



Additionally, Menzies actively promotes refugee employment and community engagement. On the Governance Front: Transparency and accountability are reinforced through their code of conduct, supply chain sustainability, and alignment with recognized international standards such as the Science Based Targets initiative (SBTi) and IEnvA. Overall, Menzies has established a concrete, institutionalized, and quantifiable ESG management model that closely aligns with the distinct characteristics of the aviation sector.

Future Plans

- 1 CAL actively exerts influence across the supply chain and continues to strengthen supplier management mechanisms through its annual Sustainability survey (SAQ). To demonstrate value chain resilience, a specific target for 2030 has been established: 100% risk assessment coverage will be achieved for critical Tier-1 suppliers, and the scope will be extended to 40% of Tier-1 suppliers and 30% of non-Tier-1 suppliers. Also, we plan to incorporate ESG indicators into the weighting by at least 5% in 40% of procurement evaluations, and to complete 100% of supplier improvement and capacity-building plans, joining hands with partners to advance sustainable transformation.
- 2 To implement our sustainability governance target, we continue to promote sustainability training and integrated internal and external resources to enhance employees' understanding of sustainability issues. Regarding supply chain management, in-person courses and written outreach are used to strengthen the ESG awareness and practical capabilities of domestic and international partners, ensuring a high degree of alignment between procurement operations and sustainability knowledge, and enhancing value chain resilience.
- 3 CAL will further cooperate with suppliers to drive the aviation industry's low-carbon transition, and, through operational optimization and innovative environmental management strategy, maximize resource efficiency and minimize the environmental impact footprint. In the future, we will move toward a green supply chain, introducing carbon reduction technologies and a circular economy into the procurement system, and working with value chain partners to move toward the 2050 net zero emissions target.

2.3 Environment

Highlights



Highest environmental score in S&P Global CSA

In 2025, CAL achieved a score of 90 in the environmental dimension of the S&P Global CSA, the highest among airlines. Full scores were obtained in environmental policy and management, energy, water resources, and climate change.



5th consecutive year achieving CDP SEA Leadership level

Since 2012, CAL has responded to the CDP climate questionnaire for 13 consecutive years and has actively advanced supply chain and value chain management. The Company has achieved the CDP Supplier Engagement Assessment (SEA) Leadership level for five consecutive years and was included in the A List for the second time in 2025.



12th consecutive TCSA Climate Leadership Award

Since 2014, CAL has received the TCSA Climate Leadership Award for 12 consecutive years, making it the only company in Taiwan's transportation service industry to achieve this distinction.



Leading and expanding SAF value chain collaboration initiatives

CAL actively supports national net-zero transition policies by participating in government pilot programs and developing both domestic and international SAF supplier networks. As a pioneer in Taiwan, CAL introduced a corporate SAF collaboration model, working with passenger and cargo customers to adopt SAF, reduce aviation emissions, and lower carbon footprints from passenger travel and cargo transportation, while driving energy transition across the aviation value chain.



4th participation in the Aviation Challenge (TAC) with recognition

In 2025, CAL participated in the SkyTeam Aviation Challenge for the fourth time. Through a demonstration flight using 40% sustainable aviation fuel—first of its kind in Taiwan—and by promoting transformation across local and international organizations and industry value chains, CAL received the “Organizational Transformation Award – SAF Transformation Impact.” Building on prior sustainability initiatives, CAL continues to expand low-carbon meal options, fully adopt electronic menus, and introduce recycled materials to achieve comprehensive carbon reduction.



Protecting biodiversity and supporting ecological and carbon sink initiatives

CAL continues to implement concrete actions such as beach cleanups, participation in national afforestation and trail maintenance programs in Nanzhuang, wildlife rescue and conservation support, environmental education promotion, and alignment with international initiatives including the Buckingham Palace Declaration and the Satoyama Initiative. These efforts demonstrate CAL’s commitment to biodiversity and forest conservation while creating shared environmental and social value.



Aligning with international cabin waste investigation mechanisms and advancing circular economy opportunities

Through collaboration among cabin crew, catering, and ground handling teams, CAL continuously optimizes operational processes to reduce waste and incorporate recyclables into the circular economy. The Company also participates in domestic sustainability platforms, integrating industry, government, and academic resources to enhance overall impact and effectiveness.



Continued recognition in leading domestic sustainability rankings

In 2025, CAL was rated at the highest level aligned with the 1.5°C pathway in the “Carbon Reduction Thermometer” by Commonwealth Magazine and was listed among the “Top 100 Carbon Competitiveness Companies” by Business Weekly for four consecutive years, demonstrating strong capability and leadership in low-carbon transition. CAL also maintains validation of its science-based targets (SBTi) to ensure alignment with international decarbonization standards.

Management Approach

Material Issues

Climate Change Mitigation and Adaptation

Energy Management

Environmental Operational Efficiency and Resource Management

Green Services and Sustainable Catering

Biodiversity

Importance of Material Issues

According to the latest Global Risks Report 2026 published by the World Economic Forum, various industries, including the aviation sector, have faced diverse and rapidly changing operational challenges over the past two years. These challenges include extreme weather events, geopolitical shifts, and cyber espionage activities. In addition to addressing short-term risks, as time goes on, high concentrations of greenhouse gases will exacerbate the intensity of extreme weather events, disrupt biodiversity, and lead to ecosystem collapse, resulting in the irreversible degradation of living conditions such as shortages of natural resources. As a sustainability leader in the aviation industry, China Airlines recognizes that achieving long-term sustainability goes beyond continuously improving internal management practices and optimizing operational processes. It also requires integrating both internal and external resources, building collaborative models, and fostering a shared sustainability vision across the value chain. This is a key strategy that demands ongoing attention and investment, aiming to deepen sustainability and environmental awareness. Through collective collaboration, we can unlock even greater possibilities.

Commitment and Long-term Goals

CAL is committed to abiding by relevant regulations in civil aviation, environmental protection, and energy strengthen risk management mechanisms, actively participating in environmental sustainability-related organizations and initiatives both domestically and abroad, and implementation of the Company’s environment and energy policies. CAL continues to strengthen and optimize its own environmental sustainability as its momentum, reducing environmental impact and cherishing the limited resources on the planet. With its own role, CAL will lead the Group and the aviation industry to jointly protect our planet for the sustainable development of future generations.

Commitment and Long-term Goals

2027



- Improving annual aviation fuel efficiency by 1.5% and achieving carbon-neutral growth (ICAO CORSIA CNG2020)
- Use 0.5% SAF
- Reducing carbon emissions in ground operations by 10% compared to 2023



- Reducing tap water withdrawal by 8% compared to 2018



- Reducing general waste (non-recyclable) by 10% compared with 2018
- Increasing industrial waste recycling ratio to 47%
- Reducing paper consumption by 40% compared to 2018
- Reducing total in-flight waste by 10% compared to 2023 (Note 2)



- Embargoing transport of illegal wildlife and prohibiting use of illegal species as food ingredients
- A total of 3 biodiversity conservation-related activities or initiatives have been participated in and implemented since 2023

2030

- Improving annual aviation fuel efficiency by 1.5% and achieving carbon-neutral growth (ICAO CORSIA CNG2020) (An additional SBTi target is set to improve fuel efficiency by 26% compared to the 2019 baseline.)
- Use 5% SAF
- Reducing carbon emissions in ground operations by 15% compared to 2023
- With renewable energy installed capacity reaching 10% of the contract capacity (Note 1)

- Reducing tap water withdrawal by 10% compared to 2018

- Reducing general waste (non-recyclable) by 12% compared with 2018
- Increasing industrial waste recycling ratio to 50%
- Reducing paper consumption by 50% compared to 2018
- Reducing total in-flight waste by 25% compared to 2023 (Note 2)

- Embargoing transport of illegal wildlife and prohibiting use of illegal species as food ingredients
- A total of 4 biodiversity conservation-related activities or initiatives have been participated in and implemented since 2023

2040

- Improving annual aviation fuel efficiency by 1.5% and achieving carbon-neutral growth (ICAO CORSIA CNG2020) (net-zero emissions by 2050)
- Used 40% SAF
- Reducing carbon emissions in ground operations by 60% compared to 2023 (net-zero emissions by 2050)
- With renewable energy installed capacity reaching 15% of the contract capacity (Note 1)

- Reducing tap water withdrawal by 12% compared to 2018

- Reducing general waste (non-recyclable) by 15% compared with 2018
- Increasing industrial waste recycling ratio to 58%
- Reducing paper consumption by 52% compared to 2018
- Reducing total in-flight waste by 50% compared to 2023 (Note 2)

- Embargoing transport of illegal wildlife and prohibiting use of illegal species as food ingredients
- A total of 10 biodiversity conservation-related activities or initiatives have been participated in and implemented since 2023

Note 1: This is not the proportion of electricity use. This is an additional target beside the Taiwan national power grid target. China Airlines expects to use 40% renewable energy by 2030 if Taiwan National Grid target is included

Note 2: The target for reducing average food waste produced per person for in-flight services has been incorporated into the overall cabin waste reduction goal, and "meal overage rate" is used as a performance indicator for monitoring and evaluation purposes.

Management Mechanisms

- The meeting of the Board of Directors and Sustainability and Risk Management Committee, every quarter
- The meeting of the Corporate Sustainability Committee, at least twice a year
- The meeting of Corporate Environmental Committee and Environmental Management Committees, every quarter on a regular basis
- Environmental/energy/climate change/biodiversity risk issues are included into routine executive reports
- Yearly execution of ISO 14001, ISO 50001, and ISO 14064-1 third-party verification
- Regularly response and review of important international sustainability and environmental protection surveys, including CSA, FTSE, and CDP

Unit in Charge

Corporate Sustainability Committee - Environmental Task Force (Corporate Environmental Committee)

Grievance Mechanism

Corporate Sustainable Development:
Corporate Sustainability Center
Email: csr@china-airlines.com



Stakeholder
Contact

Objectives and Plans

Objectives and Plans		Issue	KPI	2025			2026 Objectives
				Objectives	Performance	Achievement Rate	
Note 1: In response to increased operational activities, carbon reduction measures have been reviewed and optimized to identify more effective decarbonization approaches.	Climate Action and Renewable Energy	Enhancing Aviation Fuel Efficiency	Increase by 1.5%	Increased by 3.7%	>100%	Increase by 1.5%	
		Using SAF Reducing Carbon	Increase by 0.5%	>0.5%	>100%	Increase by 0.5%	
		Emissions from Ground Operations	Decrease by 5% compared to 2023	Reduced by 2%	Not achieved (Note 1)	Decrease by 8% compared to 2023	
Note 2: In light of the increasing trend in flight operations, the target has been reviewed and recalibrated by adjusting the baseline year boundary to better reflect the Company's operational profile.	Water Resource Conservation	Reducing tap water withdrawal	Decrease by 7% compared to 2018	Reduced by 23%	>100%	Decrease by 8% compared to 2018	
	Responsible Consumption and Waste Management	Reducing general waste	Decrease by 7% compared to 2018	Reduced by 7%	>100%	Decrease by 8% compared to 2018	
Reducing in-flight waste		Decrease by 50%	Increase by 7.7%	Not achieved (Note 2)	Decrease by 5% compared to 2023		
Reducing the use of photocopy paper		Decrease by 30%	Reduced by 30%	>100%	Decrease by 35% compared to 2018		
Note 3: Employee awareness of waste segregation has been strengthened, and waste contractors are reminded to conduct monthly waste weighing and sorting.		Increasing industrial waste recycling ratio	45%	35.8%	Not achieved (Note 3)	45%	
	Ecological Conservation Initiatives	Participate in biodiversity conservation activities/initiatives	A cumulative total of two events since 2023	A total of three events	>100%	A cumulative total of 3 events since 2023	

2.3.1 Governance of Environmental Sustainability

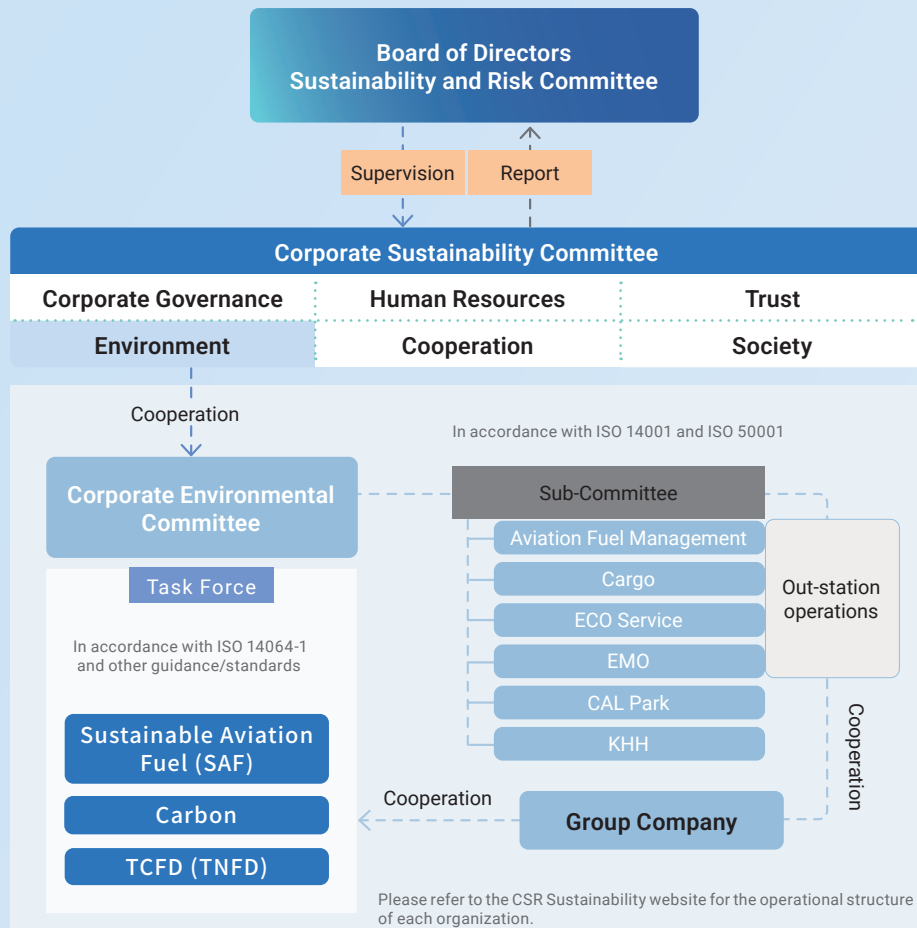
"Net-zero carbon emissions by 2050" has become a focal point of attention both domestically and internationally. In response, the Taiwanese government approved the draft of the "Phase III Greenhouse Gas Phase Control Targets" in May 2025, raising the 2030 net greenhouse gas emission reduction target to "a reduction of 28±2% compared to the base year (2005)". In addition to transforming its service models, operational practices, and corporate values to reduce raw material consumption and carbon emissions, China Airlines is also committed to enhancing ecological benefits in its operations and promoting a circular economy. These efforts aim to minimize environmental impact and foster ecological harmony in a collective effort to combat climate change.

