a cornerstone of our sales, and we view initiatives to reduce food wastage as a serious issue. Measures to prevent wastage include improving accuracy of product ordering and extending shelf lives with better product containers and packaging. Through these efforts, we are working toward sustainable production and consumption patterns.

## Key Accomplishments and Performance in FY2019

- Reduction in waste disposal cost for eel products: approx. **80%** compared to FY2018
- Reduction in food wastage across FamilyMart: **8%** compared to FY2018

## Targets and KPIs

### KPIs for FY2020

- Extend dessert sell-by date by 7 hours
- Extend store delivery dates for products such as national brands (expand scope)

## Future Activities

- Reducing the frequency of checking sell-by dates at stores (from 4 to 3 times daily), through a variety of measures to extend sell-by dates



## A New Sales Method for Oden

Our popular, original winter oden stew has been sold a new way since January 2020. After customer orders are received, employees microwave the stew to prepare it. Unlike eventually disposing of food left heating in the specialized pots used previously, ingredients sold the new way are sealed in plastic packaging with a best-by date in 180 days. The long shelf life promises to reduce much food wastage. Because this arrangement is easier for staff members – who were required to monitor freshness, replenish ingredients, and clean the pots – the approach also streamlines store operations.

In fiscal 2020, we revised the sales hours for ingredients sold as before in specialized pots, discontinued sales of ingredients more often disposed of the previous year, and made other refinements to reduce food loss. Another facet of our new sales methods is selling packaged oden ingredients, because more people are cooking for themselves since the spread of COVID-19.



New oden


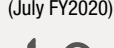

After orders are received, ingredients are heated in a microwave

## Improved Ordering Accuracy, Enhanced Advance Sales of Seasonal Products

Stores are working to prevent food wastage by improving the accuracy of routine product ordering and reducing disposal of food past its sell-by date. Since fiscal 2019, we have enhanced advance sales of seasonal products such as eel dishes and Christmas cake, seeking zero food wastage by accurately controlling the amount produced to suit customer needs.

Costs associated with disposal were reduced nearly 80% and profitability for franchised stores increased 240% relative to fiscal 2018 before improvement of pre-ordering, which this year included online reservations via the mobile FamiPay app and inspired sales floor presentations at each store before the day in July when eel is traditionally eaten.

### Results of Enhanced Advance Sales (Compared to FY2018 Results)

	Disposal Costs	Franchised Store Profit
FY2019 Results	<i>Ehomaki sushi</i>  Reduced approx. 50%	Increased approx. 10%
	<i>Eel dishes (July FY2020)</i>  Reduced approx. 80%	Increased approx. 240%
	<i>Christmas cake</i>  Reduced approx. 50%	Increased approx. 30%

## Reduction of food wastage



### Ready-to-Eat Products with Longer Shelf Lives

In our leading category of ready-to-eat products, we are extending sell-by dates (shelf lives) through improved ingredients and production or cooking methods. Modified atmosphere packaging technology\* that can preserve freshness of products longer than standard packaging is used for some original “Mother’s Kitchen” delicatessen dishes, which extends shelf lives to keep these foods fresh and delicious without additional preservatives. To expand this packaging technology to other product categories we are conducting a pilot study. The study seeks comprehensive verification not only in how disposal and profitability change but also in how longer sell-by dates prevent shortages and change store workloads and customer reactions.

\* Modified atmosphere packaging technology: A new technology in which carbon dioxide and nitrogen are injected into packaging to replace the oxygen to prevent food deterioration. Used mainly in form-fill, top-seal, and deep-drawing packaging.



