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Waste Information (Unit: Tons)

	Service Segment					
Item	Waste Produced			Discourse IM advanta		
	2019	2020	2021	Disposal Method		
	126	116	94	Incineration for power generation		
General Domestic Waste	966	425	410	Delivered to the airport incineration plant in accordance with regulations (without power generation; recommended the installation of electricity generation facilities)		
Recycling	779	581	509	Resource recycling		
Kitchen Waste / Waste Materials	658	283	84	Compost / hog raising		
	2,342	735	296	Incineration for power generation in accordance with quarantine requirements		
Recycling of Hazardous Industrial Waste	18	13	12	Heat treatment (e.g., sludge from electroplating)		
	1	1	1	Appoint a qualified contractor for professional disposal in accordance with regulations (e.g., batteries that contain cadmium)		
Recycling of Non-hazardous Industrial Waste	113	100	100	Recycling and reuse (e.g., waste lubricants)		
	120	85	64	Processed in accordance with regulations (e.g., waste paint)		
Total	5,123	2,339	1,570	-		

- Note 1: Third-party contractors were appointed for removing and offsite processing of waste for disposal. CAL implements inspections in accordance with the contract to ensure compliance with regulations.
- Note 2: Scope of statistics from service segments: EMO, CAL Park, Kaohsiung Office, VIP rooms of four stations (Taoyuan, Songshan, Kaohsiung and Tainan), and in-flight services in Taoyuan International Airport. Cargo services included starting from 2020.
- Note 3: Revised the items and quantities of waste delivered to the airport incineration plant in 2019 to 2020 in accordance with regulations.



Food Waste Management and Packaging Reduction

CAL has formed the "Cabin Waste Task Force" in the third quarter of 2019, inviting services, supplies, planning, and quality assurance units, as well as supplier partners in catering and cabin cleaning, to actively respond to issues of concern to the international community and establish a regular communication platform. We adopted green design, waste reduction, and passenger communication as our three main operation guidelines and actively reduces the external environmental cost from inflight services and medium to long-term compliance risks.

Management of Cabin Food Waste

CAL actively responds to international food loss and waste issues, and has worked with the Group's supply chain for years to reduce food loss during preparation/processing and monitor the quantity of meals provided on flights to destinations across the world. The measures include:

- 1. Food material management at the source: We strictly control the operating procedures from recipe design, purchase and delivery, ingredient control, and low-temperature storage to loading to reduce food loss and waste. We also design recipes with high interoperability between the preferences of passengers in different regions and strictly implement management from procurement, inventory, and low-temperature storage to loading onto the aircraft to reduce food loss.
- 2. Precision meal ordering for reducing food waste: Business Class passengers can pre-select their main course on the website 14 days prior to departure. The Company then monitors the loading quantity based on the Smart Loading Ratio 24 hours prior to departure. The meal control team works closely with the flight catering service to perform at least 4 meal checks to accurately control the number of meals ordered to reduce food waste.
- 3. The food waste per capita for Taipei Airport was reduced by 30.6% in 2021 compared to 2020 and the amount of food waste was reduced by 92.5%.

Recycling and Reuse of Kitchen Waste and Waste Food Oil

100% of the waste oil produced in the preparation of meals by China Pacific Catering Services of CAL Group is recycled by qualified oil recycling companies for processing and conversion into biofuel or other products that can be recycled for sustainable reuse. The recycling volume from 2019 to 2021 was as follows:

China Pacific Catering Services Food Oil Statistics

(Unit: Tons)

Year	2019	2020	2021	
Services Food Oil	80.4	25.57	7.53	
(Recycling Ratio)	(100%)	(100%)	(100%)	



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In-flight Environmental Services

CAL is keenly aware of the international support for environmentally friendly single-use plastics and packaging reduction. We work with our Group / supply chain partners to actively increase environmental benefits based on the principles of design at source, usage monitoring, customer communication, and consumption improvements. Important actions are as follows:

- 1. In-flight service supplies are prepared based on 4 basic principles (i.e., "inventory management", "operational impact", "regulatory trends", "enhancement of corporate image") + 3 innovations ("compliance with sustainability", "biocertification" and "eco design"). We develop new environmentally friendly products and transition toward a circular economy model. We also implement a plan for prioritizing repeated use, which is supported by recycling to increase the reuse of packaging materials.
- 2. In order to create an environmentally friendly and friendly service environment in the cabin, China Airlines has not only set a goal of reducing the amount of single-use plastic (SUP), but will also strengthen customer communication and promote customer participation. Such as earphones, green cups and tableware, reduce the use of disposable items on the plane, echoing the international trend of plastic restrictions.

- 100% of metal in-flight service supplies and equipment are recycled by qualified companies.
- Use recycled materials for 50% of the packaging in 2023; use recycled materials for 80% of the packaging in 2025; use recycled materials for 100% of the packaging in 2030.
- Enhance communication with customers and promote customer participation such as using in-flight magazines and videos to share environmental protection information and communicate environmental protection ideas. Encourage passengers to bring their own personal items such as headphones and environmentally friendly cups and utensils to reduce the use of disposable items on the aircraft.

Follow-up Operation Plans

The Waste Task Force shall continue to promote onsite waste quantity and composition inventory. It shall also continue to communicate with government authorities, international organizations, and suppliers based on the principles of food safety, convenience, exceptional services, and cost for seeking superior alternative products / materials and maximizing the resource recycling and reuse of waste.

Environmental Expenditure

CAL actively implements green procurement, invests resources every year, purchases environment-friendly equipment, promotes green maintenance and operation projects, and pays for waste cleaning and noise prevention expenses. The pandemic continued to reduce operations and green procurement of products in Category 1, 2, and 3 totaled 29 products. The amount was a decrease of TWD 3,744,000 compared to 2020.

CAL Investment in Green Facilities and Green Procurement

(Unit: TWD thousand)

Item	2018	2019	2020	2021
Environmental Protection Equipment and Maintenance Projects (Note 1)	23,106	22,805	21,774	27,922
Green Procurements (Note 2)	15,760	19,258	10,199	6,455
Waste Disposal	4,536	4,062	3,854	4,107
Noise Prevention	190,357	189,351	136,812	136,136
Air Pollution Control	1,007	753	819	589
Total Investment Amount	234,766	236,229	173,458	175,209

Note 1: Green facilities include the depreciation of pollution prevention equipment, operational maintenance, hardware investments, environmental testing, and related projects.

Note 2: Green procurement includes Category I, II, and III products prescribed in the Regulations for Priority Procurement of Eco-Products (dated January 15, 2001).