Policy and Structure of Environmental Governance

China Airlines, under the guiding principles of the "Sustainable Environmental Development" outlined in the "Sustainable Development Best Practice Principles" issued by the Board of Directors, has established its "Environmental and Energy Management Philosophy" based on the commitment to "comply with environmental regulations, conserve Earth's resources, enhance ecological benefits, and fulfill social responsibility". The Company has successively formulated and revised its "Environmental and Energy Policy Statement" and "Forest and Biodiversity Conservation Commitment," expanding their scope to include not only the Company's directly managed group operations but also its suppliers, joint ventures, and other business partners. With a strong emphasis on valuing resources such as air, water, minerals, and timber, China Airlines aims to minimize resource consumption and environmental/ecological impact across the entire value chain while delivering high-quality services. At the same time, the Company aspires to show the utmost respect and give back to the land and ecosystems from which it benefits. Through the Circular Economy Management Approach, we aim to create a business model that aligns with fairness and justice, achieves a transition towards net-zero or near-zero emissions, and promotes ecological prosperity.

To implement the "Environmental and Energy Policy Statement" and the "Forest and Biodiversity Conservation Commitment," China Airlines constructs environmental and energy management systems in accordance with international standards such as ISO 14001, ISO 50001, and ISO 14064-1. Led by the President as the highest level of management, through the "Corporate Environmental Committee" and its five major environmental management committees and fuel management group, China Airlines regularly identifies and manages environmental, energy, and climate change-related risks and opportunities across its operations—including headquarters, domestic and international branches, maintenance activities, passenger and cargo services—as well as within its supply chain, value chain, and group partners, accordingly promoting diversified environmental protection and energy-saving measures. Additionally, through internal regular audits and verifications, as well as external audits and validation mechanisms, it continuously ensures the effective implementation of various environmental sustainability targets and performance of the CAL Group, such as the achievement and continuous improvement of environmental aspects including energy, water resources, and waste.

In 2024, China Airlines officially consolidated relevant departments to establish the "Sustainable Development Center", appointing a "Chief Sustainability Officer" to lead as the dedicated organization responsible for overseeing company-wide sustainability governance and performance. Acting as the Executive Secretary of the Corporate Environmental Committee, the CSO collaborates with five specialized Environmental Management Committees—each representing different business functions—as well as the Aviation Fuel Management Team, to jointly advance China Airlines' environmental sustainability governance and establish robust environmental policies and governance frameworks. The Center also regularly reports environmental and sustainability risks and corresponding actions to the Board's Sustainability and Risk Committee, reinforcing the effectiveness of CAL Group's environmental governance and risk management.



Meeting Frequency	
Sustainability & Risk Management Committee	Quarterly
Corporate Sustainability Committee	3 times/year
Corporate Environmental Committee	Quarterly
Group Company Communication	Annually



Carbon Management



TCFD/TNFD



Sustainable Aviation Fuel (SAF)

CAL Environmental and Energy Policy

CAL is committed to achieving net-zero emissions by 2050, zero deforestation, and a net positive impact on biodiversity, and also continues to optimize environmental and energy management system, incorporates the life-cycle concept to examine our corporate context, including but not limited to global operational bases, air transport and passenger/cargo services, upstream and downstream transport, and warehousing activities. Furthermore, we will endeavor to understand the needs and expectations of interested parties, assesses related environmental risks and opportunities, establishes and reviews performance indicators and allocates sufficient resources to the implementation and ongoing improvement of the following environmental and energy policies as well as management measures.

Environmental and Energy Policy	Implementation Strategy
Enforcing compliance obligations to fulfill the Company's responsibilities in environmental protection and energy conservation	- Through regular and irregular compliance review and internal and external auditing mechanisms to perform a zero-penalty target - Acted as a member of the IATA SEAC, monitoring global environmental trends to effectively implement risk and opportunity management
Improving environmental and energy management systems, setting and achieving management objectives to verify compliance with established policies	- Continuously optimized and enhanced the effectiveness of corporate environmental and energy management systems - Set and tracked environmental sustainability targets and commitments, driving ongoing performance improvement - Organized the "Excellent Environmental Management Committee Competition" to recognize top-performing Environmental Management Committee/Aviation Fuel Management Working Group in 2025. The awards were presented in person by the President, along with administrative and monetary incentives
Promoting environmental and energy conservation education to foster employees' eco-awareness	- Encouraged employees to submit suggestions through platforms such as "Employee Proposals" and "Fuel-Saving Proposals" and offered corresponding monetary rewards - Promote employees' awareness and understanding of the environmental impacts associated with their work activities through diverse training programs, awareness initiatives, and incentive mechanisms.
Supporting green design and procurement to increase overall eco-efficiency	- Implemented green design, sustainable/local procurement, and due diligence in mergers and acquisitions, investment, vendor selection, and procurement operations - Invested in R&D activities focused on environmentally sustainable services and products - Promoted and fostered awareness and culture of green consumption
Fostering a low-carbon operating environment to establish continual improvement of environmental and energy efficiency performance	- Implemented environmental and energy-saving measures according to business activities (including products, services, transport, and administrative support) to reduce environmental impact - Increased the proportion of low-carbon and renewable energy used in commercial facilities and transportation services throughout the entire value chain

Environmental and Energy Policy	Content
Practicing waste management and circular economy to minimize resource consumption and negative environmental impacts	- Minimized energy and resource consumption while maximizing their efficiency and effectiveness - Adopt circular economy principles to realize waste-to-resource conversion by increasing the recycling rate, reducing packaging materials and food waste, phasing out single-use plastic, and promoting the use of recycled materials. - Inventorying energy and resource consumption and environmental impact hotspots, and devised corresponding strategies and mitigation measures
Strengthening suppliers and partners engagement to optimize green supply chain management	- Managed and audited environmental risks in the supply chain via the Supplier and Group Code of Conduct - Promoted environmental initiatives and enhanced stakeholder awareness through communication, consultation, and collaboration

Management Tools, Objectives, and Management Organization for the Environmental Task Force

Topic	Management Tools*	Objectives	Management Authority/ Organization
Climate Change	ISO 14001, ISO 50001, ISO 14064-1, TCFD, CDP, SBTi	Attain net-zero emissions by 2050 and increase resilience for responding to climate change	Corporate Environmental Committee, each Environmental Management Committees, Carbon Management Task Force, TCFD Task Force
Aviation Fuel (Including SAF)	ISO 14001, ISO 50001, ISO 14064-1	Increase aviation fuel efficiency and establish efficient fleets and networks	Aviation Fuel Management Team, Sustainable Fuel Research Task Force
Environmental Issues	ISO 14001, ISO 50001, CSA, TNFD, and domestic and international sustainability evaluation indicators	- Improve business eco efficiency, create an environmental sustainability brand - Enhance the sustainable value of the supply chain and value chain (business partners)	Corporate Environmental Committee, Five Environmental Management Committees

Note 1: Coverage is calculated based on group revenue (including station operations and Group entities). 100% of global stations and group operational management are externally verified under the ISO 14001 management system. For certification details, please refer to the [Corporate Sustainability website](#).

Note 2: TCFD refers to Task Force on Climate-related Financial Disclosures.

Identification of Environmental Risks and Opportunities GRI 201-2

CAL provides passenger and cargo services as well as aircraft maintenance services, involving issues such as climate change mitigation and adaptation, resource consumption, pollution prevention, waste and food waste management, toxic and chemical substances, reduction to single-use plastic products, and biodiversity conservation. By actively engaging with stakeholders both domestically and internationally and staying abreast of environmental trends,

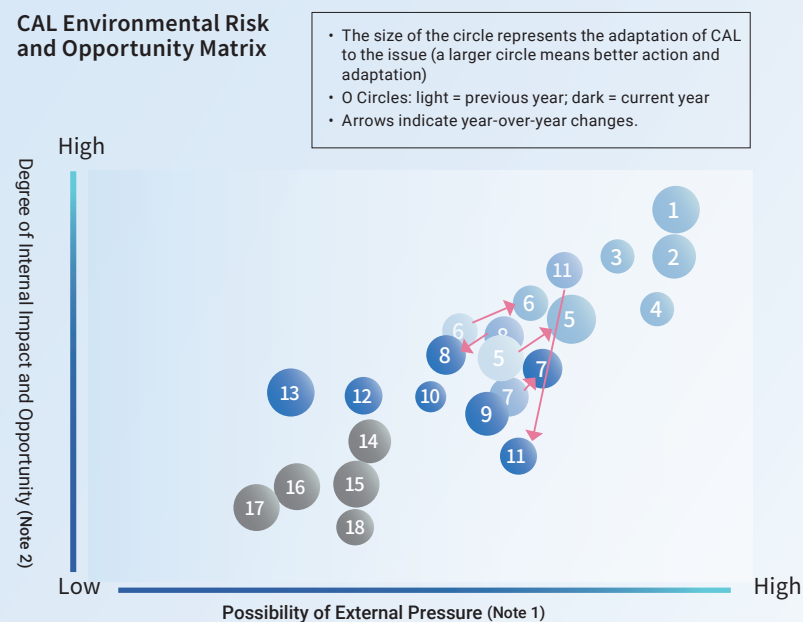
CAL has identified six major environmental issues relevant to its operations. These have been integrated into key points of the Company's environmental risk and opportunity management, with proactive measures put in place to address them. Additionally, other issues are continuously being improved through the operation of the Company's environmental management system.

2025 Ranking

- | | |
|---|--|
| 1. Aviation carbon emission management (3) | 11. Single Use Plastic (SUP) (2) |
| 2. Climate change adaptation (3) | 12. Control of toxic and chemical substances (2) |
| 3. Green supply chain management requirements (2) | 13. In-flight drinking water management (3) |
| 4. Aircraft energy efficiency improvement (2) | 14. Control of waste and sewage (3) |
| 5. Ground operations energy (carbon) management (3) | 15. Ground operation waste control (2) |
| 6. Circular economy and innovation model (2) | 16. Ground water resources management (3) |
| 7. Environmental Awareness (2) | 17. Aircraft takeoff and landing noise control (3) |
| 8. Biodiversity conservation (2) | 18. Ground operation air pollution control (3) |
| 9. Cabin waste and food waste management (3) | 19. Aircraft air pollution control (2) |
| 10. New technology and energy development (1) | |

Note: The numbers in parentheses represent adaptivity, i.e., the size of the circles in the following diagram.

CAL Environmental Risk and Opportunity Matrix



Note 1: X-axis represents the possibility of the issue in the global trend of development and control.

Note 2: Y-axis represents the degree of impact and opportunity of the issue on CAL.

Material Environmental Risk Topic	Risk	Opportunity	Management Method
1. Aviation Carbon Emission Management	International carbon emission regulations and public awareness are increasingly stringent, adding pressure on carbon reduction actions and compliance costs.	By reducing carbon emissions and creating carbon credits, costs can be saved and revenue increased.	- China Airlines has established a "Net Zero Carbon Reduction Pathway" along with corresponding strategies, which include enhancing fuel efficiency in flight operations, fleet renewal, and the promotion of sustainable aviation fuel. - China Airlines has partnered with supply chain manufacturers and cargo transportation corporate clients to participate in the Sustainable Aviation Fuel (SAF) collaboration project. By using SAF, which can reduce carbon emissions by over 80% compared to conventional jet fuel, the Company aims to jointly lower its carbon footprint. - Conduct annual assessments of climate change mitigation and adaptation risks across global stations.
2. Climate Change Adaptation	Increasing frequency of extreme weather events such as heat waves and heavy rainfall will impact the Company's daily operations.	Proper response will strengthen corporate resilience, reduce impact costs, and maintain reputation.	Refer to 2.3.3 Net Zero Carbon Emissions
3. Green Supply Chain Management Requirements	The international financial system is highly focused on sustainability issues, continuously enhancing governance and disclosure requirements to promote sustainable investment, resulting in increased regulatory risks and operating costs.	It enhances the sustainability competitiveness in terms of the value chain of the industry and promotes green business opportunities and new business models.	Continuously promote the Supplier Code of Conduct, strengthen sustainable risk management, and enhance collaboration and project cooperation to improve the achievements in environmental sustainability of suppliers and value chain partners. To enhance the integrity and performance of environmental and sustainable governance within the CAL Group, CAL convened the "Group Sustainability Governance Communication Conference" in 2025, bringing together the First-level Manager of various group companies to foster a consensus on environmental and sustainability governance across the Group. CAL has supported its group companies in developing a comprehensive capability for greenhouse gas inventory operations, including inventory tools, internal verification, and management mechanisms.
4. Aircraft Energy Efficiency Improvement	Accelerate the introduction of new generation energy-efficient aircraft and fuel-saving technologies as well as expand the proportion of sustainable aviation fuel utilized, which will increase operational costs	Improve aviation fuel efficiency while reducing fuel consumption and carbon emissions, which will reduce operational and regulatory costs.	Implementing fleet updates, introducing fuel-saving technologies and sustainable aviation fuels, enhancing passenger and cargo load factors, and optimizing flight routes and air traffic management operations. Refer to 2.1.2 Passenger Service and 2.1.3 Cargo Services
5. Ground Operations Energy (Carbon) Management	The domestic carbon fee mechanism is currently being planned for implementation, while the Financial Supervisory Commission (FSC) is expanding the scope of GHG inventory and verification requirements. It is anticipated that there will be increased regulatory efforts on carbon emissions control in the future, leading to higher operating costs.	Early deployment of renewable energy facilities and related resilient infrastructure in line with international trends can help save on electricity costs and alleviate long-term regulatory costs.	In addition to implementing an energy efficiency monitoring system that exceeds regulatory requirements, CAL continues to expand its renewable energy installations and EV charging infrastructure, and solar power facilities have been established across the CAL Park and EMO Park. EV charging stations have also been installed in employee parking lots, accompanied by preferential parking programs to encourage their use. The EMO Park is gradually advancing the electrification of operational equipment and vehicles, in conjunction with the utilization of charging facilities at both the airport and EMO Park, to progressively establish an electrified operational environment at the airport. In addition, with respect to enhancing building energy efficiency, CAL Park will commence elevator renovation operations in 2025, opting for innovative technology in the regenerative power system to consistently adhere to green building standards and principles.
6. Circular Economy Innovation	Uncertainties in balancing supply chain dynamics with operational adjustments, along with variability in recycled material quality and regulatory differences, may affect compliance and service delivery, potentially increasing operating costs and challenging existing corporate systems.	Enhancing resource efficiency and reducing waste can drive sustainable transformation across the supply chain, strengthen brand reputation and ESG performance, and support the development of new business models centered on recycled materials and circular products.	CAL has implemented a range of initiatives to support environmental sustainability, including promoting digitalization to reduce paper consumption; reducing 18 categories of single-use plastic cabin service items and packaging; and advancing resource recycling and reuse. The Company has also upcycled retired in-flight life vests into "Sustainable Life Vest Bags," contributing to the development of a circular economy.



"2025 Group Sustainability Governance Communication Conference" Built Consensus on Sustainability

During the meeting, the China Airlines Group reaffirmed its commitment to continuously improving its environmental and energy performance and objectives. The Group will implement and expand its environmental management system in phases, considering factors such as corporate scale, environmental risks, and competitive advantages, to enhance the Group's sustainability value.



2.3.2 Nature & Climate Change Mitigation and Adaptation

GRI 101-1, 101-4

Management Mechanisms for Natural and Climate Change

CAL was the first airline in Taiwan to adopt the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and has since published a standalone “TCFD Report” annually. In 2024, the Company further integrated the recommendations of the Task Force on Nature-related Financial Disclosures (TNFD) with its TCFD framework, strengthening the management scope of nature- and climate-related issues and aligning with the Kunming-Montreal Global Biodiversity Framework. In response to Taiwan’s financial regulatory requirements and international sustainability disclosure trends, CAL launched the “IFRS Sustainability Disclosure Standards Implementation Project (IFRS S1/S2)” in 2025. Given the high consistency and continuity between the climate-related information disclosed under TCFD and the requirements of IFRS S2, CAL uses the TCFD management and disclosure framework as a key basis for aligning with the IFRS S2 climate disclosure standards.