Pilot study of new packaging technology

#### Medium- to Long-Term Food Wastage Reduction Measures, Including Packaging Techniques

Category	Measure	No. of Products	Sell-by Date Extension Target/Plan
Burgers and bread rolls	“Barrier pillow” and modified atmosphere packaging	2	FY2020: 2 days ➔ 3 days
Pasta	Heat-resistant barrier containers and gas exchange packaging	5	FY2020: 2–3 days ➔ 5 days
Fresh vegetable salad	Extending shelf life with gas exchange packaging	4	FY2020: 1.6 days ➔ 2.6 days

#### Other Primary Examples of Extending Shelf Life

Category	Typical Measures	No. of Products	Details of Longer Shelf Life
Sushi	Longer expiration dates	7	0.6 days ➔ 1 day
Pasta	Reduction of product deterioration by switching production methods and noodle ingredients	3	2 days ➔ 3 days
Sandwiches	Extending sell-by dates by preparing vegetables with functional water	2	1.3 days ➔ 1.6 days
Fixed-temperature boxed lunches	Extending shelf life by switching ingredient processing methods	2	0.6 days ➔ 1 day
Chilled noodles	Extending shelf life by switching noodle processing methods	2	2 days ➔ 4 days

### Increasing Shelf Life Through Higher Quality from Producers of Ready-to-Eat Products

We continue to hone the quality control expertise of suppliers of ready-to-eat products. Building on work to date, repeated taste-testing and bacterial inspection showed that we could extend the sell-by time by two hours for certain daily deliveries, including noodle dishes, salads, delicatessen dishes (snacks and side dishes, soup, and light meals), chilled boxed lunches, and cut vegetables. With this approach, sell-by dates can be checked four times a day instead of six, which helps reduce food loss and store workloads (except in some areas).

### More Space for Frozen Foods

Diverse eating habits and other factors have driven the need for food that can be stored over long periods. In response, we are expanding our selection of frozen food and offering more shelf space for these products. Some 4,000 stores were targeted for this expansion by the end of September 2019, reflecting our positioning of frozen food as a key category after ready-to-eat products. Frozen food also has the advantage of helping to reduce food wastage, in view of its shelf life, and for this reason as well, we plan to expand sales.



Enlarging the space in stores for frozen food

### Reducing Food Wastage at Product Seminars

Semiannual product seminars for store staff strengthen store sales capabilities, as participants try new products and discuss sales floor techniques. Since fiscal 2019, we have reviewed the number of samples provided and the timing, which has reduced food wastage 73.4% year-on-year. In fiscal 2020, as a measure to prevent the spread of COVID-19, product seminars have been streamed online and sample foods sent to each store in required quantities. This is expected to reduce food wastage even more.

# Use of Sustainable Resources / Prevention of Environmental Pollution

Issues to Recognize

The goal of economic growth with sustainable development led to an SDG seeking sustainable production and consumption patterns. With regulatory compliance as a prerequisite, further corporate efforts toward a recycling-oriented society are expected, including efficient use of water, food, and natural resources as well as proper treatment and significant reduction of waste.

In particular, because plastics can cause marine pollution and adversely affect the ecosystem, international trends in use/emission control are encouraged, hence companies are strongly demanded to control the generation of plastic waste and re-examination of raw materials.

Key Accomplishments and Performance in FY2019

- Promoted our food recycling loop: currently 6 areas in Japan
- Expanded use of products made with biomass plastic
- Rate of customers declining plastic shopping bags: **77%** (July–September 2020)

Targets and KPIs

KPIs for FY2020

- Proportion of environmentally conscious material in ready-to-eat product containers: **28%**
- Proportion of environmentally conscious material in plastic bags: **30%**
- Rate of customers declining plastic bags (national average): **60%**

