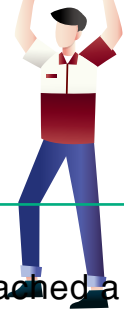


Green Trailblazer in the Neighborhood



2018 Highlights

- Procurement of Green Mark and energy saving products reached a total of **10.16%** of total procurement.
- Energy usage intensity (EUI) for PCSC's retail stores fell by **4.61%** compared to 2017; EUI for the headquarter building fell by **2.5%** over 2017 figures.
- In 2018, a total of **2,716** pieces of equipment were refurbished and reused.

As the worldwide impact of climate change has grown ever more evident, international initiatives such as the 2015 Paris Agreement and 2016 UN Sustainable Development Goals (SDGs) have been adopted. No country can ignore the core issue of climate change as it works to achieve sustainable development. In order to meet national greenhouse gas commitments and goals, each nation's government may provide incentives, establish markets, or create legislative mandates. Meanwhile, climate change also has an increasing impact on business. Corporations, to adapt to potentially harsh environmental conditions or meet obligations to the government and investors, must start from their own operations, value chain, and core competencies to determine how to minimize the impacts of climate change, energy conservation and carbon reduction on their organization, while at the same time using their capabilities and influence to maximize market opportunities and benefits.



Environmental commitments and communication

Since the 1980's, PCSC serves the role of a good neighbor located on the boulevards and alleys of every city in Taiwan. Today, we are working to improve the efficiency of resource utilization at our retail locations and in logistics and transportation. Shouldering our responsibility to be a model citizen, we have taken the initiative to establish our PCSC Environmental Policy. We commit to utilizing the influence through our value chain to create a friendly retailing business model. Considering that energy consumption is our greatest environmental impact, we continue to concentrate on energy conservation and carbon reduction, which are the key issue for our business. As part of this focus, we established an energy policy to underline our commitment to optimizing our energy management approach.

Our neighbors and customers can contact the PCSC Joint Services Center by phone or email about any issue, including environmental conflicts. A case will be set up, and sent to the relevant unit to process and provide a response. The status of each case will be tracked.

Environmental policy

"We aim to become the most outstanding retailer and achieve our goal of providing the most convenient services to our customers, while also fulfilling our responsibilities as a good corporate citizen." Therefore, we make the following commitments:

- Comply with environmental laws and regulations, strictly prohibit any behavior that endangers environmental quality.
- Continuously improve environmental performance and the environmental quality of the area that we operate
- Enhance resource efficiency, and increase recycling and reuse of resources;
- Promote waste reduction from the origin under the premise of pollution prevention ;
- Consider the environmental impact of every aspect of product and service life cycle including R&D, design, production, packaging, and delivery, reduce resource consumption and increase efficiency of resource utilization.
- Gradually build an environmentally friendly value chain, and integrate environmental considerations into supplier selection, new project development, and corporate M&A strategy;
- Build a sustainable relationship with our neighbor communities through community development;
- Promote environmental education and environmental advocacy with employees and customers, with whom together we can practice concrete actions to protect the environment.

Energy policy

At the same time as we meet the needs of customers, implementing energy saving and carbon reduction measures is a core aspect of our operating strategy. PCSC's retail stores serve as a base to put energy savings and carbon reduction into practice. We can utilize the characteristics of our retail channels to promote energy savings and carbon reduction, expanding the benefits of energy conservation and exert our corporate influence.

We commit to:

- Comply with energy-related laws and regulations, and keep improving our energy efficiency.
- Increase the number of stores with energy-saving designs, and develop and sell energy-saving products.
- Achieve energy optimization goals and sustainable corporate development

Climate change mitigation and adaptation measures

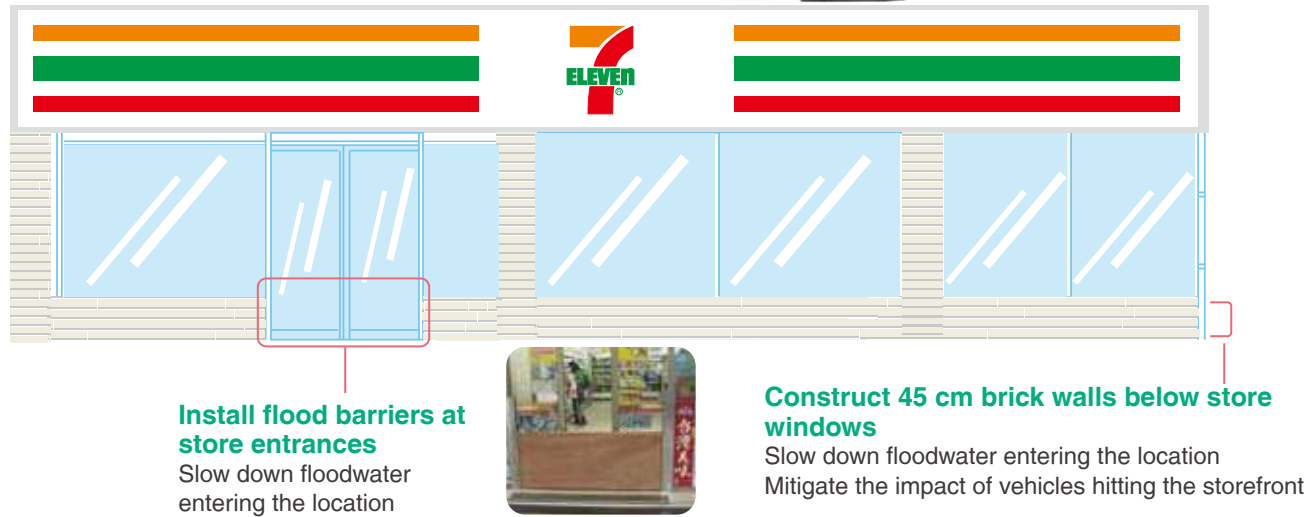
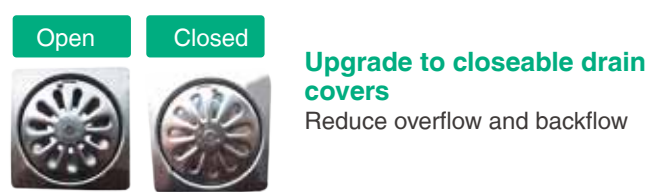
At present, mitigating and adapting to climate change is a key focus of our sustainable corporate development. Tightened mandatory regulations in Taiwan and abroad have been tightened, large-scale natural disasters, and even customer behavior influenced by temperature changes, all have impacted company revenue, costs, asset value, and even business reputation. As a leading domestic enterprise, PCSC attaches significant importance to the issue of climate change and has implemented countermeasures.

To slow the pace of climate change, since 2005 PCSC has performed an annual greenhouse gas (GHG) inventory. We have used ISO50001 as a reference to implement energy management, promoted energy saving measures within our headquarter and retail stores and increased the energy efficiency of our equipment to effectively reduce emissions intensity and mitigate the greenhouse effect. Through counseling and education, we have also raised the energy-saving awareness of our employees.