TCFD/TNFD Report



Concern for Climate Change

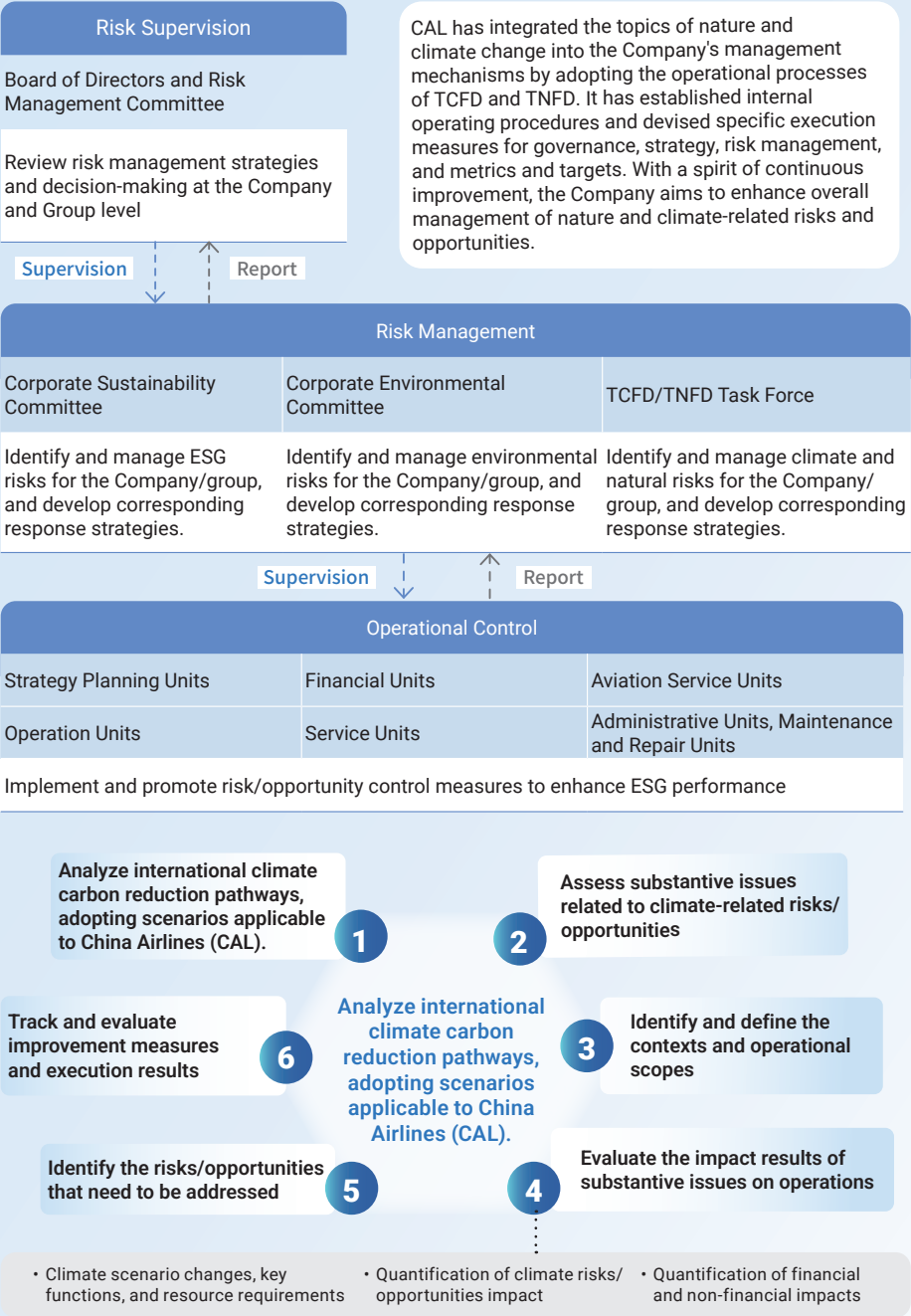
Governance Framework and Risk Management Processes for Nature and Climate Change

CAL established a TCFD Task Force composed of multiple units in 2019 and the Corporate Sustainability Committee and Environmental Committee have monitored climate-related risks and opportunities. In 2024, further integration of nature and climate-related issues has been undertaken, incorporating considerations within the TNFD scope. Key achievements will also be reported annually to the Board of Directors for supervision and management. In addition, in 2025, based on the existing TCFD framework, the Company further adopted International Financial Reporting Standards Sustainability Disclosure Standard (IFRS S2) to strengthen the completeness and consistency of climate-related financial disclosures, thereby aligning with international disclosure standards and regulatory requirements.

Financial implications and other risks and opportunities due to climate change

GRI 201-2

CAL TCFD Task Force evaluates the impact of various factors on its global operations and destinations, company assets (including aircraft, offices, and plants), upstream supply chain, and downstream customers, with reference to reports such as the IPCC Sixth Assessment Report (AR6) SSP1-1.9, SSP2-4.5, and SSP5-8.5, IEA B2DS and B2DS, and national NDCs, etc. Scenarios at 1.5°C, 2°C, and 4°C are considered, taking into account factors such as regulatory requirements, market demands and changes, technological developments and trends, market competition, and natural environmental factors. This analysis helps assess the short, medium, and long-term impacts on the Company’s global operations, financial situation, resources, and reputation. The process and results of the analysis on the impact of climate scenarios are as follows:



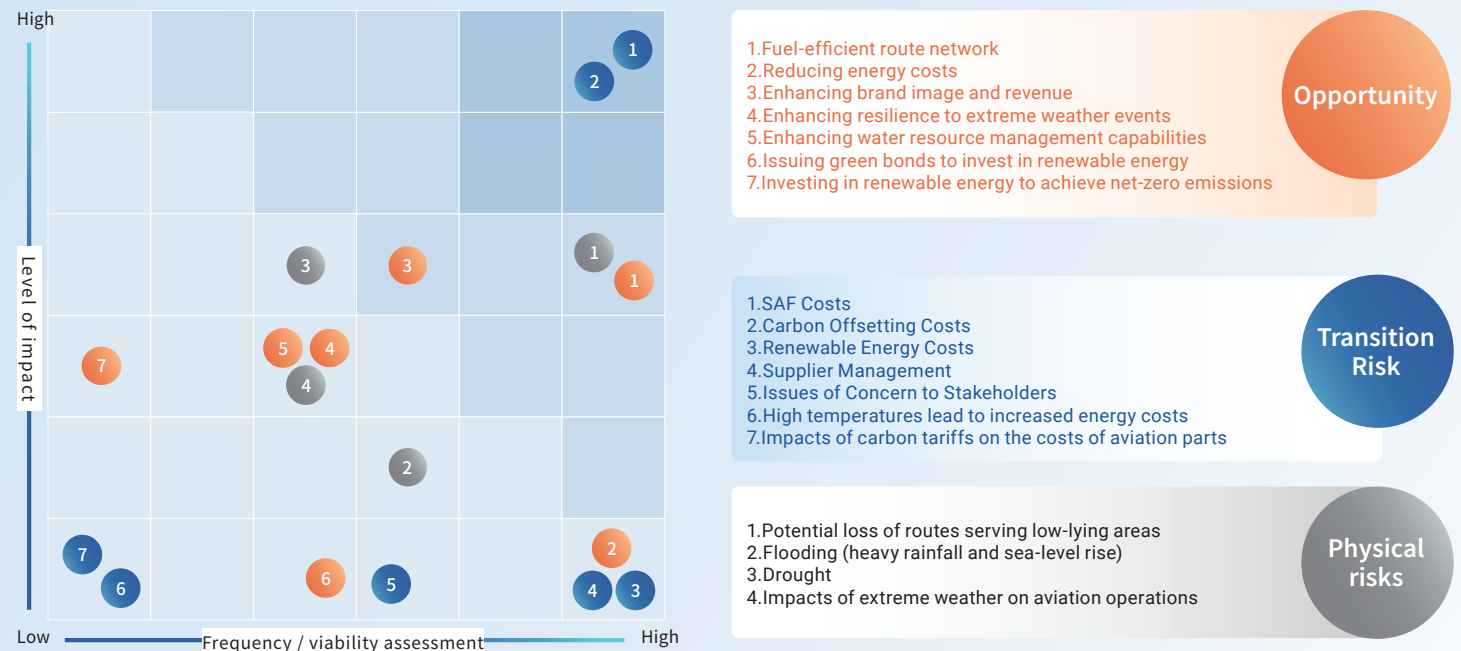
Issue	Risk Type	Scenario Analysis	Impact Timelines (Severity)	Impact Level	Risks and Financial Impacts	Opportunities and Financial Benefits	Response Management Methods
International Environmental Protection, Energy Conservation, and Carbon Management Regulations	Transtion Risk - Current Regulatory Risk	• IEA 2DS (Aligning with the Paris Agreement Goals to Limit Global Warming to Below 2°C) • IEA B2DS (Aligning with the Paris Agreement Goals to Limit Global Warming to Close to 1.5°C) • NDCs (According to the Paris Agreement, Taiwan's self-determined contribution the target including the target of achieving net-zero carbon emissions by 2050.)	Short, medium and long term (High/Impact on EBITDA approximately 1.9% to 3.7%)	Own Operations	• Tighter international carbon regulations (e.g., ICAO CORSIA, EU ETS, etc.), leading to increased compliance costs.	• Enhance fuel efficiency to reduce the Company's energy procurement, carbon offset trading, and regulatory compliance costs. • Revenue derived from carbon credit sales	• Continue to enhance MRV capacity for CORSIA and EUETS mechanisms • Research and implementation of carbon credit/ quota trading mechanisms. • Planning and implementation of various carbon reduction measures.
			Short, medium and long term (High/Impact on EBITDA approximately 5.6%)	Own Operations/ Upstream Supply Chain	• The EU ReFuelEU Aviation regulation mandates that EU airports gradually increase the share of Sustainable Aviation Fuel (SAF) from 0.5% in 2025 to 70% by 2050, impacting the Company's fuel procurement strategy and costs.	• Using more fuel-efficient aircraft effectively reduces operational costs. • Using SAF to meet ICAO requirements and respond to carbon reduction policies of various countries. • Opportunities to generate carbon assets through renewable energy investments.	• Establish SAF procurement and partnership agreements to ensure fuel supply and price stability • Promote domestic collaboration on Sustainable Aviation Fuel (SAF) initiatives by engaging with the government and suppliers to facilitate the development of the SAF industry and mitigate supply risks. • Invite corporate clients to participate in the SAF collaboration project.
	Transition Risk - Emerging Regulatory Risk		Medium and long-term (Low/ Impact on EBITDA < 0.1%)	Own Operations/ Upstream and Downstream Supply Chain	• Countries continue to promote policies for the collection of environmental energy and carbon taxes, resulting in increased operating costs. • The environmental protection authority has implemented carbon emission reporting and regulations for the transportation sector, leading to increased administrative costs.	• Increasing passenger load factor as part of the Company's operational strategy, helping to create revenue opportunities. • In response to carbon emission reporting, implementing digitized operations to improve operational efficiency and reduce administrative costs.	• Implement and execute an environmental and energy management system, set annual goals for environmental protection, energy conservation, and energy efficiency.Promote the greenhouse gas inventory and management within the Group companies.
			Medium and long-term (Medium/ Impact on EBITDA < 1%)	Own Operations/ Upstream and Downstream Supply Chain	• Large electricity users are required to use renewable energy for 10% of their consumption, along with rising supplier costs	• Opportunities to generate carbon assets through renewable energy investments.	• Continuously plan to expand renewable energy facilities.
Energy Transition	Transition Risk - Technology Risk		Medium and long-term (Medium/ Impact on EBITDA < 1%)	Own Operations (Passenger Service, Cargo Service, Flight Safety)/ Upstream and Downstream Supply Chain	• Limited SAF supply and high prices • Hydrogen and electric aircraft technology still not fully mature	• Participate in the development of technologies aimed at enhancing flight efficiency. • Invest in Sustainable Aviation Fuel (SAF) and innovative energy-saving technologies.	• Continuously evaluate the effectiveness of introducing new technologies (new energy-saving aircraft, fuel-saving technologies) • Accelerate the procurement of more efficient, low-carbon aircraft models; engage in technology research and development; and reduce fuel consumption and carbon emissions through optimized flight planning and operations.

Issue	Risk Type	Scenario Analysis	Impact Timelines (Severity)	Impact Level	Risks and Financial Impacts	Opportunities and Financial Benefits	Response Management Methods
Corporate Reputation and Low-Carbon Environmental Image	Transition Risk - Legal Risk		Short and medium-term (Low/Impact on EBITDA < 0.1%)	Own Operations/ Upstream and Downstream Supply Chain	- Environmental penalties in various countries have become stricter, increasing financial risks. - Increasing pressure from environmental groups over greenwashing, leading to potential greenwashing lawsuit risks.	- Provide transparent ESG information to establish credibility and attract ESG investors and clients. - Shifting consumer preferences, with low-carbon travel becoming a trend - Offer carbon offset and green ticket options, allowing passengers to select their preferred carbon reduction solutions	- Implement a robust third-party carbon emission verification mechanism to ensure the transparency and credibility of ESG communications. - Develop various new products and innovative service models (such as direct flights) to enhance service efficiency and meet market demand. - Offering customers carbon offset/green ticket options and SAF partnership programs to reduce customers' Scope 3 Greenhouse Gas Emissions
	Transition Risk - Market Risk	- IEA 2DS (Aligning with the Paris Agreement Goals to Limit Global Warming to Below 2°C) - IEA B2DS (Aligning with the Paris Agreement Goals to Limit Global Warming to Close to 1.5°C)	Medium and long-term (Medium/Impact on EBITDA < 1%)	Own Operations (Passenger Service, Cargo Service)/ Upstream and Downstream Supply Chain	- The consumer market attaches importance to companies' low-carbon and environmentally friendly actions, which affects brand trust and leads to lower revenue. - Violation of regulatory requirements leading to penalties.	- Shifting consumer preferences, with low-carbon travel becoming a trend - Offer carbon offset and green ticket options, allowing passengers to select their preferred carbon reduction solutions	- Develop various new products and innovative service models (such as direct flights) to enhance service efficiency and meet market demand. - Offering customers carbon offset/green ticket options and SAF partnership programs to reduce customers' Scope 3 Greenhouse Gas Emissions
	Transition Risk - Reputational Risk	NDCs (According to the Paris Agreement, Taiwan's self-determined contribution the target including the target of achieving net-zero carbon emissions by 2050.)	Short and medium-term (Low/Impact on EBITDA < 0.1%)	Own Operations (Passenger Service, Cargo Service)	- The consumer market attaches importance to companies' low-carbon and environmentally friendly actions, which affects brand trust and leads to lower revenue. - Violation of regulatory requirements leading to penalties.	- Promoting communication with stakeholders on corporate environmental philosophy and actions to gain recognition and support, enhancing corporate reputation and brand value - Aligning with and supporting government environmental policies to enhance industry collaboration opportunities and boost industry competitiveness.	- Continuously strengthen communication with external stakeholders, support scientific research, and participate in environmental and sustainability international rankings to enhance corporate environmental and sustainability image. - Strengthen collaboration with both domestic and international low-carbon product suppliers to enhance supply chain sustainability.
Increased Frequency of Extreme Weather Events Leading to Aviation Safety Risks	Physical Risk - Acute Physical Risk		Short and medium term (Medium/Impact on EBITDA < 1%)	Own Operations (Business Development, Passenger Service, Cargo Service, Flight Safety)/ Upstream and Downstream Supply Chain	- Impacts of extreme weather events such as flooding, strong winds, heavy rain, and fog can lead to flight disruptions or cancellations, hinder passenger connections, and cause delays in cargo transport (cargo aircraft delays), resulting in increased operational costs (diversion, passenger arrangements). - Extreme weather disrupts raw material supply, impacts market cycles, and reduces load factor and revenue.	- Enhance risk forecasting and emergency response capabilities to effectively address customer needs and travel arrangements, improving service quality and reputation. - Effectively managing customer needs during flight disruptions helps increase customer loyalty and retention, leading to higher revenue. - Enhancing passenger and cargo integration and scheduling capabilities to improve operational efficiency and revenue generation.	Expand and strengthen the content of operational procedures and emergency response mechanisms, enhance training for all operational personnel, and improve cross-departmental coordination and operational efficiency within the organization.