Future Activities

- Sales of products in food recycling loops
- Studying plastic bottle recycling

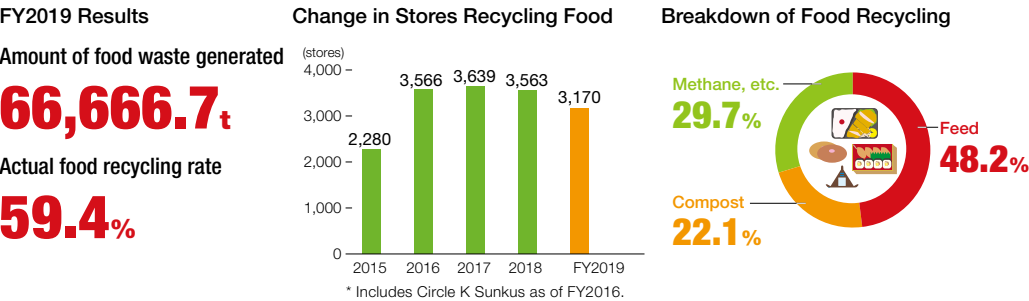
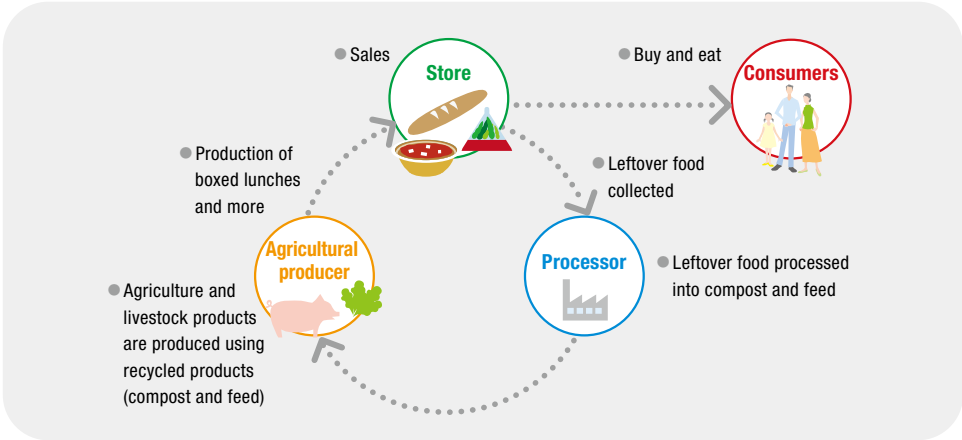
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## Food Waste Recycling Initiatives

Food waste generated by stores (from boxed lunches, rice balls, and delicatessen dishes) are recycled into animal feed, fertilizer, and methane through our collecting/recycling system for food waste. This program meets the 55% recycling rate for food retailers targeted by the Food Recycling Law. Our active promotion of recycling also involves gradual expansion of agreements with waste disposal contractors who recycle food waste.

In 2008 leftover food from Tokyo and Kanagawa area stores was collected and processed into animal feed at a pig farm with a feed factory, where pigs are raised for production of boxed lunches and delicatessen breads sold at stores, creating a food recycling loop. This recycling loop has been expanded nationwide, and recycling loops in six areas as of September 2020 participate in this certified Recycling Business Plan.

Food Recycling Loop System



## Use of sustainable resources / Prevention of environmental pollution

### Our Approaches to Reduce Plastic



We actively promote plastic recycling and improvement of packaging in accordance with the Containers and Packaging Recycling Law, and we seek to reduce our use of plastic.

For the original delicatessen brand *Mother's Kitchen*, the packaging material has been changed from plastic lids to a specially processed top seal on container lids. As a result, compared to using previous containers of the same capacity, the annual reduction of plastic raw materials was 33.6 tons, equivalent to 153.7 tons per year of CO<sub>2</sub> emissions (trial calculation at the time of introduction).

However, in the wake of recent plastic waste problems, we remain aware of our responsibility as a company using large amounts of packaging materials. Stronger efforts of ours to reduce our environmental footprint include making containers lighter, using recycled material, and switching to alternative material with a lighter environmental impact.