PCSC's retail stores, located across every city and county of Taiwan, play an important part in people's lives. Therefore, as part of our climate change adaptation strategy, we take advantage of our many retail locations and 24-hour operating schedule to assist in reporting disaster information and distributing disaster warnings. The harm caused by climate change grows ever more severe. In August 2018, rains in central and southern Taiwan caused serious damage to several retail locations. In addition to repairing buildings and equipment, we also amended Construction Standards for Flood Barriers and Walls for Stores in Low-Lying Areas, while providing store employees training to strengthen disaster response capabilities in the face of typhoons and flooding, which would help to smoothly maintain operations and enhance our own ability and that of the community to adapt to climate change.

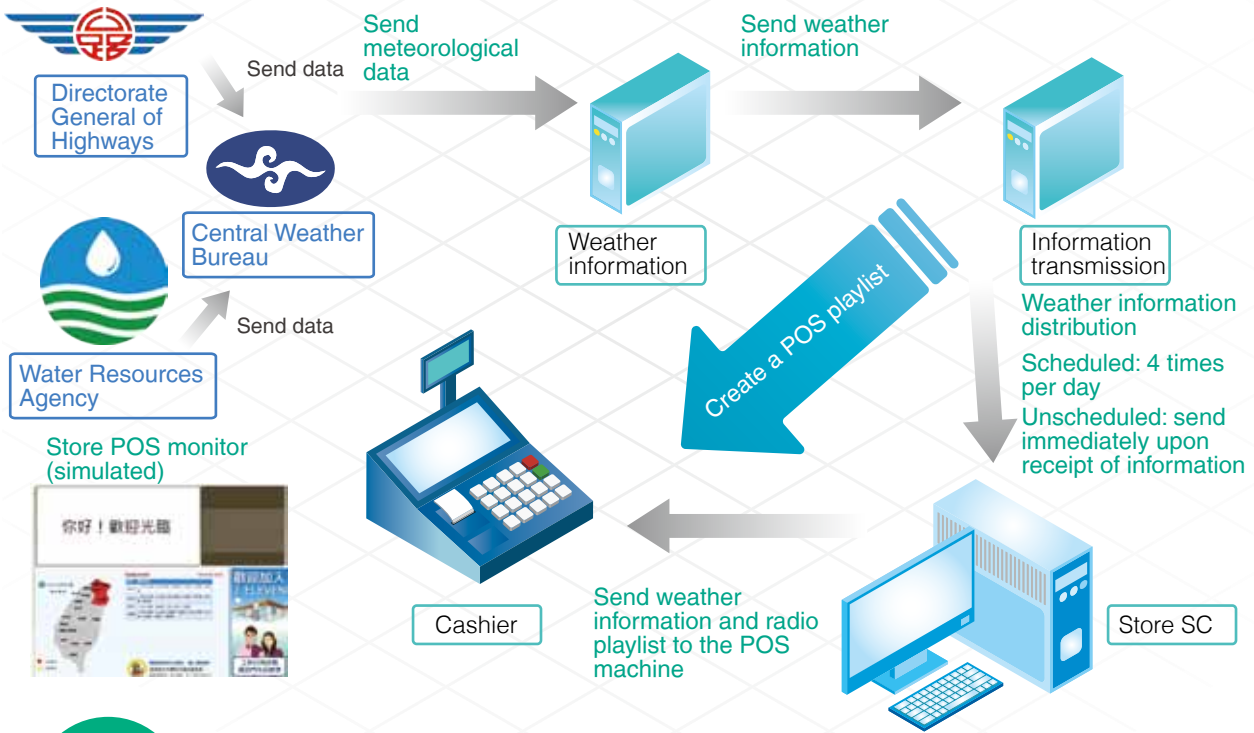
Climate Risks		Description of Risk	PCSC Response
Transitional Risks	Fuel/energy tax or related regulations	Because PCSC's energy contract exceeds 800kWh, we are considered a large energy user and must reduce energy consumption by 1% each year.	<ul style="list-style-type: none"> Formulated energy and GHG reduction targets Carry out GHG inventory and verification annually in accordance to ISO 14064 Implement Headquarter energy-saving and carbon reduction measures at headquarter and retail stores
Physical Risks - Acute	Increased severity of extreme weather events (storms, floods)	On August 23, 2018 extremely heavy rains in central and southern Taiwan lead to widespread flooding. In Chiayi and Tainan, 60 of our stores either flooded or had serious leaks.	<ul style="list-style-type: none"> Established the weather information distribution system to provide instant weather and flooding warnings to retail locations Strengthen retail staff typhoon and flood preparedness training Established Construction Standards for Flood Barriers and Walls for Stores in Low-Lying Areas Installed water storage tanks (500 L) in retail locations Commissioned external experts to assess completeness of disaster prevention/relief items (generators, water pumps, high pressure washers, searchlights, flood barriers, sandbags etc.) Store disaster insurance covered the losses and repair costs

■ Countermeasures at low-lying retail locations





Weather information distribution system diagram



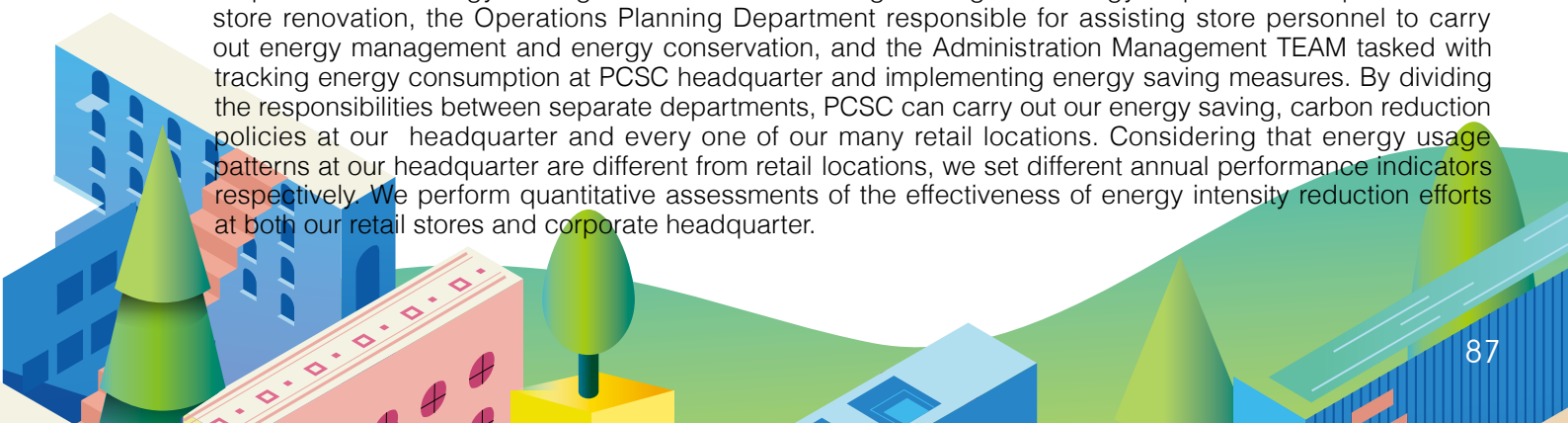
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Putting energy conservation and carbon reduction into action

Management approach

PCSC operating locations can be primarily classified as retail locations throughout Taiwan and its outlying islands (including convenience stores and lifestyle centers) or offices (including our corporate headquarter, local offices, and training center). In order to fully understand our GHG emissions, PCSC performed GHG inventories for 2017 and 2018 according to the ISO14064-1:2006 standard, which were verified by a third party.

