

Environmental Performance

Item	Unit	Unit	2019	2020	2021	2022	2022 Objective	Achievement				
Category 1 GHG Emissions	Flight operations	Tons CO ₂ e	7,059,083	7,064,064	5,787,751	5,790,802	5,875,531	5,878,428	5,435,050	5,439,091	5,903,148	108%
	Ground Operations	Tons CO ₂ e	4,981		3,051		2,897		4,041			
Category 2 GHG Emissions	Ground Operations	Tons CO ₂ e		18,169		17,572		16,697		16,468		112%
Category 3-6 GHG Emissions (Note 1)	Ground Operations	Tons CO ₂ e		1,607,690		1,326,227		1,364,016		1,240,935		110%
Aviation Fuel Efficiency	All Aircrafts (non-renewable energy)	Tons		2,230,971		1,829,328		1,857,073		1,717,758	Fleet fuel efficiency 0.2405 Tons / Thousand RTK	99.85%
	Sustainable Aviation / Alternative Fuel	Tons (%)		0		0		7.7 (4.15E-4)		14.8(8.6E-4)	Used 10% SAF for the delivery flights of new aircrafts	100%
Aviation Fuel Efficiency	Passenger Aircraft	L/RPK*100		4.2859		15.2246		18.9433		7.2469	15.2246	210%
	Cargo Aircraft	L/FRTK		0.2285		0.2252		0.1830		0.2060	0.2252	109%
	All Aircrafts (Note 2)	Tons / thousand RTK		0.2459		0.2586		0.2442		0.2472	0.2409*	97.3%
Energy Consumption	Fossil Fuels	MWh		29,114,586		23,873,099		24,234,273		22,415,669	Energy consumption	108%
	Electricity Purchased	MWh		34,088		34,523		33,260		32,354	24,368,673	
	Elevator Power Regeneration	kWh		1,423		1,177		889		11,213	Full operation	100%
	Renewable Energy (Solar)	MWh		90		117		127		110	120	92%

Note 1 Scope 3 emissions in 2019 include energy-related activities, employee commuting, etc. In 2020, according to the ISO14064-1:2018 standard, expand the calculation items in category 3 to 6. All data have passed external verification.

Note 2 The aviation fuel efficiency of the all aircrafts is calculated based on the total amount of aviation fuel (including training and maintenance oil) and operational fuel usage. The fuel efficiency of passenger / cargo aircraft only collects the operational fuel usage of passenger / cargo aircraft.

Item	Unit	2019	2020	2021	2022	2022 Targets	Achievement	
Water Resources	Tap water withdrawal	Million tons	0.146490	0.126774	0.112768	0.099207	0.143918	145%
Waste disposal (including in-flight/ground)	Total waste recycling and reuse	Tons	1,550	964	675	911	1,446	159%
	Total waste disposal	Tons	3,573	1,375	758	1,435	2,062	144%
	Incineration (energy recovery)	Tons	2,468	851	271	745	1,277	171%
	Incineration (without energy recovery)	Tons	966	425	410	629	638	101%
NOx	Waste processing via other disposal methods	Tons	139	99	77	61	98	160%
	Passenger Aircraft	g / RPK	0.0149	0.0400	0.0538	0.0183	0.0400	219%
	Cargo Aircraft	g / RTK	0.0321	0.0317	0.0290	0.0291	0.0317	109%
Food waste management	Food waste produced (including in-flight and VIP lounge services)	kgs	3000	1018	245	774	1,526	197%
	Coverage	%	65%	65%	85%	85%	100	100%
	Percentage of alternative disposal	%	100	100	100	100	100	100%
	Food waste ratio	kg/meal	0.32	0.58	1.73	0.65	0.86	134%
Plastic packaging (plastic packaging related to passenger / cargo transport) (Note 3)	Weight of plastic packaging	Tons	479	353	411	682	423	62%
	Percentage of purchase of plastic packaging	%	0.15%	0.06%	0.02%	0.1%	0.06%	60%
	Percentage of recyclable plastic packaging	%	32.5%	81.3%	91.2%	81.4%	81.3%	100%
Environmental investment (Note 6)	Percentage of recycled plastic packaging	%	21.62%	9.83%	3.4%	4.42%	3.50%	126%
	Green investment	TWD thousand	238,770	175,074	170,988	170,852	-	-
	Saving and cost avoidance	TWD thousand	867,680	864,422	557,807	525,707	-	-

Item	Total Weight of Packaging (ton)	Percentage of Purchase (Note 4)	Percentage of Recycled materials and Certified Materials (Note 5)	2022 Targets	Achievement Rate
Wood or Paper Packaging	115	0.01%	52.76%	52%	101%
Metal Packaging	285	0.54%	100%	100%	101%
Glass Packaging	4	0.00%	100%	100%	101%

Note 3: As in-flight supplies (e.g., tableware) are required to comply with relevant food sanitation regulations to ensure that they are fireproof and legal, biodegradable plastic packaging has not been used.

Note 4: The percentage of purchase is calculated as Purchase amount / cost of goods sold.

Note 5: The percentage of recycled materials and certified materials is calculated as follows: Weight of recyclable packaging (including certified materials) / Total weight of packaging. The weight of recyclable packaging refers to the weight of packaging that has been recycled upon CAL's confirmation, fuel.

Note 6: Special ECO investments and promotional projects are not included in this table. Please refer to financial yearbook for detailed information about Special investments and promotional projects.

Note 7: The coverage calculation takes into account the weight of packaging that has been confirmed by CAL as recycled.

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