Issue	Risk Type	Scenario Analysis	Impact Timelines (Severity)	Impact Level	Risks and Financial Impacts	Opportunities and Financial Benefits	Response Management Methods
Impacts of Rising Average Temperatures and Uneven Rainfall Intensity on Businesses	Physical Risk - Chronic Physical Risk	• IEA 2DS (Aligning with the Paris Agreement Goals to Limit Global Warming to Below 2°C) • IEA B2DS (Aligning with the Paris Agreement Goals to Limit Global Warming to Close to 1.5°C) • NDCs (According to the Paris Agreement, Taiwan's self-determined contribution the target including the target of achieving net-zero carbon emissions by 2050.)	Long-term (Low/ Impact on EBITDA < 0.1%)	Own Operations (Business Development, Passenger Service, Cargo Service, Flight Safety)/ Upstream and Downstream Supply Chain	• Rising average temperatures lead to increased energy demand and costs. • Due to changes in rainfall patterns, the frequency and duration of droughts have increased, impacting water supply, passengers, employee service quality, hygiene and food safety, resulting in higher response costs.	• Changes in operational processes and behaviors to reduce cost expenditures. • Plan for renewable energy to reduce dependence on fossil fuels, minimize the risk of power shortages, and mitigate associated costs. • Develop or introduce water-saving measures in manufacturing processes to reduce water consumption and its associated costs. • Improvement of service processes and tools, and development of new eco-tourism attractions to increase the Group's revenue and competitiveness.	• Set annual reduction targets and implement energy and resource-saving measures to reduce unnecessary consumption of energy and resources. • Plan renewable energy facilities and apply for renewable energy certificates. • Improve water-saving, water storage equipment, and rainwater harvesting measures. • Strengthen drinking water management procedures and quality. • Enhance service processes and innovate business models.

Financial Impact Analysis of Short, Medium and Long-Term Climate-Related Risks and Opportunities

Through the internal risk management mechanisms, CAL conducts identification, evaluation, responses, and review processes for the aforementioned climate issues. This includes risk matrix analysis for the short (by 2027), medium (by 2030), and long term (by 2040 to 2050) periods, as illustrated in the figure below, along with quantification of financial impacts. Please refer to the "CAL Task Force on Climate-Related Financial Disclosures (TCFD)" for the comprehensive analysis.



Climate Change Targets, Mitigation and Adaptation, Strategy and Actions

	Response Item	Objectives	Specific Actions in 2025
 Governance	Strengthen climate governance	Continue to submit climate governance reports to the Board of Directors	- The report on climate governance, encompassing issues related to natural resources and biodiversity, has been submitted to the Sustainability and Risk Management Committee. - Report corporate and group-wide greenhouse gas management performance and IFRS implementation progress to the Board of Directors.
	Enhance management supervision and cross-departmental operations	Meet corporate governance and green finance requirements	Implemented the promotion of TCFD and the introduction of related standards and guidelines such as SASB, IFRS S2, and TNFD.
 Strategy	Enhance TCFD capabilities	Increase the comprehensiveness and depth of quantified financial information	- Implemented standard operating procedures (SOP) - Continued to implement the cross-unit operation information platform
	Climate response strategies and management	Increase resilience for responding to climate change risks	- Incorporated issues of climate risks and opportunities into the Company's overall strategies and plans and implement related response actions - Integrated climate change impact issues into company route planning, operational performance review, and other operations. Developed timely contingency strategies and adjust operational planning accordingly. Incorporated discussions of the impact of climate change in the Company's flight plans, business performance management, and other operations and formulate response strategies and business operation adjustments when necessary. - Formulated policies and management measures on the Forest and Biodiversity Conservation, integrating them into supply chain management operations
	Participate in important engagements	Increase the understanding of international climate change issues and regulatory requirements	- Participated in international and Taiwan's important climate policy engagement platforms, monitored policy development trends, and gained influence - Promoted the development strategy for domestic sustainable aviation fuel by fostering collaboration among industry, government, and academia, and actively participated in the national SAF pilot program. - Continued to intensify participation in the IAGOS-PGGM international climate change scientific research program - Participated in and implemented forest and biodiversity conservation initiatives
 Risk Management	Strengthen the risk management mechanisms for the corporate value chain	Increase resilience for responding to climate change risks	- Combined the CAL value chain and the environmental risk management mechanism, continue to implement and expand the GHG inventory and environmental (including natural resources) and energy risk assessments of key suppliers, strengthened the detection of climate change risks and opportunities as well as management, and enhanced the capability of continuous operations in response to extreme weather - Responded to Financial Supervisory Commission work requirements and expanded the inventory of greenhouse gas emissions of overseas subsidiaries and help subsidiaries in the Consolidated Financial Statements gradually set up greenhouse gas management operations and capabilities
	Strengthen the existing enterprise risk management mechanism	Implement risk management and strengthen emergency response mechanisms	- Incorporated climate factors into the existing enterprise risk management mechanism to strengthen climate risk/opportunity detection, response, and control capabilities in all units - By integrating data from the IAGOS-PGGM project with outputs from the Company's 777F turbulence detection algorithm software, we contributed to the United Nations' international climate change research and the global turbulence research of IATA, and also strengthened our own climate resilience in route management and operations.
	Respond to international carbon transition risks	Meet ICAO, EU, and other international regulations for carbon reduction	- Participated in the carbon offsetting and reduction plans of the international aviation industry - Continued to enhance MRV capacity for EU ETS, UK ETS, CORSIA, and Refuel EU mechanisms - Studied and performed carbon rights/credit transactions

	Response Item	Objectives	Specific Actions in 2025
 Risk Management	Implement carbon reduction and energy transformation	Net zero emissions in operating activities by 2050	- Enhanced monitoring of electricity consumption and installed dedicated electricity meters on equipment/processes with high energy consumption - Continued to perform replacement and renewal of high-energy-consuming facilities - Installed renewable energy facilities such as solar PV, set and implemented installed capacity targets - Enhanced energy management systems and improvement of their effectiveness - Collaborated with international oil companies on Sustainable Aviation Fuel (SAF) promotion initiatives
	Continuously optimize GHG inventory	Expand the scope of the inventory to increase the quality of the data	- Conducted an inventory of greenhouse gas emissions - ISO 14064:2018 Categories 1-6 greenhouse gas emissions inventory - inside and outside the organization every year to increase the quality of the data on greenhouse gas emissions - Deepened and expanded GHG inventory and verification operations for group companies and overseas branches
 Metrics and Targets	Implement carbon emission reduction targets and KPIs	Attain short, medium, and long term GHG reduction targets and net zero emission target for 2050 and pass SBTi certification	- Achieved Science Based Targets initiative (SBTi) approval: By 2030, improve fuel efficiency by 26% compared to the 2019 baseline. The targeted emissions include Scope 1 (Category 1) and Scope 3 emissions related to fuel and energy-related activities (Category 4). - Established approximately 76 KPIs in environmental protection and carbon emission reduction and the President convened quarterly meetings of the Environmental Committee to review the outcomes of implementation
	Attain flight carbon reduction objectives	Attain short, medium, and long term GHG reduction targets and net zero emission target for 2050.	- Continued to promote plans for fleet update, aircraft weight reduction, flight optimization, and O&M improvement - Implemented fleet plans in accordance with medium and long-term business growth and carbon reduction trends - Continued to improve aviation fuel efficiency, increased loading rate, and focused on the development of new technologies and new low carbon aircraft for purchase at an appropriate time - Continuously promoted SAF usage and invited corporate customers to support and participate
	Increase fuel efficiency	Increase the efficiency of company operations and energy usage	- Continued to promote aviation fuel-saving operations. Continued to increase fuel efficiency rate each year - Optimized route planning and developed the most suitable passenger/cargo fleet in response to the epidemic and market development trends

Strategies and Risk Management for Mitigating Natural-related Impacts

CAL recognizes that humans share the Earth and its ecosystems with wildlife, plants, and other species. More importantly, we are only one part of the natural ecosystem, and we should coexist harmoniously with other species to ensure the sustainability of the Earth and its environment. To fulfill its "Forest and Biodiversity Commitment," China Airlines has adopted the TNFD framework and the LEAP approach, using biodiversity databases and risk assessment tools to assess spatial biodiversity risks across its domestic and overseas operating locations, Group companies under direct management, the top 10% of key Tier-1 suppliers by procurement value, and downstream partners (e.g., airport hotels). Additionally, by referencing tools and resources such as the Natural Capital Protocol and the Science Based Targets Network, the Company has identified high-impact commodities associated with its own operations and upstream and downstream value chain activities. It has also evaluated its impacts and dependencies on nature and biodiversity under various scenarios, identified associated issues of risks and opportunities, and developed corresponding strategies, management indicators, and operational objectives. To manage upstream high-risk services and products, the Company enforces its "Supplier Code of Conduct" and sustainable and green procurement mechanisms. Following the LEAP approach and using the ENCORE database rating system, we fully assessed our dependence and impact on nature this year, covering its upstream value chain, internal operations, and downstream activities. We identified air passenger and cargo transportation services as having a significant degree of natural dependence and impact, making it a stage in the value chain that required priority attention, and selected Taiwan Taoyuan International Airport, which handles the Company's largest transportation volume, as the core base. Using the airport and a 7-km surrounding area as the assessment boundary, we conducted analyses of natural ecological sensitive areas and species, and combined data on Important Bird Areas (IBAs), GBIF, and Taiwan's local ecological mapping databases, GBIF, and other international databases with Taiwan local ecological mapping data to identify ecological hotspots. In consideration of the connection between CAL operations and the natural environment, we assessed material nature-related factors, as well as the corresponding material nature-related risks and opportunities, through a dependency and impact matrix analysis, and formulated more comprehensive response measures, indicators, and targets to implement nature-related risk and opportunity management assessed material nature-related factors. The results are reported through the corporate climate risk reporting mechanism. They are submitted to the Corporate Sustainability Committee and the Environmental Committee for risk and opportunity control. Summaries are then provided to the Board of Directors for supervision and management.



1. Identification Results of Areas with Significant Impacts and Supplier Products and Services

GRI 101-4

CAL utilizes the Biodiversity Risk Filter (BRF), a biodiversity assessment tool developed by the international organization WWF, in conjunction with integrated tools developed by the Forestry and Nature Conservation Agency to overlay maps of biodiversity hotspots, important habitats for wildlife, areas protected for wildlife and nature, conservation areas, and state-owned forestry areas for verification purposes. The results indicate that none of our operational locations in Taiwan are located within or adjacent to the aforementioned areas. However, approximately 3% of overseas operating locations are classified as being in high biodiversity risk areas. It should be noted that the current BRF tool categorizes aviation under the airport transportation services sector, which may not fully align with the actual operations and potential impacts of airlines. Furthermore, upon detailed examination and assessment, it has been determined that the aforementioned high-risk airport areas are all subject to strict regulations and rigorous monitoring by local governments. As for our main operational activities, they are primarily located within airport areas where we strictly adhere to regulations set by airport authorities and government bodies. CAL's ticketing and sales offices are situated in downtown commercial areas, which have relatively limited impacts on local ecosystems and biodiversity. Therefore, the overall impact is considered low. The Company also follows the SBTN high-impact commodity list to identify products and services within the supply chain that have significant environmental impacts. Among these, paper- and wood-based products, as well as coffee beans, have been prioritized for monitoring and response actions in the first phase. The Company will continue to engage in discussions with key suppliers to promote the reduction of ecological disturbances caused by their operational activities. Additionally, we will allocate more resources toward risk identification and the implementation of mitigation measures, including avoidance, minimization, restoration, and compensation.

2. Impact/Dependency and Risk/Opportunity Assessment Results

China Airlines has selected its headquarters located in the Taoyuan Airport Special Zone as the assessment site for identifying and assessing its overall transportation service value chain, including planning, procurement, supply of materials, flight, maintenance, and other upstream and downstream business processes. Using the life cycle perspective and environmental aspects defined in ISO 14001 and environmental considerations, taking into account the scenario setting of the TNFD framework, LEAP analysis tools, and ecoregion and biome classifications, the Company distinguishes between short-term and medium- to long-term scenarios, with a division set for 2035. This approach involves considering the changes in natural ecosystems, national policies and regulations, the scale of policy actions, and customer awareness as scenario conditions. This includes Scenario 1 - "Ahead of the game" and Scenario 2 - "Go fast or go home," analyzing direct drivers and potential impacts and dependencies on ecosystem services, to identify and assess the resulting nature-related risks, opportunities, and their materiality. Summary of Material Short-term and Medium- to Long-term Risks/Opportunities is as follows.