Through continued inventories, we know that the primary source of greenhouse gas emissions is electricity consumption, both at our retail locations and offices. Therefore, PCSC's efforts on energy conservation and carbon reduction include cooperating with competent authorities on promoting energy savings and upgrading the Company's energy management practices in the spirit of ISO50001. In addition, any retail locations with an average monthly energy costs higher than NT\$45,000 received additional counseling on how to reduce energy use. In addition, PCSC has developed energy conservation plans for both new and existing stores. While continuing to provide a high-quality, convenient consumer experience, we formulate energy saving and GHG reduction plans based on the characteristics of our channels. Units within PCSC responsible for energy management include: the Engineering Technology Department responsible for store renovation, the Operations Planning Department responsible for assisting store personnel to carry out energy management and energy conservation, and the Administration Management TEAM tasked with tracking energy consumption at PCSC headquarter and implementing energy saving measures. By dividing the responsibilities between separate departments, PCSC can carry out our energy saving, carbon reduction policies at our headquarter and every one of our many retail locations. Considering that energy usage patterns at our headquarter are different from retail locations, we set different annual performance indicators respectively. We perform quantitative assessments of the effectiveness of energy intensity reduction efforts at both our retail stores and corporate headquarter.



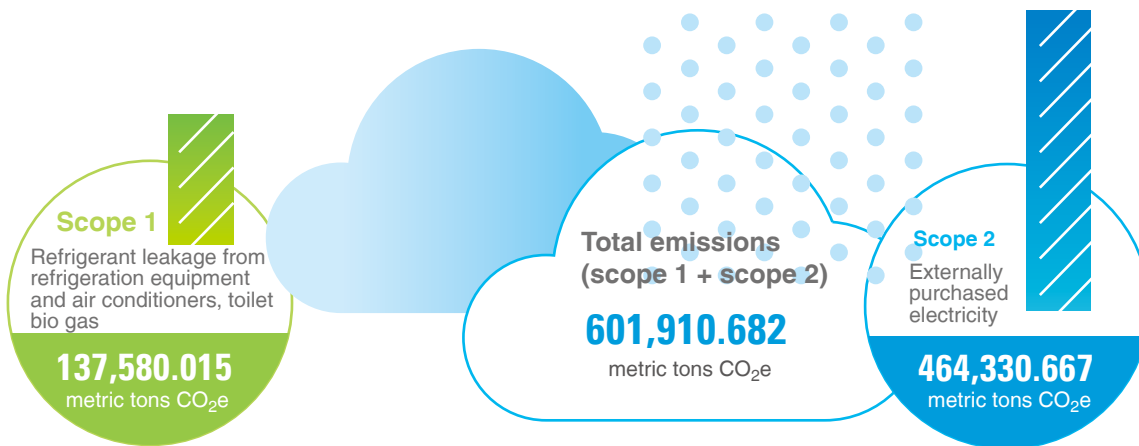
PCSC environmental or energy management certifications	Operating locations included in 2018 inventory scope	
	Retail locations (convenience stores and lifestyle centers)	Offices and training center
ISO14064-1:2006 greenhouse gas (GHG) emissions inventory	5,466 stores ^{Note} 22 lifestyle centers (excluding rented counters)	Headquarter building, 8 local offices, training center

Note: The 5,466 retail locations inventoried in 2018 include the 97 locations that moved or closed during the year.

Energy and GHG inventories

Our inventory showed that in 2018 PCSC operating locations (including 22 lifestyle centers) consumed 838,142,000 kWh of electricity, while 99.2% of this total, 831,498,000 kWh, was used by convenience stores.

In 2018, PCSC carbon emissions in scopes 1 and 2 totaled 601,910.682 metric tons of carbon dioxide equivalent (CO₂e). Of these, 77.14% originated from the use of electricity, which is classified under scope 2; Scope 1 emissions amounted to 22.86% of the total and were caused primarily by effusion of refrigerant from refrigeration, freezer, and air conditioning equipment at retail locations. In 2018, the inventory boundaries expanded to 5,466 locations, which includes 97 stores that moved or closed in 2018. In 2018, GHG emissions increased by 9.02% over the amount verified for the previous year. The increase is due to expansion of inventory boundaries, a rise in effusion of refrigerant from retail store equipment, and higher scope 2 emissions caused by the increase of the 2017 emission factor of electricity (0.554 kg CO₂e/kWh). Excluding the impact of the increased emission factor, 2018 emissions represent a 7.05% year-on-year increase.



Note 1: Inventory scope included 5,466 retail locations (including those 97 stores that moved or closed), PCSC headquarter, 8 regional offices, training center, and 22 lifestyle centers.

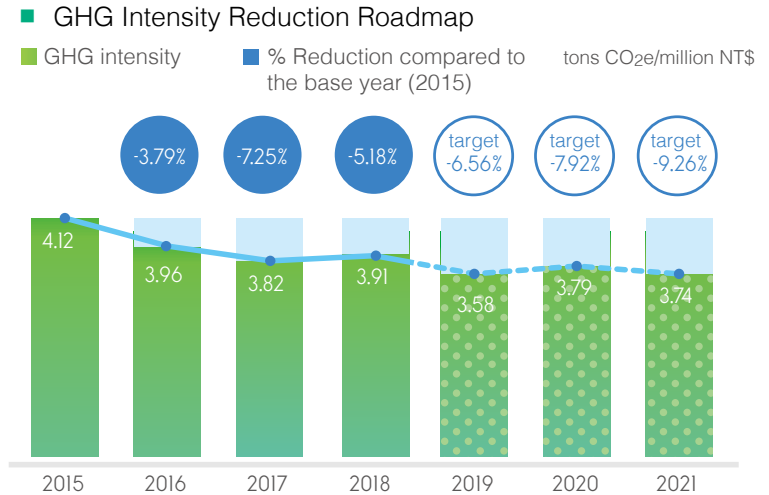
Note 2: Scope 2 calculations are based on location. Because 2018 grid emission factors have not yet been released, the above was calculated using the 2017 emission factor of 0.554 kilograms of CO₂e/kWh.

Note 3: Scope 1 and 2 emissions inventories were performed according to ISO 14064-1:2006. The emissions factors used were the national emissions factors shown on the emissions inventory calculation form. The GWP (global warming potential) was taken from 2007 IPCC Fourth Assessment Report. Inventory verification boundary only covered scopes 1 and 2 emissions.



Unit revenue and greenhouse gas emissions intensity

The major source of PCSC emissions is retail store energy consumption. Considering that electricity use is related to each location's size, equipment, and business operations, which are also reflected in the operating income, we calculated the emission intensity per each million NT dollars of revenue. We used this as the quantitative indicator for our mid- to long-term GHG reduction targets. In 2018, PCSC had an GHG intensity of 3.91 metric tons CO₂e per million NT dollars of revenue, a reduction of 6.56% over our base year, 2015.



