



06

Promoting Green Operations

Sustainability Performance

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

The total amount of green procurement in 2020 accounted for **10%** of the total amount for annual purchase

The Energy Use Intensity (EUI) was reduced by **3%** in 2020 compared to 2019

87 vehicles of the latest environmentally-friendly standards were introduced to the PCSC fleet

Corresponding Material Topic

Energy and GHG Waste

Corresponding Stakeholders

Suppliers Employees Franchisees Public Welfare Organizations Government Agencies
Local Communities

Reduce Energy Consumption	Introduce Environmentally-friendly Vehicles	Green Procurement
Action Plan	Action Plan	Action Plan
Adopt energy-saving measures in stores, including energy-saving upgrades of air-conditioning and refrigeration equipment, optimization of store lighting systems and heat exchange	Replace vehicles from the previous generations with eco-friendly ones from the latest generation	Purchase equipment and consumables with Energy Label, Eco Label or certification, or proven to bring actual eco-friendly benefits
2020 Goals	2020 Goals	2020 Goals
Reduce the Energy Use Intensity (EUI) in the stores by 13% compared to 2014 or 1% compared to 2019	Introduce over 86 vehicles of the latest environmentally-friendly standards	The amount for green procurement accounts for 6% of the annual procurement
Achievement	Achievement	Achievement
The EUI for 2020 was 919 kWh per square meter, reduced by 3% compared to 947 kWh/square meter in 2019	Introduced 87 vehicles of the latest environmentally-friendly standards	The amount for green procurement accounted for 10% of the annual procurement
Target Reached	Target Reached	Target Reached
<input type="checkbox"/> Tracking <input checked="" type="checkbox"/> Under Development <input checked="" type="checkbox"/> Target Achieved <input checked="" type="checkbox"/> Target Exceeded	<input type="checkbox"/> Tracking <input checked="" type="checkbox"/> Under Development <input checked="" type="checkbox"/> Target Achieved <input checked="" type="checkbox"/> Target Exceeded	<input type="checkbox"/> Tracking <input checked="" type="checkbox"/> Under Development <input checked="" type="checkbox"/> Target Achieved <input checked="" type="checkbox"/> Target Exceeded
Future Goals	Future Goals	Future Goals
Reduce EUI by 0.5% in 2021 compared to 2020, reaching 914.7 kWh per square meter.	<ul style="list-style-type: none"> Replace all vehicles below phase 3 by 2021 Replace all vehicles below phase 4 by 2026 Replace all vehicles below phase 5 by 2036 	Reduce single-use plastic products by 5% by 2023

Packaging Reduction - Plastic Packaging

Action Plan	Launch the packaging-reduction project, pilot program for cups for rent and introduce fully-automated recycling machines
2020 Goals	Tracking
Achievement	Tracking
Target Reached	<ul style="list-style-type: none"> Tracking Under Development Target Achieved Target Exceeded
Future Goals	<ul style="list-style-type: none"> Less than 20% of single-use plastic by 2023 Less than 10% of single-use plastic by 2028, eliminate plastic grocery bags and straws Eliminate single-use plastic

Food Waste Reduction

Action Plan	Reduce the weight of food waste in the stores and factories
2020 Goals	Tracking
Achievement	Tracking
Target Reached	<ul style="list-style-type: none"> Tracking Under Development Target Achieved Target Exceeded
Future Goals	Reduce food waste by half by 2030 based on the amount of food waste in 2019

Compliance

Action Plan	Perform environmental management and raise awareness or relevant regulations
2020 Goals	0 major environmental regulation violation
Achievement	0 major environmental regulation violation
Target Reached	<ul style="list-style-type: none"> Tracking Under Development Target Achieved Target Exceeded
Future Goals	0 major environmental regulation violation

Energy and GHG Management Approach

Management Objectives and Policies	Tackling climate change has now become an urgent issue. Energy and GHG management is crucial to combating climate change. With the tightening of mandatory measures at home and abroad, consumers and investors attach great importance to corporate GHG emissions, to the point that energy and GHG emission management has a significant impact on a company's revenue, cost, asset value, goodwill and operational continuity. <ul style="list-style-type: none"> Energy Policy GHG Policy
Responsibility	Engineering and Technology Department (store renovation), Operation Planning Department (assisting store personnel in implementing energy management and conservation actions), Administrative Management TEAM (staying updated with the energy consumption of the headquarters building and introducing energy-saving measures), and the Logistics Planning TEAM (staying updated with and improving the energy conservation and carbon reduction measures of logistics affiliated companies)
Action Plan	<ul style="list-style-type: none"> GHG inventory Store and office energy-saving and carbon reduction measures Logistics energy-saving and carbon reduction measures
Grievance Mechanism	Hotline of the Integrated Services Center (0800 008 711) or email (public@mail.7-11.com.tw)

Resource Waste, Effluent and Waste Reduction Management Approach

Management Objectives and Policies	The challenges that come with the consumption and scarcity of natural resources, as well as waste disposal and pollution, have made reducing resource waste a very important part in the overall PCSC operating value chain. <ul style="list-style-type: none"> Environmental Policy
Responsibility	Operations Planning Department
Action Plan	<ul style="list-style-type: none"> Tracking the volume of waste removal Reusing store equipment Promoting a convenient recycling platform in stores Saving paper Tracking store water consumption Introducing water-saving facilities
Grievance Mechanism	Hotline of the Integrated Services Center (0800 008 711) or email (public@mail.7-11.com.tw)

6.1 Environment Management

Policy and Commitment

Clear and consistent standards and understanding are at the core of effective management mechanisms. PCSC has formulated “Environmental Policy”, “Energy Policy”, and “GHG Policy” as the guiding principles for the group’s actions on environmental issues. PCSC will exert its influence to implement green operations and realize the vision of a sustainable earth based on this foundation.

Environmental policy

Our goal is to become the best retailer with the aim of providing the most convenient lifestyle services and fulfilling our responsibilities as a corporate citizen, and we have thus made the following commitments:

- ✓ We will comply with environmental protection laws and regulations, and prohibit any behavior that will harm the environment.
- ✓ We will continue to improve our environmental performance, and improve our surrounding environment.
- ✓ We will cherish resources and increase recycling and reuse based on the principle of making the most out of resources.
- ✓ Based on the pollution prevention, we will endeavor to reduce the amount of waste.
- ✓ With consideration to the environmental impact of our products and services in each phase of the life cycle from R&D, design, manufacturing, packaging, to delivery, we will reduce resource consumption and increase the efficiency of resource use.
- ✓ We will gradually build up an eco-friendly value chain, and take environmental aspects into consideration when selecting suppliers, developing new projects, and making merge and acquisition decisions.
- ✓ We care about community development and manage sustainable relationships with communities.
- ✓ In the promotion of environmental education, we will continue to promote environmental protection concepts to employees and customers, and take action to protect the environment together.

Energy Policy

As we match customers' needs, we have made energy conservation and carbon reduction actions a core value of our business strategy. We use our stores as a base for energy conservation and carbon reduction utilizing the channel's advantage. We also exert our influence through the benefits of energy conservation.

Our commitment:

- We will comply with the government's energy laws and regulations and continue to make energy improvements.
- We will expand stores with energy saving designs and develop and sell energy-efficient products.
- We will optimize our energy use to achieve sustainable development.

GHG Policy

As a member of the global village, PCSC lays great emphasis on the use of energy and resources, as well as the environmental impact. To fulfill our corporate responsibilities, we will control and manage the current status of greenhouse gas emissions (GHG). We will further promote energy-saving and carbon-reduction plans based on the result of the inventory, with a view to reducing greenhouse gas emissions and contributing to the environment.

Communication and Incentives

PCSC has integrated policy with practice through continuous and diversified communication methods, passing the message to store staff through different awareness-raising programs, online courses or education and training, helping each employee implement environmental management in their daily lives.

In order to encourage employees to actively manage energy use in stores, PCSC has formulated the “Energy Conservation Incentive Measures for Stores,” which incorporates the effectiveness of demand charge management of newly opened and renovated stores, power consumption management of existing stores, and energy conservation improvements into individual, store and regional engineering performance appraisal items. Rewards are given to those who spot abnormality in store electricity bills. In 2020, store energy saving became a regional engineering evaluation item. The top 3 stores from each quarter received a group bonus of NT\$1,000 and a bonus of NT\$5,445 for recovery of abnormal electricity charges in stores.



Green Procurement

The source of many environmental issues comes from procurement. PCSC promotes green procurement to purchase equipment and consumables that have obtained energy-saving label, environmental protection label or certification, or have actual environmental protection benefits for the stores. Green building materials are adopted for store renovation, in order to reduce the consumption of natural resources and negative environmental impact while maintaining smooth operations and service quality.