#### How FamilyMart Approaches Plastic Reduction

Impact on Plastic Reduction

#### Reduce

Reduce plastic consumption

Reduce with lighter containers and thinner film

Small-Moderate

#### Recycle

Recover and reuse resources

Reduce by using packaging with recycled content

Large

#### Renewable

Use sustainable (or recycled) materials

Reduce by using/ incorporating environmentally conscious packaging (biomass)

Small-Large

#### Examples of Measures

##### Eco-friendly packaging for all salad products

- Promote use of biomass plastic (PLA) and other environmentally conscious packaging material (Introduction of PLA began in 2007.)
- Annual reduction: **900** tons
- ▶ All salad products now packaged in this material, as of April 2020



Recycle

Renewable

##### Thinner plastic packages for sandwiches

- Reduce consumption by using a new film
- Annual reduction: **90** tons
- ▶ Since April 2020



##### Triangle sandwich

Film thickness

Current **▲5 μm** Future  
**40 μm → 35 μm**

Reduce

##### Expand use of top-seal packaging

- Study expansion of top-seal packaging from delicatessen dishes to salads, pasta, and frozen food
- ▶ Fiscal 2020
- Annual reduction: **76** tons (already introduced for salads)



Reduce

##### Switching to paper cups for beverages

- Switch to paper containers for beverages such as yogurt drinks
- Annual reduction: **610** tons
- ▶ Since June 2020



Reduces plastic consumption  
**13 g per cup**

Recycle

Renewable

##### Iced coffee cups made with recycled PET, stirrers of wood

- Incorporate recycled PET in cups, switch to wooden stirrers (and from plastic to paper bags), and use environmentally sound material for straws
- Effect of reduction: **80** tons (stirrers)
- ▶ Since March 2020



Recycled PET

**0%**

1H FY2019

**5%**

From 2H FY2019



Related information: Reducing CO<sub>2</sub> with Biomass Plastic Containers, page 27



Use of sustainable resources / Prevention of environmental pollution

Plastic Bag Reduction Initiatives

Offering benefits in packaging and CO<sub>2</sub> reduction, moves to reduce plastic shopping bags have taken off around the world, calling for a response in line with business needs.

In Japan as well, July 2020 saw a revision to a ministerial ordinance stipulating criteria in promoting reduction of container and packaging waste, as the retail industry adopts reasonable practices for this packaging. As a result, retailers must now charge consumers for plastic shopping bags.

Since the revision, we have maintained high standards based on the percentage of customers declining these bags each month. In the July–September period this year, our rate of 77% surpassed that of the Japan Franchise Association, which advocates having at least 60% of customers declining plastic bags by fiscal 2030.

For some time, to reduce use of plastic shopping bags, FamilyMart has raised consumer awareness in campaigns with local government, by asking customers at the register, and by



A sign notifying customers that plastic shopping bags are no longer free

displaying informative posters in stores. We encourage people to bring a personal shopping bag, and we have made bags thinner to reduce the amount of plastic used, among other initiatives.

Ongoing efforts to have more customers decline plastic bags at the register will include training and development of store staff and asking customers for their cooperation.

Fixture Recycling

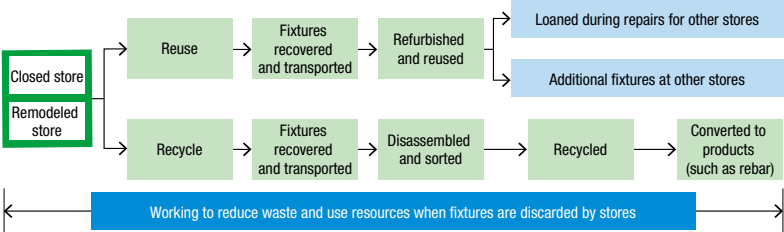
After refurbishing, usable counter fixtures from closed stores play an active role as additional fixtures at existing stores or equipment loaned during repairs. Those that can no longer be

used are disassembled and sorted to recycle mechanical parts and materials such as iron or copper.