Energy conservation and GHG reduction target

PCSC established mid- and long-term GHG intensity reduction target with 2015 GHG emission inventory results as our baseline. Taking into consideration future revenue growth and operational expansion, we have committed to reaching our target of reducing GHG intensity (emissions per NT\$1 million revenue) by 9.26% before 2021. At the end of 2018, we are already 55.93% the way to our goal. In the future, we will continue to review our progress towards reaching this target and revise our mid- to long-term emissions goals based on economic trends and energy-saving technology advancements. Larger scale stores require more air conditioning units for shopping and storage areas, which results in higher amounts of refrigerant effusion. Therefore, we will assess potential use of eco refrigerants such as R448 to reduce scope 1 emissions. Excluding the impact of year-on-year emission factor growth, PCSC will work to promote energy conservation at stores and offices to achieve our GHG reduction target.

Energy conservation measures for retail locations and offices

Through implementing an energy management system and performing annual GHG inventories, we can identify energy use patterns and GHG emission hotspots across PCSC retail stores and offices. In 2017, we formulated new retail store energy conservation regulations and required newly established stores to utilize energy efficient equipment, while gradually replacing old equipment at existing locations. In 2018, PCSC also worked with Bureau of Energy's conservation regulations for designated energy users. Steps included installing windbreak rooms to prevent loss of cold air, stopping the use of incandescent light bulbs, setting thermostats to a minimum of 26°C, logical lighting configurations, reducing the number of lights (increasing distance between fluorescent tubes), dimming lights (reducing lighted sectors at night), reducing indoor lighting time, upgrading efficiency of cooling and refrigeration equipment, and installing constant pressure pumps with inverters. While maintaining our service quality, we have gradually increased the energy efficiency in our stores. In addition to replacing equipment with energy-saving models, employees at all retail locations underwent training on regular inspections of the air conditioning, circulation fans, lighting, refrigerators and freezers, and signage and windows following the "Retail Energy Reduction Checklist" in order to ensure optimal equipment performance. In addition, each year PCSC plans renovations for older existing stores to improve energy efficiency. In 2018, a total of 302 stores were renovated and we expect to complete renovations of 625 older stores by 2021, which will save up to 14,193,000 kWh of electricity compared to 2018.

In 2018, PCSC implemented nine major energy conservation action projects. A total of 37,583,476 kWh was saved, which equivalent to a reduction of 20,821 metric tons of CO₂e emissions and saved stores a total of NT\$10,2970,000 on their electric bills. The amount of energy saved could power 10,725.88 average Taiwanese households for an entire year.

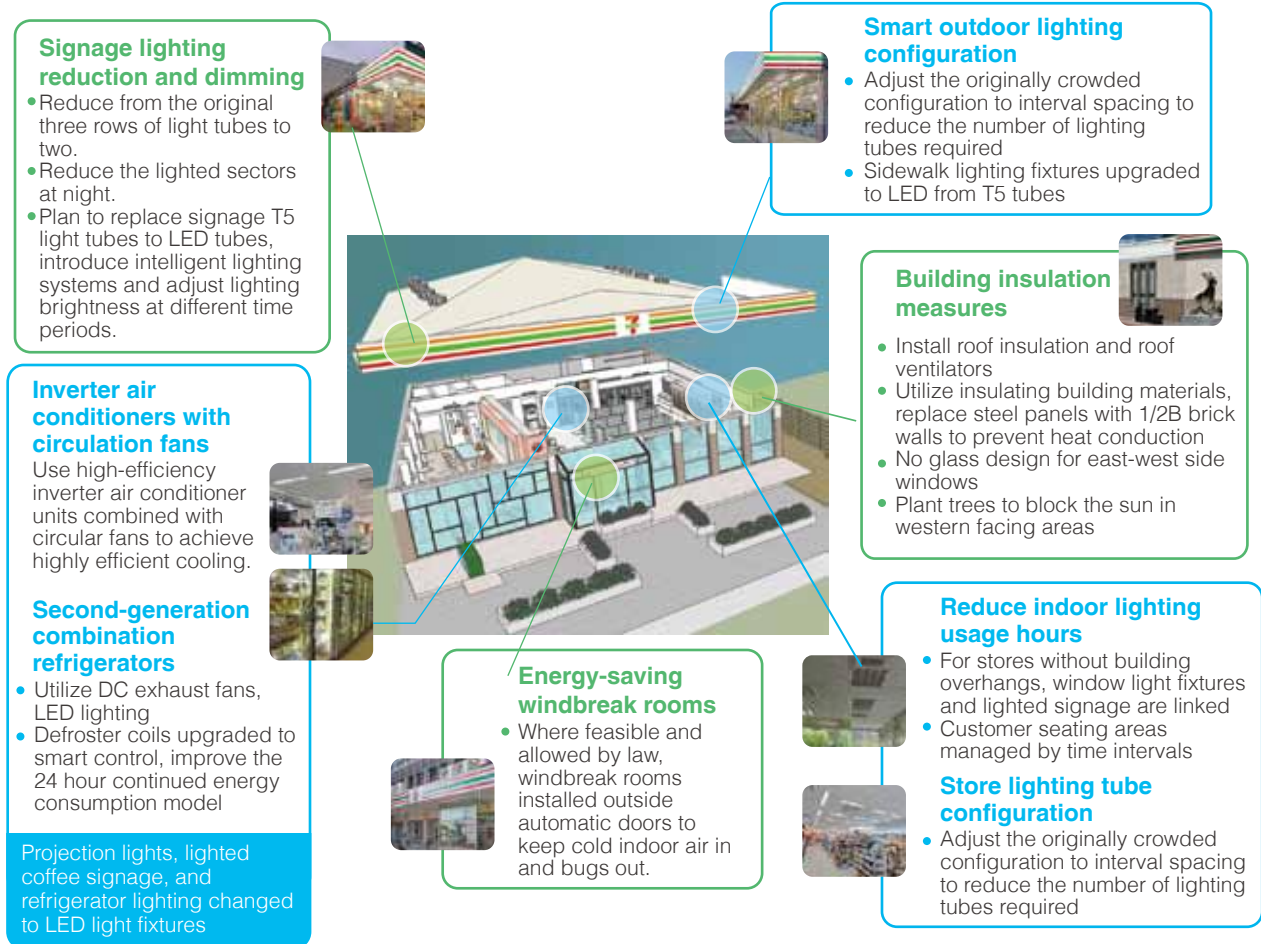
2018 Energy Conservation Action Projects		Energy Saved in 2018		GHG Reduction (ton CO ₂ e)
		kWh	KJ	
Equipment Performance Upgrades	Retail store installation or upgrade to inverter air conditioners ¹	22,389,870.80	80,256,044,095.65	12,404
	Installing new second-generation combination refrigerator ²	4,479,756.20	16,057,596,519.47	2,482
	Installing inverters on combination refrigerators ²	6,508,283.21	23,328,811,006.60	3,606
	New retail locations install LED sidewalk lighting ³	236,617.85	848,151,954.89	131
	Switching to LED sidewalk lighting at existing stores ⁴	454,968.03	1,630,823,801.30	252
	Using LED lighting in signage at new stores ⁵	258,461.39	926,449,671.98	143
	Constant pressure pump with inverter ⁶	258,767.15	927,545,685.61	143
Improving heat exchange	Installing windbreak rooms ⁷	1,170,090.15	4,194,164,726.48	648
Improving heat up time of heating wires	Energy savings from combination refrigerator heating wires ²	1,826,661.31	6,547,630,946.34	1,012
Total		37,583,476.09	134,717,218,408.32	20,821