The items of green procurement, environmental protection labels and certifications are listed below. In 2020, the total amount of green procurement reached NT\$845 million, accounting for 10% of the total annual procurement amount of PCSC, reaching the original target for annual procurement percentage of 6%. The percentage decreased compared with 2019 due to the increase in procurement expenses for store decoration and energy resource use in 2020, resulting in a decline in the percentage of product-oriented green procurement.



Categories of Green Procurement	Procurement Items	Procurement Amount (NT\$ thousand)	
Energy Star	Meet the product energy efficiency requirements of Energy Star, USA	LCD screen, laser printer	51,100
Forest Stewardship Council (FSC) certification	The entire manufacturing process of wood products meets the sustainable management requirements of FSC	ORUS publication, stirrer, disposal chopsticks for mexl boxes (100 pairs)	36,811
Carbon label	Demonstrate the GHG emissions during the product life cycle	Paper star photocopy paper	3,474
RoHS	Verify electronic engineering and electronic products that comply with EU regulations on the use of hazardous substances	Uninterruptible power system, coffee machine, ST, Switch, WAP, POS cash register/office computer	285,055
Energy label	1. Air Conditioner Performance Mark - Cooling Seasonal Performance Factor (CSPF) reaches level 1 2. Energy Label from Bureau of Energy, Ministry of Economic Affairs	Inverter AC, circulation fan, LED lamp	144,985
Green Building Material Certification	Obtaining the Green Building Material Certification from the Taiwan Architecture & Building Center or adopts construction methods with environmentally-friendly patent	Green building materials	87,105
With actual environmental protection benefits	Plastic replacement	Environmentally-friendly PLA packaging materials in stores, including coffee cup, ice cream cup/Slurpee cup, PLA straw, paper straw	187,053
	Customized equipment is self-tested by PCSC and has actual power-saving benefits	Power-saving devices	49,805
Green Procurement Total			845,388

Resource Efficiency

Population growth and modern people's pursuit of convenience and quality of life have accelerated the consumption of natural resources. In addition, climate change has led to the fragility of the earth's natural environment. The current rate of human consumption of natural resources is 1.6 times the speed of regeneration of the earth's ecosystem (Note), meaning that humans use the resources of 1.6 earths. Even if the COVID-19 pandemic caused a decline in global economic activity in 2020, many studies have shown that the consumption of natural resources has only temporarily slowed down, and the overall trend continues to deteriorate. As a frontline company that creates convenience in people's daily life, we have the responsibility and need to take active measures to reduce waste of resources and actively improve efficiency.

(Note) Based on the research results of the Global Footprint Network.

Reduce, Reuse, Recycle

PCSC starts reducing resource waste from four major aspects, including packaging and packaging materials, food waste, waste and water resources. We aim at effectively using resources and reducing waste through the 3R principle, namely reduce, reuse and recycle.



Packaging and Packaging Material Management

The trend of plastic reduction in 2019 continues to be a hot topic in 2020. Although the global plastic reduction agenda has been delayed due to the pandemic, the stakeholders' attention on plastic pollution has not been diverted. All sectors have examined packaging and plastic packaging material used in supermarkets, convenience stores and hypermarkets that are closely linked to everyday life. PCSC has named 2020 as the First Year of Plastic Reduction to promote the plastic reduction strategies, goals and action plans to reduce plastic for packaging and packaging materials, as well as tracking the performance. For details, please refer to the "Plastic Use Reduction" on page 17-20 of this report.

Food Waste Management

The Food Waste Index Report published by the UN Environment Programme (UNEP) in 2021 (Note) states that nearly 1 billion tons of food is wasted globally each year, causing 10% of carbon emissions. Not only does this contribute to the climate crisis, but it is also one of the reasons for deteriorating biodiversity and global pollution. The report points out that food waste in restaurants and shops accounts for 17% of the total food waste. As a part of the food supply chain, PCSC has the obligation and perfect position to solve the problem of food waste. To this end, PCSC has developed a sound management mechanism, including formulating strategies, goals, action plans and tracking execution performance. For details, please refer to the "Love Food" on page 11-12 of this report.

(Note) UNEP Food Waste Index Report 2021

Waste Management

The waste produced by PCSC is mainly domestic waste, which belongs to the general waste and general industrial waste as categorized by the Environmental Protection Administration with no hazardous industrial waste. Waste management follows the 3R principle to minimize non-recyclable waste through reduce, reuse and recycle. Please refer to Appendix Sustainability Performance for waste disposal methods and statistics.

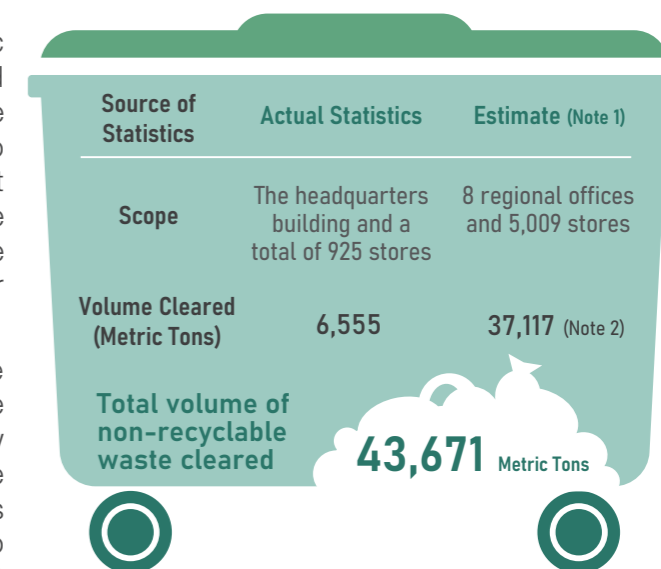
We continue to track the volume of non-recyclable waste. In 2020, a total of 925 stores and the headquarters building mostly in Taipei City and New Taipei City have commissioned waste clearance companies to remove waste. Through the reports of the clearance companies, PCSC was able to understand the volume of non-recyclable waste that had to be removed. The volume of waste generated by other stores and offices is calculated by estimation. The total amount of non-recyclable waste removed in 2020 was 43,671 metric tons.

(Note 1) The total amount of waste cleared from regional offices is estimated based on the average amount of waste generated per person at the headquarters and the number of employees in the regional offices in 2020. The total amount of waste cleared in stores is estimated based on the average amount of waste cleared per store provided by the waste clearance company and the total number of stores. The waste generation patterns of training centers and lifestyle centers are different from that in the headquarters and stores, and were therefore excluded from estimates.

(Note 2) Data on the amount of kitchen waste removed from stores by the waste removal company is available starting in 2018. Hence, the weight of kitchen waste was deducted from the total weight of waste removed from stores in 2020.

After analyzing the correlation between store-side operating activities and waste generation, as well as taking into consideration the impact of Per Store Daily Sale (PSD) growth and the increase in the number of stores in the future, PCSC has pledged to maintain the clearance weight to PSD at 0.9%. In the meantime, PCSC will continue to track the intensity of the correlation between waste clearance and PSD as reference for future goals. In 2020, the intensity of the relationship of waste clearance from the stores was 0.8%, which exceeded the target. In 2020, the number of stores increased by 7% compared to 2019, but the volume of non-recyclable waste removed decreased by 8%, showing that the waste generated by individual stores has decreased. In the future, we will continue to improve data accuracy and implement the management of non-recyclable waste in stores through recycling and plastic reduction.