Short-term Material Issues				
	Impact/ Dependency	Risk/Opportunity	Response Strategies	Corresponding Action Targets under the Kunming-Montreal Global Biodiversity Framework
Aircraft technology enhancement can reduce greenhouse gas and air pollutant emissions.	Impact	Transition Opportunity	- Participating in international collaborative engagement platforms to enhance dialogue - Considering fuel efficiency and ESG performance when purchasing aircraft - Engaging in ESG-related dialogues and collaborations with aircraft and equipment manufacturers.	 
Utilizing Single Use Plastic products or packaging materials	Impact	Transition Risk	- Inviting suppliers to sign the Supplier Code of Conduct - Packaging reduction, plastic/single-use alternatives, recycling and reuse, usage of recycled materials	 
Illegal transport of wild animals and plants	Impact	Transition Risk	Implement the Buckingham Palace Declaration and action plan	 
Emissions of greenhouse gases, air pollutants (GHG/SOx/NOx) and noise during aircraft takeoff, landing, and flight processes	Impact	Physical Risk	- Continue to promote fuel-saving and noise-reduction operations - Using SAF - Continue to promote fleet renewal - Promote eco-friendly carbon offsetting projects - Support for bird conservation and restoration initiatives	   
Medium to Long-Term Material Issues				
Damage to stations due to loss of ecosystem protection, leading to impact on operations	Dependency	Physical Risk	- Implementation of carbon reduction and climate change mitigation and adaptation measures - Appropriately promote TCFD and TNFD operations - Monitor changes in operational conditions at the stations and implement appropriate response measures.	
Deterioration of ecosystems affecting the demand for passenger/cargo services	Dependency	Transition Risk	- Implementation of carbon reduction and climate change mitigation and adaptation measures - Appropriately promote TCFD and TNFD operations - Monitor trends in passenger/cargo volume changes and implement appropriate response measures.	
Domestic and international ecosystem changes have led to the emergence of new ecotourism destinations and demands.	Dependency	Transition Opportunity	- Monitor changes in passenger travel intent and implement appropriate response measures. - Strengthening supplier/industry chain collaboration - Enhance awareness of ecotourism and implement supportive maintenance measures	
Passenger/cargo operations mistakenly purchasing fuels, high biodiversity risk ingredients, products, or packaging that contribute to de-forestation or ecosystem destruction	Impact	Physical Risk	- Request suppliers to adhere to the Supplier Code of Conduct - Strengthen traceability management and implement due diligence in procurement - Enhance the percentage of sustainable procurement - Increase the percentage of resource recycling and reuse, and the use of recycled materials - Strengthening supplier/industry chain collaboration	 
Supply of agricultural products and packaging materials from ecosystems	Dependency	Physical Opportunity	- Collaborating with local small-scale farmers to implement the Satoyama Initiative - Promoting sustainability certifications to implement local procurement practices - Strengthening collaboration with suppliers on eco-friendly design and product development	  
Ecological degradation leading to large-scale outbreaks of infectious diseases, resulting in decreased demand for transportation	Dependency	Transition Risk	- Improving cabin cleanliness - Improving the preparation and drills of epidemic prevention - Support ecological conservation, enhance diverse ecosystems, and strengthen ecological resilience	 

Note: If it is a short-term material issue, it is not listed again in this table for response strategies and management targets and indicators

	Indicator Content	Operational Objectives
Driver Indicators	Carbon emissions and fuel procurement volume	1. Improving annual aviation fuel efficiency by 1.5% 2. Attain net zero emissions by 2050 3. Reducing carbon emissions in ground operations by 10%, 15%, and 60%, compared to 2023 levels, by 2027, 2030, and 2040, respectively 4. With renewable energy installed capacity reaching 10% and 15% of the contract capacity by 2030 and 2040. 5. Increasing SAF usage by 0.5%, 5%, and 40% by 2027, 2030, and 2040, respectively
	Sources of Ingredients	Embargoing transport of illegal wildlife and prohibiting use of illegal species as food ingredients
Impact Level Indicators	Changes in operational conditions at stations (such as flooding, rainfall, high temperatures), including the frequency of abnormalities, exposure to physical risks of enterprise locations, production lines, facilities, and equipment	A total of 3, 4, and 10 biodiversity conservation-related activities or initiatives have been participated in and implemented since 2023 by 2027, 2030, and 2040, respectively.
	Asset value and annual revenue from ecotourism operations in areas affected by physical risks	

To effectively manage the progress and performance of response strategies and actions, China Airlines also refers to the objective/indicator recommendations from the TNFD, the Natural Capital Protocol, and the Science Based Targets Network (SBTN) in formulating corresponding management indicators and operational objectives.

Stakeholder Engagement

CAL is committed to sustainable development and strives to achieve environmental sustainability and shared social prosperity. We recognize the close interrelationship between climate change and biodiversity. Accordingly, climate change mitigation efforts should be implemented in a manner that balances biodiversity conservation and community well-being. Therefore, CAL has incorporated biodiversity-related issues into risk management questionnaires, analyses, assessments, and response procedures for the Group, overseas stations, and suppliers to comprehensively understand biodiversity-related risks across its own operations and the upstream and downstream value chain. China Airlines organizes ecological tours at its collaborative reforestation site in Nanzhuang to organize ecological tours, inviting business partners to explore the mountains and experience the essence of the forest. At the same time, we adhere to the Company's Human Rights Policy to safeguard the rights of stakeholders. Through education and training and by implementing the Group Code of Conduct and the Supplier Code of Conduct, we require colleagues and suppliers to fulfill their due diligence responsibilities.

 Refer to 2.4.1 Human Rights Management Framework



Supporting Civic Collaboration to Co-Create an Ecological Journey

China Airlines recognizes the vital role of ecological resources in addressing climate change and providing economic, ecological, cultural, informational, and psychological value to society. In 2022, the Company partnered with the Taoyuan City Government to plant hundreds of native Taiwanese saplings at the cultural landmark "Hengshan Calligraphy Art Park". Since 2023, the Company has further engaged in a national-level afforestation project initiated by the Forestry and Nature Conservation Agency under Ministry of Agriculture, adopting nearly 10 hectares of forest land in Nanzhuang, Miaoli, where 27,000 native tree species "Taiwania" and "Taiwan Zelkova" were planted in collaboration with the local Saisiyat Indigenous community, who also supported the site's afforestation and forest tending activities. The Company also supports the maintenance of the Jiali Mountain Trail, a popular sustainable tourism destination, as a practical demonstration of its commitment to forest conservation and shared prosperity with Indigenous communities.



In 2025, CAL further deepened its collaboration with the Hsinchu Branch of the Forestry and Nature Conservation Agency under the Ministry of Agriculture, expanding its adopted forest area by an additional 3.5 hectares. The Company planted 8,750 Taiwania trees (or other native species) and extended its trail stewardship efforts to include the 0.3–0.6 KM section of the Jiali Mountain Trail (Daping section). In addition, corporate partners were invited to participate in the "Forest Breathing" program, offering immersive experiences in a forest area certified under the sustainable forest management standards of the Forest Stewardship Council (FSC). Through these initiatives, the Company aims to inspire broader participation, promote sustainability awareness, and embody the Satoyama Initiative by bringing together diverse stakeholders to achieve a triple-win outcome for society, the economy, and forest conservation.

China Airlines invited business partners to explore the beauty of the mountains and forests, actively supporting forest co-existence and mutual prosperity with Indigenous communities. The initiative also aimed to raise sustainability awareness and embody the spirit of the Satoyama Initiative. Trail maintenance and facility development for the 0.3–0.6KM Daping section of the Jiali Mountain Trail are undertaken by local Saisiyat ethnic group. Through Indigenous community participation, the initiative promotes local employment and skills transfer, while strengthening mutually beneficial relationships with local stakeholders.

2.3.3 Net Zero Carbon Emissions

Net Zero by 2050 and SBTi Objectives

CAL complies with the IATA and national carbon reduction targets by leading the industry in announcing the “target for achieving net-zero carbon emissions by 2050” in October 2021. Following this declaration, CAL outlined short, medium, and long-term objectives for flight operations, ground operations, and use of sustainable aviation fuel. China Airlines has been actively involved in discussions on SBTs since 2017 and continues to engage in dialogues regarding reduction strategy targets for the aviation industry through the International Air Transport Association (IATA) platform. Building on this operational foundation, the Company officially signed onto the Science Based Targets initiative (SBTi) in 2022, setting a target to improve fuel efficiency by 26% by 2030 compared to the 2019 baseline. This target encompasses Scope 1 (Category 1) and Scope 3 emissions, as well as fuel and energy-related activities (Category 4). This target was approved by the Science Based Targets initiative (SBTi) in 2024, ensuring compliance with the global carbon reduction goals outlined in the United Nations Paris Agreement to limit global warming to within 1.5 degrees Celsius.

Strategy, Approach, and Carbon Reduction Path for Attaining Net Zero Carbon Emissions

CAL implements 5 core strategies to achieve long-term carbon emission reduction targets. They include: Fuel efficiency improvement (e.g., implementation of various fuel saving and carbon reduction measures and continuous improvement of load factor), upgraded TCFD operations and emergency response systems, promotion of the use of sustainable aviation fuel (SAF), timely participation in international carbon control mechanisms (e.g., CORSIA, EU TS, and UK ETS), and advancing emerging low-carbon technologies, including the continuous introduction of next-generation fuel-efficient aircraft, evaluation of investment opportunities in permanent carbon removal solutions, and monitoring developments in hydrogen-powered and electric aviation technologies to identify cost-effective deployment opportunities and support long-term decarbonization.

CAL has established an internal carbon pricing mechanism covering Scope 1 and Scope 2 emissions, taking into account international and domestic GHG regulations (e.g., global carbon regulatory frameworks), Sustainable Aviation Fuel (SAF) costs, low-carbon investments (e.g., renewable energy), and internal behavioral changes. A shadow carbon price of EUR 100 per tCO₂e (approximately USD 117) has been adopted.

This internal carbon pricing mechanism is applied not only for cost-benefit analysis, but also serves as a key input for enterprise risk management, strategic decision-making, driving energy efficiency, identifying and seizing low-carbon opportunities, advancing decarbonization initiatives, and evaluating low-carbon investments. It is progressively embedded into CAL’s operational decision-making processes and enterprise-wide risk assessment framework to support the achievement of

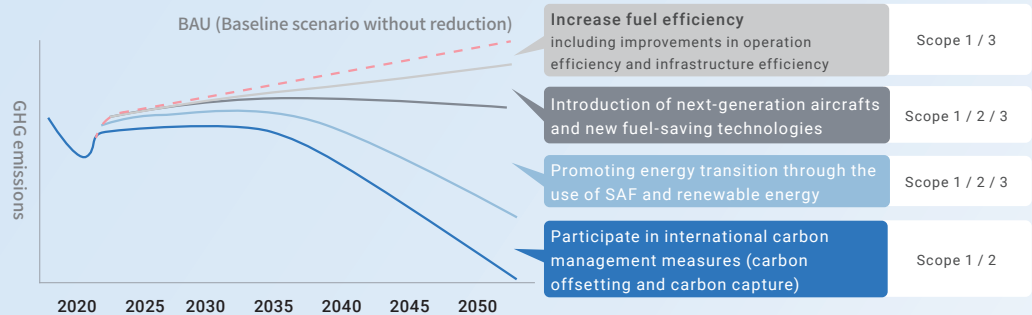
climate-related policies and emissions reduction targets, reduce upstream value chain emissions, inform carbon offset budget planning, and facilitate the continuous deployment of emissions reduction measures and low-carbon investments.

In addition, CAL continues to strengthen its value chain decarbonization management, enhancing overall emissions reduction effectiveness and improve its climate transition resilience and capability.

From a governance perspective, the CAL has established a comprehensive climate governance framework through its Sustainability Committee, Environmental Management Committee, and TCFD task force/platform. Implementation progress and performance outcomes are reported to and overseen by the Board of Directors on an annual basis, ensuring alignment with the defined decarbonization pathway and reinforcing board-level supervision and accountability. [Refer to 2.3.2 Climate Change Mitigation and Adaptation](#)

for the relevant management framework and processes

CAL Carbon Reduction Path



CAL's Net Zero Carbon Emission Targets and Key Strategies

Net Zero Emission Strategies	Contribution of 26% Improvement in Fuel Efficiency by 2030	2025 Key Initiatives
Continuous improvement of fuel efficiency	2-4%	- Implemented 11 initiatives for saving aviation fuel and reducing carbon emissions, with a total carbon reduction of approximately 47,755 metric tons. - Enhance passenger and freight load factors
Supporting the development of emerging technologies	10-15%	Continued to introduce A321neo and 777F cargo aircraft, along with the launch of the new generation of fuel-efficient 787 aircraft starting in 2026.
Promoting SAF	3-5%	- Maintaining the regular use of SAF in Taiwan and overseas, with usage reaching 0.5%. - Implemented the SAF Collaboration Project for corporate customers - Participated in SAF negotiations and cooperation between the government and oil companies - Supported the government's SAF pilot program
Participate in international carbon management mechanisms	2-11%	- Completed the CORSIA international flight carbon emissions MRV operation - Evaluated the purchase and management of carbon credits

Engaging in international collaboration to support global carbon reduction initiatives

Since 2023, CAL has collaborated with the IATA on the CO₂ Connect initiative, sharing flight emissions data to enhance the application of aviation carbon emissions information. Starting in 2024, CAL joined the CO₂ Connect Advisory Group of the IATA, contributing to the monitoring of passenger and cargo models and providing recommendations for refinement to improve the accuracy of aviation emissions calculations. In addition, CAL continues to deepen its international collaboration with IAGOS-PGGM, integrating collected data to support scientific research. In 2023, the Company deployed IAGOS's latest P2b and P2d observational instruments, assisting international climate research teams in validating and calibrating greenhouse gas observation, remote sensing, and estimation data from the Japan Aerospace Exploration Agency satellite programs. This initiative promotes substantive scientific collaboration among Taiwan, Japan, and the European Union, contributes to global climate change research efforts led by organizations such as the United Nations, and enhances the Company's own route management and operational climate resilience.



Continuously engaging corporate clients and supply chain partners to jointly support SAF collaboration initiatives

Promoting energy transition is crucial for the aviation industry to achieve the net-zero carbon goal. However, this can only be effectively accomplished with the support and assistance from the entire industry chain. As a sustainability leader in the transportation sector, CAL was the first airline in Taiwan to adopt SAF. Since 2017, SAF has been used in delivery flights for its A350-900 and A321neo aircraft. From 2017 to 2022, the Company remained the only airline in Taiwan to utilize SAF.

In addition, CAL was the first among Taiwanese airline companies to participate in the Sustainable Aviation Fuel program established by international oil companies and blockchain platforms in 2023. CAL was also the first in Taiwan to introduce the SAF collaboration model for corporate procurement and provide traceable and verifiable carbon reduction reports. CAL cooperated with supply chain vendors and corporate passenger and cargo customers to participate in the SAF Collaboration Project, utilizing SAF that can reduce carbon emissions by over 80% compared to traditional aviation fuel, thereby collectively reducing the carbon footprint. In 2023–2025, China Airlines continued to operate commercial demonstration flights using Sustainable Aviation Fuel (SAF) as part of the SkyTeam Sustainable Flight Challenge, steadily accumulating operational experience. This has decreased CAL's direct GHG emissions (Scope 1) and indirect GHG emissions from customer transportation (Scope 3) by approximately 72 metric tons of CO₂e in total. CAL will continue to invite supply chain partners to actively support the global sustainable energy transition, enhance corporate net-zero collaboration, and achieve mutually beneficial carbon reduction outcomes.

Since 2025, CAL has partnered with domestic fuel suppliers to introduce Sustainable Aviation Fuel (SAF) at Taipei Songshan, Taoyuan, and Kaohsiung airports under a three-year Memorandum of Understanding (MOU), supporting the development of the local SAF supply chain. CAL has also collaborated with leading technology companies to incorporate SAF into business travel programs, helping customers achieve decarbonization goals while expanding the impact of sustainable transformation.

In the planning for 2026, China Airlines continues to monitor the development of domestic and international Sustainable Aviation Fuel (SAF) technologies and supply markets. Based on global SAF sourcing and procurement experience, the Company will timely assess the feasibility of domestic and international supply, policy requirements, and operational conditions. China Airlines actively participates in government and supplier-related initiatives to pragmatically advance its SAF procurement strategy, aiming to fulfill its short, medium, and long term sustainability goals.



CAL and Formosa Petrochemical Corporation expand procurement of Sustainable Aviation Fuel to tens of thousands of tons, advancing toward a net-zero future.