Note 1: The total energy saved is estimated based on the energy savings gained by changing one piece of equipment multiplied by the total number of equipment replaced. The estimation methods are as follows: 1. Compared with the power usage of fixed frequency air conditioners; 2. Compared the power consumption before and after the change from electric meter readings; 3. Calculated the difference in power usage of the average number of T5 lights and average number of LED lights in stores; 4. Calculated the difference in power usage of the average number of T5 lights and average number of LED lights in stores; 5. Compared with the electricity consumption of T5 lighted signage; 6. Compared with the power needs of non-inverter pressure pump; 7. Average difference in power use before and after installation of windbreak rooms

In 2018, PCSC regional operating teams and experts from the Engineering Technology Department provided more active energy-savings counseling to retail locations with monthly electricity bills higher than NT\$45,000. Other measures included replacing energy inefficient equipment and old machines, improving equipment heat transfer, implementing lighting planning, and upgrading to LED light bulbs. Store staffs also received energy saving training to improve awareness of the issue. The 319 locations that received extra counseling in 2018 reduced energy consumption by a total of 3,639,996 kWh and saved NT\$4,695,097 on electricity bills.



PCSC energy-saving store design



PCSC's commitment to energy efficiency also applies to our offices. The energy use practices at our corporate headquarter differs from retail locations. We continually update the energy, water, and paper conservation targets and performance indicators for our offices and in 2018 we also adopted an ESCO (Energy Service Company) service, which tracks power consumption and can identify and reduce abnormal power usage. During the winter, cold outdoor air is circulated within the building to reduce use of air conditioning while maintaining a comfortable office temperature and achieving energy savings. In addition, in order to increase the awareness among our workforce, the headquarter has strengthened advocacy on energy conservation. We utilized a "management by walking around" approach to review equipment usage on all areas of the building. Any problems discovered were addressed immediately to ensure stable operation of equipment and achieve energy conservation. In 2018, PCSC headquarter energy use was down by 29,248 kWh compared to the previous year, which saved NT\$202,558 on our electric bills.

Retail location and office energy efficiency indicators

Because most of our convenience stores are open 24 hours a day, their energy consumption patterns are different from PCSC headquarter, regional offices, and the training center. In order to effectively monitor store energy use and gradually improve energy efficiency, we have established energy use intensity (EUI) assessment indicators and reduction targets, which are tracked monthly. In 2018, stores made great strides in energy conservation. Their performance far exceeded the 2018 targets (energy consumption was down 8.5% compared to 2014 and 1% compared to 2017). The average stores'EUI in 2018 was 4.61% lower than in 2017, and down a full 12.09% compared to 2014 levels. These were outstanding results. Furthermore, in 2018 PCSC energy usage to revenue was 5.44 (kWh/NT\$1,000).

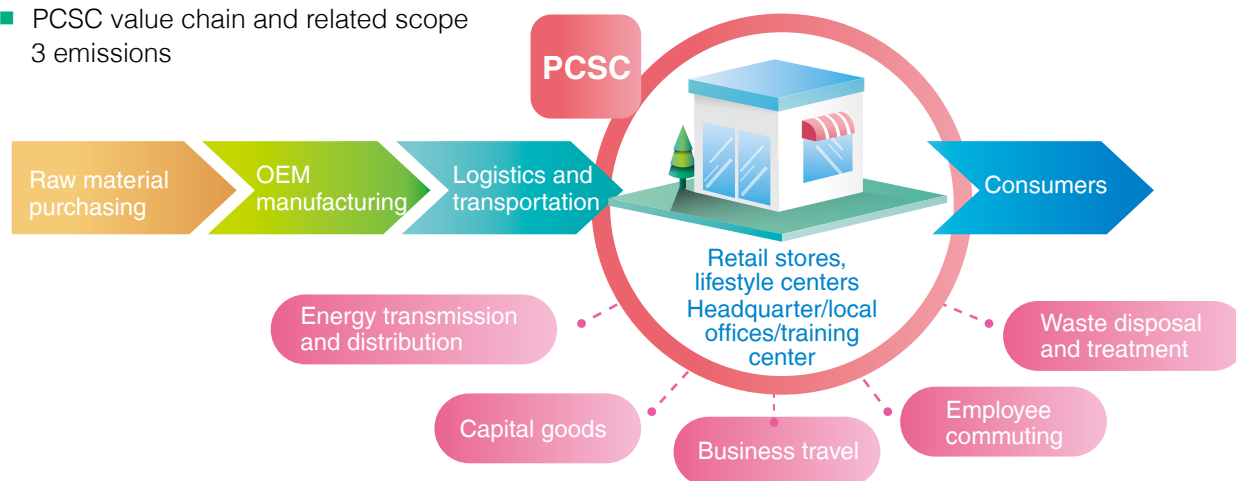
To encourage office staff to conserve energy in their day to day operation, our corporate headquarter implemented management by objectives and set the building's EUI as the indicator for the annual energy savings target. We actively promoted several energy conservation measures and an employee awareness campaign. In 2018, PCSC headquarter's EUI was 168.7 kWh/m², a year-on-year decrease of 2.5% that was far beyond the 2018 reduction target (annual reduction of 0.5%).

Year	EUI ^{Note} (kWh/m ²)*				
	2014 年	2015 年	2016 年	2017 年	2018 年
Stores'EUI	1094	1,046	1,012	1,008	962

Note: PCSC stores' EUI is assessed monthly by using data provided by Taiwan Power Company. Average kWh per ping for stores in each region are calculated and used to estimate store energy usage per ping for other stores in the region lacking data from Taiwan Power Company. These two are added together to calculate total monthly energy consumption, which is then divided by total floor area to generate the average store EUI.

Scope 3 GHG Emissions

- PCSC value chain and related scope 3 emissions



To strengthen GHG emissions management, in addition to implementing GHG inventories in accordance with ISO14064-1:2006 standard for scope 1 and 2 emissions, PCSC further identified indirect GHG emissions resulting from operations, which are classified under scope 3. Through quantitative data, PCSC aims to eventually determine all sources of emissions along our value chain to better understand the full extent of our carbon footprint vis-a-vis the process of value creation. Taking into consideration the feasibility of data collection and quantification, in 2018 PCSC's primary scope 3 sources of emissions include: upstream transportation and distribution (C4), fuel and energy-related activities (C3), and capital goods (C2).

Distribution by logistics companies (upstream transportation and distribution) is a key link that keeps the PCSC value chain moving smoothly, while also representing the category of scope 3 emissions most relevant to our operations. Retail Support International Corp., Uni-President Cold-Chain Corp., and Wisdom Distribution Service Corp. are responsible for centralized intake and inventory and divide the responsibility to deliver goods depending on their storage requirements and characteristics of products. In addition, President Logistics International Corp. oversees the overall management of logistics vehicles, including monitoring fuel consumption, procurement of eco-friendly vehicles and electric transportation carts, Banqiao Station store refrigerated cart delivery, and logistics specialist training. We calculated the fuel (diesel fuel) required by logistics companies to provide logistics and delivery services to PCSC for the entire year to estimate our scope 3 emissions and encouraged the companies to implement energy saving measures.