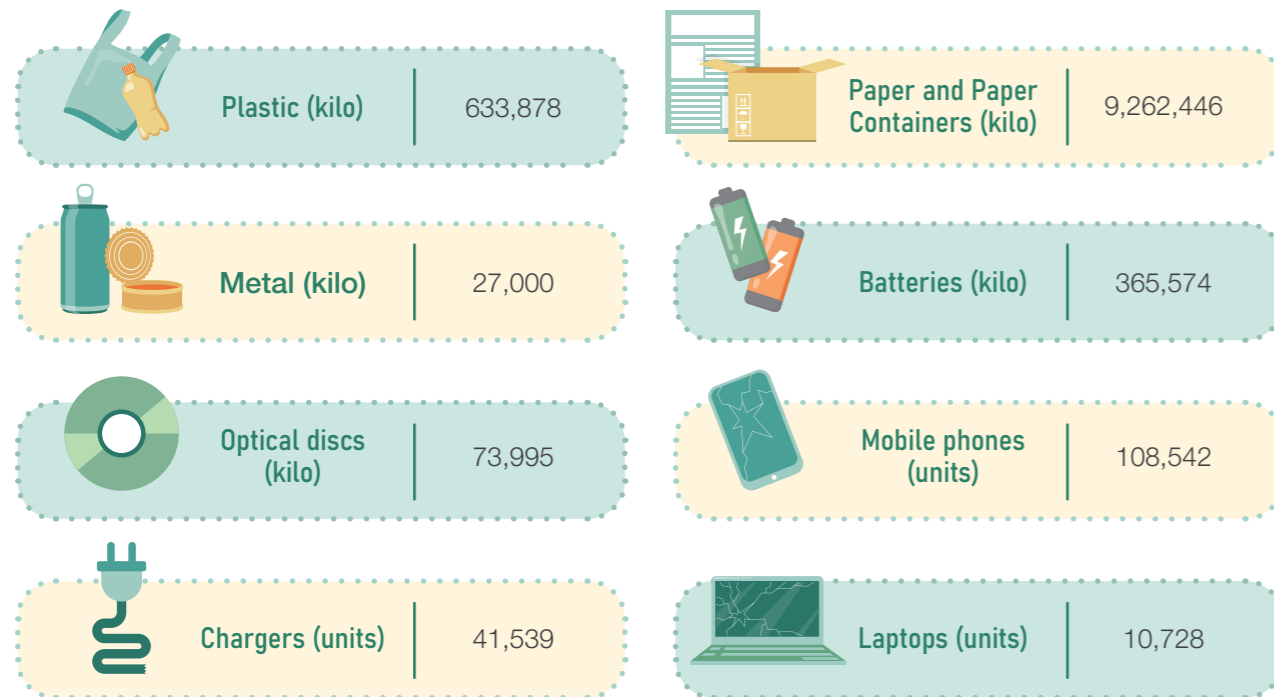
Amount of Non-recyclable Waste Cleared in 2020



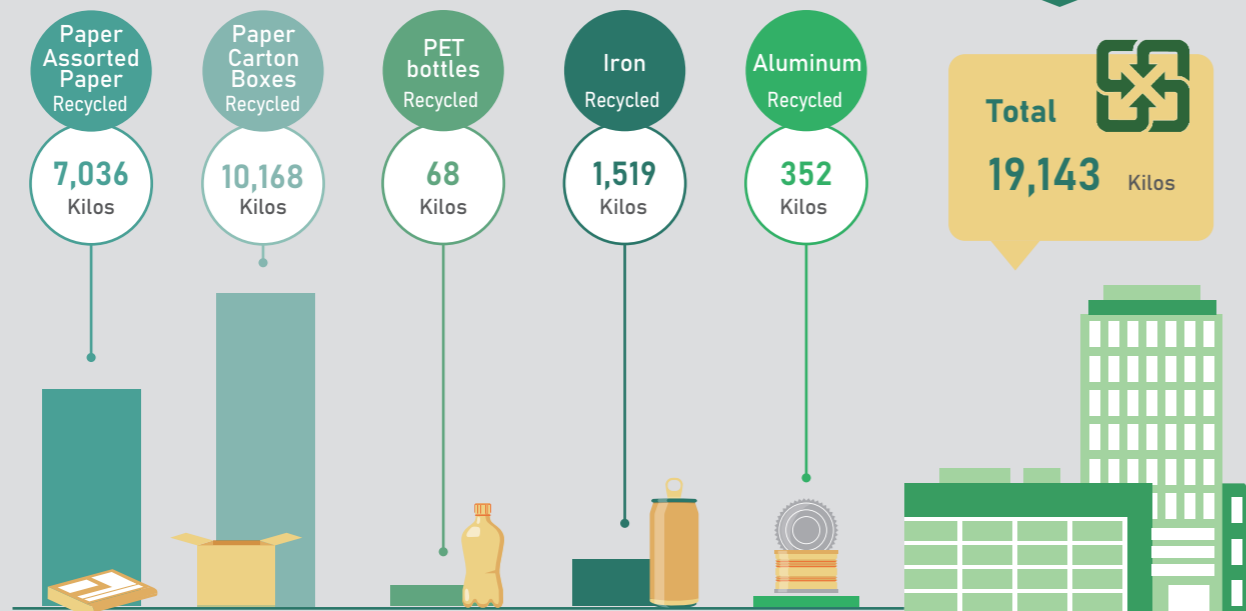
Convenient Recycling Platform

PCSC effectively combines “convenience” with “recycling” to take advantage of the multiple bases in helping people recycle information technology waste, including batteries, laptops, optical discs, mobile phones and chargers. To encourage people to recycle through convenience stores, PCSC provides NT\$3 to NT\$120 of store credit. The recyclable waste collected is shipped and distributed through the intensive and comprehensive logistics network, classified and processed after being collected by the reverse logistics system. In addition, the headquarters building has also continued to implement the sorting and recycling program. The total weight recycled in 2020 was 19,143 kilograms, showing an increase of approximately 25% over the previous year.

Reverse Logistics Recycling Performance of Logistics Companies in 2019



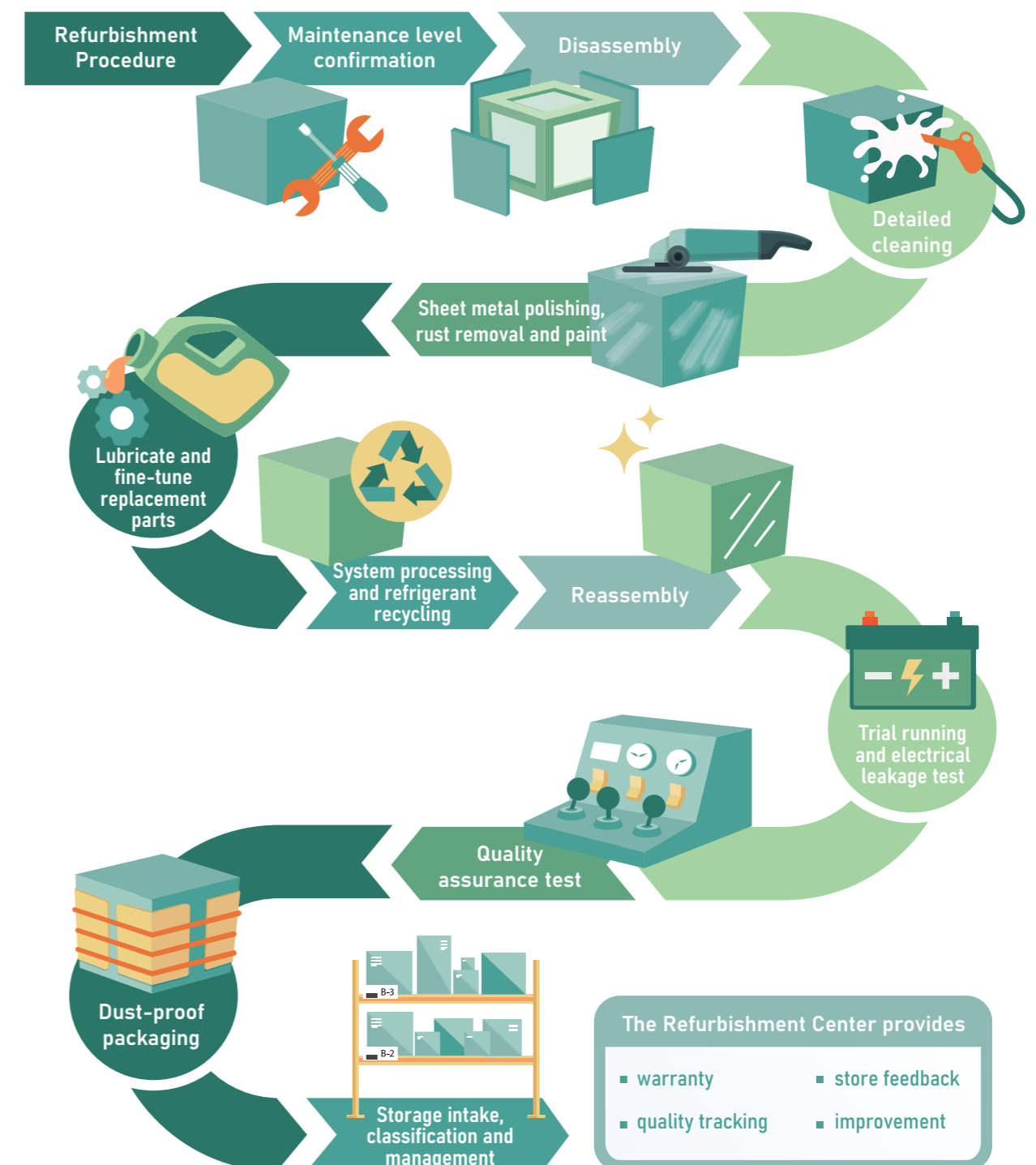
Recycling at the Headquarters Building in 2020



Store Equipment Reuse

PCSC has over 6,000 stores in Taiwan. In order to provide the most convenient products and services, it relies on a large number and variety of machines. As the wear and tear as well as out-of-service machines cause a great burden on the environment, we have made good use of our flexible dispatch system and a great number of stores to set up the Equipment Refurbishment Center. The recycling system works on existing equipment from renovated and shut down stores, such as air conditioners, refrigerators, oven cooking machines, microwave ovens and so on. It is returned and put to use after inspecting, cleaning and repairing to reduce waste of resources and waste generation, while also saving on equipment procurement costs. In 2020, 25 types of equipment were refurbished and put to use, with the total number of 940 machines and saving a total amount of equipment procurement costs of NT\$7,072,800. Due to strengthened inventory management and replacement of old equipment at a higher frequency, the number of refurbished equipment decreased compared to that of 2019.