2.3.4 Achievements in Environmental Sustainability

GRI 302-1, 302-2, 302-3, 302-4, 302-5, 303-1, 303-2, 303-3, 303-4, 303-5, 305-1, 305-2, 305-3, 305-4, 305-5, 305-7, 306-1, 306-2, 306-3, 306-4, 306-5

While delivering quality services to our customers, we also leverage the operations of the Corporate Environmental Committee to plan and promote a wide range of environmental protection and energy-saving initiatives tailored to the nature of each business unit, continuously enhancing the ecological efficiency of our operations. In 2025, China Airlines introduced seven A321neo passenger aircrafts and one 777F cargo aircraft. In 2026, in addition to continuing the introduction of A321neo aircraft, CAL will welcome the brand-new Boeing 787 fleet. With this new and younger fleet, CAL will lay the foundation for improving aviation fuel efficiency. The aviation fuel management team will then monitor the fuel efficiency of each fleet and implement fuel-saving measures across various aspects, including planning, operations,

logistics, and management to minimize the environmental impact of passenger and cargo services. The headquarters and worldwide branch offices' operations and maintenance processes will follow a lifecycle approach, considering the interaction between design, procurement, use, maintenance, and disposal stages with the environment and ecology. Through a robust environmental and energy management system, the Company will continue to achieve operational goals without significant penalties, enhance energy resource efficiency, reduce waste, and move towards a circular economy.

In 2025, CAL implemented 65 environmental protection and energy-saving measures, along with 11 flight fuel-saving measures, resulting in a total carbon reduction of 49,780 tons, achieving the achievement rate of 128%. In 2026, additional plans are being made to implement 76 measures, with an expected carbon reduction of 40,510 tons.

Management Target	Important Management Strategies/Measures		2025 Outcomes and Performance
Zero Penalties and Implementation of the Environmental Management Cycle (PDCA)	1. Identify compliance obligations and conduct compliance checks quarterly. 2. Implementation of Environmental Management Audits in accordance with ISO 14001/50001 Standards: Conduct two internal audits and one external audit annually; Each Environmental Management Committee/Aviation Fuel Management Working Group conduct audits of worldwide branch offices and suppliers based on their business functions.		No significant incidents of environmental penalties (Note 1)
	Promoting green-energy flights	1. Continuously enhance fleet renewal by acquiring additional Airbus A350-1000 passenger aircraft, Boeing 777-9 passenger aircraft, and Boeing 777-8F cargo aircraft. Deliveries are scheduled to begin in 2029 for deployment on long-haul passenger and cargo routes to North America and Europe. 2. Adopt environmentally friendly and fuel-efficient flight operations to improve fuel efficiency where such operations are permitted under software, hardware, and weather conditions. For example: Reduce the APU activation time and adopt engine out taxi. 3. Optimize the monitoring and measurement mechanism for fleet fuel efficiency to identify opportunities for energy performance improvement. 4. Implement station audit operations to enhance the execution rate of fuel-saving measures. 5. Promoted air-ground intermodal transport and developed a low-carbon transportation network, in collaboration with ground transport operators to generate transfer synergies, thereby reducing passenger-related carbon emissions and waiting times.	
Increase Aviation Fuel Efficiency	Improving ground service control	• Incorporate fuel efficiency as a factor for setting flight plans and systematically improve routes and selection of backup landing sites. Optimize the center of gravity on aircraft and implement fuel conservation during planning. • Implement ground operations such as using trailer power supply and airport ground power supply instead of APU to save aviation fuel consumption.	CAL carried out 11 fuel saving measures and saved 18,866 kiloliters of fuel with an achievement rate of 129%.
	Continuous regular repair and maintenance	• Continue to monitor and maintain aircraft performance and manage and improve fuel conservation measures. Regularly clean critical equipment to maintain optimal conditions of aircraft. • Regularly clean critical equipment to maintain the aircraft in optimal condition. • Maintain good communication channels with the original manufacturer to obtain information on the latest technology developments and performance optimization solutions. • Select environmentally friendly paint or paint remover, ensuring a balance between fuel efficiency and the reduction of air pollution. • A350 and 787 aircrafts are coated with low-drag BC/CC (basecoat/clearcoat) paint systems.	
	Aircraft weight reduction	1. Reduce aircraft loading and fuel consumption with precision measures. For example: Precision refueling, precision water supply, and weight reduction for in-flight supplies. 2. Implement the digitization of pilot paper manuals.	
Increase Building Energy Efficiency	Maintain Green Building certification, expand the installation of renewable energy facilities, fully implement regenerative power systems in headquarters elevators, and replace outdated high-energy-consuming equipment as part of energy-saving measures. Additionally, assess energy resilience facilities.		CAL reduced electricity consumption by 219 MWh with an achievement rate of 99%.
Increase Ground Vehicle Fuel Efficiency	Fuel conservation measures such as enhancing the management of the use and efficiency of company vehicles, promoting electrification of transportation and equipment, establishing charging infrastructure to support electric vehicles, promoting ride-merging/ride-sharing mechanisms, and the idling shutdown policy.		Reduced 257 kiloliters of fuel and reduced carbon emissions by 665 tons with an achievement rate of 107%.
Increase the Percentage of Renewable Energy	Develop diverse cooperation plans to promote the use of Sustainable Aviation Fuel and to increase the installation of ground-based solar power facilities.		A total of 13,154 kiloliters of SAF was added, representing a 503% increase compared to 2024; solar power generation reached 197,000 kWh.
Reduced Resource Consumption and Increase Environmental Protection Awareness	Continuously improve the digitization of operations in cargo, flight services, cabin service, and administration. Implement environmental measures such as introducing food waste processing machines, optimizing the performance of wastewater treatment facilities, selecting and leasing eco-friendly energy-saving photocopiers, and recycling of waste paper containers/slurry for reuse.		Reduced 56 tons of paper consumption and waste and reduced carbon emissions by 241 tons with an implementation rate of 100%.

Note 1: Environmental penalties exceeding USD\$10,000 are classified as material incidents. No material environmental penalties were recorded from 2022 to 2025.

Note 2: Source of the carbon emission factor: 2020 electricity emission factor, Greenhouse Gas Inventory v.6.0.4 (gasoline/diesel).

Carbon Emissions from Air and Ground

GRI 305-1, 305-2, 305-3, 305-5

The greenhouse gas produced through the incineration of aviation fuel accounts for more than 90% of total emissions. Therefore, in addition to continuously promoting fleet renewal [Refer to 2.1.2 Passenger Service](#), CAL continues to strengthen the countermeasures to improve overall fuel efficiency through the dedicated "Aviation Fuel Management Team", and formulate various specific measures from the aspects of planning, management and execution.

In terms of ground operations, CAL continues to adhere to and operate management systems such as ISO 50001 and ISO 14001 systematically, promoting various energy-saving and environmental protection measures. In addition to reducing energy consumption such as electricity and fuel, measures such as digitizing operational processes, waste management, sourcing local ingredients, and promoting ride-sharing are implemented to reduce carbon emissions in categories three to six. Furthermore, in accordance with the GHG Protocol

Scope 3 guidelines, 15 categories of emissions are calculated, including emissions from purchased goods, capital goods, fuel and energy-related activities not included in Scope 1 and 2, upstream and downstream transportation and distribution, waste disposal, employee commuting, upstream and downstream leased assets, investments, and others. To implement GHG management, CAL has been inviting third-party verification agencies certified by the IAF system annually since 2009 to conduct verification operations in accordance with ISO 14064-1 reasonable level of assurance and the guidelines outlined in ISO 14064-3.

In 2025, CAL's total greenhouse gas emissions amounted to 8,074,239 metric tons of CO₂e, representing a slight increase of 5.17% compared with 2024. Meanwhile, greenhouse gas emissions from ground operations decreased by 0.06% year over year.

GHG Emissions of CAL, Mandarin Airlines, and Tigerair Taiwan

Unit: tons CO₂e

Company	Scope of GHG	Item	2019	2022	2023	2024	2025
	Category 1	Flight Operations	7,059,083	5,435,050	6,048,568	6,224,228	6,525,728
		Ground Operations	4,981	4,041	3,028	3,328	3,114
		Carbon Intensity (ton CO ₂ e/Million NTD)	44.49	38.56	37.44	35.55	36.48
	Category 2	Flight Operations	237,701	89,500	126,743	119,492	120,024
		Ground Operations	362,794	31,306	289,358	399,684	422,563
		Carbon Intensity (ton CO ₂ e/Million NTD)	18,169	16,468	15,767	15,079	16,138
	Category 2	Ground Operations	0.13	0.12	0.10	0.09	0.09
		Ground Operations	901	805	742	735	718
		Ground Operations	106	265	220	240	245
Categories 3-6 (Note)		Ground Operations	1,607,690	1,240,935	1,389,211	1,432,790	1,529,257
		Carbon Intensity (ton CO ₂ e/Million NTD)	10.98	8.80	8.59	8.18	8.55

Note 1: The calculation boundary covers 100% of the aviation fuels used by China Airlines (including all global operations, encompassing domestic and overseas branches and offices, and are subject to third-party verification since 2023), Mandarin Airlines, and Tigerair Taiwan, and includes 100% of aviation fuel consumption.

Note 2: Of the total greenhouse gas emissions of China Airlines in 2025, 8,074,237 metric tons of CO₂e (accounting for 100% of total emissions) were verified by an independent verification organization in accordance with the ISO 14064-1:2018 inventory standard, the certification and verification criteria of ISO 14066:2011, ISO 14065:2020, and ISO 14064-3:2019. The verification was conducted at a reasonable assurance level, and the conclusion was that the data passed verification.

Note 3: CAL adheres to ISO 14064-1:2018 and the GHG Protocol Scope 3 guidelines, 15 categories of emissions are calculated, including emissions from purchased goods, capital goods, fuel and energy-related activities not included in Scope 1 and 2, upstream and downstream transportation and distribution, waste disposal, employee commuting, upstream and downstream leased assets, investments, and others.

Note 4: Carbon intensity (tons CO₂e/Thousand RTK) = GHG emissions/Total RTK; (ton CO₂e/Million Dollars) = GHG emissions/Revenue.

Aviation Fuel Efficiency Performance

GRI 302-3, 305-4

In 2025, the overall aviation fuel efficiency was 0.2292 tons per thousand Revenue Ton Kilometers (RTK) compared with the target value of 0.2373 tonnes per thousand RTK, the achievement rate was approximately 103%. In the future, we will continue to refine and implement fuel-saving measures to achieve the objectives and plans of increasing fuel efficiency by 1.5% annually.

	Item	2021	2022	2023	2024	2025
	Fuel Consumption (tons/PJ)	1,857,073/82	1,717,758/76	1,911,669/84	1,967,183/87	2,064,318/91
	CO ₂ Emissions (tons CO ₂ e)	5,875,530	5,435,050	6,048,568	6,224,228	6,525,728
	Transport Volume (thousand RTK)	7,605,201	6,949,143	8,359,335	8,611,404	9,007,557
	Fuel Efficiency (tons/thousand RTK)	0.2442	0.2472	0.2287	0.2284	0.2292
	Carbon intensity (ton CO ₂ e/thousand RTK)	0.7726	0.7821	0.7236	0.7228	0.7245

	Fuel Consumption (tons/PJ)	-	29,709 /1.31	39,903/1.76	37,676/1.66	37,723/1.66
	CO2 Emissions (tons CO2e)	-	93,881	126,093	119,055	119,203
	Transport Volume (thousand RTK)	-	41,169	66,367	69,250	72,720
	Fuel Efficiency (tons/thousand RTK)	-	0.7216	0.6012	0.5441	0.5188
	Carbon intensity (ton CO2e/thousand RTK)	-	2.2804	1.8999	1.7192	1.6392
	Fuel Consumption (tons/PJ)	-	9,895/0.41	91,738/4.04	125,882/5.55	133,169/5.87
	CO2 Emissions (tons CO2e)	-	31,268	289,892	397,787	421,073
	Transport Volume (thousand RTK)	-	27,129	380,879	560,068	597,629
	Fuel Efficiency (tons/thousand RTK)	-	0.3647	0.2409	0.2248	0.2228
	Carbon intensity (ton CO2e/thousand RTK)	-	1.1526	0.7611	0.7102	0.7046

Note 1: The lower the fuel efficiency and carbon intensity, the better the performance.

Note 2: The aviation fuel calorific value is calculated using the IPCC-announced coefficient, source: 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 2: Energy, TABLE 1.2

Energy Usage

GRI 302-1, 302-2, 302-4, 302-5

CAL continues to implement ISO 50001 Energy Management by fully considering energy-saving and carbon reduction benefits during the design/procurement stages of material energy usage. It incorporates these considerations into decision-making factors and establishes energy information monitoring equipment and mechanisms that exceed regulatory standards. CAL also optimizes fuel management for official vehicles, implements internal audits, and integrates concerns from stakeholders (such as the reporting of major energy users and adjustments to electricity-saving targets, and evaluations of energy storage system benefits) to comprehensively enhance energy management integrity and implementation. This effort aims to create a low-carbon operational and office environment.

Since optimizing its energy monitoring systems and management mechanisms in 2023, CAL has strengthened energy management through external expert sharing and employee training in 2025, covering regulatory trends, industry developments, and energy performance indicator establishment to enhance energy-saving awareness.

CAL's total electricity consumption in 2025 was 34,456 thousand kilowatt-hours, an increase of 1.07% compared with 2024 (31,921 thousand kilowatt-hours). As of 2025, CAL has installed 4 solar photovoltaic (PV) systems, including capacities of 276 kW and 178 kW at CAL Park, as

Energy Consumption Data

Unit: MWh/GJ

Types of Energy	2022	2023	2024	2025
Non-renewable Fuels	21,053,443 / 75,786,331	23,429,847 / 84,340,702	24,109,748 / 86,788,148	25,454,114 / 91,627,481
Renewable fuels (SAF)	291 / 1,046	418 / 1,505	369 / 1,327	128,633 / 463,041
Electricity (purchased)	32,354 / 116,465	31,853 / 114,662	31,813 / 114,518	34,259 / 123,321
Electricity generation from solar photovoltaic systems (self-consumption)	110 / 396	119 / 428	108 / 389	197 / 710

Note 1: Non-renewable fuels include gasoline, diesel, liquefied petroleum gas (LPG), liquefied natural gas (LNG), and aviation fuel. All CAL aircraft are counted as part of the calculation of aircraft fuel consumption.

Note 2: Renewable fuels include sustainable aviation fuels and solar photovoltaic.

Note 3: The calorific value of aviation fuel is calculated using the IPCC-announced coefficients, while the calorific values for natural gas and sustainable aviation fuel are derived from the actual values provided by the suppliers. The calorific values for residual fuel oil and diesel are calculated using the latest energy product unit calorific value table from the Energy Bureau.

Note 4: All were included in the data of overseas branches and have been externally verified since 2023.

Note 5: In 2019, CAL obtained Renewable Energy Certificates, and solar photovoltaic power began being used for self-consumption. Therefore, there was no solar photovoltaic systems power generation in 2019; statistics have been collected since 2020.

well as 193kW and 197kW at EMO Park facilities. Total installed capacity, with solar generation efficiency maintained at around 9,800 kWh per kW. To support the electrification of vehicles and ground support equipment, the Company continues to install charging infrastructure across its headquarters campus and maintenance facilities, further strengthening the foundation for transport electrification. In addition, with respect to enhancing building energy efficiency, CAL Park will commence elevator renovation operations in 2025, opting for innovative technology in the regenerative power system to consistently adhere to green building standards and principles.