In 2018, logistics companies used a total of 11,782 kiloliters of diesel fuel for transportation and distribution, which is an annual increase of 0.84%. Based on this amount of fuel, the estimated scope 3 emissions totaled 31,226.24 tons of CO₂e.

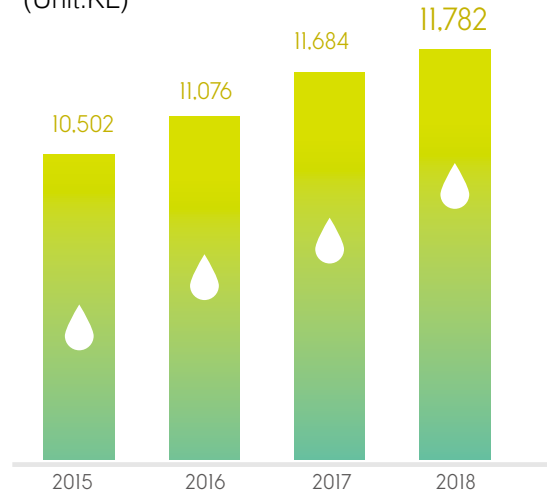


Purchased electricity is PCSC's primary energy source and we must consider the electricity loss in the process of transmission from producer to end user. Because of equipment resistance in transformers and switches, some electricity is lost to heat. Taiwan Power Company's transmission system loss rate equals 3.82%. We estimate that in 2018 power transmission and distribution losses resulted in 17.74 tons of CO₂e GHG emissions.

Furthermore, while considering the feasibility of data collection, PCSC inventoried information technology (IT) capital goods purchased in 2018 and selected the types purchased in the largest quantities. Based on the expected product lifecycle, we estimated scope 3 GHG emissions. With the information available, 2018 products included in our scope 3 emissions calculations include LCD monitors in retail locations, office laser printers, and routers, which resulted in approximately 268.4 tons of CO₂e emissions.

In the context of our scope 3 inventory, the major sources of emissions are energy-related, including the diesel fuel used in logistics company transportation and energy transmission and distribution losses. In the future, PCSC will continue to inventory scope 3 emissions and gradually gain a better understanding of the environmental impact of our value chain to fulfil our responsibilities as Taiwan's leading retail channel.

■ Diesel consumption by logistics companies (Unit:KL)



Scope 3 Categories	Emission Source	2018 Scope 3 Emissions
Upstream transportation and distribution (C4)	Diesel consumed by logistics companies	31,226.24 tons CO ₂ e
Capital goods (C2)	Purchase of IT goods (retail store LCD screens, office laser printers, routers)	268.40 tons CO ₂ e
Fuel and energy-related activities (C3)	Transmission and distribution losses of purchased electricity	17.74 tons CO ₂ e
Total Scope 3 Emissions		31,512.38 tons CO₂e

Logistics company energy conservation measures

In 2018, the number of retail locations increased as did the volume of at-store packages delivery service, so logistics needs also grew. PCSC's commitment to carbon reduction is not limited to our stores and offices. We also had a positive impact on our logistics affiliates' energy efficiency. In addition to replacing old vehicles with more environmentally friendly models to reduce GHG emissions, each logistics affiliate has also actively worked to optimize the distribution process. Improvements to increase vehicle energy efficiency include consolidating transportation routes to reduce the trips required, consolidating initial shipments to reduce the need for transshipments, and even simplifying the workflow to minimize the amount of time refrigerated trucks must spend at each retail location.








President Logistics International Corp. committed to gradually replacing old transportation vehicles (that met 3rd stage and 4th stage emissions standards) with the newest 5th stage compliant vehicles. Their long-term target is to replace 223 vehicles by 2020. The 2018 target was to introduce 48 vehicles meeting the latest environmental standards. In 2018 a total of 94 old vehicles were replaced at a fixed asset cost of NT\$250,210,000. Till 2018, a total of 107 3rd stage and 82 4th stage vehicles were replaced. Uni-President Cold-Chain Corp. continues to push initial shipment consolidation. The transportation process is extended to shipments from suppliers receiving shipments from suppliers, which allows quality management along the entire process. Also, through adjusting transfer operations, changing product business volume, reassigning transportation companies, and combining regional deliveries, they reduced delivery mileage by 232 kilometers per day or 84,680 kilometers per year, a savings increased by 10.5% compared to 2017. Transportation-related energy savings and GHG reductions by the logistics affiliates in 2018 are explored in more detail below:

2018 transportation and logistics related energy conservation action plans		Quantity	Energy savings achieved	GHG emissions reduced
President Logistics International	Retired old transport vehicles and replaced them with 109 5th stage vehicles	53 3rd-stage emissions vehicles retired	Emissions reduced by approx. 59.4 kg CO ₂ per vehicle	3,769 tons CO ₂ e
		41 4th-stage emissions vehicles retired	Emissions reduced by approx. 13.71 kg CO ₂ per vehicle	
	To respond to seasonal fluctuations in quantity of non-refrigerated goods, routes were combined during the slow season (November – April)	4 routes cut	Reduced the number of trips by 104 per month saving a total of approx. 4.22 kiloliters of diesel fuel.	11.7 tons CO ₂ e
	Introduced vehicle systems to replace in-store check ins, simplifying logistics operations and shrinking waiting times to effectively reduce GHG emissions, risks involved with parking, and cash register operations within the store.	The new vehicle system reduces waiting time by 30 seconds per store. Each day there are 22,904 refrigerated deliveries to stores ¹	Each day refrigerated delivery truck waiting times were reduced by 11,452 minutes. While large vehicles consume an estimated 150 c.c. of fuel every five minutes of idling ² , the total amount of fuel saved was approx. 123.7 metric tons in 2018.	327.8 tons CO ₂ e
Uni-President Cold-Chain Corp.	Consolidating initial shipments: Adjusting transfer operations, changing product business volume, reassigning transportation companies, and combining regional deliveries.	The original five daily trips were reduced to two.	Reduced driving distance by 232 km per day resulting in an annual reduction of 84,680 km.	61.66 tons CO ₂ e

Note 1: Deliveries per day are based on the average number of refrigerated deliveries to each store in a given day multiplied by the total number of stores that year.

Note 2: Fuel consumption based on Bureau of Energy, Ministry of Economic Affairs data https://www.moeaboe.gov.tw/ECW/populace/infographics/Infographics.aspx?menu_id=2828

In addition to energy conservation and carbon reduction efforts directly related to delivery vehicles, President Logistics International Corp., Retail Support International Corp., Uni-President Cold-Chain Corp., and Wisdom Distribution Service Corp. have taken PCSC's environmental message to heart in their entire operation. In offices and warehouses, they have taken steps to reduce air conditioning energy consumption, install LED lighting, develop new refrigeration equipment, and replace VFD chillers and monitoring systems.