Equipment Refurbishment Process



Paper-saving

In order to encourage employees to save resources, the PCSC headquarters set “paper-saving” as an internal management indicator. Employees are encouraged to replace printing, scanning and photocopying with electronic files and double-sided printing, etc., in order to reduce the amount of paper used in office and administrative processes. Paper consumption per capita in 2020 decreased by approximately 11% compared with the previous year.

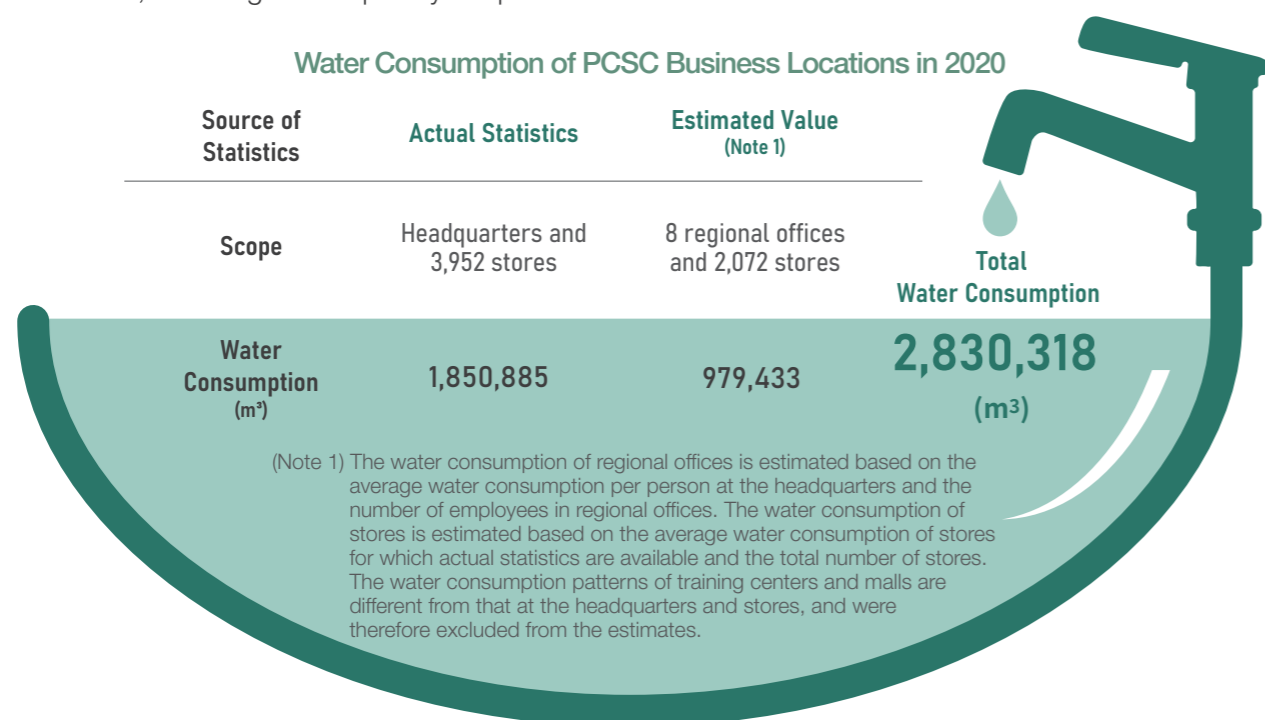
Water Resource Management

Water supply and quality have a direct or indirect impact on the business model of chain convenience stores regarding the products and services we can provide to the consumers. Especially in areas where water resources are scarce, mitigating the impact of the operations on the local water resources is an element PCSC attaches great importance to in the overall operating value chain.

All operating locations of PCSC use tap water, and the stores take up the largest share of water consumption. The Engineering and Technology Department examined areas where stores use more water before determining the following water consumption hotspots, including customer restrooms, sprinklers and sinks at the counter. We installed water-saving facilities to adjust water flow to 500 milliliters per second, which successfully reduced the water consumption at stores.

After analyzing the correlation between operating activities and water consumption of stores, we considered the effect of growth in future Per Store Daily Sale (PSD) and number of stores to make the commitment to maintain the intensity between average water consumption of stores and PSD at the 0.5% level of 2018 between 2019 and 2021. The intensity of water consumption correlation in the stores was 0.6% in 2020. The slight difference from the target value was due to the 45% increase in coffee sales in 2020, resulting in the intensity of correlation of water consumption falling short of the target value. We will continue to track the correlation between water consumption and PSD as reference for future targets.

Although the headquarters building accounts for a relatively small amount of water consumption, we set an example by closely monitoring the annual water consumption as an internal management indicator, as well as reducing water consumption through water-saving actions. For example, we introduced a device to reduce the amount of water coming out of the taps in restrooms and coffee rooms, as well as installing water-saving devices at the urinals, adjusting the optimal water output of the toilets, reducing the frequency of sprinklers and so on.



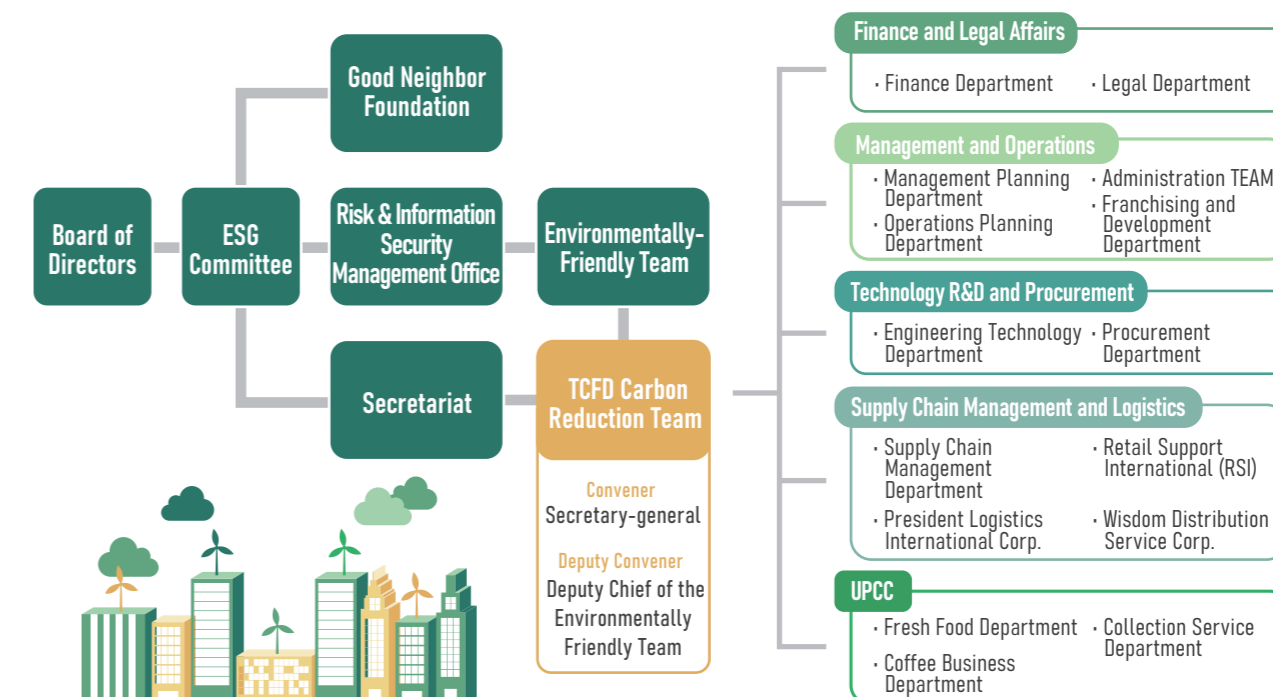
6.2 Mitigation and Adaptation for Climate Change

According to The Global Risk Report published in 2021 by The World Economic Forum (WEF), topics such as “extreme weather”, “climate action failure” and “human-environmental damage” are listed as risks with the highest likelihood. The United Nations Intergovernmental Panel on Climate Change (IPCC) also points out in the report that the world must actively limit the temperature rise to 1.5°C in order to stand a chance in minimizing the impact of climate change on earth.