Fuel consumption (gasoline and diesel) for ground operations totaled 1057 kiloliters in 2025, representing a 19% increase from 886 kiloliters in 2024. Going forward, we will continue to enhance the management of fuel consumption for company vehicles, implement a reminder system, and accelerate the replacement of aging vehicles and electrification operations. Furthermore, 13,154 kiloliters of SAF was continuously used to the aviation sector.

To achieve the 2050 net-zero target, CAL will continue to inventory and increase the installation of renewable energy equipment. Additionally, through the implementation of various measures promoting green office practices, the Company aims to achieve the objectives and plans of 10% renewable energy installation capacity by 2030 and 15% by 2040.

Water and Wastewater

GRI 303-1, 303-2, 303-3, 303-4, 303-5

CAL conducts a water balance survey to identify hotspots of water resource consumption, including water consumption from cleaning aircraft, domestic water consumption, and air-conditioning water consumption. Subsequently, we improve facilities and optimize operating procedures to reduce water resource consumption and adequately process sewage and wastewater.

1. Water source development (Increasing supply)

The water recycling concept was included in the scope of green building design of CAL Park in the preliminary development process. We set up a rainwater recovery system with a capacity of 1,300 tons and updated pipelines afterwards to direct wastewater from the central drinking water system and the condensate from the chiller into the rainwater recovery system for use in plant watering and flushing in CAL Park, achieving a recycling rate of 44%. We carried out optimization of the pipelines and wastewater treatment facilities in the EMO Park for industrial (organic) wastewater treatment and reuse the water for cleaning vehicles and watering plants according to regulations and permit measures. We recycled approximately 5,263 tons of water in 2025, achieving a recycling rate of 8%.

2. Conservation (Reducing consumption)

We fully incorporated water conservation label products into the CAL Park. We also selected equipment with water conservation label and water-saving functions for subsequent equipment replacements or upgrades.

EMO Park implements process and management improvements to reduce the water consumption in maintenance and repairs and domestic water consumption. The measures include adoption of environmentally friendly water-saving cleaning methods and technologies, which reduce the water consumption for cleaning aircraft with an efficiency of 90%. We also installed water meters comprehensively to monitor the consumption of water resource and implement hotspot inventory and management.

Note 1: Source: A study on the adaptation indicators for the high water resource risk area in Taiwan, Water Resources Agency, Ministry of Economic Affairs, 2016

Note 2: There were no violations of regulations regarding wastewater or sewage in 2025.

Note 1: Scope covered by water meters: CAL Park, EMO Park, Songshan Office, and Taipei Branch.

Note 2: The water consumption volume of CAL Park is calculated based on the water consumption of the equipment. The water consumption volume of Taipei Branch and Songshan Office is calculated proportionally based on the water consumption of CAL Park.

Note 3: Wastewater treatment for the EMO Park includes industrial wastewater from Taiwan Aircraft Maintenance and Engineering Co., Ltd.

Note 4: Water recycling includes rainwater and intermediate water recovery in the Park and wastewater recycled in the EMO Park.

Water Usage Area	Water Shortage Level	Water Supply Unit (Water Type)	Wastewater Processing Unit (level)	Effluent Site	Effluent Standard
CAL Park	Located in Taoyuan City with high water resource risks	Taiwan Water Corporation (freshwater)	Domestic sewage: Taoyuan Airport Sewage Treatment Plant (secondary treatment)	Nankan River (River with Category C water bodies)	pH: 6 ~ 9 BOD: <30 mg / L COD: <100 mg / L SS: <30 mg / L
EMO Park			Domestic sewage: Taoyuan Airport Sewage Treatment Plant (secondary treatment)		
			Industrial wastewater: CAL's first and second wastewater treatment plants (biological treatment)		
Taipei Branch	Located in Taipei City with low water resource risks	Taipei Water Department (freshwater)	Dihua Sewage Treatment Plant (secondary treatment)	Tamsui River (River with Category D water bodies)	pH: 6 ~ 9 SS: < 30 mg / L COD: < 100 mg / L NH3-N: < 10 mg / L
Songshan Office					

Water Usage Area (Source Type)	Water Withdrawal (Note 1) (Kilotons)				Water Consumption (Note 2) (Kilotons)	Water Discharge (Note 3) (Kilotons)	Recycled Volume (Note 4) (thousand tonnes)	Recycling Ratio (%)
	2022	2023	2024	2025	2025	2025	2025	2025
CAL Park (tap water)	28.70	36.46	40.82	39.30	19.03	27.05	14.36	31.16%
CAL Park (rainwater)	9.35	6.07	9.65	6.79				
EMO Park (tap water)	55.81	61.55	58.17	63.93	38.33	Domestic: 11.50 Industrial: 14.10	N/A Industrial: 3.51	-- 5.49%
Taipei Branch (tap water)	4.02	4.18	3.91	4.23		2.17	N/A	--
Songshan Office (tap water)	10.68	15.97	11.53	12.65	4.88	7.77	N/A	--
Total	108.56	124.23	124.08	126.90	64.31	62.59	17.87	14.08%

3. Strengthening management

CAL is dedicated to water stewardship, and has actively set short, medium, and long-term water conservation targets and annual performance targets and management plans for water resource management. They have been placed under the management of the Corporate Environmental Committee. We also continued to invest and upgrade wastewater treatment equipment to enhance the treatment performance, and by implementing internal/external audits and emergency response and evacuation drills, we aimed at enhancing processing efficiency and preventive measures. To maintain the capacity and stability of the wastewater treatment plant, the domestic wastewater from the EMO park undergoes grease traps and pre-treatment facilities to reduce the BOD concentration, before being discharged into the wastewater treatment plant.

CAL promotes water conservation awareness through employee training programs that emphasize the importance of responsible water use in daily operations. Water-saving messages and educational materials are displayed in water-use areas, such as restrooms and washbasins, and are also made available on the company's internal website to reinforce the importance of water conservation among employees.

In 2025, CAL's tap water withdrawal totaled 105,904 cubic meters, a 7.4% decrease compared to 2024. This also achieved the SDG target of reducing water usage by 7% from 2018 levels. CAL will continue to strengthen change management through water-saving advocacy, improvement in wastewater treatment efficiency, technological upgrades, and other means. The Company is committed to achieving its targets of reducing water consumption by 8%, 10%, and 12% compared to 2018 levels by 2027, 2030, and 2040, respectively.

Emissions

GRI 305-7

Emissions from aircraft engines, particularly nitrogen oxides (NOx) and sulfur oxides (SOx), significantly affect local air quality. China Airlines is actively engaged in reducing unit emissions and enhancing emission efficiency through initiatives such as fleet renewal, optimized flight operations, and operational enhancements, striving to minimize environmental impact. In addition, a small amount of volatile organic compounds (VOCs) is also emitted during aircraft painting processes. CAL actively communicates with the manufacturers of aircraft to increase and promote the use of new environmentally friendly paint and environmentally friendly paint remover for reducing the concentration of VOC and toxicity in the work environment and

atmosphere and reducing the toxicity of wastewater and the burden of treatment plants. CAL also continues to invest in improvements of the air pollution prevention facilities of the maintenance and repairs hangars to increase energy efficiency and exhaust efficiency. Due to increased flight operations, VOC emissions from maintenance activities in 2025 amounted to approximately 20 metric tons, representing a 5% increase from 19 metric tons in 2024. In addition, CAL established the work environment monitoring plan and operating procedures to protect the workplace environment for employees. The Company also monitors the changes in CO₂ concentration in office spaces.

													
項目		單位	2022	2023	2024	2025	2023	2024	2025	2023	2024	2025	
Passenger Aircraft	SOx	Emissions	Tons	29.59	38.36	46.17	47.27	26.58	27.81	28.66	11.56	15.17	16.04
		Emission Efficiency	g/RTK	0.0130	0.0094	0.0104	0.0108	0.4004	0.4016	0.3941	0.0304	0.0271	0.0268
	NOx	Emissions	Tons	120.64	400.60	482.23	493.70	277.54	290.45	299.30	120.77	158.41	167.50
		Emission Efficiency	g/RPK	0.0183	0.0119	0.0130	0.0133	0.3863	0.3933	0.3951	0.0279	0.0285	0.0283
Cargo Aircraft	SOx	Emissions	Tons	13.03	11.37	11.02	12.56	Note 1: The emissions of SOx and NOx are calculated using the formula "Total annual emissions = Number of flights x SOx/NOx Emission Factor (Tons/LTO)," where the emission factors are based on the latest numerical values announced by the Environmental Protection Agency (EPA) of the United States for that year.					
		Emission Efficiency	g/RTK	0.0028	0.0027	0.0026	0.0027						
	NOx	Emissions	Tons	135.84	118.79	115.14	131.22	Note 2: LTO: refers to the landing take-off. Note 3: Mandarin Airlines and Tigerair Taiwan have no cargo aircraft. Note 4: Amendment of calculation method and coverage on CAL's NOx emissions from 2021 to 2022, excluding the pandemic's effect on flight dispatch.					
		Emission Efficiency	g/RTK	0.0291	0.0278	0.0276	0.0284						

Circular Economy

GRI 306-2, 306-3

CAL implements waste segregation management across its workplaces as part of daily operations. After waste is sorted by category at each unit, a contracted cleaning service conducts a secondary inspection and verification process following collection. In addition, all waste bags are weighed individually to monitor and control waste generation, improve sorting quality, and enhance recycling performance. To strengthen waste management and auditing mechanisms, CAL conducts two internal audits and one external audit annually. Through on-site inspections, process reviews, and verification of waste segregation practices, the effectiveness of waste management measures is regularly evaluated. In 2025, both internal and external audits were successfully completed with results meeting all applicable requirements, demonstrating CAL's continued commitment to effective waste segregation management and audit practices.

CAL promotes proper waste segregation through employee training programs that emphasize the importance of waste classification and recycling. Educational posters and reminders are displayed in waste disposal and recycling areas, while related awareness materials are also published on the company's internal website to reinforce employees' understanding of proper waste sorting practices and the importance of effective waste management.

CAL's waste mainly comes from industrial waste (general/hazardous) from ground operations, domestic waste, and food and toilet waste from catering service companies and cabin service (refer to the waste flowchart). To minimize the volume of waste sent to landfill (achieving zero waste to landfill), CAL follows a hierarchical waste management strategy: refuse, reduce, reuse,

and recycle. The Company implements various waste reduction initiatives, which include proper sorting processes, promoting detoxification measures, actively collaborating with recycling vendors, and establishing recycling and reuse workflows. These efforts ensure that packaging and other waste generated from the Group's operations are effectively recycled and reused, thereby minimizing the volume sent for incineration or disposal in landfills. As for the waste destined for the incineration plant, opt for waste to energy (WTE) treatment whenever possible. In response to growing international attention on issues such as packaging, restrictions on single-use plastics, and food waste management, CAL—though not directly involved in manufacturing or product production—actively engages with suppliers to address emerging environmental trends. Embracing circular economy principles, the Company collaborates on the development and design of several eco-friendly and plastic-reducing in-flight service items.

In order to mitigate the environmental and ecological impacts associated with food waste, China Airlines has partnered with its catering partner, China Pacific Catering Services, to promote a green transformation. This collaboration focuses on three core strategies—energy saving and carbon reduction, food waste minimization, and eco-friendly packaging—across the entire catering process, from ingredient sourcing and production management to meal delivery, establishing a comprehensive model for sustainable airline catering management. China Pacific Catering Services has obtained ISO and HACCP international quality certifications, ensuring food hygiene and safety in accordance with global standards. Furthermore, monthly kitchen inspections and bi-monthly meal audits are conducted to maintain transparent production processes and consistent

quality, allowing passengers to enjoy every meal with peace of mind at the altitude of ten thousand meters. In addition to in-flight catering, China Pacific Catering Services is actively expanding its non-aviation business sector by developing a diverse product line that includes frozen ready-to-eat meals, takeout bento boxes, and corporate catering services. This initiative aims to create a new value chain for the in-flight catering brand, extending high-quality food manufacturing standards into everyday life and advancing the reach of sustainability principles.



Food Waste Reduction

- By implementing an intelligent analytics system, CAL accurately forecasts passenger meal demands, effectively reducing excess production and food waste. Special meals are available by reservation, ensuring that every meal prepared can be cherished and enjoyed.
- 100% recycling of waste cooking oil, process sludge, and kitchen waste, transforming them into energy or renewable resources, thereby achieving waste-to-resource conversion.



Energy Conservation and Carbon Reduction

Implement green procurement by selecting environmentally friendly refrigerant food carts and introducing high-energy efficiency facilities to improve operational efficiency and sustainability outcomes.

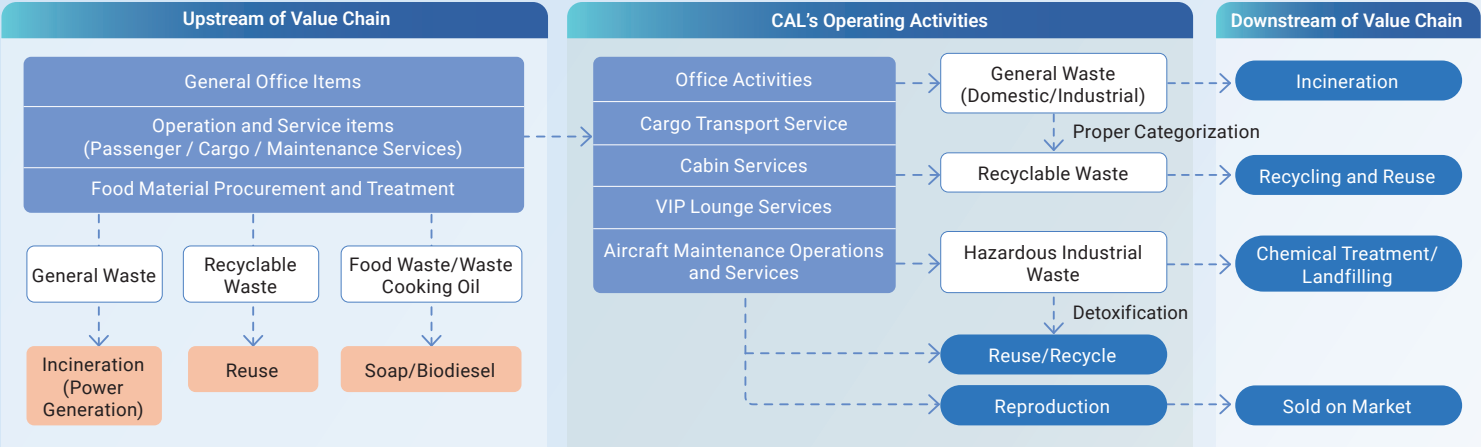


Environmentally Friendly Packaging

Implement green design by collaborating with suppliers to develop and select environmentally friendly packaging materials that meet international standards, thereby reducing the carbon footprint from the source.

The recycling rate of ground waste increased from 32.1% in 2025 to 36%, while total waste generated in 2025 amounted to 2,441 metric tons. CAL will continue to collaborate with its suppliers to explore more opportunities for environmentally sustainable designs at the source, resource recycling and reuse, and waste management. Additionally, it will persist in implementing and expanding resource recycling mechanisms to achieve zero landfill waste, thereby advancing towards the sustainable vision of zero waste.

Waste management Flowchart



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: The scope covers the EMO park, the CAL Park, the Kaohsiung branch office operations, VIP Lounge services at Taiwan locations, in-flight supplies for flights returning to TPE, catering operations, and cargo services at Taoyuan International Airport.