Other Energy Saving Efforts by Logistics Companies in 2018					
Retail Support International Corp.		Circulation fans installed in offices along with timed shutoffs for air conditioning systems that turn off after business hours	Uni-President Cold-Chain Corp.		Developed new insulated bags for frozen goods that began replacing existing cold storage boxes. Insulated bags are lighter and use cold storage plates to replace dry ice. We expect to complete the switchover in 2019.
		Installed curtains in meeting rooms in all sites to block the sun and reduce air conditioning energy consumption			
Retail Support International Corp.		Restrooms and refreshment areas in the headquarter were fitted with motion-sensor lighting that turns off when not in use.	Wisdom Distribution Service Corp.		Switched to VFD chillers and monitoring systems in 2018
		Package loading areas fitted with LED lighting			
		Installed electric circuits in operating and refreshment areas to provide electricity to certain areas at certain times.			



6.2

New resource efficiency proposal

Extreme weather events resulting from climate change, accelerated exploitation of natural resources due to economic development, water resource risks, waste reduction, and the circular economy, have all become key topics in sustainable corporate development. Operating a convenience store chain business model, as PCSC provides customers with a variety of products and services, we are directly or indirectly affected by water supply stability and quality. We analyzed store water usage to better understand water consumption hotspots and introduce water saving equipment to reduce our impact on local water resources.

In response to the global wave of anti-plastic waste sentiment, PCSC has introduced environmentally friendly packaging for our private brand products such as bio-based PLA material, FSC certified packaging, recycled cup sleeves and holders, and recyclable product packaging. In addition, when purchasing raw materials, we also prioritize suppliers who utilize environmental materials, certified packing materials, and propose lightweight, minimal packaging designs to gradually reduce our plastic use. Furthermore, our long-term logistics partners have replaced single-use cardboard boxes with reusable transport cartons and pallets to reduce wasted packing materials in the distribution process.

Aiming to serve as an example to all retailers, PCSC is working to reducing waste and increasing recycling in Taiwan. We have taken advantage of our large retail footprint to cooperate with the Environmental Protection Administration (EPA) to offer store credit to customers who recycle batteries and IT products with us. By keeping these items out of the general waste treatment system, we can prevent negative impacts on soil and water quality. Furthermore, PCSC established an Equipment Refurbishment Center, which repairs and refurbishes old equipment retired from stores prior to renovation or closure. By reusing existing equipment, we can reduce expenditures and conserve resources to achieve our waste reduction goals.

Treasuring water resources

All PCSC operating locations utilize municipal water supplies and retail stores consume the lion's share. Our Engineering Technology Department investigated water use in stores and discovered water consumption hotspots including customer toilets, sprinklers, and sales counter sinks. We successfully reduced use by introducing water-saving devices to restrict water volume to 500 c.c. per second. Similar efforts are also underway at our headquarter building, including installation of flow restrictors on restroom and refreshment area faucets and water-saving devices in urinals in 2018. We set a goal for the headquarter

Water Consumption	Coverage	2018
Actual water consumption	Headquarter	5,390 m ³
	3,380 stores	1234,393 m ³
Estimated water consumption ^{Note}	8 regional offices	11,418 m ³
	1,989 stores	726,393 m ³
Total water consumption		1,977,594 m ³

Note: The estimate for local offices was based on 2018 total water consumption per person at PCSC headquarter and the number employees at local offices. For stores, the estimate is based on an average verified store water consumption and the total number of stores. Water consumption at the training center and lifestyle centers does not follow either the headquarter or retail store pattern, so these were not included in the scope of our estimates.

to reduce annual water use per person by 0.5% compared to the previous year. Through management by objectives, PCSC actively worked to implement water-saving measures. In 2018, total water use at our headquarter equaled 5,390 cubic meters for an average of 7.1 cubic meters per person, which represents a reduction of 0.6% over 2017 levels, exceeding our original target. We analyzed the relationship between store operations and water use and, considering the effect of future growth of per store daily sales (PSD) and the number of stores, PCSC committed to maintaining the ratio of annual average water consumption per store to PSD at the 2018 level of 0.5% between 2019 and 2021. PCSC will continue to track the relationship between water use and PSD, and use this as reference for setting future targets.

Waste Management

Waste treatment and related costs are primarily the responsibility of each PCSC retail location, so it is difficult to track overall waste generation and disposal data. Starting in 2018, we studied those stores that contract with sanitation companies as part of a waste disposal project, which include 633 locations in Taipei City and New Taipei City. According to figures provided by the service providers, they transported 441,651 kilograms of waste per month, which was used to calculate the annual numbers for all retail locations. In addition, we further analyzed the relationship between the number of in-store customer seats with total waste volume and discovered that stores featuring seating areas with a relatively large number of seats generated significantly more waste due to customers consuming their purchases within the store. In 2018, non-recyclable waste transported from PCSC headquarter totaled 23,931 kilograms. We analyzed the relationship between store operations and waste generation and, considering the effect of future growth of per store daily sales (PSD) and the number of stores, PCSC committed to maintaining the ratio of monthly average weight of disposed waste per store to PSD at the 2018 level of 0.9% between 2019 and 2021. PCSC will continue to track the relationship between the amount of waste disposed and PSD, and use this as reference for setting future targets.

Waste disposed	Coverage	2018
Actual statistics	Headquarter	23.93 Metric tons
	633 stores	5,298.73 Metric tons
Estimated values ^{Note}	8 local offices	50.69 Metric tons
	4,736 stores	39,644.23 Metric tons
Total waste disposed		45,017.58 Metric tons

Note: The estimate for regional offices was based on 2018 total waste volume per person at PCSC headquarter and the number employees at the headquarter/local offices. Estimated waste volume for retail stores was based on the average actual volume reported by service providers and the total number of stores. Waste generation at the training center and lifestyle centers does not follow either the headquarter or retail store pattern, so these were not included in the scope of our estimates.

Making recycling convenient

Way back in 1995, PCSC effectively combined the ideas of “convenience” and “recycling” by accepting used batteries in an effort to encourage recycling. In 2010, to deepen our cooperation with EPA policy, PCSC began accepting used IT products such as dry cell batteries, laptop computers, CDs, cell phones, and portable/dock chargers at our retail locations to make recycling more convenient. PCSC also offers store credits from NT\$3-NT\$120 depending on the type and quantity of electronics recycle to encourage the public to recycle their unwanted electronics. The program has achieved outstanding results over the years. With the growth of our CITY CAFÉ brand, PCSC has also begun recycling commercial-use milk bottles. In coordination with logistics providers existing delivery process, products for recycling deposited at retail locations are collected through the reverse logistics then classified for processing.