The development and impact of current climate change issues show that companies need to engage in active response and management. To optimize PCSC’s governance performance on climate change issues, we have integrated the disclosure and management framework recommended by the Task Force on Climate-related Financial Disclosures (TCFD) into our management foundation for climate change issues, assessing and evaluating the impact of climate change issues on PCSC in a comprehensive manner. We have gone one step further in formulating the governance strategies and objectives for the short-, medium- and long-term climate change issues.

Climate Risk Governance

PCSC’s governance structure of climate change issues has the Board of Directors as the highest governing body. The management and control mechanism of relevant issues is built under the ESG Committee, with the working group in charge of issue management and risk assessment, and the Committee reporting the management and implementation of the issues to the Board of Directors on a regular basis. To further understand the impact of climate change issues on PCSC, we set up a task force (TCFD Carbon Reduction Promotion Group) this year, with the Secretariat of the ESG Committee as the convener, and the Environmental Protection Group as the deputy convener to congregate the five major business units related to climate change issues (Engineering and Equipment, Logistics and Supply Chain Management, Products and Services, Management and Operations, Finance and Legal Affairs) to conduct the first phase of climate change risk and opportunity impact assessment. In 2021, a carbon reduction task force will also be set up to integrate and optimize management strategies in response to the impact of major risks and opportunities on PCSC. It is expected to reduce the financial impact of climate risks on operations and maximize the benefits of climate change issue response by integrating and optimizing the strategies.



Evaluation of Climate Risks and Opportunities

In order to understand the impact of climate change issues on the operations of PCSC, we have sorted out and assessed 6 major climate risks and opportunities through 3 stages.

STEP 1 **Collect issues regarding climate risks and opportunities in the food retail industry**

Collect CDP questionnaires, CSR reports, annual reports and third-party research reports from the food retail industry and domestic and foreign benchmarking companies to summarize the current climate change opportunities and risk issues that the food retail industry is concerned about, deciding on 12 risk and 7 opportunity topics from the perspectives of transformation risks, physical risks and climate opportunities.

Category	Item	Number of Topics
Transition Risks	Policy and Legal Risks	3
	Market Risks	2
	Reputation Risks	2
	Energy Source	1
Physical Risks	Acute Risk	1
	Chronic Risk	3
Climate Opportunities	Resource Efficiency	3
	Products and Services	4

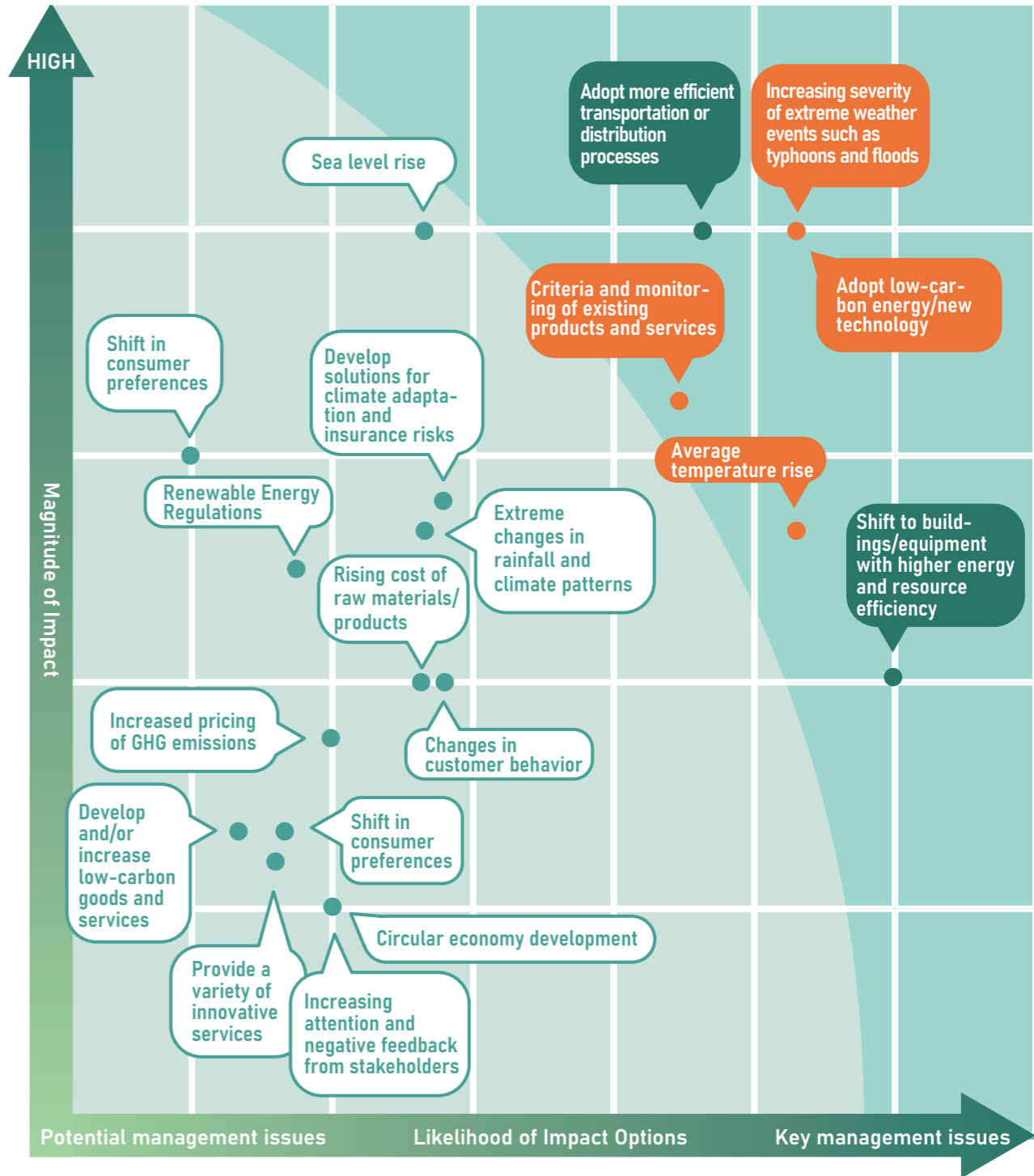
STEP 2 **Inventory and assess PCSC's issues regarding climate risks and opportunities**

According to the aggregated results of the aforementioned issues, PCSC creates a questionnaire for each unit targeting issues regarding climate change risks and opportunities for the retail industry to analyze the likelihood, degree (including indicators such as finance, store operations, employees, image and reputation) and period (short-term, medium-term and long-term) of the impacts before analyzing the significance of each issue on PCSC operations.

STEP 3 **Confirmation of key climate risks and opportunities for PCSC**

PCSC ranks the materiality of all topics in accordance with the results of the questionnaire submitted by each unit. Eventually, the convener and deputy convener of the TCFD Carbon Reduction Task Force confirms 6 key management topics (including 4 climate risks and 2 opportunities) based on the overall operations and development as well as strategic planning as the basis for advanced in-depth assessment and management.