Note 3: Due to changes in the reporting process in 2024, the category of non-hazardous waste—waste wood—was newly included in the statistics starting in 2024. In 2025, the amount for this category was 166.41 metric tons (recycled).

	Waste Produced				Disposal Method
	2022	2023	2024	2025	
General Domestic Waste	113	122	118	138	Incineration - with Energy Recovery
	629	986	948	839	Incineration - without Energy Recovery (Delivered to the airport incineration plant in accordance with regulations and rec-ommended the installation of electricity generation facilities)
Recycling and reuse	622	973	1,112	1,098	Recycling and Reuse
Hazardous Industrial Waste	12	11	7	12	Other treatment – Chemical Treatment (e.g., electroplating solutions)
	2	1	1	0.72	Other treatment - Offshore Treatment (e.g., Nickel-cadmium batteries)
Non-hazardous Industrial Waste	147	194	193	153	Recycling and Reuse - Resource Recycling (e.g., waste lubricants)
	47	127	113	200	Other Treatment - Heat Treatment (e.g., waste paint)
Total	1,572	2,414	2,491	2,441	--

Food Waste Management

In response to the growing international focus on food loss and waste, CAL has separately calculated and reviewed its food waste management performance since 2024. In 2025, a food waste processing machine was installed at CAL Park headquarters. Through a process of heating, dehydration, and grinding, food waste is reduced in volume by approximately 90% compared with its original form. In 2025, a total of 5,637.8 kg of food waste was processed, generating 1,021 kg of food waste residue, which was reused for composting and landscaping soil improvement within the CAL Park, effectively reducing waste while maximizing resource utilization.

CAL inventories all food loss and waste generated throughout its transport services, including food waste from employee canteens during ground operations, surplus ingredients generated during airline catering meal preparation, and food waste arising from VIP lounges and inflight services during the service phase. By collecting and categorizing data according to service stages, CAL is able to develop targeted reduction measures that address the specific characteristics of food loss and waste from different sources.

In 2025, the amount of meal-related waste generated on return flights was 0.35 kg per passenger meal. To reduce waste meals resulting from changes in passengers’ travel plans, CAL implemented incentive-based adjustments in 2025, reducing waste meals per passenger from 0.76 g in 2024 to 0.33 g in 2025, successfully achieving the annual management target.

Recognizing the differences among cabin classes, CAL uses meal uplift rates by cabin class (ranging from 0.09% to 0.28%) as key indicators for cabin food waste management. The 2025 targets were 0.25% for Business Class, 0.28% for Premium Economy Class, and 0.09% for Economy Class. Actual 2025 performance was 0.15% for Business Class (target achieved), 0.08% for Premium Economy Class (target achieved), and 0.11% for Economy Class (target not achieved).

For 2026, the meal uplift rate targets have been set at 0.24% for Business Class (2.5% lower than the 2025 target), 0.27% for Premium Economy Class (2.5% lower than the 2025 target), and 0.09% for Economy Class. Although the overall network average for Economy Class in 2025 was 0.11%, exceeding the target, 30 stations successfully achieved the KPI. Therefore, the original target of 0.09% will be maintained in 2026. CAL will continue to optimize related system functions and strengthen awareness efforts to support more accurate meal forecasting and ordering across all stations.

To continuously improve cabin waste management, CAL has implemented onboard waste segregation and recycling services on all twin-aisle aircraft. Dedicated recycling carts (eco-carts) are loaded onboard to enable cabin crew to properly separate recyclable materials from other waste. In addition, CAL continues to adopt source-reduction strategies through material selection and meal optimization, including replacing single-use plastic packaging, increasing the use of recycled and sustainability-certified materials, promoting pre-order meal services, and developing co-branded specialty meals. These initiatives aim to minimize the environmental impacts of operations while meeting the growing demand for international travel and maintaining high-quality cabin services.

Performance Indicators		Waste Produced				Disposal Method
		2022	2023	2024	2025	
VIP Lounge, Employee Cafeteria, and In-flight Meal Preparation	Amount Generated (metric tons)	142	541	462	370	Recycling and Reuse
	Per Capita Generation – VIP Lounge (kg/person)	0.017	0.034	0.032	0.029	
In-Flight Meal Service	Amount Generated (metric tons)	632	1,610	1,863	2,095	Incineration - with energy recovery (in accordance with quarantine re-quirements) (Note 1)
	Per Capita Generation – In-flight Service (kg/person)	0.65	0.33	0.31	0.35	
Total		774	2,151	2,324	2,465	

Note 1: Food waste incinerated in accordance with quarantine regulations and most general household waste that employees are unable to recycle are utilized for power generation through the cogeneration system at the incineration plant (Waste To Energy, WTE).

Note 2: The scope covers the EMO park, the CAL Park, the Kaohsiung branch employee cafeteria, VIP Lounge services at Taiwan locations, in-flight supplies for flights returning to TPE, and catering operations at Taoyuan International Airport. Excludes food waste generated by the employee cafeteria at the CAL Park in 2025, as it has been processed into soil amendment materials using a food waste processing unit.

Packaging Material Information

In alignment with phased updates to service items, CAL conducted a comprehensive review in 2025 of passenger-facing items and their packaging materials across its passenger service processes. By gaining a clear understanding of packaging material usage, the Company seeks to identify further opportunities for packaging reduction. CAL has incorporated environmentally friendly design principles into its co-branded travel and amenity kits (Highlight: Eco-friendly overnight kits), covering both packaging and contents. In addition, headrest covers across all cabin classes are made from 100% recycled RPET materials. Furthermore, plastic items used for inflight service operations, including supply bags, plastic seals, garbage bags, and plastic cups, are all manufactured from 100% recycled RPET. Paper-based packaging used for individually wrapped items is required to be plastic-free and FSC-certified. All wood- and paper-based materials (e.g., playing cards, paper cups, and stirrers) are specified to carry FSC or PEFC certification. For disposable cutlery kits used due to flight time constraints, all wooden or bamboo utensils, napkins, and packaging are FSC-certified and made from plastic-free, uncoated paper materials.

In addition, CAL seeks to leverage its influence to enhance the use of recycled packaging materials during the logistics stage through ongoing communication and engagement with suppliers. This includes working with e-commerce platform (EMall) partners to increase recycled content in paper packaging and the use of recycled materials in plastic packaging. The Company has also set a target to reduce the average weight of packaging by 35% by 2030 compared to 2023. For cargo packaging materials, CAL has adopted a mixed tarpaulin made from 40% to 60% recycled materials for coverings. Additionally, plastic film is being recycled and reused. Cargo pallets and containers are regularly maintained in compliance with safety regulations. If deemed necessary, those that require replacement are sold in batches for recycling and reuse.

Packaging Material Information

Item		2025
Plastic Materials	Packaging Material Weight (kg)	1,638,374
	Proportion of Recycled Materials (%)	37.39%
	Biodegradable Percentage (%)	1.05%
	Proportion of Recycling and Reuse (%)	61.56%
Wood and Paper Materials	Packaging Material Weight (kg)	254,798
	Proportion of Recycled Materials (%)	0%
	Proportion of Certified Materials (%)	18.14%
Metal Materials	Packaging Material Weight (kg)	147,605
	Proportion of Recycled and Certified Materials (%)	33.96%
Glass Materials	Packaging Material Weight (kg)	35,875
	Proportion of Recycled and Certified Materials (%)	0%

Note 1: The scope covers 100% of procurement for passenger-facing passenger and cargo service items.

Note 2: Wood- and paper Materials are sourced from materials certified by the Forest Stewardship Council (FSC) or the Programme for the Endorsement of Forest Certification (PEFC).

Key Packaging Management Strategies

Programs / Actions

Increasing the use of reusable packaging: Bamboo chopsticks and slippers in Premium Business Class are labeled with the message: "Please help conserve Earth's resources by taking these items with you after use for reuse."

Increasing the use of recyclable packaging: Prioritizing the use of RPET materials in products and packaging to enhance recyclability and reuse potential

Phasing out single-use plastic packaging: Items such as stirrers, dental floss picks/toothpick brushes, and eco-friendly toothbrush kits have been transitioned to FSC-certified paper packaging

Increasing the use of recycled materials: Plastic supply bags, garbage bags, bowl/plate covers, and PY/EY headrest covers are all made from 100% recycled RPET materials.

Ensuring the recycling of recyclable packaging: Deploying eco-friendly service vehicles to conduct inflight resource recovery operations, while strengthening engagement with overseas stations

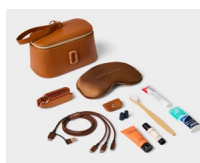
Investing in the development of sustainable packaging solutions: Project-based R&D for specialized items, including:

1. Both the packaging and contents of travel and amenity kits are made from environmentally friendly materials. In Economy Class, the toothbrush handle and protective cap are made from 20% recycled materials, and the packaging is also plastic-free.
2. For disposable cutlery kits used due to flight time constraints, all wooden or bamboo utensils, napkins, and packaging are FSC-certified and made from plastic-free, uncoated paper materials.



Eco-Friendly and Stylish In-Flight Amenity Kit

CAL has launched a newly upgraded inflight travel kit, marking its first collaboration with Marc Jacobs and FRAMA. Centered on the concept of "Designed for the Journey," the kit integrates sustainable design with practical functionality to enhance reusability and reduce reliance on single-use items. Developed in collaboration with suppliers, the amenity kit incorporates eco-friendly materials and sustainability considerations throughout its design and development process, featuring low-impact products such as bamboo dental care sets. Through refined, high-quality design, it enhances reusability, allowing inflight amenities to extend into everyday use and thereby reducing waste generation. The Company also prioritizes brands that embody both quality and environmental values, such as FRAMA, whose products emphasize natural ingredients and minimalist design, helping to reduce unnecessary packaging and resource consumption. Through the upgrading and design optimization of inflight service items, CAL continues to advance source reduction and circular use, implement plastic reduction and sustainable procurement strategies, and strengthen the integration of aviation services with environmental responsibility.



Premium Business Class



Premium Economy Class

To support green services, you can...



Ground Operations

- Use the China Airlines app for online check-in (if a paper boarding pass is still needed, paper boarding passes will be printed on FSC-certified paper), pre-select meals.
- Utilize the e-menu service available in the VIP lounge at Taoyuan Airport.
- Participate in the voluntary carbon offset program, "ECO Travel Carbon Offset".
- Not to illegally transport endangered species of plants and animals.



During Flights

- Enjoy in-flight meals made with locally sourced or seasonal ingredients.
- Offers pre-order meal services and electronic menus on selected aircraft types to improve meal planning and catering management efficiency.
- Browse a variety of publications in the cloud bookstore to support weight reduction and fuel savings in the cabin.
- Support resource recycling operations on twin-aisle aircraft.
- Enjoy and support eco-friendly in-flight service items, use your own headphones to listen to music.



Takeoff/Landing Process

- (In summer) Close the sun-facing window shades to help conserve energy.
- Experience fuel-efficient flight operations, such as executing continuous descents to achieve fuel savings.



Preparing for the Next Journey

- eMALL e-commerce and sustainable consumption
- Support and follow China Airlines' participation in the "Pacific Greenhouse Gases Measurement (PGGM)" initiative and the SkyTeam Sustainable Flight Challenge.



e-Service

Green Services and Communication

The support and encouragement of passengers serve as the driving force for CAL to advance towards its environmental sustainability goals. China Airlines offers a diverse range of eco-friendly services and invites passengers to join in supporting environmental sustainability. Through various channels and formats, CAL communicates environmental knowledge, corporate environmental initiatives, and outcomes to different audiences, fostering an internal culture of environmental conservation and shaping an eco-friendly brand. Additionally, each year, through prize-winning surveys, CAL conducts surveys to assess employee satisfaction with environmental information dissemination and gathers suggestions for improvement. In 2025, a total of 4,236 employees participated, with an overall satisfaction rate of 94.7%.

Environmental Communication

Targets	Key Points	Communication Channels	Performance in 2025
New Employees and All Employees	Cultivate sustainability awareness of employees and shape a culture of environmental protection	New Employee Training "China Airlines and Me" Company email, China Airlines newsletter, startup screen, surveys, and quizzes	The completion rate of environmental training for new employees and outstation supervisors reached 100%. • A 100% completion rate was achieved for professional training on environmental, energy, and carbon management systems. • Interactive employee engagement activities recorded a total of 4,236 participant attendances.
	Organized experience activities to consolidate environmental protection and sustainability consensus	Environmental Lectures	1 environmental seminar titled "Protecting Our Planet" was held, with a total of 94 employees participating. 1/ Lecturer: Anchor Shu, Meng-Lan 2/ Group photo of the instructor with colleagues both physically present and joining online 
Environmental/Energy/Carbon Management Personnel (including partners of the Group)	Increase environmental protection and energy conservation knowledge and improve management capacity	In-person courses/workshops and online e-learning courses	8 sessions of professional training on climate and sustainability governance. • One session of the Group's "Sustainability Governance Communication Meeting and Environmental Management Communication Meeting" • The total number of participants was 610.
Passengers and Shippers	Share new knowledge on environmental sustainability and increase green consumption awareness	In-flight entertainment system, in-flight magazine (Dynasty), official website, and social media posts	• A selection of 23 in-flight environmental and ecological films. • 7 environmental feature articles and reports were shared on social media, reaching a total of approximately 269,629 people.
Group (joint venture) Companies and Business Partners	Enhance environmental risk and opportunity management, carbon management, and operational efficiency in adaptation Expand sustainable influence by adding value to products and services	Regular/periodic risk and opportunity surveys, invitations to physical/online courses, annual management communication meetings, etc.	CAL Group subsidiaries implemented and expanded the environmental management system in phases. • The Group has completed its carbon inventory, and all greenhouse gas emissions across the relevant scopes has obtained third-party assurance statements. Refer to ESG Appendix - Environmental Performance • Group partners have set 24 energy and resource management goals, of which 15 have been 100% achieved. • The up-to-date "CAL Code of Conduct" and "Supplier Code of Conduct"

Future Plans

	Strategy	Plans
Optimize Climate Governance	- Steadfastly implement the carbon reduction pathway - Effectively address climate change	- Strengthen the management and implementation of the carbon reduction pathway, including Science-Based Targets (SBTs): Robustly advance net-zero carbon measures based on the customized carbon reduction pathway, in alignment with international climate regulations and market expectations. - Promote low-carbon technologies and green innovation: Expand the installation of renewable energy facilities and energy storage systems, invest in emerging low-carbon technologies such as Sustainable Aviation Fuel (SAF) and new aircraft models, and continue to advance flight operations and innovative fuel-saving measures. - Deepen climate risk management and adaptation strategies: Optimize the climate risk assessment mechanism based on practical operational needs, continuously enhance the climate resilience of the supply chain and business model, and ensure the stable development of the Company.
Support Environmental Sustainability	- Steadfastly Enhance environmental sustainability across the value chain - Deepen communication on sustainability awareness	- Promote the green transformation of the supply chain: Engage with suppliers through various channels to ensure compliance with environmental regulations or standards, and collaborate to improve environmental performance, including encouraging the use of renewable resources and carbon-reducing processes, while establishing green procurement and collaboration mechanisms. - Strengthen internal and external sustainability education: Deepen employees' environmental sustainability awareness and professional skills internally, while collaborating with suppliers and enhancing communication with passengers and shippers externally to jointly promote sustainable actions. - Expand green initiatives and collaborate with stakeholders: Work with governments, NGOs, and industry partners to jointly promote environmentally friendly policies and actions, enhancing the Company's impact.