Logistics company Reverse Logistics Recycling Performance	2018 Performance			
	Retail Support International Corp.	Uni-President Cold-Chain Corp.	Wisdom Distribution Service Corp.	Total
Plastic (kg)	471,752	71,098	17,016	559,866
Paper and paper containers (kg)	4,510,578	2,726,912	1,374,095	8,611,585
Metal (kg)	0	8,999	12,724	21,723
Dry cell batteries (kg)	304,554	0	0	304,554
CDs (kg)	56,190	0	0	56,190
IT products (units)	167,281	0	0	167,281

Note: IT products include cell phones, chargers, and laptop computers



6 Green Trailblazer in the Neighborhood

PCSC headquarter has also spared no effort to promote recycling. To encourage employees to conserve resources, we set a 2018 target to reduce average annual paper consumption by 0.5% per person compared to the previous year. We strengthened promotion of electronic files to replace printing, scanning, and photocopying to reduce the amount of paper used in office and administrative processes. In 2018, total cost of paper was NT\$159,480, a year-on-year reduction of about 1.8%. This amounted to paper consumption of NT\$211.4 per person in 2018, which was down 3.8% compared to 2017 and exceeded our original target. Recycling is also faithfully practiced at our headquarter building, with 11,631.2 kilograms of materials collected in 2018, a reduction of 12% over the previous year.

2018 Headquarter recycling(Unit:kg)		
Paper	Assorted paper	4,712
	Cartons	4,744
Plastic bottles		1,643.5
Iron		435.6
Aluminum		96.1
Total		11,631.2

Retail Location Equipment Refurbishment

In the spirit of cherishing all resources, PCSC established an Equipment Refurbishment Center. Through our existing recycling system, air conditioners, refrigerators, oven heaters, and microwaves are reclaimed from stores prior to renovation or closure and refurbished to save resources and prevent waste generation. At the same time, this helps save on equipment procurement costs. Over 2018, 2,716 pieces of equipment were refurbished and put back to use, which saved NT\$ 87,242,000.

Equipment	Number refurbished and reused (units)	Refurbishment costs (NT\$1,000)	Equipment procurement costs saved (NT\$1,000)
39 types of equipment including air conditioners, refrigerators, oven heaters, microwaves	2,716	9,287.24	87,242.29

6.3

Green Accounting & Green Procurement

PCSC firmly adheres to our environmental policy emphasizing energy savings and carbon reduction and a general love of our planet Earth. Our green accounting system enables PCSC to track the performance of overall environmental expenditures. Items included in PCSC green accounting include environmental packaging and testing, energy conservation and carbon reduction measures and energy and water saving equipment in retail locations, cleaning, greening, waste disposal, environmentally friendly store equipment and green procurement, and external/internal environmental education and public service activities. We also continue to promote our environmental policy, including advanced food safety management, testing for plasticizers and pesticides, reduced paper use, recycling at stores, and organizing Good Neighbor Club activities. In addition, PCSC responded to government policies by launching e-receipts and set a target to reduce paper receipts to less than 2% of overall receipts issued. By the end of 2018, paper receipts only make up 0.05% of the total receipts issued over the year. Through our green accounting system, we turn these specific actions into financial data and aggregate this information into an environmental expenditure table. In 2018, PCSC spent a total of NT\$1.004 billion in various asset investments and other expenditures aimed at protecting the environment an increase of NT\$91 million over the previous year.

■ Green Accounting: Environmental Expenditure Table

Category	Item	Description	Environmental Impact	Investment (NT\$1,000)	Expenses (NT\$1,000)	Total (NT\$1,000)
Products	Products for sale use environmentally-friendly packaging; inspection of fresh food products	Purchase environmentally-friendly packaging – PLA and coffee cup holders; Fresh food products contain no preservatives. Testing for pesticide residuals.	Recognized food safety and environmental impacts and helping to protect consumer health.	—	139,957	139,957
Retail locations	Energy saving measures	Purchased energy saving equipment - 472 power saver, 548 a/c circulation fans, 1,119 inverter a/c, 10,784 LED energy saving lights, 6,529 LED light fixtures, 388 Slurpee machines that stop/sleep during the off season.	Saved energy and reduce carbon emissions.	123,686	24,815	148,501
Retail locations	Cleaning and waste disposal	Cleaned retail locations, greening and waste disposal	Maintained a clean environment.		391,233	391,233
	Extend lifespan of equipment and building materials	Installed 586 steel countertops, equipment was recycled, refurbished and reused.	Reduced consumption of wood resources and the amount of wasted resources.	98,609	25,814	124,423
	Green procurement	Purchased energy saving equipment and environmentally-friendly paper and building materials. Promoted e-receipts.	Met EU standards, FCS certification, save electricity, and reduce carbon emissions.		115,774	115,774
Shipping	President Logistics International Corp., Retail Support International Corp., and Wisdom Distribution Service Corp. combined to create a reverse logistics system, improve shipping efficiency, and recycle resources	Investment in reverse logistics recycling work force and equipment.	Recycled at retail locations: 305 tons of dry cell batteries, 56 tons of CDs, 9,000 laptop computers, 100,000 cell phones, and 60,000 phone chargers.	—	2,970	2,970
Internal environmental education	Promotion of environmental education and office recycling	Promoted paper reduction in the office, cleaning and greening the environment, and recycling.	Recycled at offices: 1,644 kg plastic bottles, 9,456 kg paper, and 532 kg aluminum cans.	—	27,357	27,357
Social contributions	Organize or attend events beneficial to the environment and society	Promoted energy conservation and corporate social responsibility, sponsored environmental organizations.	Promoted environmental awareness and encouraged retail locations and the public to pay attention to environmental and health issues, make environmental issues a part of everyday life.	—	53,868	53,868
Total				222,295	781,788	1,004,083

Note 1: Amounts do not include tax.

Note 2: Due to adjustments in green procurement items and amounts, values differ slightly from those in the annual report.



6 Green Trailblazer in the Neighborhood

Green Procurement

Green procurement focuses on purchasing equipment and supplies that feature environmental certification marks or declarations of conformity and include lighting, air conditioners, IT products, coffee and teapresso machines, energy-saving devices, PAPER STAR carbon footprint label certified copy paper, stir sticks and disposable chopsticks with Forest Stewardship Council (FSC) certification, and green building material used in store renovation. Through simply purchasing environmentally certified products, PCSC can maintain smooth operations and quality of service, while also reduce resource consumption and negative impacts on the environment. In 2018, green procurement totaled NT\$510 million, which is 10.16% of PCSC's total annual procurement and exceeds our original goal of 4.5%.

Purchased item	Units	Cost (NT\$1,000)	Green Mark/Green certification
Inverter air conditioners	1,119	76,268	Energy label
LCD screens	2,263	14,415	Energy Star
Computers	19	317	Energy Star
Uninterruptable power supplies	927	12,528	RoHS
Coffee and teapresso machines	705	232,578	RoHS
PC SERVERS	5	294	Energy Star
Energy saving devices	472	39,648	Declaration of conformity
Laser printers	330	1,277	Green Mark
Thermal printers	13	89	Green Mark
Environmentally friendly packaging for retail locations including PLA coffee cups, soft serve/ Slurpee cups	23,682,900	37,855	Green Mark
OURS Magazine	12	311	FSC certification
LED light fixtures	6,529	5,223	Energy label
Green building material	15,661	41,865	Green building material label
Circulation fans	548	1,260	Energy label
LED tubes/bulbs	10,784	1,286	Energy label
Copy paper	61,040 reams	3,736	PAPER STAR copy paper carbon footprint label certification
Stir sticks	514,855 packages	10,731	FSC certification
Disposable chopsticks (100 pcs)	857,878 bags	32,496	FSC certification
Total procurement		512,763 (NT\$1,000)	—