PCSC Climate Risks and Opportunities



Response and Management of Key Climate Risks and Opportunities

	Climate Risks and Opportunities	Potential Impacts on PCSC	Timeline	Financial Impact	Adaptation/Management Strategies	Management Goals
Physical Risks	Increased severity of extreme weather events such as typhoons, floods and snow	<ul style="list-style-type: none"> The probability of extreme weather events has increased, which could lead to equipment damage in the stores, product shipment and supply delay caused by road interruptions. In addition, power outages and water cuts could also have an impact on store operations. 	Short-term (below 3 years)	<ul style="list-style-type: none"> Equipment damage leads to damage to asset value. Equipment maintenance leads to increased operating costs. Revenue loss from operation interruptions and product unavailability due to supply shortage. 	<ul style="list-style-type: none"> Appropriate planning of natural disaster asset insurance for the stores to reduce the impact of financial loss caused by disasters. Formulate emergency response procedures for typhoons, such as contingency logistics arrangements to reduce the risk of product shortage and damage. Formulate construction specifications for flood control gates and dwarf walls in the stores for low-lying areas to reduce the probability of flooding in stores. 	Set management targets for store energy efficiency to reduce energy consumption caused by average temperature rise (for detailed targets and annual achievement, please refer to page 120-121 of this report.)
	Rising mean temperatures	<ul style="list-style-type: none"> As the average temperature rises, stores need to consume more energy to maintain the operating efficiency of refrigeration equipment. Consumers may also change their consumption behavior due to the hot climate, which will affect the sales of seasonal products. The raw materials of fresh food products can easily suffer from growth cycle and quality changes due to the rising temperature, which in turn affects the prices of raw materials or causes instability in market supply. 	Medium-term (3-5 years)	<ul style="list-style-type: none"> Increase in electricity bills and raw material prices lead to increased operating costs. Changes in consumer behavior lead to changes in revenue. 	<ul style="list-style-type: none"> Actively introduce energy-saving measures in stores and headquarters to optimize energy efficiency (Please refer to page 137-140 of this report). Stay updated with the quality and supply of raw materials, and develop a variety of alternative material sources to maintain the stability of the supply chain. 	
Transition risks	Requirements and supervision of existing products and services	<ul style="list-style-type: none"> As the government's policies on plastic reduction become more and more stringent, it is expected that more policies and regulations related to plastic reduction will be imposed in the future. While implementing various plastic reduction measures, we need to adopt multiple models of awareness-raising and measures to facilitate consumer behavior changes. Some cities in Taiwan have begun to promote a separate disposal policy for convenience store waste, and it is expected to be extended to all counties and cities in Taiwan in the future. We must find qualified cleaning and transportation companies for outsourcing, and we must also strengthen the management and control mechanism of waste removal in stores. In response to the government's increased energy-saving requirements for the manufacturing industry, it is expected that the energy-saving policies of the residential and commercial sector will be expanded in the future. This may increase the pressure on PCSC's energy efficiency management. 	Medium-term (3-5 years)	<ul style="list-style-type: none"> Failure to comply with the policy in time will lead to fines and a decline in brand value and an increase in costs. Failure to effectively reduce the amount of waste generated, resulting in an increase in outsourced processing costs. 	<ul style="list-style-type: none"> Establish a plastic reduction task force to reduce the amount of single-use plastic and improve packaging materials (Please refer to the "Plastic Use Reduction" on page 17-20 of this report for details). Set up a food waste task force to reduce food waste, plan short-, medium- and long-term food waste programs to reduce waste (Please refer to the "Love Food" on page 11-12 of this report for details). Understand the energy-saving potential of stores based on the ISO 50001 energy management system and ESCO energy-saving service system to introduce relevant energy-saving management measures and optimize store energy efficiency (for details, please refer to page 138-139 of this report). 	Set up management goals for store energy efficiency, plastic reduction and food waste, strengthen management to mitigate the impact on operations from relevant topics (for detailed goal setting and annual achievement, please refer to page 120-121 of this report).
	Low-carbon and new technologies	<ul style="list-style-type: none"> In response to the Taiwanese government's requirements for renewable energy and international trends, PCSC needs to tackle energy transformation in the long term. This is expected to produce an impact on the management mechanism for directly-operated and franchised stores. 	Long-term (over 5 years)	<ul style="list-style-type: none"> Renewable energy equipment will increase operating costs. 	<ul style="list-style-type: none"> Evaluate the feasibility and ways of introducing renewable energy equipment and try to increase the proportion of renewable energy use. Promote the R&D for new refrigeration equipment and technologies, as well as improving the use of low-carbon technologies and energy efficiency. 	
Opportunities	Adopt a more efficient transportation method or distribution process	<ul style="list-style-type: none"> High-efficiency distribution processes and transportation equipment can effectively reduce the environmental impact of operations. PCSC has a good logistics management system. Over the years, many major logistics improvement measures have been implemented, such as the co-allocation mechanism of goods at different temperatures and the introduction of environmentally-friendly vehicles that can effectively reduce operating costs. 	Medium- to long-term (3-10 years)	<ul style="list-style-type: none"> Optimize distribution routes to reduce fuel costs. Environmental protection and high-efficiency temperature control equipment are introduced in vehicles to reduce fuel costs. Promote automated procedures to improve distribution efficiency and reduce operating costs. 	<ul style="list-style-type: none"> Promote the optimization of transportation routes and introduce environmentally-friendly vehicles, reduce the number of trips and environmental impact (for details, please refer to page 140 of this report). Evaluation and develop delivery vehicles with green energy. Automated distribution processes such as tally and picking. 	Draw up management goals for logistics and retail power consumption, improve resource use efficiency and maximize operating benefits (for detailed goal setting and annual achievement, please refer to page 120-121 of this report).
	Shift to buildings/equipment with higher energy and resource efficiency	<ul style="list-style-type: none"> PCSC has been promoting the design and R&D for energy-saving equipment and buildings, and it has accumulated a lot of experience in the area. With the process of gradually replacing the equipment and optimizing energy efficiency, it can effectively reduce operating costs. 		<ul style="list-style-type: none"> Introduce high-efficiency equipment and innovative store buildings with energy-saving design to reduce energy expenses. 	<ul style="list-style-type: none"> Understand the energy-saving potential of stores based on the ISO 50001 energy management system and ESCO energy-saving service system to introduce relevant energy-saving management measures and optimize store energy efficiency (for details, please refer to page 138-139 of this report). Continue to promote innovative technologies and invest in equipment R&D through industry-university cooperation to develop industry-leading energy-saving measures. 	

Energy and GHG Emissions Management

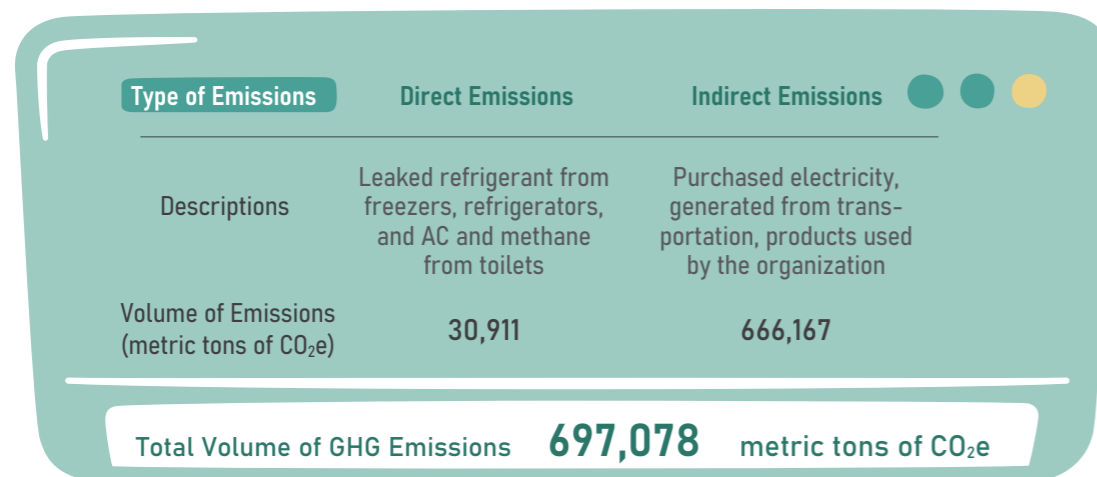
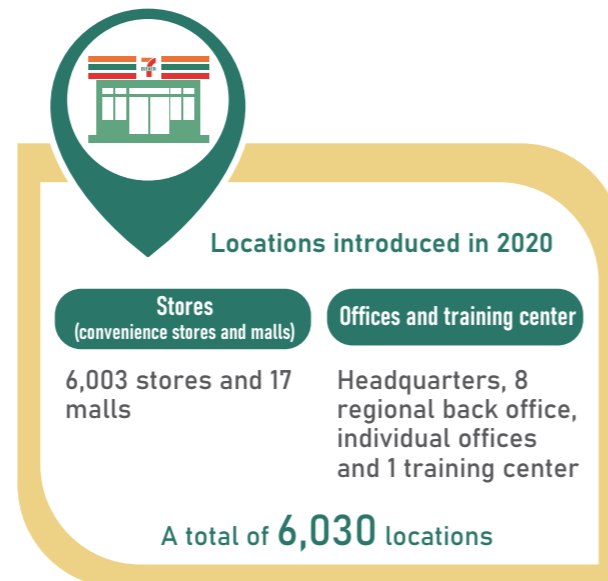
Energy Use and GHG Emissions

Third-party Verification

PCSC's main business locations include stores (including retail stores and malls) and offices (including the headquarters, regional offices and training centers) around Taiwan and on outlying islands. We have conducted GHG inventory in line with ISO 14064-1:2006 since 2017 to stay updated with the overall GHG emissions. In 2020, we adopted the updated ISO 14064-1:2018 as reference for GHG inventory as well as passing third-party certification.

The difference between the new and the old versions changed GHG inventory to direct emissions and indirect emissions. Direct emissions are Scope 1 emissions in the past, and indirect emissions include Scope 2 purchased electricity and indirect GHG emissions from Scope 3 transportation, indirect GHG emissions of the products used by the organization and the indirect GHG emissions generated by the use of the organization's products.

We continue to expand our inventory locations. The GHG inventory for the year covered 6,030 locations, with the boundary coverage rate of 99%.