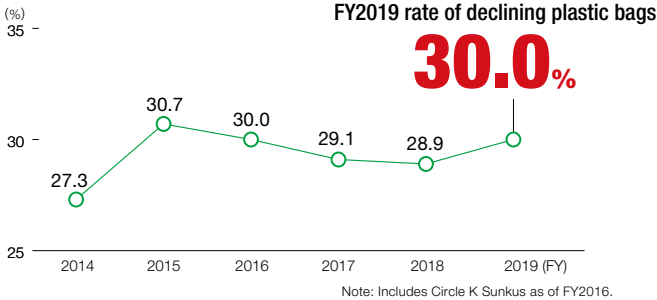
Recycling of Used Cooking Oil

After use in deep-frying of *FAMICHIKI* fried chicken and other fried foods cooked at stores, cooking oil is collected by certified contractors and processed into 100% recycled products such as poultry feed additives, ink, and soap. Some is also used by stores as medicated hand soap, an example of closed-loop recycling. An electronic manifest system adopted in April 2017 supports proper collection and accurate recordkeeping for the oil, strengthens regulatory compliance, and ensures traceability.

Framework for Refurbishing/Recycling Fixtures from Closed or Remodeled Stores



Rate of Declining Plastic Bags



TOPICS

Strengthening Ties with Processors

We regularly exchange information with waste contractors and used cooking oil collectors to strengthen ties and ensure correct processing based on the Waste Disposal and Cleaning Act. This helps improve food recycling initiatives and store operations involving related issues.

Liaison meeting with used cooking oil collectors



## Use of sustainable resources / Prevention of environmental pollution

### “We Love Green” Eco-Friendly Private Label Products

The private brand “We Love Green” for eco-friendly products was developed in 1999 based on an ideal of everyone on Earth loving nature and protecting the environment.

The We Love Green label signifies that products meet the brand standards of lighter environmental impact in materials, product use, and disposal.



These products include packing strings made with recycled materials (100% recycled polypropylene), thick or thin anti-slip gloves made with natural rubber, and rice balls and sandwiches in eco-friendly packaging.

### Chlorofluorocarbon Measures

Chlorofluorocarbon (CFC) substitutes are used in store refrigerators, freezers, and air conditioners, which are inspected as required by law. Strict controls are in place, so that when equipment containing substances that pose environmental risks are disposed of, specialized contractors recover and destroy the substances. Moreover, deployment of freezers and refrigerators with CO<sub>2</sub> refrigerant is promoted, both to reduce CO<sub>2</sub> emissions from power generation sources and to reduce CFC emissions.

### Water Conservation at Stores

We support Japan Water Style, a public-private project launched by the Ministry of the Environment to protect Japan’s outstanding water cycle. The project provides a fresh outlook on water through products, services, and initiatives related to water, and we promote a sound water cycle through store operations. Wastewater quality is improved by installing grease traps\* (which separate oil and water discharged when fryer

cooking utensils used in stores are cleaned) and septic tanks, and by conducting regular inspections of wastewater treatment systems. We are also working to reduce water consumption by changing restroom faucets to a type that helps conserve water.

\* Grease trap: A device that prevents oil and fat from flowing out directly into the sewer (oil/water separation tank)

#### Company-Wide Initiatives

### Clear Water Tsunan: Using Water Resources Effectively

Clear Water Tsunan Co., Ltd., which is engaged in production and sales of mineral water, uses this limited resource effectively throughout the company by practicing the two Rs of Reducing water consumption and Reusing water as much as possible.

Fresh water is collected mainly from springs and wells. The spring water is bottled and sold, and the well water is used for bottle and cap sterilization and cleaning, and for snow removal.

These water sources are shared with the local community, so an annual water usage agreement has been signed, and water intake, production, and sales are carefully conducted based on the agreement. The well water used to clean plastic bottles inside and outside is filtered with an ultra fine filter and then sterilized under ultra high temperature in an UHT system that sterilizes instantly. After the plastic bottles are cleaned, the water is sterilized again in the recovery tank at ultra high temperature and reused as rinse water, an example of reuse and reduce, which helps reduce the amount of water intake.



As a company supported by water and nature’s bounty, Clear Water Tsunan has a corporate philosophy of contributing to a healthy, and prosperous society, seeking harmony with the natural environment and coexistence with the local community, and providing safety, reliability, and value-added products.