(Note 1) GHG inventory adopts the ISO 14064-1:2018 methodology. The organization boundary is set using operational control. The GHG emission coefficient refers to the Electricity Emission Coefficient set by the Bureau of Energy, Ministry of Economic Affairs, the Environmental Protection Administration's Emission Coefficient Management Table 6.0.4 and the Environmental Protection Administration's Product Carbon Footprint Information Network. GWP adopted the values of the second assessment report of the IPCC in 1995.

(Note 2) The calculation for indirect emissions from purchased electricity is based on location. Since the grid emission coefficient for 2020 has not been announced, the 0.509 kilogram of CO₂e in 2019 is adopted as the calculation parameter.

(Note 3) The types of GHG covered by the inventory include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆) and nitrogen trifluoride (NF₃).

(Note 4) The carbon dioxide emissions from biological sources are zero.

Direct Emissions

The main source of direct emissions from PCSC is the refrigerant leaked from store freezing, refrigeration and air-conditioning equipment. The emissions in 2020 are calculated based on the refrigerant refill of the equipment warranty system for the refrigerant equipment failure maintenance. The result accounted for 86% of the direct emissions, with the proportion of refrigerant not containing ozone-depleting refrigerant as 100%.

The direct emission target for 2020 was set at 31,163 metric tons of CO₂e. Due to the increase in the number of air conditioners in larger stores and warehouses, the number of refrigerant equipment has increased, leading to 1% of increase in leakage from refrigerant in 2020 compared with 2019. However, the target for the year has still been achieved. We will evaluate introducing eco-friendly refrigerants in the future, such as R448, to reduce direct GHG emissions.

Emission Equipment	Emission Source	Direct Emissions (metric tons of CO ₂ e)	Percentage of Direct Emissions (%)
Septic tank	Night soil	4,270	14%
Slurpee and beer machines	CO ₂	3	0%
Commercial freezers	Refrigerant(R134a、R404a、R410a)	26,638	86%

Indirect Emissions

Due to the conversion of the new version of the inventory this year, the 2020 indirect emissions survey will be evaluated in accordance with the principle of materiality. Significant indirect greenhouse gas emission sources include indirect greenhouse gas emissions from purchased power emissions and upstream emissions, cargo distribution, and waste treatment. Among them, the emission of purchased electricity is the main source of indirect greenhouse gas emissions. We have set a 2020 emission target of 452,756 metric tons of CO₂e and a target of 849,448 MWh of electricity.

In 2020, the power consumption of all the inspected locations reached 9.2803 million kWh, with the energy consumption of 3,340,893 GJ. The indirect GHG emissions were 472,365 metric tons of CO₂e, showing an increase of 6% compared with the emissions in 2019 and failing the power consumption target for purchased electricity. The main reason is that PCSC started offering a big variety of services and products in 2020, with many new types and quantities of power-consuming equipment, such as dry sweet potato machines, freshly brewed tea machines, etc. Indirect GHG emissions eliminate the influence of the year-on-year growth of the electricity emission coefficient. PCSC will strive to promote energy saving in stores and offices, as well as promoting carbon reduction actions in logistics and transportation, and gradually achieving the promised reduction target.

Emission Source		Volume	Energy Consumption (GJ)	Indirect Emissions (metric tons of CO ₂ e)	Percentage of Indirect Emissions (%)
Electricity	Emissions from purchased electricity	928,030,000 kWh	3,340,893	472,365	71%
	Upstream emissions from purchased electricity		-	101,155	15%
Emissions from upstream transportation and cargo distribution	Diesel from distribution and transportation from logistics centers to stores	22,966,614 liters	807,716	77,397	12%
Discharges from solid and liquid waste treatment	Store waste disposal	42,360 metric tons	-	15,250	2%

(Note) 100% of the electricity comes from the grid with no renewable energy.

Key Performance Indicators and Targets

Energy Efficiency Indicators and Targets

Since most stores are open around the clock, their electricity consumption pattern is different from that of the headquarters, regional offices and training center. To effectively monitor the electricity consumption of stores and gradually improve their energy efficiency, we set up an EUI and reduction targets for stores as well as tracking the progress each month.

The electricity intensity reduction target for stores in 2020 was to lower energy intensity by 13% compared to 2014, or 1% compared to 2019. The actual energy intensity of our stores was 919 kWh/m² in 2020, showing a 3% decrease from 2019 and 16% decrease from 2014. We have reached our energy intensity reduction target this year.

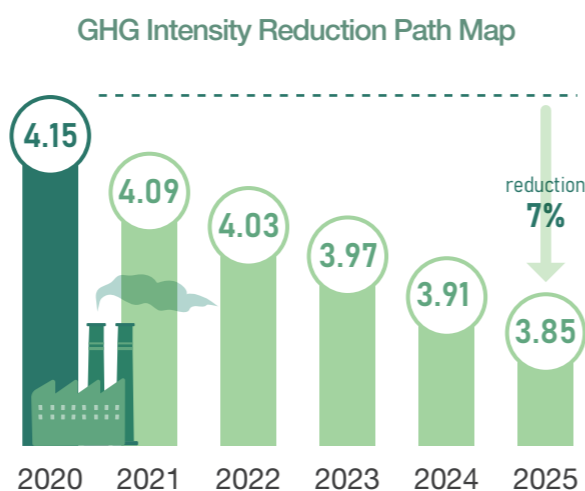
EUI (Note)							
Year	2014	2015	2016	2017	2018	2019	2020
EUI	1,094	1,046	1,012	1,008	962	947	919
Percentage of Decrease	-	-4%	-3%	-0.4%	-5%	-2%	-3%

(Note) The EUI of stores is calculated as the electricity consumption per ping (approximately 35.58 square feet) based on the data provided by Taiwan Power Company each month. The EUI for stores in areas without any data from Taiwan Power Company is estimated on this basis. The two are added to produce the total electricity consumption that month, which is then divided by total floor area.

GHG Emission Intensity Indicators and Targets

Since the largest GHG emission source of PCSC comes from electricity consumption of the stores, the electricity consumption is intertwined with the store size, equipment and business model, and will eventually be reflected by the revenue. We have calculated the emission intensity per NT\$million in revenue as reference for the reduction target for overall GHG emissions.

In response to the reversion of the ISO14064-1 inventory, we have reset the reduction target. The reduction target is based on the direct and indirect GHG emission intensity of the GHG inventory in 2020, namely 4.15 metric tons of CO₂e per NT\$million in turnover. After taking future revenue growth and operational expansion into consideration, we have promised to lower the emission intensity by 7% at 3.85 metric tons of CO₂e/NT\$million in revenue compared to the baseline year of 2020. In the future, we will continue to review the progress to update the medium- and long-term reduction targets while taking into consideration the trend of economic growth and energy-saving technology.



Energy-saving and Carbon Reduction Actions

The GHG emission sources of PCSC include the headquarters building, all stores and logistics. Among them, the stores use the most energy. We have created exclusive energy-saving solutions for the headquarters building, various stores and logistics. PCSC hopes to provide consumers with great convenience and experience while taking advantage of its characteristics as a channel to implement corporate energy-saving and carbon reduction actions.

Introduction of Energy Management System

In order to enhance energy-saving and energy efficiency in the headquarters and stores, the headquarters building and two stores received the ISO 50001 energy management system certification in 2020. Other locations also implemented energy management in accordance with the spirit and structure of the energy management system to achieve the goal of continuous improvement in energy use.

Store Energy-saving Measures and Results

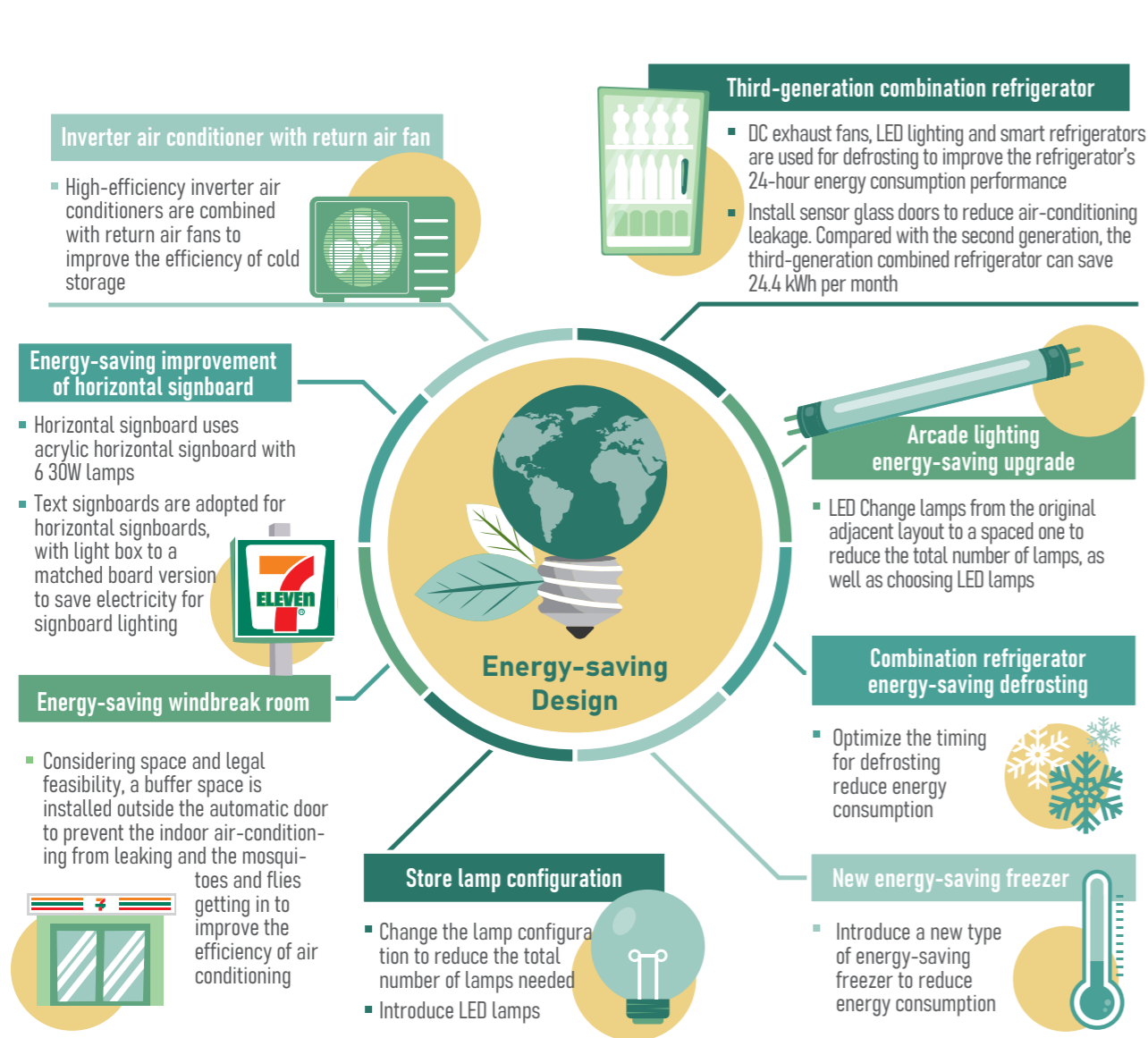
This year, we successfully saved 84,822,022 kWh of electricity and NT\$198,483,53 in electricity bills through 8 major programs this year, leading to 452.1 million in metric tons of CO₂e. Among them, the inverter air-conditioning and return air fan program is the most important energy-saving measure. It effectively improves the efficiency of cold storage in stores. Its energy-saving effect accounts for 51% of the overall energy-saving programs in 2020.

We also found that the effects of the “Energy-saving improvement of horizontal signboards” and “Reconfiguration of lamps in stores” programs are quite significant. First of all, the energy-saving improvement of horizontal signboards is achieved through adopting new signboard materials and reducing signboard lamps. Secondly, the lamp reconfiguration program in the stores adopted LED lamps to review and update the lighting fixtures to achieve rational lamp configuration and reduce unnecessary electricity consumption. Compared with other programs, these two have lower costs. Although the monthly energy-saving results for each store are limited, through the introduction of a large number of stores, we have successfully saved more than 23.7% of energy and in electricity bills for our stores in 2020.

Store Energy-saving Action Plans	Quantity Introduced	Amount of Energy Saved		Reduction in GHG Emissions (metric tons of CO ₂ e)	Percentage of Energy-saving and Carbon Reduction for the Energy-saving Program	
		kWh	GJ			
Energy-saving upgrade of air-conditioning and refrigeration equipment	Inverter air conditioner with return air fan	2,153	42,793,598	154,057	22,809	51%
	Third-generation combination refrigerator	74	330,079	1,188	176	0%
	New energy-saving freezer	1,079	3,508,991	12,632	1,870	4%
	Combination refrigerator energy-saving defrosting	1,516	13,865,026	49,914	7,390	16%
Energy-saving optimization of store lighting system	Arcade lighting energy-saving upgrade	6,108	3,357,368	12,087	1,789	4%
	Store lamp configuration	27,990	15,378,546	55,363	8,197	18%
	Energy-saving improvement of horizontal signboard	16,953	4,773,087	17,183	2,544	6%
Improve heat exchange environment	Energy-saving windbreak room	155	815,326	2,935	435	1%
Total		56,028	84,822,022	305,359	45,210	100%

(Note 1) As the grid emission coefficient for 2020 has not yet been announced, 0.509 kilogram CO₂e/kWh in 2019 was adopted as the GHG emission parameter to calculate the GHG emission reduction.

(Note 2) The annual energy saving of each program is estimated by multiplying the measured value before and after the improvement of a single equipment by the total number of equipment replacements to estimate the annual amount of energy saved.



In addition, we continue to provide energy-saving counselling to stores with high electricity costs this year. We have sent staff from the headquarters to visit stores with high electricity bills to discuss energy-saving measures. In 2020, this reduced energy consumption for 313 stores with a total of 3,082,363 kWh saved. Among the stores with high electricity costs, 43 chose to carry out comprehensive energy-saving upgrades. The store in Xiongzheng, Kaohsiung, has the best effect. The store has replaced air conditioners, adopted text signs, replaced lighting equipment with LED lights, as well as renovating the roof structure to save 74,880 kWh of electricity consumption in this store, showing a 27% decrease in electricity consumption compared to 2019.

Office Energy-saving Measures and Results

The office energy consumption pattern of the headquarters building is different from that of the stores. In addition to continuously updating energy-saving targets and performance indicators of the headquarters building. In terms of specific energy-saving measures, we have adopted strategies such as system efficiency improvement, improvement for equipment use timing, employee energy-saving awareness and energy use monitoring. In view of the improvement of the main energy consumption of the headquarters building, the power consumption of the headquarters building in 2020 dropped by 18,869 kWh compared with 2019, showing a significant decrease. The reason is mainly due to the adjustment of the temperature of the water chiller, air-conditioning indoor air blower timer setting, turning off lights during lunch breaks and so on.

Improvement Measure	Air-conditioning System	Lighting System	Use of Electronic Appliances
System power improvement	<ul style="list-style-type: none"> Adjust air-conditioning system parameters energy-saving inverter independent air conditioners 	<ul style="list-style-type: none"> Gradual replacement with LED lamps 	-
Timing improvement	<ul style="list-style-type: none"> Use full heat exchanger to bring in fresh cool air in winter The indoor air conditioner is equipped with timer settings. 	<ul style="list-style-type: none"> Automatic switch sensor. Reduce lighting during lunch breaks. 	<ul style="list-style-type: none"> Elevators, photocopiers, food heaters, water dispensers, refrigerators, etc. are turned off outside of office hours.
Employee awareness raising	Awareness-raising for energy-saving		
Energy use monitoring	Security inspection		

Logistics Energy-saving Measures and Results

PCSC's commitment to energy-saving and carbon reduction is not only implemented in stores in operation and office areas, but we also actively encourage logistics companies to improve energy efficiency. This year we integrated shipping routes, updated refrigeration/freezer equipment for the fleet as well as lighting in the logistics center to achieve energy-saving for logistics companies. As a result, we saved 64,415 liters of diesel and 1,744,971 kWh of electricity consumption, reducing GHG emissions by 1,057 metric tons of CO₂e.

Logistics Company	Energy-saving Measures	Amount of Energy/Resource Saved	Amount of Energy Saved (GJ)	GHG Emission Reduction (metric tons of CO ₂ e)
UPCC	Integrated the number of trips for 15 routes first launched for transport	Annual mileage reduction of 251,218 kilometers, saving a total of 64,415 liters of diesel	2,265	168
UPCC	Replaced refrigeration and freezing units	Saved 400,000 kWh of electricity in 2020 compared to 2019	1,440	204
Wisdom Distribution Service Corp.	Replacement of 7250 LED lamps in the logistics center	Approximately 1,243,008 kWh of electricity saved per year	4,475	633
Retail Support International (RSI)	The Kaohsiung Logistics Center replaced LED lamps and continued to implement various energy-saving measures, saving 101,963 kWh of electricity a year	101,963 kWh of electricity saved a year	367	52

(Note 1) UPCC's trips for integrated routes are calculated by using 1 liter of diesel for 4 kilometers of mileage covered by the fleet. The GHG emission coefficient from diesel is 2.606. The diesel calorific value is calculated with reference to that published by the Bureau of Energy, Ministry of Economic Affairs.

(Note 2) Since the grid emission coefficient for 2020 has not yet been published, the 0.509 kg CO₂e/kWh value of 2019 has been adopted as the GHG emission parameter.